



Cornish Lithium

Cornish Lithium G5 Limited

The Trelavour Lithium Project

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Environmental Impact Assessment (EIA) Scoping Report
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Environmental Impact Assessment (EIA)

Scoping Report

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0702319

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
AFC	Association Football Club
AGLV	Area of Great Landscape Value
ALARP	As Low as Reasonably Practical
ALC	Agricultural Land Classification
AONB	Area of Outstanding National Beauty
APIS	Air Pollution Information System
AQAL	Air Quality Assessment Level
AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
AQMP	Air Quality Management Plan
AQS	Air Quality Standards
ASR	Annual Status Report
ATC	Automatic Traffic Counts
BAP	Biodiversity Action Plan
BESS	Battery Energy Storage System
BGS	British Geological Survey
BMV	Best and Most Versatile
BNG	Biodiversity Net Gain

Acronym	Description
BNL	Basic Noise Level
BoCC	Birds of Conservation Concern
BPM	Best Practicable Means
BS	British Standard
CAPEX	Capital Expenditure
CAU	Cornwall Archaeological Unit
CCA	Cornwall Character Area
CCRA	Climate Change Risk Assessment
CDM	Construction (Design and Management)
CEA	Cumulative effects assessment
CEC	Cornwall Environmental Consultants (Limited)
CEDPD	Climate Emergency Development Plan Document
CEMP	Construction Environmental Management Plan
CERC	Cornwall Energy Recovery Centre
CH ₄	Methane
CIEEM	Chartered Institute of Ecology and Environmental Management
CIfA	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CISHER	Cornwall and Isles of Scilly Historic Environment Record
CLG	Community Liaison Group
CLL	Cornish Lithium G5 Limited
CO	Carbon monoxide
CO ₂	Carbon dioxide
COMAH	Control of Major Accident Hazards Regulations
CoPA	Control of Pollution Act
COVID-19	Coronavirus
CRoW	Countryside and Rights of Way
dB	Decibel
DBA	Desk-Based Assessment
DCO	Development Consent Order

Acronym	Description
Defra	Department for Environment, Food and Rural Affairs
DfT	Department for Transport
DMP	Dust Management Plan
DMRB	Design Manual for Roads and Bridges
DPD	Development Plan Document
DSEAR	Dangerous Substances and Explosive Atmospheres
EA	Environment Agency
EAL	Environmental Assessment Levels
EEA	European Economic Area
EfW	Energy from Waste
EIA	Environmental Impact Assessment
EMF	Electromagnetic Fields
EMMP	Excavated Materials Management Plan
EMMS	Extractive Materials Management Statement
EPA	Environmental Protection Act
ERCCIS	Environmental Records Centre for Cornwall and the Isles of Scilly
ERM	Environmental Resources Management (Limited)
ES	Environmental Statement
ESC	Engineering Safety Consultants
ESG	Environmental, Social, Governance
EU	European Union
FC	Football Club
FTE	Full-time equivalent
GCN	Great crested newt
GCR	Geological Conservation Review
GHG	Greenhouse gas
GIS	Geographical Information System
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GPA	Good Practice Advice
GPP	General Pollution Plan
GVA	Gross Value Added

Acronym	Description
GWP	Global Warming Potential
HAZAN	Hazard Analysis
HAZID	Hazard Identification
HAZOP	Hazard and Operability (Analysis)
HDV	Heavy Duty Vehicle
HEC-RAS	Hydrologic Engineering Centre – River Analysis System
HEDBA	Historic Environment Desk-Based Assessment
HER	Historic Environment Record
HFC	Hydrofluorocarbon
HGV	Heavy Goods Vehicle
HIA	Health Impact Assessment
HM	His Majesty
HMMP	Habitat Monitoring and Management Plan
HRA	Habitat Regulations Assessment
HSA	Hazardous Substances Authority
HSC	Hazardous Substances Consent
HSE	Health and Safety Executive
HSEQ	Health, Safety, Quality, and Environment
HSWA	The Health and Safety at Work etc. Act
HUDU	Healthy Urban Development Unit
IAQM	Institute of Air Quality Management
IDB	Internal Drainage Board
IEFs	Important Ecological Features
IEMA	Institute of Environmental Management and Assessment
ILP	Institute of Lighting Professionals
IMD	Index of Multiple Deprivation
IPCC	Intergovernmental Panel on Climate Change
IRMA	Initiative for Responsible Mining Assurance
IRZ	Impact Risk Zone
ISO	International Organization for Standardisation
JNCC	Joint Nature Conservation Committee

Acronym	Description
JORC	Joint Ore Reserves Committee
LCA	Landscape Character Assessment
LCRM	Land Contamination Risk Management
LCT	Landscape Character Type
LDV	Light Duty Vehicle
LiDAR	Light Detection and Ranging
LNR	Local Nature Reserve
LOAEL	Lowest Observed Adverse Effect Level
LOM	Life of Mine
LoW	List of Waste
LVIA	Landscape and Visual Impact Assessment
LWS	Local Wildlife Sites
m	Metres
MA&D	Major Accident & Disaster
MAH	Major Accident Hazard
MCP	Medium Combustion Plant
MDS	Maximum Design Scenario
MPA	Mineral Planning Authority
MRFS	Mid-Range Future Scenario
MSA	Mineral Safeguarding Area
MSDPD	Minerals Safeguarding Development Plan Document
N ₂ O	Nitrous oxide
NAQO	National Air Quality Objective
NAQS	National Air Quality Strategy
NBN	National Biodiversity Network
NCA	National Character Area
NERC	Natural Environment and Rural Communities
NF ₃	Perfluorocarbon
NGET	National Grid Electricity Transmission plc
NH ₃	Ammonia
NHS	National Health Service

Acronym	Description
NIA	Noise Important Area
NMP	National Mapping Programme
NNR	National Nature Reserves
NO ₂	Nitrogen dioxide
NOAEL	No Observed Adverse Effect Level
NORM	Naturally Occurring Radioactive Materials
NO _x	Oxides of nitrogen
NPPF	National Planning Policy Framework
NPS	National Policy Statement
NPSE	Noise Policy Statement for England
NSER	No Significant Effects Report
NSIP	Nationally Significant Infrastructure Project
NSN	National Site Network
NSR	Noise Sensitive Receptor
NSTA	North Sea Transition Authority
NVZ	Nitrate Vulnerable Zone
O&M	Operation and Maintenance
OMH	Open Mosaic Habitat
ONS	Office for National Statistics
OPEX	operational expenditure
OS	Ordnance Survey
pa	Per annum
PAH	Polycyclic Aromatic Hydrocarbon
PC	Process Contribution
PEC	Predicted Environmental Concentration
PEDL	Petroleum Exploration and Development License
PEIR	Preliminary Environmental Information Report
PFC	Nitrogen trifluoride
PHE	Public Health England
PM	Particulate matter
PPG	Planning Practice Guidance

Acronym	Description
PPGN	Planning Practice Guidance for Noise
PPV	Peak Particle Velocity
PRoW	Public Right of Way
ROM	Run of Mine
ROMP	Review of Mineral Planning Permissions
RSPB	Royal Society for the Protection of Birds
RTC	Road Traffic Collision
SAC	Special Area of Conservation
SAG	semi-autogenous grinding
SCEP	Sediment Control and Erosion Plan
SF ₆	Sulfur hexafluoride
SME	Subject Matter Expert
SO ₂	Sulfur dioxide
SOAEL	Significant Observed Adverse Effect Level
SoCC	Statement of Community Consultation
SOP	Sulfate of potash
SPA	Special Protection Area
SPD	Supplementary Planning Document
SPZ	Source Protection Zone
SSP	Shared Socioeconomic Pathways
SSSI	Site of Special Scientific Interest
SW	southwest
SWMP	Site Waste Management Plan
t	Tonnes
TA	Transport Assessment
TCFD	Task Force on Climate-related Financial Disclosures
tpa	Tonnes per annum
UAEL	Unacceptable Adverse Effect Level
UK	United Kingdom
UNESCO	United Nations Educational, Scientific and Cultural Organisation
VOC	Volatile Organic Compound

Acronym	Description
WFD	Water Framework Directive
WHO	World Health Organisation
WHS	World Heritage Site
WMP	Waste Management Plan
ZEV	Zero Emission Vehicle
ZTV	Zone of Theoretical Visibility

1. INTRODUCTION

1.1 PROJECT OVERVIEW

- 1.1.1.1 This report supports a request by Cornish Lithium G5 Limited (CLL) (hereafter referred to as 'the Applicant') for a formal Environmental Impact Assessment (EIA) Scoping Opinion from the Planning Inspectorate for the proposed Trelavour Lithium Project in Cornwall, close to St Austell. The Applicant is proposing to construct, operate and maintain, and decommission, close and restore the Trelavour Lithium Project (hereafter referred to as 'the Proposed Development'). The Proposed Development aims to repurpose the former Trelavour china clay pit into a commercial operation producing lithium, and in summary, comprises:
- mining operations at Trelavour Pit;
 - processes to produce battery-grade lithium at the Trelavour Processing Plant;
 - mining waste facilities (sites to be restored using mining waste generated by the Trelavour Processing Plant); and
 - other ancillary development, such as pipelines, transport access and conveyors.
- 1.1.1.2 The aim of the Proposed Development is to extract lithium in an environmentally responsible manner and supply lithium products to the emerging United Kingdom (UK) battery industry, enabling a more sustainable supply chain in the UK and playing a vital role in the energy transition away from fossil fuels.
- 1.1.1.3 On 9 September 2024 the Secretary of State for Housing, Communities & Local Government published a direction under section 35(1) of the Planning Act 2008 allowing the Proposed Development to be treated as development of national significance for which a Development Consent Order is required under section 35 of the Planning Act 2008 (hereafter referred to as the "s35 Direction"). This Scoping Report has, therefore, been prepared in accordance with the legislation and guidance relevant to such development.

1.2 THE APPLICANT AND THE EIA TEAM

1.2.1 THE APPLICANT

- 1.2.1.1 The Applicant, CLL, is a privately owned British mineral exploration company focused on the sustainable extraction of lithium in Cornwall, UK. The Applicant is using modern technology to re-evaluate the region for its potential to produce lithium, in a low carbon and low impact manner.
- 1.2.1.2 The Applicant has received financial investment from the National Wealth Fund (previously UKIB) and aims to contribute to the establishment of a strong, sustainable and environmentally responsible extraction industry in the UK for those critical minerals that can contribute to the global goal of decarbonisation, through clean growth and a transition to a green economy.

1.2.2 THE EIA TEAM

- 1.2.2.1 The preparation of the EIA is being led by Environmental Resources Management (ERM) Limited. ERM is supported by other consultancies including DHA Planning Limited and Cornwall Environmental Consultants (CEC) Limited, who provide local technical knowledge and resources. ERM are the largest dedicated sustainability company in the world and have over 50 years of experience in the preparation of Environmental Assessments in the UK and globally.
- 1.2.2.2 Pursuant to Regulation 14(4) of the Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the '2017 EIA Regulations'), the ES will be prepared by competent experts and the ES will outline the relevant expertise, experience or qualifications of the experts.

1.3 PURPOSE OF THIS REPORT

- 1.3.1.1 The purpose of this EIA Scoping Report ('the Scoping Report') is to present an initial consideration of the likely significant effects associated with the Proposed Development. This allows for the identification of key topics proposed to be 'scoped in' and 'scoped out' of assessment in the Environmental Statement (ES). It also outlines the proposed methodologies for the various technical assessments.
- 1.3.1.2 The Scoping Report has been prepared in support of a request for a formal Scoping Opinion from the Planning Inspectorate, in accordance with Regulation 10 of the 2017 EIA Regulations, asking the Planning

Inspectorate, on behalf of the Secretary of State, to state in writing their opinion as to the scope, and level of detail, of the information to be provided in the ES. The Scoping Report has been prepared in accordance with the 2017 EIA Regulations and the Planning Inspectorates' Guidance on Nationally Significant Infrastructure Projects - Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements, last updated 25 March 2025.

1.3.1.3 In line with the EIA Regulations, this Scoping Report contains the following information:

- a plan sufficient to identify the land;
- a description of the Proposed Development, including its location and technical capacity;
- an explanation of the likely significant effects of the development on the environment; and
- such other information the Applicant considers material.

1.4 STRUCTURE OF THIS REPORT

1.4.1.1 The remainder of this Scoping Report is structured as follows:

- Section 2 – Proposed Development Description;
- Section 3 – Planning Policy and Legislative Context;
- Section 4 – EIA Process and Methodology;
- Section 5 – Alternatives;
- Section 6 – Land Quality and Ground Conditions;
- Section 7 – Water Resources and Flood Risk;
- Section 8 – Noise and Vibration;
- Section 9 – Air Quality;
- Section 10 – Traffic and Transport;
- Section 11 – Ecology and Nature Conservation;
- Section 12 – Landscape and Visual Assessment;
- Section 13 – Historic Environment;
- Section 14 – Socio-economics and Land Use;
- Section 15 – Human Health and Wellbeing;
- Section 16 – Major Accidents and Disasters;
- Section 17 – Waste Management;

- Section 18 – Climate Change and Greenhouse Gas Emissions;
- Section 19 – Cumulative and Combined Effects; and
- Section 20 – Summary and Next Steps.

2. PROPOSED DEVELOPMENT DESCRIPTION

2.1 INTRODUCTION

2.1.1.1 This section provides an overview of the Proposed Development, which can be summarised as follows:

"Construction, operation and decommissioning of a lithium extraction, processing and refining facility, including excavation of a pit, establishment and operation of a processing plant site, development of mining waste facilities, and other ancillary development such as pipelines, conveyors, road access and upgraded railhead facilities."

2.1.1.2 It provides detail regarding the main components of the Proposed Development, namely:

- surface mining operations carried out at the '**Trelavour Pit**', and associated development at the 'Pit Infrastructure Site' and 'Higher and Lower Trelavour' (collectively referred to hereafter as the '**Trelavour Pit Area**');
- processing to produce battery-grade lithium at the '**Trelavour Processing Plant**', which includes a Concentrator Plant, a Hydrometallurgical Plant and ancillary development; and
- mining waste sites to be restored using mining waste from the Trelavour Processing Plant (hereafter referred to as the '**Mining Waste Facilities**') and associated development.

2.1.1.3 It also provides an overview of the key activities that will be undertaken during each phase of the Proposed Development (i.e. construction, operation and maintenance (O&M), and decommissioning, closure and restoration), including key parameters and indicative timescales.

2.1.1.4 At this early stage, the project description is indicative, and the 'envelope' has been designed to include sufficient flexibility to accommodate further refinement during detailed design (further detail regarding this approach is included within Section 4.4.1.1) and further engagement and consultation with relevant stakeholders and the public. This section therefore sets out a series of options and/or parameters for which maximum values are used to represent a realistic worst-case for the Proposed Development. The project description will be refined as the design develops and is informed by

the EIA process and consultation. Nonetheless, the broad parameters described within this section are considered to be representative of the likely boundaries of the Proposed Development.

2.2 THE SCOPING BOUNDARY

- 2.2.1.1 Figure 1 illustrates the Scoping Boundary that has been used to inform this Scoping Report. The Scoping Boundary is defined as the area within which it is currently understood the Proposed Development (including the Mining Waste Facilities) will be physically located, including any temporary work areas.
- 2.2.1.2 The Scoping Boundary should be taken as indicative of the extent of the eventual application boundary, noting that at this stage, flexibility is required for design development and decisions yet to be made on matters such as siting and environmental mitigation, and to account for discussions with regulators and stakeholders and stages of public consultation which are yet to take place.
- 2.2.1.3 The area within the confines of the Scoping Boundary is referred to as 'the Site' hereafter and comprises an area of approximately 395 hectares (ha), including Trelavour Pit, the Trelavour Processing Plant, the Mining Waste Facilities, and the associated ancillary development.
- 2.2.1.4 Each environmental topic also considers a study area beyond the Site in forming this Scoping Report. The area of that study area has been described within each of the specific environmental topic sections.

2.3 SITE LOCATION AND BACKGROUND

2.3.1 SITE LOCATION

- 2.3.1.1 The Site is located in Mid-Cornwall, within an active mining area, as shown by Figure 2.
- 2.3.1.2 It is located to the immediate south and west of the village of St Dennis, and to the immediate north of the village of Nanpean. St Dennis itself is situated between the towns of St Austell, approximately 6.5 km to the south-east and Newquay approximately 9.5 km to the north-west, and adjacent to the B3279. It is wholly located within the administrative boundary of the unitary authority, Cornwall Council.
- 2.3.1.3 The Site can be accessed via the A30, to the north, which is a major road between London and Land's End. The A391, to the east of the

Site, runs north-south and connects the A30 and the A390, which runs along Cornwall's southern coast.

- 2.3.1.4 The Site is located within a largely industrialised area which continues to be mined for china clay; various sites operated by another company, the Imerys Group, are located nearby, as well as SUEZ's Cornwall Energy Recovery Centre (CERC), which is adjacent to the Site (specifically the Trelavour Processing Plant site).
- 2.3.1.5 The Site is also located within and bordered by agricultural land and is partially or fully crossed by approximately 24 Public Rights of Way (PRoWs).

2.3.2 SITE AND PROJECT BACKGROUND

- 2.3.2.1 This area of Cornwall hosts significant kaolin deposits and is characterised by its industrial history, with historic and modern clay pits, historic tips and stockpiles of secondary aggregates and restoration materials, lagoons, processing facilities and mineral rail lines present throughout the area. Lithium was successfully mined in the area during the second world war. This area was first identified as a strategic resource for the UK in 1987 by a British Geological Survey (BGS) publication entitled "The lithium potential of the St Austell Granite"¹.
- 2.3.2.2 The potential for the Proposed Development was identified following extensive research into historical records and modern geological, geochemical, and geophysical datasets which built on the work completed by BGS in 1987. Cornish Lithium began onsite surface exploration at the Trelavour Pit in 2018, following an extensive search of historical records and modern geological, geochemical, and geophysical datasets. This identified the Trelavour Pit as a high-priority site for exploration and development.
- 2.3.2.3 Initial drilling of the site in 2020 confirmed the presence of pervasive lithium mineralisation in the form of lithium bearing micas within the granite, which were identified as amenable to extraction in initial successful laboratory metallurgical trials. Additional, more comprehensive resource drilling and evaluation in 2021 led to the

¹ BGS (1987). The lithium potential of the St Austell Granite. BGS Report Vol. 19, No 4. Available online at: <https://pubs.bgs.ac.uk/publications.html?pubID=B01309>.

announcement of a Maiden JORC²-Compliant Inferred Mineral Resource of 51.7 million tonnes at a grade of 0.24% lithium oxide, equating to over 300,000 tonnes of contained Lithium Carbonate Equivalent (LCE). The mineral resource estimate is currently being updated as part of a feasibility study for the Proposed Development and, a mine life of approximately 20 years is expected, with average production of some 10,000 tonnes per annum (tpa) of lithium hydroxide (8,800 tonnes LCE).

- 2.3.2.4 The Faraday Institution UK Gigafactory Outlook (2024)³ projects an annual UK demand for battery production of 110 GWh in 2030, rising to 167 GWh in 2035. To support this level of battery manufacture, there will be a need for 81,000 tonnes of LCE in 2030, rising to 124,000 tonnes in 2035 (based on 0.74 Kg LCE per KWh).

2.3.3 SITE PLANNING HISTORY

- 2.3.3.1 There are extant mineral planning permissions covering much of the Site. Both the Trelavour Pit and the Trelavour Processing Plant sites benefit from extant planning permissions relating to the winning and working of china clay, china stone, mica, sand and allied minerals, and ancillary operations. The key planning history of the Site is summarised in Table 2.1, below. Further detail will be included within the Planning Statement.

² JORC is the Joint Ore Reserve Committee, an internationally recognised reporting standard for ore reserves and mineral resources.

³ JORC is the Joint Ore Reserve Committee, an internationally recognised reporting standard for ore reserves and mineral resources.

TABLE 2.1: KEY PLANNING HISTORY OF THE SITE

Relevant part of the Site	Planning permission ref.	Decision Date	Description
Whole Site	97/00965	02.02.2000	St Austell CCC Holdings; review of existing mineral planning permissions.
Trelavour Pit	26967/C	29.03.1965	Mining operations in connection with the winning and working of china clay, china stone, mica, sand and allied minerals. – Unconditional planning permission.
	26974/C	29.03.1965	Mining operations in connection with the winning and working of china clay, china stone, mica, sand and allied minerals. The two conditions in this permission refer to roadside verges throughout the china clay district.
	97/00965	10.02.1998	Review of Mineral Planning Permissions (ROMP): • PA13/01142 validated on 21.03.2013. St Austell china clay ROMP review. • NR/09/00207/PS21 dated 29.07.2009. Pursuant Scheme to Condition 12 (Blasting) of Decision Notice No. 97/00965 dated 10 February 1998. • NR/09/00206/PS21 dated 20.07.2009. Pursuant Scheme to Condition 10 (Dust) of Decision Notice No. 97/00965 dated 10 February 1998. • NR/09/00347/PS21 dated 09.07.2010. Pursuant Scheme to Condition 13 & 14 (Blasting) of Decision Notice No. 97/00965 dated 10 February 1998. • NR/09/00208/PS21 dated 23.02.2010. Pursuant Scheme to Condition 19 (Archaeology) of Decision Notice No. 97/00965 dated 10 February 1998. • NR/07/00474/ROMPS validated 08.08.2007. Determination of new conditions on existing mineral planning permissions to discharge Condition 5 (Site Specific Conditions). This scheme remains undetermined.

Relevant part of the Site	Planning permission ref.	Decision Date	Description
	C2/03/01890	18.12.2003	Determination of new conditions, including the back filling of Hendra Pitt.
	NR/03/00353/ROMPS	13.02.2004	Application for determination of new conditions on existing planning permissions (to include the back filling of Hendra Pit with micaceous residue and progressive site restoration).
	C2/07/01349	30.08.2007	Determination of new conditions on existing mineral planning permissions.
	PA23/05172	23.04.2024	Creation of new vehicular access from Brewers Hill to service the northern area of Trelavour Quarry.
	PA23/08460	29.01.2024	Vehicular access improvement works and change of use from an existing maintenance vehicular access to alternative primary quarry vehicular access onto Gothers Road from Trelavour Quarry.
Trelavour Processing Plant	26967/C	29.03.1965	As per the row above for the Trelavour Pit.
	26974/C	29.03.1965	As per the row above for the Trelavour Pit.
	97/00965	10.02.1998	ROMP: - NR/09/00206/PS21 dated 10.07.2009. Pursuant Scheme to Condition 10 (Dust) of Decision Notice No. 97/00965 dated 10.02.1998. - NR/09/00207/PS21 dated 29.07.2009. Pursuant Scheme to Condition 12 (Blasting) of Decision Notice No. 97/00965 dated 10.02.1998. - NR/09/00208/PS21 dated 23.02.2010. Pursuant Scheme to Condition 19 (Archaeology) of Decision Notice No. 97/00965 dated 10.02.1998. - NR/09/00347/PS21 dated 09.07.2020. Pursuant Scheme to Condition 13 & 14 (Blasting) of Decision Notice No. 97/00965 dated 10.02.1998.
	C2/98/00628	10.08.1998	Review of mineral planning permissions: Environment Act 1995, submission of schemes of working, site access and conditions for Treviscoe "operational areas" pursuant to initial determination (97/00965).

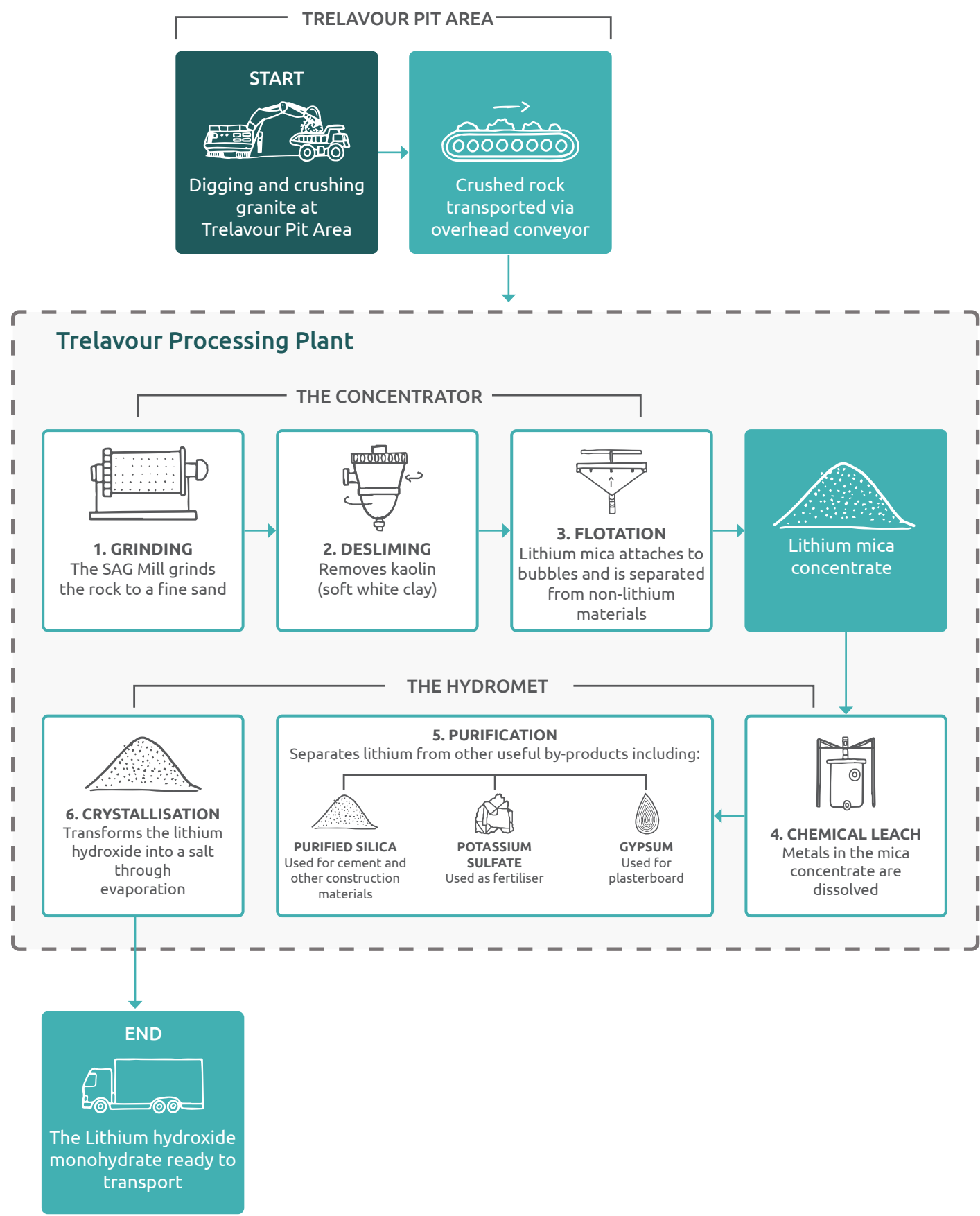
Relevant part of the Site	Planning permission ref.	Decision Date	Description
	R10.Env/OA5	18.05.2000	St Austell china clay workings. Review of Mineral Planning Permission. Approval of Scheme for Operational Area 5 (Trelavour Kilns).
	PA23/09395	10.01.2024	Prior approval for the installation of a lithium hydroxide demonstration facility and associated, ancillary equipment. Submission under Schedule 2, Part 17 (Class B) of The Town and Country Planning (General Permitted Development) (England) Order 2015.
	PA23/10200	05.04.2024	Proposed change of use (part retrospective) from china clay linhay building to laboratory, visitor centre and staff welfare units associated with lithium related developments.
Goonvean Mining Waste Facility	C2/89/02278	10.01.1990	Retention of two accesses conditions: temporary to 31/01/95.
	C2/94/01469	17.01.1995	Retention of two accesses
	C2/99/01564	08.02.2000	Retention of two accesses.
	C2/04/01212	16.08.2004	Application for determination of new conditions on existing planning permission for Operational Area 4C & regularisation of existing china clay workings on land adjacent to Goonvean China Clay Works.
	C2/07/00926	24.07.2007	Determination of new conditions on existing mineral planning permission.
	PA14/02599	31.03.2014	Temporary processing of china clay waste to provide feed material for adjacent blockworks and secondary aggregates and for sale on site (to include the temporary storage of feedstock and processed materials).
	PA15/07077	27.10.2015	Part retrospective planning application to continue processing china clay waste to provide feed material for adjacent blockworks and secondary aggregates for sale (to include temporary feedstock of materials). The application also provides for a new access to the site.

Relevant part of the Site	Planning permission ref.	Decision Date	Description
	PA18/08356	25.07.2019	Application for variation of conditions 1, 3, 5, 6, 8 and removal of condition 4 in respect of decision notice PA15/07077 - Part retrospective planning application to continue processing china clay waste to provide feed material for adjacent blockworks and secondary aggregates for sale (to include temporary feedstock of materials). The application also provides for a new access to the site- variation of condition 2 (maintain operations as existing), condition 3, 4 (no crushing now carried out on site) and condition 8 (reduce noise limit).

2.4 PROJECT INFRASTRUCTURE AND ACTIVITIES OVERVIEW

2.4.1.1 This section provides an overview of the different elements and activities which comprise the Proposed Development. A summary of the key processes involved in mining and processing lithium is provided in Plate 2.1, below. In summary terms, rock will be extracted from the Trelavour Pit, before being crushed and transported to the Trelavour Processing Plant. At the Trelavour Processing Plant, the rock will go through two processes. Firstly, it will be processed into lithium mica concentrate through grinding, desliming and floatation at the Concentrator Plant and then, secondly, into battery grade lithium hydroxide monohydrate through chemical leaching at the Hydrometallurgical Plant (hereafter referred to as the 'Hydromet Plant'). The lithium hydroxide monohydrate and various other valuable by-products will then be safely packaged and transported to customers across the UK. Waste materials from processing will be used to restore the Mining Waste Facilities. Where relevant, further information regarding each of the key components and processes/ activities has been provided in the remainder of this Section.

PLATE 2.1: SUMMARY OF KEY PROCESSES ASSOCIATED WITH THE PROPOSED DEVELOPMENT



2.4.2 TRELAVOUR PIT AREA

- 2.4.2.1 The Trelavour Pit Area is comprised of a disused china clay pit (the 'Trelavour Pit'), the Pit Infrastructure Site and Higher and Lower Trelavour, described in the sub-sections below. Its proposed location is shown on Figures 3 and 4.

Trelavour Pit

- 2.4.2.2 The Trelavour Pit currently comprises an area of approximately 45 ha. The proposed surface mining at the Trelavour Pit will be a continuation of the open pit mining previously carried out to extract china clay; it is proposed to extend it to extract the fresh and kaolinized granite, which contains lithium bearing micas.
- 2.4.2.3 The surface mining process is expected to include conventional drill and blast followed by load and haul extraction methods. Blasting will predominantly be required during the operational (production) phase of the Proposed Development, although some blasting may also be required for approximately 6 months pre- and post-production (within the construction and decommissioning, closure and restoration phases). Blasting will typically be carried out approximately 2-3 times per week (more frequently on occasion), using proven techniques employed across the mining sector, with appropriate controls in place to minimise noise and vibration, and with regard to best practice.
- 2.4.2.4 Approximately 1.7 million tonnes run-of-mine (ROM) mineralised material will be extracted each year from the Trelavour Pit (utilising loaders, excavators, rigid and articulated dump trucks) and stockpiled on a ROM pad adjacent to the primary crusher at the pit to then be crushed.
- 2.4.2.5 After being crushed, the ore will be transported via an overland electric conveyor, over the B3279 (Quarry Close Road) and the St Dennis to Treviscoe Road (Rostowrack Downs Road), to the Trelavour Processing Plant. An enclosed crushed ore stockpile of sufficient live capacity will be located between the Trelavour Pit and the Trelavour Processing Plant, to allow sufficient supply for 24-hour operation of the Trelavour Processing Plant.
- 2.4.2.6 In addition to the ROM, approximately 0.5-1.5 million tonnes of non-ore development rock and overburden will be removed annually from the pit and placed in engineered stockpiles in the adjacent areas

(within the Pit Infrastructure Site, described below). Approximately half of this material would be processed with mobile crushing and screening equipment to produce secondary aggregates which would be sold to the local construction market. It will also be used for restoration activities.

Pit Infrastructure Site (Old Hendra)

- 2.4.2.7 Land is required adjacent to the open pit, for locating infrastructure required to support the surface mining operations, such as (not limited to) a primary crusher and ore and waste stockpiles. This area is hereafter referred to as the 'Pit Infrastructure Site' (a sub-set of the area referred to as 'Trelavour Pit Area'). The Pit Infrastructure Site is indicated on Figure 4 and comprises approximately 80 ha. Existing screening bunding within this area will be retained and may be extended in places.

Higher and Lower Trelavour

- 2.4.2.8 'Higher and Lower Trelavour' is an area to the immediate north of the Trelavour Pit, as indicated by Figure 4. No mining activity is proposed in this area; it is being considered for ecological and landscape enhancement (further detail regarding which is included in Section 2.5.8, below) and will operate as a buffer area, separating surface mining activities at the Trelavour Pit from receptors in St Dennis.

Summary of Equipment and Infrastructure

- 2.4.2.9 In summary, equipment and infrastructure at Trelavour Pit Area is currently expected to include:

- the open pit;
- rock and ore stockpiles;
- the mine fleet, comprising excavators, loaders and haulage equipment;
- processing areas where secondary aggregates will be stored, crushed and handled;
- a ROM pad;
- a primary crusher;
- a crushed material storage/handling area;
- a water storage pond and treatment facility (if required), to manage discharge quality;

- heavy equipment workshops and laydown areas;
- a light vehicle workshop, a heavy vehicle workshop, parking areas (for both heavy and light vehicles) and tyre handling;
- contractor offices, welfare facilities and control rooms;
- various other fitting, storage and dispensing facilities;
- topsoil/ subsoil and waste rock stockpiles;
- associated access and internal haul routes;
- drainage infrastructure and a mine water treatment plant;
- other pit infrastructure and maintenance facilities; and
- enhancement areas.

2.4.2.10 The primary crusher is expected to be the most visually prominent part of the Trelavour Pit. It will be housed in an acoustically screened building which is expected to be up to 20 m in height, however, given its proposed location, it is expected to be largely screened by the surrounding topography; the hillside above the crusher area is to be cut back to create a headwall for the crusher to be set back against, meaning that the crusher building would only protrude above this by a maximum of 3 m.

2.4.3 TRELAVOUR PROCESSING PLANT

2.4.3.1 The proposed area for the processing plant ('the Trelavour Processing Plant site') is an existing china clay drying site, referred to previously as the 'Trelavour Dryers' or 'Trelavour Kilns' and the 'Trelith Processing Site'. The proposed location of the Trelavour Processing Plant is shown by Figure 3.

2.4.3.2 At present, the Trelavour Processing Plant site is comprised of several industrial buildings, housing kaolin drying process equipment and various associated offices. It is also currently being used to house the Lithium Processing Demonstration Facility (the 'Demo Plant') which is the UK's first low-carbon lithium hydroxide demonstration facility. At this facility, the mineral concentration and hydrometallurgical processing technologies are being tested, to refine engineering design requirements of the proposed full-scale processing plant.

2.4.3.3 The proposed Trelavour Processing Plant site comprises an area of approximately 25 ha and is located approximately 1 km to the west of the Trelavour Pit. The Trelavour Processing Plant is comprised of the Concentrator Plant, the Hydromet Plant, and acid plant and other

associated infrastructure. The Concentrator Plant, Hydromet Plant are currently expected to be approximately 22 m and 35 m in height, respectively.

- 2.4.3.4 In addition to the 'Trelavour Processing Plant' itself, the 'Trelavour Processing Plant Area' also includes the 'TPP Support Site', as shown by Figure 5 which will be used to support operations at the Trelavour Processing Plant' throughout the lifetime of the Proposed Development, for uses such as car parking, laydown and storage.

Process Overview

- 2.4.3.5 The Trelavour Processing Plant comprises two main stages of processing to refine the ore and extract lithium hydroxide: concentrate processing which will take place in the Concentrator Plant and hydrometallurgical processing which will take place in the Hydromet Plant.
- 2.4.3.6 The Concentrator Plant is expected to process approximately 1.7 million tonnes per annum (pa) of ROM material from the Trelavour Pit. A lithium-enriched flotation concentrate will be produced (approximately 180,000 tonnes (t) per annum (pa)), for feeding to the Hydromet Plant.
- 2.4.3.7 The primary product from the Hydromet Plant will be battery grade lithium hydroxide monohydrate. The lithium percentage (%) of the ROM material is expected to vary between 0.11% and 0.15%. Overall lithium recovery is expected to be approximately 80%, and approximately 10,000 tonnes of battery grade lithium hydroxide monohydrate is expected to be produced annually.
- 2.4.3.8 In addition to lithium, various valuable and potentially saleable by-products will also be produced, reducing waste and benefiting various industries. Examples include pozzolanic silica (for green cement), gypsum (for plasterboard) and sulfate of potash (for fertiliser).
- 2.4.3.9 The extraction method proposed is expected to produce significantly less carbon emissions than alternative processes used to extract lithium from hard rock resources across the globe.

The Concentrator Plant

- 2.4.3.10 Crushed ore mined from the Trelavour Pit and transported to the facility will be ground in a semi-autogenous grinding (SAG) mill and

then processed through a series of cyclones to deslime (remove clay). The deslimed material will then be processed in a series of floatation tanks, to separate the lithium bearing mica and produce a mica concentrate slurry. The slurry will then be passed through filter presses, to remove most of the water present, prior to it being transferred to the next stage of refining at the Hydromet Plant. The clays and sands that are separated from the mica will be pumped by pipeline to the Mining Waste Facilities for disposal (further information regarding this is included in Section 2.4.3).

The Hydromet Plant

- 2.4.3.11 At the Hydromet Plant, the mica concentrate will initially be leached with sulfuric acid, to dissolve the lithium and other metals that it contains. The silica is insoluble in acid, so it can be removed at this first stage by filter press, to produce a pozzolanic silica. Once the silica is separated, the remaining liquid will then be refined using a process of neutralisation and temperature adjustment with the addition of lime and limestone.
- 2.4.3.12 Alum and gypsum will be crystallised out as by-products, leaving lithium as a sulfate. The alum and gypsum will be filter pressed and then transferred by road either to the Mining Waste Facilities or to customers around the UK.
- 2.4.3.13 The lithium sulfate will be further refined with lime, aluminium and barium hydroxide, to produce lithium hydroxide monohydrate, which is then crystalised as a basic salt and vacuum sealed into packs for transporting to customers, to maintain its purity.
- 2.4.3.14 Most of the reagents (sulfur, limestone, lime, aluminium and barium hydroxide) used in the Hydromet Plant will be brought to the site by rail (as described in Section 2.5.5).
- 2.4.3.15 The sulfuric acid requirements of the Trelavour Processing Plant are proposed to be met by an acid plant on-site. The acid plant will utilise standard, well-established technologies and best practice measures to produce approximately 500 metric tonnes of sulfuric acid per day. Locating the acid plant at the Trelavour Processing Plant site minimises acid transport and storage requirements by producing what is required close by, and therefore has logistical, safety and environmental benefits.

2.4.3.16 The principal steps in the process, which are carried out in a fully contained environment at the acid plant, are:

- burning the sulfur in air to form sulfur dioxide (SO_2);
- combining the sulfur dioxide with oxygen to produce sulfur trioxide (SO_3); and
- combining of SO_3 with water to form a solution containing sulfuric acid (H_2SO_4).

2.4.3.17 The oxidation and absorption steps release a lot of heat; therefore, the acid plant will be fitted with a waste heat recovery system. This will provide steam for use in other parts of the Trelavour Processing Plant and thus minimise energy usage.

2.4.3.18 Approximately 99.9% of the SO_2 from the sulfur furnace would be removed from the gas stream after passing through the final absorbing tower. The remaining process gas would then enter a tail gas scrubber system, employed to further minimise SO_2 emissions from the stack which is the recognised best available technology to ensure it meets regulations on emissions. The scrubber solution (sodium bisulfite) will be converted to sodium bisulfate (solid) before being exported for disposal by a licenced contractor.

Summary of Equipment and Infrastructure

2.4.3.19 In summary, equipment and infrastructure at the Trelavour Processing Plant site is expected to include:

- a concentrator plant;
- a hydrometallurgical plant;
- an acid plant;
- control rooms associated with the above facilities;
- a metallurgical laboratory;
- self-bunded tanks for diesel storage, adjacent to a loading and unloading area;
- fuel and chemical/ reagent storage;
- water treatment facilities (likely to include a reverse osmosis treatment system);
- workshop facilities, administrative and welfare buildings and a first aid clinic;
- other warehouse and storage facilities; and

- a light vehicle workshop.

2.4.4 THE MINING WASTE FACILITIES

- 2.4.4.1 Two waste streams (concentrator waste and hydrometallurgical waste) will be produced at the Trelavour Processing Plant. It is currently expected that these two waste streams will be delivered to separate waste management facilities, with concentrator waste pumped to one storage site and hydrometallurgical waste trucked to the other. The waste facilities presented are expected to accommodate the 25 million tonnes of concentrator waste and 7 million tonnes hydrometallurgical waste for the approximately 20-year LOM.
- 2.4.4.2 The concentrator waste will comprise primarily quartz, feldspar and clay, produced from the initial desliming and floatation ore treatment processes at the Concentrator Plant. The hydrometallurgical waste will be refinery waste in the form of filter cake, produced by the treatment of lithium-bearing mica minerals at the Hydromet Plant.
- 2.4.4.3 Two flooded former china clay pits, Goonvean and Treviscoe (indicated by Figure 6) are being considered for mining waste facilities, (hereafter referred to as the 'Goonvean Mining Waste Facility' and the 'Treviscoe Mining Waste Facility', respectively). The Goonvean and Treviscoe Mining Waste Facilities comprise areas of 55 ha and 30 ha, respectively. The Treviscoe Mining Waste Facility is a disused, flooded pit. The Goonvean Mining Waste Facility is also flooded and currently being backfilled with waste material by Imerys.
- 2.4.4.4 It is proposed that concentrator waste will initially be deposited at the Goonvean Mining Waste Facility within the flooded pit i.e. below the water (as is the current practice for other similar sites in the region), as a paste thickened slurry, and then placed as engineered filtered dry waste on top of this once a beach is formed. It is anticipated that Goonvean will be filled to its crest and then to approximately 20 m above the crest. It will then be restored as described in Section 2.6.4.
- 2.4.4.5 An alternate method is proposed for the Treviscoe Mining Waste Facility; the hydrometallurgical refinery waste will be produced as a dry filter cake and trucked to the Treviscoe Mining Waste Facility for placement as engineered dry fill. It is anticipated that Treviscoe will be filled to its crest, creating a relatively flat landform. It will then be restored as described in Section 2.6.4.

- 2.4.4.6 Liners and leachate control systems may be required for each of the sites.
- 2.4.4.7 In addition to the Mining Waste Facilities themselves, the 'Mining Waste Area' shown by Figure 6 also includes the 'Mining Waste Additional Infrastructure Site', where ancillary development to support the Mining Waste Facilities (such as water treatment equipment) will be located.
- 2.4.4.8 Project infrastructure at the Mining Waste Facilities is expected to include:
- deposited concentrator and hydrometallurgical waste;
 - above and below ground pipelines;
 - dewatering facilities (using thickeners and filter presses, to maximise water recovery and return to the Trelavour Processing Plant);
 - a water treatment plant (if required), to manage discharge quality;
 - conveyors and or mobile load and haul equipment for transport of material within the sites;
 - loading and unloading areas;
 - a control room, administrative buildings and welfare facilities;
 - parking areas (adjacent to the water treatment plant); and
 - other temporary construction facilities including laydown areas and construction compounds.

2.5 ANCILLARY INFRASTRUCTURE

- 2.5.1.1 Ancillary infrastructure associated with the Proposed Development is likely to include:
- water supply (potential sources), distribution and discharge infrastructure (described in Section 2.11.2);
 - the ore transport corridor; after being crushed at the Trelavour Pit, the ore will be transported via an overland electric conveyor to the Trelavour Processing Plant;
 - a slurry pipe along the waste transport corridor from the Trelavour Processing Plant to the Mining Waste Facilities, and a water return pipe along the same route:

- an access road between Trelavour Pit and Treviscoe Mining Waste Facility, along the southern border of Rostowrack Downs;
- electrical infrastructure;
- creation of a community multi-use trail, linking St Dennis to Goss Moor National Nature Reserve (which could follow the same route as the proposed electrical connection described in Section 2.5.4, below);
- upgrades to the existing rail line to the Trelavour Processing Plant and creation of loading and unloading facilities;
- use of, and potential upgrades to, Belowda Explosives Store/Magazine;
- potential biodiversity enhancements; and
- temporary construction facilities described in Section 2.6.2, below.

2.5.1.2 These are each described in more detail in the rest of this section.

2.5.2 THE WASTE TRANSPORT CORRIDOR

2.5.2.1 The waste transport corridor is approximately 1800 m in length, and includes a slurry pipeline, as well as a service road alongside it, to provide access for inspections and maintenance.

2.5.2.2 The slurry pipeline will be installed for transport of waste from the Trelavour Processing Plant to the Mining Waste Facilities. This will comprise two steel pipes that will run underground for some sections and along the surface for other sections, depending on the topography. One pipeline will transfer the slurry from the Concentrator Plant to the Goonvean Mining Waste Facility, the other will bring water back to the Trelavour Processing Plant.

2.5.3 ELECTRICAL INFRASTRUCTURE

2.5.3.1 Two electrical connection options are currently being considered with National Grid Electricity Transmission plc (NGET).

2.5.3.2 One option is to connect to the existing 132 kv line that connects the CERC to the Indian Queens substation located approximately 2 km to the north of the Site; however, all available connections are currently reserved by others. A further connection to the Indian Queens substation is expected to be required; this 132 kv connection would run along the disused rail line that runs from the Trelavour Processing Plant up to Goss Moor.

2.5.3.3 An alternative is that the Trelavour Processing Plant will be connected by NGET to the Fraddon substation, approximately 4 km to the west of the Site line will be installed mostly underground to bring the power to a new substation located at the Trelavour Processing Plant site, near the concentrator.

2.5.4 COMMUNITY MULTI-USE TRAIL

2.5.4.1 The opportunity to create a permissive community multi-use trail, linking St Dennis to Goss Moor National Nature Reserve (NNR), is currently being investigated. Depending on the electrical connection used, this trail could follow the same route as the Indian Queens electrical connection corridor described above (which is approximately 2.4 km in length) and provide a link to the existing network of multi-use trails and PRowS in the area, for use by the local community.

2.5.5 RAIL UPGRADES

2.5.5.1 It is proposed that reagents will be brought to the Trelavour Processing Plant via the existing rail line. To facilitate this, approximately 80 m of existing rail track requires upgrades, and loading and unloading facilities will need to be installed to unload and load approximately 5 to 10 trains per week throughout the operating phase of the Proposed Development. The unloading methods will include crane, excavator and pneumatic pump depending on the type of container that the reagent is delivered in. Utilising this transport method will minimise the need to use the local road network to transport reagents and byproducts. Discussions with Network Rail regarding this are ongoing.

2.5.6 BELOWDA SUPPORT SITE

2.5.6.1 Belowda Support Site is an existing, but disused, secure explosives storage site, located in the northern part of the Site, which may be utilised by the drill and blast contractor and their suppliers for material storage (subject to any required upgrades e.g. for security). It's suitability for this purpose is currently being assessed.

2.5.7 POSSIBLE ENVIRONMENTAL ENHANCEMENT AREAS

- 2.5.7.1 Biodiversity Net Gain (BNG) is an approach to development that aims to leave the proposed site in a better condition than it was in prior to a development taking place, with respect to its biodiversity value.
- 2.5.7.2 Consideration of BNG and potential enhancement options for the Proposed Development is currently at an early stage. However, the Applicant is committed to achieving BNG targets through habitat retention, enhancement and creation. BNG will be a key consideration in development of the restoration plan for the Proposed Development, and opportunities will be sought to link the delivery of BNG to relevant local plans and strategies.
- 2.5.7.3 Some initial areas which are currently under consideration for enhancement have been included within the Scoping Boundary. In particular, there are numerous opportunities for habitat creation and enhancement within the Pit Infrastructure Site, which will be investigated further.
- 2.5.7.4 Please note that plans for enhancement will evolve following the completion of additional ecology surveys and consultation with the relevant stakeholders, and as the design of the Proposed Development, the EIA and BNG assessments progress. Further information regarding consideration of BNG, including the BNG-related reporting and mapping to be included with the DCO Application, is included within Section 11 (Ecology and Nature Conservation).

2.6 PROGRAMME AND PHASES OF THE PROPOSED DEVELOPMENT

2.6.1 PROGRAMME OVERVIEW

- 2.6.1.1 The indicative programme for the Proposed Development is based upon assumed dates and is split into the following stages:
- construction and site preparation: approximately two years;
 - operation and maintenance: approximately 20 years; and
 - decommissioning, closure and restoration: approximately two years for the majority of the activity, with some enhancement activities taking place over a further three years.
- 2.6.1.2 Please note that the above timescales apply to all components of the Proposed Development. Further detail regarding what each phase comprises, in relation to each of the main components of the

Proposed Development (the Trelavour Pit, the Trelavour Processing Plant and the Mining Waste Facilities), is included in the sections below.

2.6.2 CONSTRUCTION

2.6.2.1 Detail regarding the anticipated construction and site preparation activities to be carried out for each of the main components of the Proposed Development is provided in the sections below. It should be noted that existing infrastructure (such as access points and haul routes) will be used where possible, thereby reducing the level of construction activity required.

Trelavour Pit

2.6.2.2 Construction and site preparation works at Trelavour Pit are expected to take approximately 24 months and will commence with the installation of water management measures to manage stormwater and groundwater during construction. Clearing of vegetation and any soils will then take place with soils being stored separately along the boundaries of the pit (or in the Mining Waste Facilities). Earthmoving will then be conducted to establish any additional haul roads, site screening bunds, and the working bench of the pit where the first work will be carried out.

2.6.2.3 Site preparation for the primary crusher, conveyors and surge pile will also start concurrently with the pit development. Vegetation will be cleared, then the ground will be regraded to accommodate the ROM pad, crusher, conveyors and surge pile structures. This will be followed by the installation of concrete foundations and utilities. The construction process will continue with the erection of structures, buildings and the installation of the processing equipment and conveyors. Installation of electrical systems and completion of associated infrastructure will close out the construction process.

2.6.2.4 Construction traffic is expected to access the site via the existing access points (described in Section 2.9.1, below) and utilising internal access roads. Temporary workshops, offices and welfare facilities will be provided. Some drilling and blasting within the pit may also be conducted at this stage.

2.6.2.5 Two historic, conical, waste tips are located within this part of the Site. These "sky tips" were created many years ago, through the

piling of waste materials generated by previous mining activities in the area. They reflect the rich mining history of the area and how the mining industry has, and continues to, shape and change the surrounding landscape. Excavated waste material which was not valuable for sale was disposed of in heaps with waste continually being added to the top. As a result, these sky tips were not engineered and were not designed with long-term stability and safety in mind.

- 2.6.2.6 The Trelavour Lithium Project seeks to be the next step in the area's historic mining tradition, which has hosted the mining of all sorts of precious materials over generations. The site where the sky tips are located is a key area of the Trelavour Pit, where mining activities will need to be carried out to ensure a safe and effective mining operation. These two sky tips, therefore, must be removed to enable the Proposed Development to go ahead.
- 2.6.2.7 The Applicant understands the local recognition of these sky tips which have come to represent a period of the local mining history. The Applicant is committed to working with the community to ensure that the heritage represented by these sky tips is celebrated and to mark this evolution in the mining activities in the area.

The Trelavour Processing Plant

- 2.6.2.8 Construction and site preparation works at the Trelavour Processing Plant are expected to take approximately 24 months and will be carried out at the same time as the construction and site preparation works at Trelavour Pit.
- 2.6.2.9 Site preparation will start with the demolition of the existing buildings, foundations and concrete structures. The demolition material will be separated based on its suitability for reuse or recycling with the remainder sorted and disposed of as appropriate.
- 2.6.2.10 The site will then be regraded, foundations will be constructed, and utilities will be installed. The construction process will continue with the phased erection of plant structures, buildings and installation of all the processing equipment, hydrometallurgical components and sulfuric acid manufacturing equipment.
- 2.6.2.11 Most of the equipment will be delivered as modular or pre-fabricated packages to be assembled on site. Installation of piping, electrical

systems and completion of associated infrastructure will close out the construction process. This includes renovation of the rail line with associated wagon unloading and material storage facilities.

- 2.6.2.12 Construction traffic is expected to access the site primarily via the CERC haul road (described in Section 2.9.1, below). Temporary workshops, offices and welfare facilities will be provided within the plant site area along with laydown areas for the plant structures and equipment.

The Mining Waste Facilities

- 2.6.2.13 Site preparation and construction activities at the Mining Waste Facilities also currently expected to take approximately 24 months, with Treviscoe involving activity than Goonvean, over a longer period.
- 2.6.2.14 Preparation will start with dewatering of the Treviscoe Mining Waste Facility, to remove all the water from the flooded pit. It is currently expected that this water will be pumped, at a controlled rate, into Goonvean and offsite where possible (subject to the relevant permits/consents). Once dewatered, it is proposed that the base of the pit will be levelled, graded and a drainage system installed on the base and sides. A high-density polyethylene liner will then be installed over the drainage system to contain the waste. Pumps will be installed to keep the pit dewatered while it is used for waste disposal.
- 2.6.2.15 At the Goonvean Mining Waste Facility, it will be necessary to construct a filter press building on site. The filter press site will be regraded, foundations will be constructed, and utilities will be installed. The construction process will continue with the erection of the filter press building and installation of all the filter press equipment. It is expected that most of the equipment will be delivered as modular or prefabricated packages, to be assembled on site. Installation of piping, electrical systems and completion of associated infrastructure will close out the construction process at this time.
- 2.6.2.16 It is expected that the Waste Transport Corridor will be developed in the first few months of the construction phase. This is expected to involve vegetation and topsoil stripping, laying of aggregate to establish a compacted roadway, and laying of pipelines (at the surface or trenched where required).

Temporary Construction Facilities and Working Areas

2.6.2.17 Outside of the main areas of the Site described above, to facilitate the works described, temporary construction compounds, laydown areas, a logistics receiving yard (Roche Bypass) and temporary worker accommodation will be required (the indicative locations of these temporary construction areas are shown by Figure 3).

2.6.2.18 The temporary worker accommodation is expected to be required to accommodate a proportion of the construction workforce from further afield with specialist skills (noting that workers will also be recruited locally, and existing visitor accommodation may also be utilised).

2.6.3 OPERATION AND MAINTENANCE

2.6.3.1 The Proposed Development is expected to be operational for approximately 20 years during which time, maintenance activities will be carried out as required. This period includes:

- Extraction operations at Trelavour Pit, as described in Section 2.4.2: the surface mining process, including conventional drill and blast mining methods, followed by load and haul extraction methods, to recover the china clay deposit and kaolinised, transitional and fresh rock granite (containing lithium bearing micas).
- Operation and maintenance of the proposed facilities at the Trelavour Processing Plant, as outlined in Section 2.4.3: including concentrate processing and hydrometallurgical processing activities to refine the ore and extract lithium hydroxide.
- Operation and maintenance of the Mining Waste Facilities, as described in Section 2.4.4: including transporting and depositing the waste streams generated by the concentrate processing and hydrometallurgical processing, and operation of associated infrastructure such as the dewatering facilities and water treatment plant.
- Operation of ancillary infrastructure, such as the ore transport corridor, as described in Section 2.5.2.

2.6.3.2 Access to the Site and traffic movements during this phase are described in Sections 2.9.1 and 2.9.2, respectively.

2.6.3.3 Operational working hours for each component of the Site are described in Section 2.7.

2.6.3.4 Employment during operation is described in Section 2.8.

2.6.4 DECOMMISSIONING, CLOSURE AND RESTORATION

- 2.6.4.1 The decommissioning, closure and restoration phase of the Proposed Development includes closure and restoration of Trelavour Pit, decommissioning of the proposed facilities at Trelavour Processing Plant, and decommissioning of the Mining Waste Facilities.
- 2.6.4.2 The aim for closure and restoration is to implement a sustainable and environmentally responsible mine closure, which creates a lasting positive legacy for the local area. Following closure, the land is likely to consist of a mix of commercial and industrial land at Trelavour Processing Plant, amenity land, and areas of enhanced ecological value. The restoration plan will incorporate ecological enhancement measures where possible and take into account the views of stakeholders and the public.
- 2.6.4.3 Whilst mineral operations are temporary, they are relatively long-term (with an approximately 20- year LOM projected for these operations). However, it may be possible to progressively restore some parts of the Site whilst mining operations are ongoing. Options for progressive closure and/or progressive restoration will be considered, to increase opportunities for enhancing biodiversity, increasing physical and chemical stability and improving air quality.
- 2.6.4.4 Where possible, the restored landscape will be stable and self-sustaining.

Trelavour Pit

- 2.6.4.5 The plan for decommissioning, closure and restoration of Trelavour Pit will evolve and develop throughout the lifetime of the Proposed Development, taking account of technical and environmental considerations, stakeholder feedback, and relevant legislation and policy at that time.
- 2.6.4.6 Experts in various specialisms (including engineering, regeneration, biodiversity, and planning) are currently considering, at this early stage in the process, the different options for closure, restoration and after-use, and work towards selection of scenarios which will be most beneficial for all stakeholders (including the landowner, who ultimately, the site will be returned to). A key objective of this activity is to ensure that stakeholder feedback, including that of the

landowners, is carefully considered and reflected in the proposals where possible.

2.6.4.7 Numerous options for restoration of the open pit (once the resources are depleted) are being considered; by way of an example, one of the scenarios being considered is to provide a restored environment that accommodates nature and is described below:

- battering the pit walls for geotechnical stability;
- vegetating the pit embankments with native species to further improve physical stability;
- implementing a wet restoration scheme, which could, for example, include allowing the pit to fill with groundwater and creating a shallow margin to be planted with native vegetation; and
- restricting access to the pit with an earthen bund, vegetated with native species.

2.6.4.8 Whilst the open pit itself will be returned to the current landowners, the Pit Infrastructure Site (adjacent to the open pit and where the infrastructure required to support the mining operations will be located) will be retained by CLL. This presents considerable opportunities for restoration and enhancement. All closure and restoration plans will be informed by the EIA process and stakeholder engagement and will focus on delivering community benefits and positive environmental outcomes.

Trelavour Processing Plant

2.6.4.9 Following end of operations at the Trelavour Processing Plant site, equipment will be cleaned and sold to local businesses. Where it cannot be sold, it will be demolished and recycled. Following decommissioning, the site will be returned to the owner for future use (in line with the restoration scheme to be developed). The site will retain its utility connections along with road and rail infrastructure, making it attractive for redevelopment by the owners.

The Mining Waste Facilities

2.6.4.10 Following final processing activities, it is anticipated that the Goonvean Mining Waste Facility will be filled to its crest and then to approximately 20 m above the crest (elevated above natural ground level). At this stage, it is anticipated that the following activities will be undertaken:

- re-profiling of embankment surfaces, so that they are geotechnically stable;
- use geochemically inert material (likely to be locally sourced) to cap the facility, to eliminate, as far as reasonably practicable, the infiltration of water into the waste materials;
- install surface drains and direct rainfall runoff, via a nearby pit lake; and
- revegetate and enhance the surface using native species.

2.6.4.11 Following final processing activities, the Treviscoe Mining Waste Facility is not proposed to be elevated above natural ground level; it is anticipated that it will only be filled to its crest, creating a relatively flat landform. Further assessment is needed to identify the exact nature of the waste to be deposited and the containment requirements, however, at this stage, it is anticipated that the activities similar to those listed for the Goonvean Mining Waste Facility, above, would also be carried out at the Treviscoe Mining Waste Facility.

2.6.4.12 The closure method and post-closure monitoring requirements for these sites will be in-line with regulatory requirements.

2.7 WORKING HOURS

2.7.1.1 It is the intention to carry out construction activities as responsibly and quickly as possible, to minimise the length of any potential disturbance to ecological and residential receptors. Whilst flexibility for 24-hour working for some construction activities is required, it is expected that the majority of the activity would be carried out between the hours of 06:30-19:30, seven days per week, and that certain activities that would generate the most disturbance (such as demolition) would only be carried out in the daytime. Similar working hours are currently expected for decommissioning, closure and restoration.

2.7.1.2 Mining operations at Trelavour Pit will be limited to 06:30-19:30, 7 days per week, which is broadly in line with other mining operations in the area. As mentioned in Section 2.4.2, blasting will be undertaken during the daytime only, approximately 2-3 times per week (possibly more frequently on occasion).

- 2.7.1.3 Operations at the Trelavour Processing Plant will be continuous through the day and night (24/7). As such, operations at the Mining Waste Facilities (where waste streams from the Trelavour Processing Plant will be taken to) will also be continuous (though activity at these sites is expected to be minimal).

2.8 EMPLOYMENT

- 2.8.1.1 Early estimates indicate that a large number of jobs will be generated during each phase of the Proposed Development. These will be full-time equivalent (FTE) jobs; temporary during construction and decommissioning, closure and restoration, and permanent during operation. There will be a focus on recruiting workers locally. Some specialist workers will also be recruited from further afield.
- 2.8.1.2 Throughout the lifetime of the Proposed Development, direct and indirect expenditure associated with the Proposed Development will also generate economic benefits for the local community – for example, through the use of local goods and services.

2.9 ACCESS, HGV MOVEMENTS AND TRAFFIC

2.9.1 ACCESS AND ROUTING

- 2.9.1.1 Vehicular access to Trelavour Pit is expected to be via the existing access onto the B3279.
- 2.9.1.2 Vehicular access to the Trelavour Processing Plant site is expected to be via the existing access onto Rostowrack Downs, the St Dennis to Treviscoe Road, which links to the B3279. Both of these existing access junctions are already well formed, with adequate visibility splays in each direction, therefore no upgrades are expected to be required.
- 2.9.1.3 Utilisation of the existing CERC haul road is also being considered. If possible, the CERC haul road would be used for all HGV traffic travelling to and from the Site, with one designed access route to connect the Trelavour Processing Plant to the existing haul road, which would extend across the field, cross the railway line and enter the Parkandillick complex (this would be of use to both the Applicant and their neighbour, Imerys). All HGV traffic associated with the Proposed Development would be directed through this access in the first instance, in combination with the marshalling yard at Roche. If

this option can be progressed, it will reduce the amount of HGV traffic passing through the surrounding villages.

- 2.9.1.4 Access to the Mining Waste Facilities is expected to be via the existing access points. For Treviscoe and Goonvean, it is anticipated that an existing access on the northern boundary of the Treviscoe Mining Waste Facility will be used (connecting to Spar Villas road), as well as an existing access on the western boundary of the Goonvean Mining Waste Facility. Internal roadways will also be utilised for access.

2.9.2 TRAFFIC

- 2.9.2.1 Traffic (in the form of both HGV movements and car journeys) will be generated during each phase of the Proposed Development. It is currently expected that during construction and operation, there will be no more than 100 HGVs arriving at and leaving the site per day.
- 2.9.2.2 As mentioned in Section 2.4.2, ore will be transported from the Trelavour Pit to the Trelavour Processing Plant via an overland covered conveyor which will minimise required traffic movements. Further, use of the existing rail line to transport reagents to the Trelavour Processing Plant will also minimise traffic movements and therefore pressure upon the local road network.
- 2.9.2.3 Further information regarding trip generation will be included in the PEIR and ES, when the design of the Proposed Development has developed further.

2.10 LIGHTING

- 2.10.1.1 Lighting will be required for each part of the Site, to ensure that the Proposed Development can be constructed, operated and decommissioned/ closed/ restored safely.
- 2.10.1.2 Lighting will generally be provided by LED fittings at transfer towers, conveyor walkways, process areas, stairways and ladders, operator control rooms and substations, offices and workshops and entrances to buildings. Emergency lighting will also be provided to ensure that safe evacuation routes are in place.
- 2.10.1.3 The Applicant will commit to measures to minimise potential effects of lighting upon sensitive ecological and human receptors; for example:
- control of glare and illuminance levels;

- use of energy-efficient lighting solutions;
- use of lighting with a high colour rendering index (CRI); and
- careful consideration of lighting positioning.

2.10.1.4 The lighting design will comply with relevant UK regulations, industry standards and best practice, such as BS EN 12464-2 (lighting of outdoor work places)⁴, BS EN 1838 (emergency lighting)⁵, and the Institute of Lighting Professionals (ILP) 'Bats and Artificial Lighting' guidance note 8⁶.

2.11 WATER SUPPLY, MANAGEMENT AND DRAINAGE

2.11.1 WATER USE AND SUPPLY

Construction and Decommissioning, Closure and Restoration

2.11.1.2 Water will be required for various activities during both the construction and the decommissioning, closure and restoration phases of the Proposed Development; for example, for dust suppression and welfare facilities. Water demand for these phases is currently being assessed; further information regarding this will be included in the ES.

Operation

2.11.1.3 Day to day mining operations require water for various purposes, including mine services, dust suppression and welfare facilities. Water supply is also required for operations at the Trelavour Processing Plant, including the metallurgical process and the acid plant, as well as potable water for welfare facilities, and a number of 'high quality' technical water uses such as laboratory and reagent preparation. There will also be water management requirements associated with the Mining Waste Facilities.

2.11.1.4 Various options for water supply and management are currently being investigated. Current supply options include mains supply (limited amount for potable water only), supply from flooded pits within the

⁴ BSI (2024). BS EN 12464-2:2024 – TC. Light and lighting. Lighting of work places - Outdoor work places. Available at: <https://knowledge.bsigroup.com/products/light-and-lighting-lighting-of-work-places-outdoor-work-places-1?version=tracked>.

⁵ BSI (2024). BS EN 1838:2024 – TC. Lighting applications. Emergency lighting for buildings. Available at: <https://knowledge.bsigroup.com/products/lighting-applications-emergency-lighting-for-buildings?version=tracked>.

⁶ Institute of Lighting Professionals (ILP) 'Bats and Artificial Lighting' guidance note 8. (2023) Available at: <https://theilp.org.uk/publication/guidance-note-8-bats-and-artificial-lighting/>

Site (for raw water) and the use of production boreholes (also for raw water). Opportunities for reuse and recycling are being investigated and will be utilised to their full potential wherever practicable.

- 2.11.1.5 The water required for the processes carried out at the Trelavour Processing Plant needs to be high quality, demineralised water; as such, pre-treatment by reverse osmosis (on-site) is expected to be required. Other technology options are also being investigated.

2.11.2 WATER MANAGEMENT AND DRAINAGE

- 2.11.2.1 The drainage design of the Proposed Development is currently being developed, and further information will be provided as the Application progresses. Some initial information regarding each of the key components of the Site is included in the sections below. In all cases, where possible, sustainable drainage systems (SuDS) principles will be adopted.

Trelavour Pit

- 2.11.2.2 To keep a dry, operable mine, dewatering will be employed to manage groundwater and surface water inflows and where necessary de-pressurise pit faces. Perimeter drainage systems and re-routing water away from the pit as 'non-contact' water will be employed to minimise, where practical, excessive surface water run-off from the surrounding catchment. Segregated systems for contact and non-contact water will be employed. Incident rainfall and runoff that falls within the pit walls and working areas (contact water) will be directed to drain into a base sump.
- 2.11.2.3 With regard to surplus water from dewatering, various options for reuse, recycling, treatment and discharge are also currently being considered. Appropriate management and mitigation measures will be implemented (this is discussed in further detail in Section 7) and the relevant permits obtained (as outlined in Section 3.5).

The Trelavour Processing Plant

- 2.11.2.4 The Trelavour Processing Plant site currently comprises approximately 24.54 ha of hardstanding, roofed warehouse structures and impervious surfaces. At present, site drainage is managed via a system of open channel road drains and culverts leading to a lagoon which detains flow, enabling particulate matter to settle out, before releasing to the St Dennis stream.

2.11.2.5 It is currently assumed that a similar drainage system to the existing system will be implemented, meaning that stormwater will be collected by a series of rainwater downpipes, gullies, swales, trench drains, channel drains and filter drains. It will then discharge to a series of below ground drains, which will connect to storage structures across the Trelavour Processing Plant site and ultimately discharge to the tanks and lagoon. Appropriate pollution prevention measures (such as use of a stormwater separator) will be put in place and the relevant permits obtained (as outlined in Section 3.5).

The Mining Waste Facilities

- 2.11.2.6 It is currently expected that at the Treviscoe Mining Waste Facility, prior to deposition of waste material, the existing pit will be dewatered (via pumping and controlled discharge) and a high-density polyethylene (HDPE) liner will be installed to isolate the waste material. A drainage scheme will be developed and surface water management measures employed, possibly including perimeter diversion structures to minimise run-off and a drainage layer above the liner, to promote internal water collection and monitoring.
- 2.11.2.7 As outlined in Section 2.4.4, waste will initially be deposited at the Goonvean Mining Waste Facility within the flooded pit i.e. below the water (as is the current practice for other similar sites in the region), as a paste thickened slurry. As stated in relation to the Treviscoe Mining Waste Facility, a drainage scheme will be developed and surface water management measures employed, potentially including settling ponds and a seepage collection system.
- 2.11.2.8 Both of the Mining Waste Facilities will be designed to isolate the deposited waste from the surrounding water environment. Monitoring systems will be implemented. The drainage design of the Mining Waste Facilities will continue to evolve as the design and EIA processes progress, taking account of relevant regulatory requirements and best practice. Appropriate mitigation measures will be put in place and the relevant permits obtained (as outlined in Section 3.5).

2.12 WASTE AND EMISSIONS

2.12.1 WASTEWATER

2.12.1.1 The following wastewater streams are currently expected to be produced by the Proposed Development:

- foul drainage (to be disposed of via reticulated sewerage);
- hydrometallurgical plant effluent;
- acid plant blowdown;
- various effluents associated with the reverse osmosis treatment system; and
- laboratory wastes (in low volumes).

2.12.1.2 Options for reuse and recycling of wastewater are currently being investigated, as well as on-site treatment, which is likely to include a small balancing pond and some containerised equipment, and off-site treatment.

2.12.1.3 As outlined in relation to management of surplus water from dewatering, various options for water discharge (post-treatment) are also currently being considered. Appropriate management and mitigation measures will be implemented (this is discussed in further detail in Section 7) and the relevant permits obtained (as outlined in Section 3.5).

2.12.2 WASTE MATERIAL

2.12.2.1 Various waste products will be generated over the course of the Proposed Development.

2.12.2.2 This is likely to include topsoil, subsoil, and non-ore rock from the Trelavour Pit (all phases). At this stage it is anticipated that the topsoil, sub soil and kaolinized non-ore rock would be stored on-site, until their re-use in restoration, whilst the fresher, harder non-ore rock would be stored temporarily on-site before being processed to secondary aggregates, to be sold into the local construction market or utilised for the development and operation of the Mining Waste Facilities.

2.12.2.3 Soils and rock are also likely be generated during the development of the Trelavour Processing Plant Site; where possible, these materials will be utilised as secondary aggregates and construction fill for the

development of both the Trelavour Processing Plant and the Mining Waste Facilities.

2.12.2.4 Two primary waste streams will be produced at the Trelavour Processing Plant during the operational phase of the Proposed Development, which will be delivered to the Treviscoe and Goonvean Mining Waste Facilities, to be used to restore them; further detail regarding this is provided in Sections 2.4.4 and 2.6.4, above.

2.12.2.5 Other smaller waste streams, such as from water treatment, are also expected; further information regarding this will be provided as the Application progresses.

2.12.3 EMISSIONS TO AIR

2.12.3.1 At this stage, expected sources of emissions to air during operation include:

- drill and blast techniques at the open pit (particulate matter, particle-bound metals, particle-bound Naturally Occurring Radioactive Materials (NORM), nitrogen oxides and sulfur oxides);
- use of the mining fleet at the open pit (particulate matter and diesel fuel combustibles);
- use of the crusher and conveyer (particulate matter, particle-bound metals, particle-bound NORM);
- use of light vehicles (particulate matter and diesel fuel combustibles);
- use of haul roads (particulate matter/ fugitive dust);
- use of the rail line for reagent transport (particulate matter/ fugitive dust);
- operation of the process plant (including the concentrate processing plant, the hydrometallurgical processing plant, the acid plant, the equipment workshop and laboratory) (particulate matter, nitrogen oxides, sulfur oxides, Volatile Organic Compounds (VOCs), Polycyclic Aromatic Hydrocarbons (PAHs), particle-bound metals, particle-bound NORM and fluorine (to be contained)); and
- operation of the Mining Waste Facilities (particulate matter, particle-bound metals, particle-bound NORM).

2.12.3.2 Emissions associated with vehicle use will also be generated during construction and decommissioning, closure and restoration. As stated in Section 2.4.2, whilst blasting will predominantly take place during

operation, it may also take place six months pre- and post-production, therefore the emissions associated with blasting identified above are also relevant to construction and decommissioning, closure and restoration. Construction/ site preparation activities at the Mining Waste Facilities (and associated infrastructure in those areas) may also lead to the release of particulate matter, particle-bound metals and NORM).

- 2.12.3.3 Appropriate management mitigation measures will be identified if required, as the design and EIA process progress, and with regard to relevant industry standards and best practice. Further detail regarding emissions to air, potential effects upon air quality and mitigation is included in Section 9.

3. PLANNING POLICY AND LEGISLATIVE CONTEXT

3.1 INTRODUCTION

- 3.1.1.1 Sustainable development is a core principle underpinning planning and a core consideration of planning applications. It makes a positive difference to people's lives and helps deliver homes, jobs, and better opportunities for all, whilst protecting and enhancing the natural and historic environment.
- 3.1.1.2 On 9 September 2024 the Secretary of State for Housing, Communities & Local Government published a direction under section 35(1) of the Planning Act 2008 allowing the Proposed Development to be treated as development of national significance for which a Development Consent Order is required under section 35 of the Planning Act 2008 (hereafter referred to as the "s35 Direction")⁷. This section of the Scoping Report sets out the most relevant legislation and describes how it relates to the Proposed Development.
- 3.1.1.3 National, regional, and local policies are relevant to the consideration of the Proposed Development and this section of the Scoping Report sets out the relevant policy at each level and describes how it relates to the Proposed Development.
- 3.1.1.4 This Scoping Report has been prepared in accordance with the relevant legislation and policy and the Application itself, including the ES, will also be prepared in accordance with the relevant legislation and policy.
- 3.1.1.5 The remainder of this section is structured as follows:
- the consenting regime and the DCO process;
 - the EIA Regulations and process;
 - relevant planning policy; and
 - other environmental permits, consents and licenses.

3.2 THE CONSENTING REGIME AND THE DCO PROCESS

3.2.1 THE PLANNING ACT 2008 AND THE SECTION 35 DIRECTION

- 3.2.1.1 The Planning Act 2008 (as amended; hereafter referred to as 'the Act') is the primary legislation that establishes the legal framework

⁷ Ministry of Housing, Communities and Local Government (2024). Trelavour Downs, Cornwall Section 35 Direction. Available online at: <https://www.gov.uk/government/publications/trelavour-downs-cornwall-section-35-direction-planning-act-2008>.

for the application, examination, and determination of applications for a development of national significance.

3.2.1.2 Part 3 (Section 14 'Nationally significant infrastructure projects: general') of the Act defines the types of developments which are considered to be nationally significant infrastructure projects and which therefore require development consent. The Proposed Development is not of a form that is prescribed in Section 14 of the Act but Section 35(1) of the Act authorises the Secretary of State (SoS) to issue a direction that development is to be treated as development for which development consent is required. The SoS issued such a direction in relation to the Proposed Development on 9 September 2024⁷.

3.2.1.3 The SoS cited the following reasons for her decision:

- *"the proposal would be likely to have significant economic impact;*
- *be important in driving growth in the economy;*
- *have an impact on an area wider than a single local authority area;*
- *is for the extraction of a strategically important industrial mineral;*
- *in addition, the Secretary of State also considers that the Proposed Project would benefit from the application being determined through a single, unified consenting process provided by the Planning Act and removing the need to apply and the uncertainty of applying for separate powers and consents."*

3.2.1.4 The Applicant is therefore preparing an application for a development consent order and will submit its application to the Planning Inspectorate (on behalf of the Secretary of State), who will examine the application and make a recommendation to the SoS, who will then decide whether to grant development consent for the Proposed Development.

3.2.2 THE DCO PROCESS

3.2.2.1 The process for obtaining a DCO is prescribed in the Act and split into the following phases: pre-application, acceptance, pre-examination, examination, decision and post-decision (as shown by Plate 3.1, below).

PLATE 3.1: KEY STAGES IN THE DCO PROCESS



- 3.2.2.2 During the pre-application phase, the Applicant will be seeking the views of all relevant stakeholders including the public, the local authority, relevant statutory bodies and any person with an interest in land that would, or may, be affected by the Proposed Development. The form for some of this engagement is prescribed in the Act, the Infrastructure Planning (Applications: Prescribed Forms and Procedure) Regulations 2009 (the APFP Regulations) and the EIA Regulations. The Applicant will comply with all relevant consultation and publication requirements but is also committed to carrying out additional consultation and engagement particularly with the local community and key stakeholders.
- 3.2.2.3 Once the Applicant has had the opportunity to have regard to feedback from the various consultations and engagement, the Applicant will prepare and submit the Application to the Planning Inspectorate, on behalf of the Secretary of State. The Act, the APFP Regulations and various statutory guidance, set out what must be included in an application for development consent and the Applicant will ensure that its Application complies with these requirements. Regulation 5(2)(a) of the APFP Regulations requires that, where applicable, an application must be accompanied by "*the environmental statement required pursuant to the Infrastructure Planning (Environmental Impact Assessment) Regulations [2017] and any scoping or screening opinions or directions*". Any Scoping Opinion published in response to this Scoping Request will be submitted with the Application.
- 3.2.2.4 The Planning Inspectorate will consider the application in the acceptance phase and then notify an applicant and the public of its decision on whether to accept the application for examination. If it is accepted, the application is published on the PINS website and comments on the application are invited by the Planning Inspectorate over the pre-examination period.
- 3.2.2.5 The Planning Inspectorate will then hold a six-month examination period where the appointed inspector(s) consider an application and

invite further representations. This is primarily done through written questions, hearings and site visits.

- 3.2.2.6 Within three months of the close of the examination, the Planning Inspector(s) will submit their recommendation report to the Secretary of State who will determine the application within three months of receipt of the recommendation report.

3.3 THE EIA REGULATIONS AND PROCESS

3.3.1 THE EIA REGULATIONS

- 3.3.1.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (hereafter referred to as the 'EIA Regulations') set out the requirements for an Environmental Impact Assessment for infrastructure projects being consented under the Act. Under the EIA Regulations, the SoS must take the prescribed environmental information into account in making their decision on whether to grant development consent or not and must state within their decision that they have done so.
- 3.3.1.2 An Environmental Impact Assessment (EIA) in the form of an ES is required where the proposed development satisfies the criteria in either Schedule 1 or Schedule 2 of the EIA Regulations.
- 3.3.1.3 Schedule 1 paragraph 19 includes "(19) Quarries and opencast mining where the surface of the site exceeds 25 hectares...". Whilst the Proposed Development is not specifically a quarry/ open cast mine, it is an extraction project of over 25 hectares, therefore (19) remains the most relevant category and the Proposed Development is considered to be Schedule 1 EIA development for which an EIA is required. The Applicant is therefore preparing an EIA in the form of any ES which will be submitted as part of the Application.
- 3.3.1.4 This Scoping Report has been prepared to support the Applicant's notification to the SoS that it proposes to provide an ES in respect of the Proposed Development in accordance with Regulation 8(1)(b) of the EIA Regulations. In accordance with Regulation 10(1) of the EIA Regulations, the Applicant is requesting that the SoS states in writing their opinion as to the scope, and level of detail, of the information to be provided in the ES for the Proposed Development.

3.3.2 THE EIA PROCESS

3.3.2.1 The EIA process is prescribed in the EIA Regulations and can be broadly summarised as consisting of three main elements that take place prior to the submission of the Application:

- Scoping: applicants can request a formal Scoping Opinion from the Planning Inspectorate on behalf of the SoS (this document is the Scoping Report to support that request).
- Consultation: the applicant is required to conduct pre-application consultation.
- ES Preparation: the ES is prepared to reflect further design and environmental information available and considering public and stakeholder engagement and responses to consultation.

3.3.2.2 Further detail regarding the EIA process and methodology is included in Section 4.

3.3.3 HABITATS REGULATIONS ASSESSMENT

3.3.3.1 The Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations') require applicants to provide the SoS with the necessary information assess whether there are any significant effects on qualifying features of national sites (Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) (formerly European protected sites) that are likely to arise as a result of a Proposed Development. Under government policy, Ramsar sites are afforded the same protection and requirement for assessment as national sites. This assessment will be provided as part of the Application in the form of a Habitats Regulations Assessment (HRA) Report. Although not formally part of the ES, the baseline presented contains some of the same information.

3.4 RELEVANT PLANNING POLICY

3.4.1.1 The following planning and energy policy is of relevance to the Proposed Development:

- the National Policy Statements (NPSs);
- the National Planning Policy Framework (NPPF) and associated Planning Practice Guidance (PPG);

- Government minerals policy such as the UK Critical Minerals Strategy⁸; and
- Government climate change and decarbonisation policy, such as the Net Zero Strategy. and
- local planning policy, namely the Cornwall Local Plan.

3.4.1.2 These are considered in the sections below.

3.4.2 NATIONAL POLICY

National Policy Statements

3.4.2.2 The National Policy Statements (NPSs) provide the planning policy framework against which NSIPs are examined and determined, under the Planning Act 2008. Section 5 of the Act states that the SoS may designate a statement as an NPS setting out relevant national policy for the types of project described in Section 14.

3.4.2.3 As the Proposed Development is a business and commercial project which has been identified as being nationally significant, under section 35 of the Act, there is not an NPS which is of direct relevance to the Proposed Development.

3.4.2.4 Section 105 of the Planning Act 2008 applies to determining projects where no NPS has effect. Section 105 states that in deciding the application, the SoS must have regard to any local impact report produced by the relevant local planning authority, any matters prescribed in relation to the development of the description to which the application relates, and any other matters the SoS thinks are important and relevant to the SoS's decision.

3.4.2.5 The Applicant will consider and assess the Proposed Development against any aspects of the NPSs which are considered to be of relevance, the NPPF, PPG and any other national planning policies that are considered to be of relevance.

⁸ UK Government (2023). The UK Critical Minerals Strategy. Available Online at: <https://www.gov.uk/government/publications/uk-critical-mineral-strategy>

The National Policy Planning Framework (NPPF) and Planning Practice Guidance (PPG)

The National Policy Planning Framework (2025)

3.4.2.6 The National Planning Policy Framework (NPPF)⁹ was last updated in February 2025 and sets out the Government's planning policies for England and how these should be applied. The NPPF supersedes the Mineral Policy Statements:

- Minerals Policy Statement 1: Planning and Minerals (MPS1) (2006)¹⁰; and
- Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England (MPS2) (2005)¹¹.

3.4.2.7 The policies contained within the NPPF are expanded upon and supported by the Planning Practice Guidance (PPG)¹².

3.4.2.8 Sections of the NPPF that are of particular relevance to the Proposed Development include:

- 2 – Achieving Sustainable Development;
- 6 – Building a Strong, Competitive Economy;
- 8 – Promoting Healthy and Safe Communities;
- 9 – Promoting Sustainable Transport;
- 11 – Making Effective Use of Land;
- 14 – Meeting the Challenge of Climate Change, Flooding, and Coastal Change;
- 15 – Conserving and Enhancing the Natural Environment;
- 16 – Conserving and Enhancing the Historic Environment; and
- 17 – Facilitating the Sustainable Use of Minerals.

3.4.2.9 Chapter 2 of the NPPF focuses upon achieving sustainable development; paragraph 7 states that contributing to that goal is the

⁹ UK Government (2025). The NPPF. Available online at:

<https://www.gov.uk/government/publications/national-planning-policy-framework--2>.

¹⁰ Department for Communities and Local Government (2006). Minerals Policy Statement 1: Planning and Minerals. Available Online at: <https://www.iow.gov.uk/azservices/documents/2782-A25-Minerals-Policy-Statement-1.pdf>

¹¹ Office of the Deputy Prime Minister (2005). Minerals Policy Statement 2: Controlling and Mitigating the Environmental Effects of Minerals Extraction in England. Available Online at: <https://elibrary.cumbria.gov.uk/elibrary/Content/Internet/538/755/1929/17716/17720/17723/42130142312.PDF>

¹² UK Government (2024). Planning Practice Guidance. Available online at: <https://www.gov.uk/government/collections/planning-practice-guidance>.

purpose of the planning system. It goes on to state that this objective can be summarised as *"meeting the needs of the present without compromising the ability of future generations to meet their own needs"*.

3.4.2.10 Paragraph 11 (Chapter 2) sets out the presumption in favour of sustainable development. For decision-taking, the presumption in favour of sustainable development means:

"c) approving development proposals that accord with an up-to-date development plan without delay", or

d) where there are no relevant development plan policies, or the policies which are most important for determining the application are out-of-date, granting permission unless:

i) the application of policies in this Framework that protect areas or assets of particular importance provides a clear reason for refusing the development proposed; or

ii) any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole."

3.4.2.11 Paragraphs 85-86 (Chapter 6) outline planning policy and decision-making guidance in relation to supporting a prosperous, strong, and diverse economy. Paragraph 87 states that planning policies and decisions should *"recognise and address the specific locational requirements of different sectors"*.

3.4.2.12 Paragraph 222 (Chapter 17) highlights the importance of sustainable mineral extraction, stating: *"It is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation."* Paragraph 224 goes on to state that *"when determining planning applications, great weight should be given to the benefits of mineral extraction, including to the economy"*.

Planning Practice Guidance

3.4.2.13 The PPG was originally published in March 2014, and was last updated in February 2024. The PPG provides guidance relating to a

range of topics that are relevant to the Proposed Development, including (but not limited to) air quality, climate change, the historic environment and the natural environment.

3.4.2.14 The Minerals PPG¹³, published in October 2014, is also of particular relevance. Paragraph 001 of the Minerals PPG highlights the importance of mineral resources, stating that *"they make an essential contribution to the country's prosperity and quality of life"*.

3.4.2.15 Paragraph 010 states that *"The suitability of each proposed site, whether an extension to an existing site or a new site, must be considered on its individual merits, taking into account issues such as:*

- *need for the specific mineral;*
- *economic considerations (such being able to continue to extract the resource, retaining jobs, being able to utilise existing plant and other infrastructure), and;*
- *positive and negative environmental impacts (including the feasibility of a strategic approach to restoration).*
- *the cumulative impact of proposals in an area."*

Relevant Minerals Policy

Resilience for the Future: The UK Critical Minerals Strategy (2023)

3.4.2.16 The UK Critical Minerals Strategy (2023)⁸ (first published in 2022) sets out the Government's plan to *"secure our supply chains, by boosting domestic capability in a way that generates new jobs and wealth, attracting investment and playing a leading role in solving global challenges with our international partners"*. A key element of this is accelerating the growth of the UK's domestic capabilities.

3.4.2.17 The strategy defines critical minerals as *"minerals with high economic vulnerability and high global supply risk"* and identifies lithium as high criticality mineral for the UK¹⁴.

3.4.2.18 The strategy states inter-alia that in relation to accelerating the UK's domestic capabilities, it aims to:

¹³ UK Government (2014). The Minerals PPG. Available online at: <https://www.gov.uk/guidance/minerals>.

¹⁴ BGS (2021). UK criticality assessment of technology critical minerals and metals . Available online at: <https://www.bgs.ac.uk/download/uk-criticality-assessment-of-technology-critical-minerals-and-metals/>

"1. Maximise what the UK can produce domestically, where viable for businesses and where it works for communities and our natural environment.

a) We will find out what critical minerals there are in the UK.

b) We will signpost financial support that can accelerate the development of our capabilities.

c) We will reduce barriers to domestic exploration and extraction of critical minerals.

d) We will highlight the UK as a strategic location for refining and midstream materials manufacturing.

2. Rebuild our skills in mining and minerals.

a) We will train the next generation of miners, geologists, engineers and beyond.

b) We will support the development of industrial clusters.

3. Carry out cutting-edge research and development to solve the challenges in critical minerals supply chains.

a) We will promote innovation and re-establish the UK as a centre of critical mineral and mining expertise.

4. Make better use of what we have by accelerating a circular economy of critical minerals in the UK – increasing recovery, reuse and recycling rates and resource efficiency, to alleviate pressure on primary supply.

a) We will promote innovation for a more efficient circular economy for critical minerals in the UK.

b) We will signpost financial support to accelerate the development of a UK critical mineral circular economy.

c) We will look at regulatory ways to promote recycling and recovery."

3.4.2.19 A new Critical Minerals Strategy is expected to be published in 2025 and is expected to continue to reflect the importance of lithium as a critical mineral needed to ensure a resilient supply chain to support the UK's car industry and continued transition to a secure renewable and low carbon energy system.

Minerals Safeguarding in England: Good Practice Advice (2011)

3.4.2.20 The Minerals Safeguarding in England: Good Practice Advice (2011)¹⁵ supersedes 'A guide to mineral safeguarding in England' (2007). This advice compliments policy contained in the NPPF (previously MPS1) and associated advice in the Minerals PPG (superseding the Planning and Minerals: Practice Guide¹⁶), protecting mineral resources from 'mineral sterilisation' by developments. The Minerals Safeguarding in England: Good Practice Advice provides a seven-step methodology for identifying mineral resources, designating Mineral Safeguarding Areas (MSAs) and linking these into development plan policies such as planning applications. The Site is located within an MSA for china clay; further detail regarding this is provided in Section 6.

Critical Minerals Refresh: Delivering Resilience in a Changing Global Environment

3.4.2.21 The Critical Minerals Refresh¹⁷, published in March 2023, builds on the UK Critical Mineral Strategy⁸. It outlines a renewed approach to securing resilient critical mineral supply chains amid a changing global landscape and heightened geopolitical competition. The Critical Minerals Refresh outlines a framework to deliver resilience, reinforcing the commitment to ensure that British manufactures can obtain a stable supply of critical minerals, and assessing critical minerals potential within the UK.

Other Relevant National Policy

The Net Zero Strategy: Build Back Greener (2021)

3.4.2.22 The Net Zero Strategy: Build back Greener (2021)¹⁸ describes policies and proposals for decarbonising all sectors within the UK economy to meet the UK's 2025 net zero target. The strategy includes a deep dive into "*Critical Minerals, Supply Chains and Net Zero*", setting the

¹⁵ British Geological Survey (2024). Minerals Safeguarding in England: Good Practice Advice. Available Online at: <https://www.bgs.ac.uk/mineralsuk/download/mineral-safeguarding-in-england-good-practice-advice/>

¹⁶ Department for Communities and Local Government (2006) Planning and Minerals: Practice Guide. Available Online at: <https://assets.publishing.service.gov.uk/media/5a75ab2ee5274a43682990dc/153421.pdf>

¹⁷ Critical Minerals Refresh (2023). Available Online at: <https://www.gov.uk/government/publications/critical-minerals-refresh/critical-minerals-refresh-delivering-resilience-in-a-changing-global-environment#next-steps>

¹⁸ UK Government (2021). The Net Zero Strategy: Build back Greener. Available Online at: <https://www.gov.uk/government/publications/net-zero-strategy>

foundations for Critical Minerals Strategy (2023)⁸. Under both strategies, the UK Government is committed to:

- safeguarding mineral supply chains;
- supporting ethical, transparent and responsible mining practices, rooted in environmental, social and governance (ESG) considerations;
- engaging with the mining sector in existing and emerging markets; and
- facilitating investment and collaboration between extraction and processing opportunities.

The Zero Emission Vehicle Mandate (2024)

3.4.2.23 The UK Zero Emission Vehicle (ZEV) Mandate (2024)¹⁹ sets out the percentage of new vehicles sold in the UK that must be ZEVs (which typically require lithium products): 80% of new cars and 70% of new vans by 2030, increasing to 100% by 2035. The ZEV Mandate is expected to *"help households make the switch to electric, supporting growth of EV sales in the second-hand market and incentivising charging to roll out more widely across the country"*²⁰.

The UK Battery Strategy (2023)

3.4.2.24 The UK Battery Strategy (2023)²¹ describes the UK Government's 2023 vision to have a globally competitive battery supply chain that supports the economy and the transition towards net zero. This supports the Government's smarter regulation programme that was published in September 2023²². The strategy emphasises the need for critical minerals such as lithium *"which are being sourced or processed in the UK, [including] from Cornwall"*, stating that *"Ending UK sales of new vehicles running on diesel and petrol by 2035 will significantly increase the UK demand for lithium, cobalt and nickel used to manufacture EV batteries"*.

¹⁹ UK Government (2024). Zero Emissions Mandate. Available Online at: <https://www.gov.uk/government/news/pathway-for-zero-emission-vehicle-transition-by-2035-becomes-law>

²⁰ UK Government (2024). News story: Pathway for zero emission vehicle transition by 2035 becomes law. Available Online at: <https://www.gov.uk/government/news/pathway-for-zero-emission-vehicle-transition-by-2035-becomes-law>

²¹ Department for Business and Trade (2023). The UK Battery Strategy. Available Online at: <https://www.gov.uk/government/publications/uk-battery-strategy>

²² UK Government (2023). Smarter Regulation Programme. Available online at: <https://www.gov.uk/government/collections/smarter-regulation>

3.4.3 REGIONAL AND LOCAL POLICY

The Cornwall Local Plan (2016)

- 3.4.3.2 The Cornwall Local Plan²³ was formally adopted in November 2016. It provides the planning policy framework for Cornwall up to 2030. The Local Plan is supported by the Policies Map, Neighbourhood Plans, Development Plan Documents (DPDs) and Supplementary Planning Documents (SPDs).

The Cornwall Local Plan Strategic Policies 2010 – 2030 (2016)

- 3.4.3.3 The following policies are considered relevant to the Proposed Development include:
- Policy 1 – Presumption in favour of sustainable development;
 - Policy 17 – Minerals – general principles;
 - Policy 18 – Minerals safeguarding;
 - Policy 19 – Strategic waste management principles;
 - Policy 21 – Best use of land and existing buildings;
 - Policy 23 – Natural environment; and
 - Policy 27 – Transport and accessibility.
- 3.4.3.4 Policy 1 reiterates the presumption in favour of sustainable development outlined in the NPFF, and states that it will *"work with applicants, infrastructure providers and the local community to find solutions which mean that proposals will be approved wherever possible, and to secure development that improves the economic, social and environmental conditions in the area."*
- 3.4.3.5 Policy 17 is supportive of mineral extraction within Cornwall, stating inter-alia: *"Support will be given to maintain and grow a world class, thriving and sustainable minerals industry in Cornwall which meets local needs as well as exporting minerals, predominantly by rail and sea, to serve regional, national and international markets."* It goes on to state that *"New mineral development, (including extensions to existing sites) will be supported in the following areas: c) throughout Cornwall for ii. Metal and industrial minerals."*
- 3.4.3.6 Policy 18 safeguards mineral resources and reserves from sterilisation as a result of incompatible development. It states inter-alia: *"The*

²³ Cornwall Council, (2016). The Cornwall Local Plan, Adopted November 2016. Available online at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/>

Cornwall Minerals Safeguarding Development Plan will develop detailed policy and identify sites for safeguarding minerals, mineral resources and associated facilities for transport, storage, handling and processing for onward transport by rail or sea.”.

- 3.4.3.7 Policy 19 states that *“Proposals must show best solution having regard to the ‘waste hierarchy’.”.* It also states that when determining planning applications for non-waste development, *“the Council will ensure that any likely impact on existing waste facilities (as detailed in the Annual Monitoring Report) is acceptable and does not prejudice the implementation of the waste hierarchy and/or the efficient operation of such facilities.”.*
- 3.4.3.8 Policy 21 recognises that land is a valuable resource, which must be used efficiently and safeguarded where appropriate. It states inter-alia: *“To ensure the best use of land, encouragement will be given to sustainably located proposals that: a. use previously developed land and buildings provided that they are not of high environmental or historic value...”.*
- 3.4.3.9 Policy 23 recognises that the quality and character of the environment is a key contributor to the economy and quality of life, and aims to protect Cornwall’s natural environment, whilst also attracting investment and growth that is compatible with that aim. The policy covers landscape and visual considerations, biodiversity and geodiversity, and locally, nationally and internationally designated sites. It states inter-alia: *“Development proposals will need to sustain local distinctiveness and character and protect and where possible enhance Cornwall’s natural environment and assets according to their international, national and local significance.”.*
- 3.4.3.10 It goes on to state:

“3. Development should conserve, protect and where possible enhance biodiversity and geodiversity interests and soils commensurate with their status and giving appropriate weight to their importance. All development must ensure that the importance of habitats and designated sites are taken into account and consider opportunities for the creation of a local and county-wide biodiversity network of wildlife corridors which link County Wildlife Sites and other areas of biodiversity importance, helping to deliver the actions set out in the Cornwall Biodiversity Action Plan...”.

...4. Development should avoid adverse impact on existing features as a first principle and enable net gains by designing in landscape and biodiversity features and enhancements, and opportunities for geological conservation alongside new development. Where adverse impacts are unavoidable they must be adequately and proportionately mitigated. If full mitigation cannot be provided, compensation will be required as a last resort.”.

3.4.3.11 Policy 27 highlights the importance of appropriate transport links and accessibility, and of embedding sustainability within these networks. It states inter-alia that *"All developments should: Provide safe and suitable access to the site for all people and not cause a significantly adverse impact on the local or strategic road network that cannot be managed or mitigated."*

The Cornwall Local Plan Policies Map (2016)

3.4.3.12 The policies map shows the key designations which are mentioned in the Cornwall Local Plan. The Site does not fall within any allocated or designated sites identified within the Local Plan Policies Map²⁴. There is a County Geology Site located to the north-west of the Site (Wheal Remfry), and a number of County Wildlife Sites are located in the wider area, as detailed in Section 11.

The Cornwall Local Plan Development Planning Documents

3.4.3.13 The following DPDs and SPD are considered to be relevant to the Proposed Development:

- the Climate emergency DPD²⁵;
- the Minerals Safeguarding DPD²⁶; and
- St Austell China Clay Restoration and Tipping SPD²⁷.

3.4.3.14 The Climate Emergency Development Plan Document (CEDPD) was formally adopted in February 2023 to support Cornwall's ambition to

²⁴ Cornwall Council (2016). Cornwall Local Plan Maps. Available Online at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/cornwall-local-plan-maps/>

²⁵ Cornwall Council, (2023). The Climate Emergency DPD. Available online at: <https://www.cornwall.gov.uk/media/uxqjk4jn/climate-emergency-dpd.pdf>

²⁶ Cornwall Council (2018). The Minerals Safeguarding DPD. Available online at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/minerals-safeguarding-development-plan-document/>

²⁷ St Austell China Clay Restoration and Tipping SPD (2022). Available Online at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/st-austell-china-clay-restoration-and-tipping-supplementary-planning-document/>

respond to climate change and become carbon neutral by 2030. The CEDPD adds to the Cornwall Local plan's strategic policies as part of a positive and flexible planning policy framework for Cornwall up to 2030.

3.4.3.15 The following policies in the CEDPD are considered relevant to the Proposed Development:

- Policy C1 – Climate Change Principles; and
- Policy SEC1 – Sustainable Energy and Construction.
- Policy C1 states that *“development in Cornwall should represent sustainable development and manage our natural, historic and cultural assets wisely for future generations”*, contributing to achieving objectives such as making *“the fullest possible contribution to minimising greenhouse gas emissions in accordance with the energy and waste hierarchies through ensuring resource efficiency, minimisation of waste and the prioritisation of renewable energy”* and working to *“use and reuse land efficiently”*.

3.4.3.16 The Minerals Safeguarding Development Plan Document²⁶ (MSDPD) was adopted by Cornwall Council in December 2018, and identifies significant mineral resources and infrastructure that are safeguarded across Cornwall. The MSDPD supports the delivery of policies in the adopted Cornwall Local Plan, specifically policy 17 which outlines the general principles of minerals development, to enable a sustainable minerals industry, and policy 18, which sets out the strategic principles for safeguarding mineral resources and infrastructure.

3.4.3.17 The St Austell China Clay Restoration and Tipping SPD²⁷ (RTSSDP) was adopted by the Leader of Cornwall Council in March 2022. The RTSSDP supports the Cornwall Local Plan, offering technical guidance to assist with mineral operation in the St Austell China Clay Area. The guidance outlines principles for restoration and the use of china clay waste as a secondary aggregate. It assesses the success of existing restoration efforts and sets out a strategic approach for future work aimed at enhancing the environment for the local ecosystem and community. Further, it sets out alternative after-uses for restored land.

Neighbourhood Plans

3.4.3.18 A Neighbourhood Plan is a document which outlines local planning policies for a specific parish or town²⁸, forming part of the local development plan. The St. Dennis neighbourhood plan was designated in October 2018, but has not yet been drafted. The following plans for the surrounding areas have been made and will be considered in the Planning Statement to be included with the DCO Application:

- Roche Parish Neighbourhood Development Plan;
- St Enoder Neighbourhood Development Plan; and
- St Stephen-in-Brannel Neighbourhood Development Plan.

3.5 OTHER ENVIRONMENTAL PERMITS, CONSENTS AND LICENSES

3.5.1.1 The Proposed Development will require a number of additional permits, consents and licences. These are being identified and lead-in times considered as well as early engagement taking place with the relevant regulators and stakeholders. The Applicant will provide a list of other permits consents and licences that are, or are likely to be, required for the Proposed Development.

3.5.1.2 In summary, at this stage, other consents, licenses and permits that are expected to be required for the Proposed Development include:

- environmental permits;
- abstraction and impoundment licenses;
- water discharge activities permits;
- medium combustion plant permits;
- an Extractive Materials Management Statement (EMMS) or Mining Waste Directive Permit; and
- protected species licenses.

3.5.1.3 Please note that this is not an exhaustive list; it will evolve as the design of the Proposed Development and the associated environmental studies progress, and to reflect relevant stakeholder feedback.

²⁸ Cornwall Council (2025). Neighbourhood Planning. Available at: <https://www.cornwall.gov.uk/planning-and-building-control/neighbourhood-planning/>

4. EIA PROCESS AND METHODOLOGY

4.1 OVERVIEW

- 4.1.1.1 As outlined in Section 3, the Proposed Development is considered to be 'EIA development' and an ES will be included as part of the Application.
- 4.1.1.2 This section describes the broad principles of the methodology that will be adopted for the EIA. It describes the approach that will be used to identify and assess environmental effects and sets out how the temporal, spatial and technical scopes of the EIA will be developed. The Applicant is engaging with the relevant statutory stakeholders on these methodologies and the ES will include detailed descriptions of the methodologies used and descriptions of the engagement and agreement with the relevant statutory stakeholders. Further details for individual topic methodologies are provided in Sections 6 to 19.
- 4.1.1.3 In practical terms, the purpose of the EIA documentation is to inform the SoS' decision. It will be used by the Planning Inspectorate and stakeholders as a source of information to be considered through the examination, of the likely significant environmental effects of the Proposed Development during its construction, operation and (where relevant) decommissioning and restoration.
- 4.1.1.4 As such, the likely significant effects of the Proposed Development will be identified for each relevant EIA topic. This will be done by comparing baseline environmental conditions (i.e. the situation without the Proposed Development) with the conditions that would prevail were the Proposed Development to be constructed, operated and decommissioned. The significance of these changes will be assessed against such matters as the possible breach of a limit or capacity of the natural environment to absorb the resultant effect.
- 4.1.1.5 Effects will be assessed in relation to environmental receptors, that is: people (e.g. residents of buildings, users of facilities, employees of businesses), built resources (e.g. listed buildings) and natural resources (e.g. protected species, sites of ecological importance).
- 4.1.1.6 In addition to the relevant legislation and policy which has been described, the EIA will be undertaken with reference to the following

documents (as well as others such as topic-specific legislation, policy and guidance mentioned elsewhere in this report):

- Planning Inspectorate Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements²⁹;
- Guidelines for Environmental Impact Assessment, Institute of Environmental Management and Assessment (IEMA), 2004³⁰;
- Guide to Shaping Quality Development, IEMA 2015³¹; and
- Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice, IEMA 2017³².

4.2 BASELINE FOR THE EIA

4.2.1.1 Paragraphs 3 and 4 of Schedule 4 of the EIA Regulations requires the EIA to provide:

- a description of the relevant aspects of the current state of the environment (the 'baseline scenario') and an outline of the likely evolution of the baseline scenario without implementation of the proposed development as far as natural changes from the baseline scenario can be assessed with reasonable effort on the basis of the availability of environmental information and scientific knowledge; and
- a description of the factors specified in regulation 4(2) of the EIA Regulations likely to be significantly affected by the development: population, human health, biodiversity (for example fauna and flora), land (for example land take), soil (for example organic matter, erosion, compaction, sealing), water (for example hydromorphological changes, quantity and quality), air, climate (for example greenhouse gas emissions, impacts relevant to

²⁹ The Planning Inspectorate (2025). Nationally Significant Infrastructure Projects - Advice Note Seven: Environmental Impact Assessment: process, preliminary environmental information and environmental statements. Available online at: <https://www.gov.uk/government/publications/nationally-significant-infrastructure-projects-advice-note-seven-environmental-impact-assessment-process-preliminary-environmental-information-an>.

³⁰ IEMA (2004). Guidelines for Environmental Impact Assessment.

³¹ IEMA (2015). Delivering quality development. Available online at: <https://www.iema.net/articles/iema-launches-quality-development-guide-for-eia>.

³² IEMA (2017). Delivering Proportionate EIA, A Collaborative Strategy for Enhancing UK Environmental Impact Assessment Practice. Available online at: <https://www.iema.net/resources/reading-room/2017/07/18/delivering-proportionate-eia>.

adaptation), material assets, cultural heritage, including architectural and archaeological aspects, and landscape.

- 4.2.1.2 Sections 6 to 19 describe the data sources to be used and the baseline studies that will be undertaken for the EIA.

4.3 IDENTIFICATION AND ASSESSMENT OF EFFECTS

Assessment of Likely Significant Effects

- 4.3.1.2 The likely significant effects of the Proposed Development will be identified for each relevant EIA topic. This will be done by comparing the baseline scenario with the conditions that would prevail were the Proposed Development to be constructed, operated and decommissioned. The significance of these changes will be assessed against such matters as the possible breach of a limit or capacity of the natural environment to absorb the resultant effect.
- 4.3.1.3 Effects will be assessed in relation to environmental receptors, that is: people (e.g. residents of buildings, users of facilities, employees of businesses), built resources (e.g. listed buildings) and natural resources (e.g. protected species, sites of ecological importance).
- 4.3.1.4 Plate 4.1 sets out the general approach to the assessment of likely significant effects that may arise from the Proposed Development. Whilst Plate 4.1 provides a general framework for identifying impacts and assessing the significance of the associated effects, in practice, the approaches and criteria applied across different environmental and socio-economic topics vary. Sections 6 to 19 outline the proposed approaches to the technical topics that will be addressed in the EIA.
- 4.3.1.5 To the extent necessary, all of the technical topics will address each phase of the Proposed Development, as described in 2.6. However, as decommissioning, closure and restoration are expected to take place more than 20 years in the future, this phase cannot be addressed to the same level of detail as the other phases. In general, it is assumed that the environmental effects associated with this phase will be no worse than those that occur during construction.

PLATE 4.1: EIA ASSESSMENT APPROACH

Figure 4.1 EIA Methodology Overview

Identify Impact

The scoping process identified the potentially most important/significant impacts and effects (including secondary, indirect and cumulative) for the assessment to address. This was done through a combination of:

- looking at the nature of the Proposed Development activities and the impacts they will give rise to;
- looking at the Proposed Development's environmental and social setting and those aspects which are likely to be most sensitive/vulnerable to impacts from the Proposed Development;
- applying professional understanding gained from the evidence base; and
- incorporating inputs from stakeholders through the Scoping Opinion and public consultation.

Decisions were made on which impacts and effects to assess or to prioritise in the assessment (scoping in and scoping out) and how to assess them (proposed methodology, qualitative versus quantitative assessment).

Predict Magnitude

The Proposed Development's impacts have been quantified in terms of such matters as:

- area of habitat loss;
- proportion of an ecological population exposed to impact;
- change in noise levels or pollution at a receptor; and
- construction traffic pressures on the local highways.

In predicting magnitude, the effect of all the mitigation in place (i.e. adopted by the Proposed Development) has been taken into account.

For some impacts, especially noise, air and water pollution, significance has been assessed directly against numerical criteria and standards. For exceedances, further mitigation has been incorporated by the Proposed Development to reduce the magnitude of the impact (and the significance of its effect).

For other impacts nominal levels of magnitude (e.g. small, medium, large) have been adopted based on widely recognised factors such as: the nature of a change; its size, scale or intensity; its geographical extent and distribution; its duration, frequency, reversibility and, for unplanned events, its likelihood of occurrence.

Some activities will result in changes to the environment that may be immeasurable or undetectable or within the range of normal natural variation. Such changes have been assessed as having no impact or to be of negligible magnitude and will not lead to significant effects.

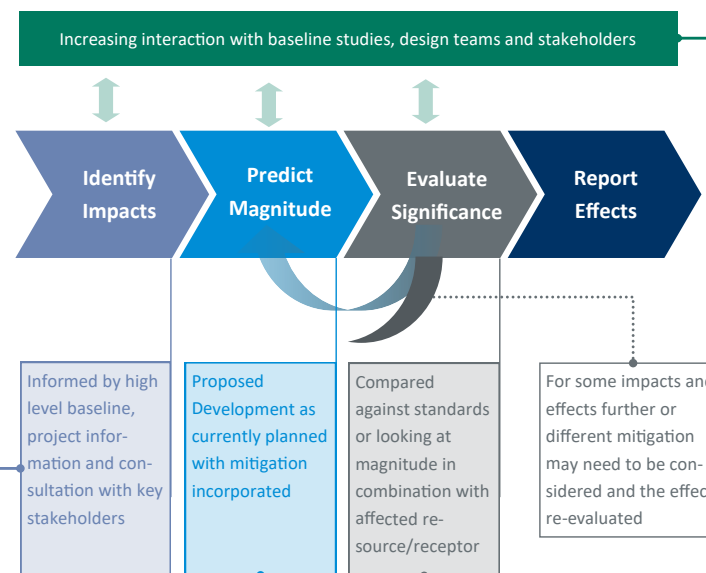
Evaluate Significance

In evaluating significance, the EIA process has sought to inform regulators and stakeholders about the effects of the Proposed Development in a way that helps them make decisions on whether to approve and allows them to develop suitable conditions to attach to an approval. The evaluation of significance ideally demonstrates legal compliance at least (e.g. compliance with quantified standards, avoidance of effects on legally protected resources).

In the absence of quantified standards, significance has been evaluated through considering the magnitude of an impact in combination with the importance/quality/value of the receptor or resource that is affected, also considering the response (or sensitivity) of a resource or a receptor to a particular impact. Effects of more than minor significance have been re-examined to see if an impact magnitude could be reduced further. Different mitigation options have been examined and the reasons for selecting one and rejecting others explained where appropriate. Some impacts/effects that cannot be adequately mitigated have been addressed through the consideration of offsets or compensation.

In some instances, the evaluation process has gone through one or more iterations of working with the Proposed Development design to develop suitable mitigation measures and re-evaluating impacts and effects. The PEIR reports the significance of the residual effects, with all the mitigation committed to by the Proposed Development fully taken into consideration.

While the above provides a general framework for identifying impacts and assessing the significance of their effects, in practice the approaches and criteria applied across different environmental and socio-economic topics vary.



Describe Baseline

Baseline data have been collected to better understand the potentially most important impacts and effects identified in scoping. Baseline data quantify existing exposure levels (e.g. for noise, air and water pollution), identify vulnerable populations of animals or people's livelihoods, more clearly delineate valued cultural property and ecosystem services etc.

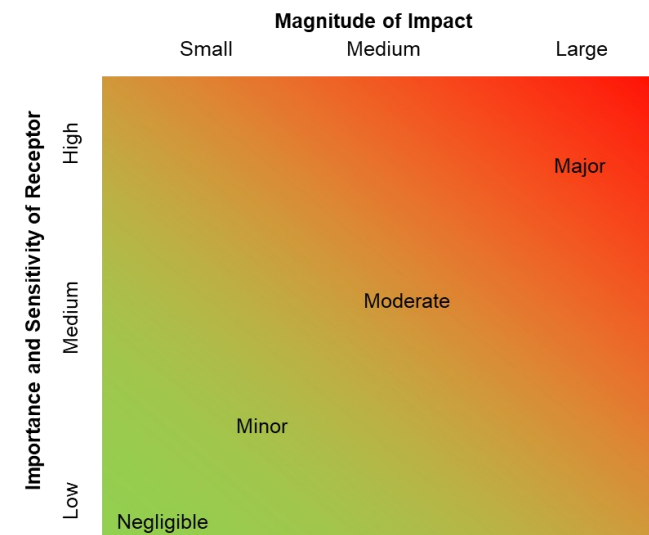
Where a baseline aspect cannot be quantified then nominal levels of importance, quality or value (low, medium, high) have been assigned based on widely accepted criteria in fields such as ecology, cultural heritage, landscape and socioeconomic assessment. Inter-relationships between elements of the baseline have been identified.

Interact with Design and Decision-making

The EIA process interacted with the Proposed Development design teams to develop a basis for the assessment (for example quantities of emissions, noise levels of equipment, sizes of structures). The EIA process also interacted with design to assess optimal mitigation measures, especially when after initial assessment some impacts needed to be further reduced.

Consult Stakeholders

Ongoing stakeholder consultation, is good practice in EIA and has been undertaken to: present preliminary findings to stakeholders to elicit early responses; refine the assessment; and help make the PEIR as fit for purpose as possible.



Indirect, Secondary, Cumulative and Transboundary Effects

- 4.3.1.6 In accordance with paragraph 5 of Schedule 4 of the 2017 EIA Regulations, the identification and assessment of effects for each topic will include an assessment of direct effects and any indirect, secondary, cumulative, transboundary, short-term, medium-term, and long-term, permanent and temporary, positive and negative effects of the development, to the extent they are relevant.

Inter-Relationships

- 4.3.1.7 Where inter-relationships exist between different aspects of the environmental and socio-economic setting for the Proposed Development, and where an impact or effect on one aspect is identified, the assessment will consider the effect(s) this may have on the related aspect(s) of the receiving environment. Examples of inter-relationships include:
- traffic and noise and human health;
 - the value of a feature of cultural heritage being related to its setting; and
 - emissions to atmosphere and effects on habitats from the potential deposition of pollutants.

Secondary and Indirect Effects

- 4.3.1.8 There is no widely accepted definition of 'indirect' effects; the term is often used interchangeably with 'secondary' effects. However, the 2017 EIA Regulations do distinguish between the two terms. For the purposes of this EIA, secondary and indirect effects are to be taken as follows.
- 'secondary' effects are taken to be part of a chain of impacts or effects that can be readily traced back to an action of the Proposed Development; and
 - 'indirect' effects are taken as being the consequences of other development relied on by the Proposed Development but not part of the Proposed Development (and therefore the Application).

Cumulative Effects

- 4.3.1.9 Cumulative effects may occur when the impacts associated with the Proposed Development are additive with those associated with other proposed developments in the vicinity, potentially together resulting

in an effect of greater significance upon a common receptor.

Paragraph 5(e) of Schedule 4 EIA Regulations requires an EIA to consider the potential for the Proposed Development to result in cumulative effects.

- 4.3.1.10 Projects, plans and proposals with which the Proposed Development may interact, potentially resulting in cumulative effects, will be identified in consultation Cornwall Council and assessed accordingly.
- 4.3.1.11 Further detail regarding the assessment of potential cumulative effects is included within Section 19.

Transboundary Effects

- 4.3.1.12 Regulation 32 of the EIA Regulations applies where an ES is to be provided that, in the opinion of the SoS, shows that the proposed development is likely to have significant effects on the environment in another European Economic Area (EEA) State.
- 4.3.1.13 As per the Planning Inspectorate's advice on transboundary impacts and process³³, "where a proposed NSIP is EIA development the Inspectorate must determine whether it is likely to have significant effects on the environment in an EEA State, as part of a transboundary screening process".
- 4.3.1.14 A transboundary screening decision is requested as part of this Scoping Request. For the avoidance of doubt, no significant effects on the environment in an EEA State as a result of the Proposed Development are anticipated.

4.4 SCOPE OF THE ASSESSMENT

- 4.4.1.1 The scope of the assessment falls under three broad categories: technical scope, spatial scope and temporal scope; which are described in further detail in the following sub-sections.

4.4.2 THE TECHNICAL SCOPE

- 4.4.2.1 Sections 6 to 19 set out the approach to be adopted for each technical topic (the 'technical scope') that will make up the EIA. In some instances, reference is made at the topic level to the spatial

³³ Planning Inspectorate (2025). Advice on Transboundary Impacts and Process. Available online at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-transboundary-impacts-and-process>.

and temporal scopes, and these will be refined further in the course of the EIA and reported in the ES.

4.4.3 THE SPATIAL SCOPE

4.4.3.1 In general terms, the spatial, or geographical scope of the assessment will take into account the following factors:

- the physical extent of the proposed works, as defined by the Proposed Development design;
- the nature of the baseline environment and the manner in which particular impacts are likely to be propagated from their source; and
- the pattern of governmental administrative boundaries, which provide the planning and policy context for the Proposed Development.

4.4.3.2 For example, any potential effects on buried archaeology would tend to be confined to those areas physically disturbed by the works, whilst the effects of noise, traffic or visual intrusion could potentially be experienced at some distance from the works.

4.4.3.3 Appropriate study areas will be considered for each environmental topic by the specialists undertaking that assessment, and in agreement with the relevant consultees and will be defined within the topic assessments reported in the ES.

4.4.4 THE TEMPORAL SCOPE

4.4.4.1 The temporal scope of the assessment generally refers to the time periods over which impacts may be experienced. This will be established for each discipline, where appropriate through discussion with the relevant statutory consultees. The terms used to qualify the duration of an impact or effects will tend to be specific to the topic being considered.

4.4.4.2 As outlined in Section 2.6, construction and site preparation works are currently expected to take approximately two years; the operational phase (LOM) is expected to be approximately 20 years; and, it is expected that the majority of decommissioning, closure and restoration activities will take place over approximately two years, with some enhancement activities taking place over a further three years. The assessment will consider the time of day during which

works are likely to be undertaken, notably whether they will be undertaken during daytime or night-time periods.

- 4.4.4.3 To the extent necessary, all of the technical topics will address each phase of the Proposed Development, as described in Section 2.6. However, as decommissioning, closure and restoration are expected to take place more than 20 years in the future, this phase will not be addressed to the same level of detail as the other phases. In general, it is assumed that the environmental effects associated with this phase will be no worse than those that occur during construction. The phases considered will be described within the topic assessments reported in the ES.

4.5 APPLYING THE "ROCHDALE ENVELOPE" AND DEALING WITH UNCERTAINTY

- 4.5.1.1 The Design Envelope approach is widely recognised and its applicability to EIAs is set out in current guidance on applying the Rochdale Envelope to EIAs³⁴. Throughout the Scoping Report and subsequent EIA, the Design Envelope (otherwise known as the "Rochdale Envelope") approach has been, and will continue to be, taken to allow meaningful assessments of the Proposed Development to proceed, whilst still allowing reasonable flexibility for future project design decisions. The Proposed Development's design and the application boundary will also be further refined through the EIA process.
- 4.5.1.2 These requirements for flexibility introduce some complexity into the EIA process common to many large-scale developments. The EIA Regulations require an ES to provide a description of the location, design, and size of the scheme to allow the likely significant environmental effects to be assessed and to allow statutory consultees and the public to develop an informed response.
- 4.5.1.3 A balance has to be found, therefore, between defining the Proposed Development in enough detail to predict its impacts, whilst leaving sufficient flexibility to allow the project to be successfully delivered under conditions which may be subject to change. The Proposed Development design (or elements thereof) will be expressed as an 'envelope' for the purpose of assessing its impacts or possible range

³⁴ IEMA (2013). EIA coordinators and the Rochdale Envelope - IEMA. Available online: <https://www.iema.net/articles/eia-coordinators-and-the-rochdale-envelope>

of impacts, including 'worst-case' impacts. In order to ensure that likely significant effects of the Proposed Development on the environment are appropriately described and assessed, parameters will be set which:

- are broad enough to encompass the potential variations in design and other aspects of the Proposed Development as it moves forward through later stages of design, after a planning consent may have been granted; but
- provide sufficient detail to make an assessment of the effects and allow informed decisions on the application.

4.5.1.4 The EIA will therefore take account of all the reasonable variations in the form of the Proposed Development that would be permissible under the parameters and describe and assess the likely significant effects on the environment as appropriate.

4.5.1.5 Such an approach is good practice and, suitably applied in an EIA, it can help to avoid the need for protracted re-submission procedures at a later stage, whilst giving a comprehensive assessment of the likely environmental effects.

4.6 ENVIRONMENTAL MITIGATION, MANAGEMENT AND COMMITMENTS

4.6.1 MITIGATION

4.6.1.1 Paragraph 7 of Schedule 4 of the 2017 EIA Regulations requires that where significant effects are identified, the ES should include the following: *"A description of the measures envisaged to avoid, prevent, reduce or, if possible, offset any identified significant adverse effects on the environment and, where appropriate, of any proposed monitoring arrangements (for example the preparation of a post-project analysis). That description should explain the extent to which significant adverse effects on the environment are avoided, prevented, reduced or offset, and should cover both the construction and operational phases."*

4.6.1.2 The achievement of high environmental standards is integral to the Proposed Development, and measures to avoid, minimise and reduce potential effects will be integrated into its design where possible.

4.6.1.3 For any significant negative effects of the Proposed Development that are identified during the EIA, the specialists undertaking the

assessments will identify mitigation measures consistent with statutory requirements and good practice in their respective fields. These measures will be legally secured through a number of means, for example: integration into design, inclusion in a Code of Construction Practice or equivalent, specific obligations or requirements within the DCO or related agreements or conditions of other consents, licences or permits.

- 4.6.1.4 Residual effects are those identified once mitigation measures have been incorporated into the Proposed Development design and into its construction and operational practices, will be classified as "not significant" or still "significant", as appropriate. Where effects are still significant, these will be reported in the ES.

4.6.2 ENVIRONMENTAL MANAGEMENT

- 4.6.2.1 The Proposed Development will be carried out in accordance with general environmental management practices as well as the relevant legislative requirements. For example, under the Construction (Design and Management) Regulations 2015, the Proposed Development's Construction Environmental Management Plan (CEMP) (or similar) will include general environmental and health and safety considerations.
- 4.6.2.2 An Operational Environmental Management Plan (OEMP) will also be developed and implemented; the OEMP will outline requirements and procedures including monitoring required to ensure that the Proposed Development is operating to the appropriate standard.
- 4.6.2.3 Detail of the Applicant's environmental management systems including responsibility and accountability processes will be included in the ES.

4.6.3 THE COMMITMENTS REGISTER

- 4.6.3.1 As per the Planning Inspectorate's advice³⁵ a commitments register will be prepared and submitted with the Application. A template commitments register is included at Appendix B of this report. This iteration should be read in conjunction with the main body of the Scoping Report.

³⁵ Planning Inspectorate (2025). Nationally Significant Infrastructure Projects: Commitments Register. Available online at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-commitments-register>.

- 4.6.3.2 The commitments register will be a live document, which will be updated regularly and used to track commitments made throughout the DCO process (including post-decision). Relevant stakeholders will be consulted regarding the content of the commitments register at key milestones.

4.7 CONSULTATION

4.7.1 INTRODUCTION

- 4.7.1.1 Formal and informal consultation and engagement is a priority to the Applicant in preparing its Application.
- 4.7.1.2 This section provides a summary of the consultation and engagement that has been undertaken to date and the consultation activities planned to continue as part of the iterative design refinement of the Proposed Development and to inform the EIA and preparation of the ES.

4.7.2 ACTIVITIES TO DATE

- 4.7.2.1 The Applicant's team has been embedded in the local community and undertaking engagement activities with stakeholders about anticipated exploration of lithium since 2022. This included the establishment of a Community Liaison Group (CLG), which meets regularly and has membership from the local community and locally elected members.
- 4.7.2.2 In addition to the ongoing engagement with the local community, the Applicant's team has undertaken early engagement activities with Cornwall Council; this includes engagement prior to the Section 35 Direction Request (described in Section 3.2.1), and ongoing meetings and engagement regarding topics such as the Proposed Development programme and local authority involvement throughout the DCO process. The Applicant has also engaged with other statutory stakeholders, such as the EA and Natural England on the Proposed Development generally as well as specifically to inform the collection of data, surveys/monitoring locations, and aspects of the assessment methodologies.
- 4.7.2.3 The Applicant's team have also engaged with key landowners which has informed the identification of land available for the Proposed Development.

4.7.3 NON-STATUTORY CONSULTATION

- 4.7.3.1 An early stage of non-statutory public consultation is being carried out shortly after the submission of this Scoping Report. The purpose of this non-statutory consultation is to introduce early-stage plans for the Proposed Development to the public and stakeholders and to provide clarity on the timeline for its evolution. This includes explaining opportunities for stakeholders to provide feedback and to identify any new and relevant information that should be taken into account in the decision-making process or used to inform the EIA.
- 4.7.3.2 The consultation will be widely publicised and a variety of materials made available to ensure stakeholders have access to information about the Proposed Development and provide their feedback.
- 4.7.3.3 All consultation information will be made available online and drop in community events will be held over four weeks at locations around the Proposed Development. There will be a chance for local stakeholders to attend these open drop-in sessions to meet the project team, ask any questions about the Proposed Development, and complete a feedback form.

4.7.4 STATEMENT OF COMMUNITY CONSULTATION

- 4.7.4.1 The Applicant's team will continue to engage with Cornwall Council to inform its consultation activities. This includes the preparation of a Statement of Community Consultation (SoCC), which will be formally consulted on by Cornwall Council later this year as required by Section 47 of the Act. This SoCC will set out the Applicant's approach to consulting local communities and it will be made available for the community to inspect.

4.7.5 STATUTORY CONSULTATION

- 4.7.5.1 Formal statutory consultation is planned for 2026 and further information will be included within the SoCC. The Applicant will have regard to any feedback received in finalising the Application prior to its submission to the Planning Inspectorate in accordance with Section 49 of the Act. Details of the responses received and how they have been addressed will be included in a Consultation Report, as required by Section 37 of the Act.

5. ALTERNATIVES

5.1 INTRODUCTION

- 5.1.1.1 Paragraph 2 of Schedule 4 of the 2017 EIA Regulations requires developers to include in Environmental Statements "A *description of the reasonable alternatives (for example in terms of development design, technology, location, size and scale) studied by the developer, which are relevant to the proposed project and its specific characteristics, and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects.*".
- 5.1.1.2 Accordingly, the ES will include an 'Alternatives Chapter', which will include:
- a summary of all of the design alternatives or options considered for the Proposed Development to date, such as site selection and layout, and including the 'do nothing' alternative which will outline the likely evolution of the baseline scenario without implementation of the Proposed Development;
 - an overview of the design process and evolution of the Proposed Development over time, including the design modifications and refinements that have taken place as a result of the EIA process and in response to stakeholder feedback; and
 - the reasoning behind the selection of particular options, including (but not limited to) the potential environmental effects, technical/engineering feasibility, health and safety, relevant stakeholder feedback, relevant policy considerations and alignment with the overall objectives of the Proposed Development.
- 5.1.1.3 The consideration of alternatives and design evolution relates to the Proposed Development in its entirety i.e. including the Trelavour Pit, the Trelavour Processing Plant, the Mining Waste Facilities and other ancillary infrastructure.
- 5.1.1.4 This Section provides a brief summary of the design evolution and alternatives considered to date. As detailed at Section 4.5, the design process is currently at a relatively early stage and will continue to evolve. Further detail will be included in the ES.

5.2 THE 'DO NOTHING' ALTERNATIVE

- 5.2.1.1 The 'Do Nothing' alternative has been considered; in this scenario, the Proposed Development would not go ahead.
- 5.2.1.2 As stated in Section 1, the Applicant is focused on extracting lithium responsibly, to support a secure and sustainable UK supply chain. The Proposed Development will provide a domestic source of this essential battery material, which is critical for the transition to cleaner energy.
- 5.2.1.3 Demand for batteries is increasing rapidly, with the EU predicting a 14-fold increase in battery demand globally by 2030, largely driven by the electrification of transport. Lithium is a key component in battery technologies due to its light weight and high charge density. The surge in demand is paralleled by a rise in the need for raw materials required in battery manufacturing. As the world moves to renewable energy and associated battery power it is essential that the environmental impact of mineral extraction is minimised and where possible these materials are recycled.
- 5.2.1.4 The UK Critical Minerals Strategy (described in further detail in Section 3) identifies lithium as one of 18 'minerals with high criticality for the UK', given its use in power storage batteries and electric vehicles. There has been significant momentum in the UK's battery electric vehicle industry lately, with Tata and Nissan both announcing the development of battery gigafactories. A local supply chain for battery raw materials will help the viability of these developments and the UK's automotive sector, including the associated jobs.
- 5.2.1.5 By producing lithium and other technology materials in Cornwall and reducing the UK's reliance on imported strategic materials for battery production, the Applicant aims to contribute to the UK's net-zero ambition and the creation of a battery manufacturing industry with the associated jobs. The Proposed Development also looks to reduce the UK's vulnerability to external supply disruptions, thus providing a significant strategic advantage to UK-based businesses, as well as helping reduce the overall carbon footprint associated with current global lithium supply chains.
- 5.2.1.6 The Proposed Development will also deliver substantial socio-economic benefits to the local community; the Proposed Development will create sustainable career opportunities and apprenticeships, and inject investment into the local economy; as outlined in Section 2.8,

at present, it is expected that it will create a large number of FTE jobs, with as many of these roles recruited locally as possible.

- 5.2.1.7 The 'Do Nothing' Alternative' would not provide any of the benefits detailed above; the 'Do Nothing' alternative scenario is therefore not considered to be a viable option. This scenario will be assessed implicitly, as the baseline conditions outlined across the ES will be the existing conditions, without the Proposed Development.

5.3 SITE SELECTION

- 5.3.1.1 The Trelavour Pit was selected due to the presence of the lithium reserves present, and due to it being a former clay pit; utilising an existing site allows for reuse of the some of the infrastructure which is already in place (such as transport infrastructure) and which therefore reduces many of the environmental effects associated with the development.
- 5.3.1.2 The Trelavour Processing Plant was selected for similar reasons; it is an existing industrial site with some of the required infrastructure already in place. It was also selected due to its proximity to Trelavour Pit, which, again, minimises the requirement for additional transport.
- 5.3.1.3 A detailed site selection exercise was undertaken to determine which Mining Waste Facility sites should be taken forward. 26 sites were considered in total, which varying characteristics including both greenfield and brownfield sites. The sites were considered against environmental, planning and engineering criteria (for example, proximity to human and ecological receptors, flood risk, proximity to the Trelavour Pit and the Processing Site, and maximum storage capacity). A more detailed analysis of the engineering and environmental permitting implications of using the different sites was subsequently undertaken. Following this, the Treviscoe and Goonvean Mining Waste Facilities (both existing, disused pits) were selected for further consideration, noting that both sites would require restoration irrespective of whether they are used for the storage of waste associated with lithium extraction.

5.4 SITE LAYOUT

- 5.4.1.1 Various layouts have been considered for the different components of the Site, taking engineering, environmental and safety considerations into account. Optimisation of the Site layout is ongoing. Further detail

regarding the evolution of this, and the reasons for the layout to be taken forwards, will be included in the ES.

5.5 PROCESS CONSIDERATIONS

- 5.5.1.1 The Proposed Development involves extraction of lithium using an innovative process technology, which is expected to produce fewer carbon emissions than other alternative, traditional processes which are utilised elsewhere.
- 5.5.1.2 As stated in Section 2.4.3, the Demo Plant at the Trelavour Processing Site is the UK's first low-carbon lithium hydroxide demonstration facility, where mineral concentration and hydrometallurgical processing technologies are being tested, to refine the engineering design requirements of the full-scale processing plant.

5.6 TRANSPORT METHODS

- 5.6.1.1 Ore could be transported from Trelavour Pit to the Trelavour Processing Plant by road, or by conveyor. Use of an electric conveyor is proposed, to minimise road traffic movements. It will be overland and covered, to minimise any adverse dust or noise effects. Similarly, waste material could be transported via various means; a slurry pipeline is currently proposed, for transport of waste from the Trelavour Processing Plant to the Mining Waste Facilities, again minimising road traffic movements.

5.7 CLOSURE AND RESTORATION

- 5.7.1.1 As stated in Section 2.6.4, early consideration of the different options for closure, restoration and after-use is currently underway, working towards selection of scenarios which will be most beneficial for all stakeholders. The plans will evolve and develop as the design of the Proposed Development progresses, and throughout the lifetime of the Proposed Development, taking account of technical and environmental considerations, stakeholder feedback, and relevant legislation and policy at that time.

6. LAND QUALITY AND GROUND CONDITIONS

6.1 INTRODUCTION

- 6.1.1.1 This section of the Scoping Report identifies the land quality and ground conditions and receptors of relevance to the Proposed Development and considers the potential effects from the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.
- 6.1.1.2 Consideration is given to land that potentially contains contamination and land that is of special geological significance, from a scientific, historical, mineral exploitation or mineral resources perspective, including geological SSSIs and areas of designated mineral resources. Human health and wellbeing effects relating to contaminated land are considered within Section 15 (human health and wellbeing) and will be assessed in the relevant chapter of the ES.

6.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

- 6.2.1.1 The assessment will be undertaken in line with the following legislation, policy and guidance:
- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
 - The Environmental Protection Act 1990, and Part 2A of the Environmental Protection Act 1990 (and subsequent amendments);
 - EU Groundwater Directive (2006/118/EC) 2006³⁶;
 - Water Resources Act 1991;
 - The Water Act 2014;
 - Environment Agency/ Department for Environment, Food and Rural Affairs (Defra) Land Contamination Risk Management (LCRM) 2023³⁷.

³⁶ European Environment Agency (2006). Groundwater Directive (GWD) 2006/118/EC. Available Online at: <https://www.eea.europa.eu/policy-documents/groundwater-directive-gwd-2006-118-ec>. [Accessed on 28 March 2025].

³⁷ Environment Agency (2023). Land Contamination Risk Management. Available Online at: <https://www.gov.uk/government/publications/land-contamination-risk-management-lcrm>. [Accessed on 28 March 2025].

- The Cornwall Local Plan (Policies 2, 17, 18, 23, 26 & 27) (2016).
- The National Planning Policy Framework (2025) and associated Planning Practice Guidance for:
 - Land affected by contamination (2019)³⁸
 - Land stability (2019)³⁹
 - Minerals (2014)⁴⁰
- Institute of Environmental Management & Assessment Land Soil in EIA Guidance (2022)⁴¹

6.3 BASELINE ENVIRONMENT

6.3.1 DATA SOURCES

6.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for the PEIR and ES:

- British Geological Survey (BGS) Solid and Drift Geology, 1:50,000 England and Wales Sheet 347⁴²;
- BGS GeoIndex Onshore interactive viewer⁴³;
- Defra's Magic Map⁴⁴;
- the Coal Authority Interactive Viewer⁴⁵ noting that the Coal Authority has been renamed the Mining Remediation Authority and is referred to as such from here on;
- Natural England Open Data – Designated Sites⁴⁶;
- the Cornwall Council Minerals Safeguarding DPD;

³⁸ UK Government (2019). Planning Practice Guidance for Land affected by contamination. Available Online at: <https://www.gov.uk/guidance/land-affected-by-contamination>. [Accessed on 28 March 2025].

³⁹ UK Government (2019). Planning Practice Guidance for Land Stability. Available Online at: <https://www.gov.uk/guidance/land-stability>. [Accessed on 28 March 2025].

⁴⁰ Planning Practice Guidance for Minerals (2014). Available Online at: <https://www.gov.uk/guidance/minerals>. [Accessed on 28 March 2025].

⁴¹ IEMA (2022). A New Perspective on Land and Soil in Environmental Impact Assessment. Available Online at: https://www.iema.net/media/3xejdu0u/2022-iema_land_and_soils_guidance.pdf. [Accessed on 28 March 2025].

⁴² British Geological Survey (BGS) Solid and Drift Geology, 1:50,000 England and Wales Sheet 347. Available Online at: <https://largeimages.bgs.ac.uk/iip/mapsportal.html?id=1004163>. [Accessed on 28 March 2025].

⁴³ British Geological Survey (2023). GeoIndex Onshore. Available Online at: <https://mapapps2.bgs.ac.uk/geoindex/home.html>. [Accessed on 28 March 2025].

⁴⁴ Defra (2023). Magic Map. Available Online at: <https://magic.defra.gov.uk/MagicMap.aspx>. [Accessed on 28 March 2025].

⁴⁵ The Coal Authority (2023). Interactive Map. Available Online at: <https://magic.defra.gov.uk/MagicMap.html>. [Accessed on 28 March 2025].

⁴⁶ Natural England Open Data - Designated Sites. Available Online at: <https://designatedsites.naturalengland.org.uk/>. [Accessed on 28 March 2025].

- Cornwall Council's interactive map⁴⁷;
- the North Sea Transition Authority (NSTA) onshore oil and gas activity interactive map⁴⁸; and
- Natural England's Agricultural Land Classification (ALC) Map for the South West Region (ALC006)⁴⁹.

6.3.1.2 Site-specific data will be reviewed from an environmental database (such as a Landmark Envirocheck Report) and data held by the Applicant once the search areas have been refined, later in the EIA process and in advance of submission of the DCO Application. A targeted walkover of areas of interest will be undertaken as part of the assessment if the desk-based review indicates that this is necessary.

6.3.1.3 Given the risk of potentially contaminated land from the previous china clay workings and processing plant, Phase 1 desktop assessments and a site walkover will be undertaken and may identify the need for Phase 2 intrusive investigations. Phase 2 investigations will only be undertaken if the Phase 1 assessment identifies credible risks, such as potential for polluted soils or poor ground conditions due to previous land use, from the former kaolin drying sites where the Trelavour Processing Plant is to be located, for example.

6.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

Study Area

6.3.2.2 The study area for the land quality and ground conditions assessment will be within the Site boundary. Baseline land quality and ground conditions in the Study Area are shown in Figure 7.

Land Use and Ground Conditions

Land Use

6.3.2.3 The Trelavour Pit is a former china clay extraction site, whilst the Trelavour Processing Plant will be located at a former kaolin drying site, with large structures and bare ground with some natural

⁴⁷ Cornwall Council (2023). Cornwall Council Interactive Map. Available Online at: <https://map.cornwall.gov.uk/website/ccmap/>. [Accessed on 28 March 2025].

⁴⁸ NSTA (2023). Interactive Map and Co-ordinates System. Available Online at: <https://www.nstaauthority.co.uk/regulatory-information/exploration-and-production/onshore/interactive-map-and-co-ordinates-system/>. [Accessed on 28 March 2025].

⁴⁹ Natural England (2010). Agricultural Land Classification Map South West Region (ALC006). Available Online at: <https://publications.naturalengland.org.uk/publication/144017>. [Accessed on 28 March 2025].

vegetation regeneration. The Mining Waste Facilities are both former china clay pits, now flooded, and the rest of the Site encompasses land containing other former mining activities, mining waste areas, restored mine areas, former landfilled areas, licenced landfill areas and several areas under agricultural field use. The surrounding area is predominantly rural and characterised by clay open pits (both active and former), mining waste sky tips, small settlements (such as St Dennis and Nanpean), industrial buildings and agricultural land (mostly small fields with Cornish hedges used for grazing).

Soils

- 6.3.2.4 The majority of the Site is formerly mined land, directly underlain by sporadic or thin soils and decomposed granite bedrock. Some made ground is also expected to be present, along with mining waste soils, given the history of the area. In some places, a thin humic soil has developed over the mining wastes that are typically composed of loose, coarse-sand to gravel grade clasts of quartz, mica and partly decomposed feldspar. The agricultural fields in the northern parts of the Site are located on metamorphic rocks have thicker clay-rich loam soil that grades into weathered bedrock over several metres depth. Valleys around the Site often contain superficial deposits of alluvium (clay, silt, sand and gravel).
- 6.3.2.5 Contamination associated with the historic mining and processing and other industrial activities may be present, though the Cornwall Council interactive map does not identify any declared contaminated or brownfield land within or in close proximity to the Site.

Historic and Authorised Landfill Sites

- 6.3.2.6 There are two historic landfills within or partially within the boundary of the Site: Quarry Close Landfill and Dukes Quarry. Quarry Close Landfill was a licenced inert waste landfill operated by Haul Waste Ltd between 1992 and 2001 and includes a 1.2 ha pond. Dukes Quarry is a licenced industrial and inert waste landfill operated by ECC International and Haul Waste Ltd since 1988. Historic landfills are shown in Figure 8.

Agricultural Land Classification

- 6.3.2.7 Natural England classifies agricultural land into five grades, with grade one being the best quality and grade five being the poorest

quality. Grade 3 is subdivided further (a and b) and classes 1, 2 and 3a are considered to be 'Best and Most Versatile' (BMV) agricultural land. Most of the Site is former mined land considered Non-Agricultural Land. Elsewhere, around St Dennis, the agricultural land is regionally mapped as predominantly Grade 3 'good to moderate', and Grade 5 ('very poor') to the east of Trelavour Pit.

Naturally Occurring Radioactive Material (NORM)

- 6.3.2.8 Much of Cornwall is designated as a radon affected area (at least 1% of the domestic properties have a radon level at or above the action level of 200 Becquerels per cubic metre). NORMs (e.g. uranium, potassium) are present in granites and may also be present in the mineral wastes and soils on and around the Site, or in soil gasses (e.g. radon). These have not been measured or assessed, although regional radon mapping indicates that in the entire area underlain by granite it is expected that 30% of the domestic properties have a radon at or above the action level.

Geology

- 6.3.2.9 The regional geology is dominated by the St Austell Composite granite pluton of Carboniferous age that has intruded into metamorphosed slates. The pluton is predominantly a medium to coarse felsic granite, often containing megacrysts of K-feldspar and is cut by late-stage felsite dykes. The western half of the St Austell pluton is characterised by the presence of lithium-mica granites whereas fluorite granite occurs in the west-central part. The majority of the Site is located on the St Austell lithium-bearing granite, although the Trelavour Processing Plant and areas to the north are on the Trendrean Mudstone Formation slates and sandstone of Devonian age, thermally metamorphosed (hornfelsed) by the granite.
- 6.3.2.10 Hydrogeology is covered within Section 7.

Mineral Resources and Designations

- 6.3.2.11 The Trelavour Downs Site of Special Scientific Interest (SSSI) comprises 0.3 ha and is located wholly within the Trelavour Pit part of the Site. It is notable as Britain's best locality for biotite mica in

pegmatite rock (as detailed in Natural England's citation⁵⁰). Trelavour Downs is also a Joint Nature Conservation Committee (JNCC) Geological Conservation Review (GCR) site, which "*form the basis of statutory geological and geomorphological site conservation in Great Britain*"⁵¹.

- 6.3.2.12 The St Austell Clay Pits SAC falls within the Site (specifically, the Goonvean Mining Waste Facility), whilst the Breney Common and Goss & Tregoss Moors is adjacent to it; both of these sites are designated for ecological reasons rather than geological, and as such as considered within Section 11.
- 6.3.2.13 The Site is located within a MSA for china clay, however, the Proposed Development is considered to be compatible with the MSA and related land use.
- 6.3.2.14 The Mining Remediation Authority has no records of coal mining activity within the vicinity of the Site nor are there Petroleum Exploration and Development Licenses (PEDLs) located within it.
- 6.3.2.15 Any mineral resource or designation outside of the Study Area is scoped out of the land quality and ground conditions assessment. This includes Wheal Remfry County Geology Site referred to in the Cornwall Local Plan Policies Map²⁴, described in Section 3.4.3.

6.3.3 KEY SENSITIVITIES

6.3.3.1 Potential sensitive receptors include:

- human health (as residents, amenity users, in places of work or schools, construction workers and future workers at the Site);
- ecological habitats, including designated land and soils as a habitat;
- livestock and property;
- sub-surface services and foundations of current buildings and those of the Proposed Development in the future;
- land as an agricultural resource;
- mineral resources and designations;

⁵⁰ Natural England (2025). Designated Sites View: Trelavour Downs SSSI. Available Online at: <https://designatedsites.naturalengland.org.uk/SiteDetail.aspx?SiteCode=s1003502>. [Accessed on 10 April 2025].

⁵¹ JNCC (2025). GCR (Geological Conservation Review) Site lists. Available Online at: <https://jncc.gov.uk/our-work/gcr-sites/>. [Accessed on 31 March 2025].

- all designated Principal and Secondary Aquifers, and especially any active groundwater and surface water abstractions; and
- all surface waters, including land drains.

6.3.3.2 Effects upon human health and wellbeing, ecology and water resources will be assessed in their respective ES chapters.

6.3.3.3 Refinement of receptors requiring assessment will be reviewed during the EIA process as more detailed information is obtained from baseline surveys for this topic and other relevant EIA topics, and where appropriate, in response to stakeholder engagement.

6.4 PROJECT BASIS FOR SCOPING ASSESSMENT

6.4.1.1 The Proposed Development has the potential to both permanently and temporarily affect the land quality and ground conditions baseline within the Site. These effects will be distinct between the different phases of the Proposed Development.

6.4.1.2 Factors which have the potential to affect land quality and ground conditions during the construction phase include:

- clearing of land for project facilities, including demolition of old structures, stripping and storing of surface vegetation, topsoil and subsoil;
- ground excavation for the purposes of construction of facilities and utilities associated with the Proposed Development;
- storage of materials and equipment in temporary construction areas;
- changes to hydrological pathways as a result of constructed landforms; and
- dust and other contaminant transportation.

6.4.1.3 Factors which have the potential to affect land quality and ground conditions during the operational phase include:

- stripping and storing of surface vegetation, topsoil and subsoil;
- mining of waste rock and ore;
- permanent and temporary storage of mining wastes and ore;
- changes to hydrological pathways as a result of mining activity; and
- dust and other contaminant transportation.

6.4.1.4 Factors which have the potential to effect land quality and ground conditions during the decommissioning, closure and restoration phase include:

- storage of materials and equipment in temporary demolition areas;
- changes to hydrological pathways as a result of constructed landforms;
- excavation of soil from borrow areas;
- dust and other contaminant transportation; and
- restoration and rehabilitation of soils according to the vision, objectives and methodologies in the plan for mine closure and restoration.

6.5 MITIGATION

6.5.1.1 Appropriate mitigation measures related to land quality and ground conditions will be developed as the design of the Proposed Development and the EIA progress. Mitigation measures could include:

- various mitigation measures to be applied during construction (such as those designed to limit contamination of soil resources), as identified in the Construction Environmental Management Plan (CEMP) (described in Section 4.6).
- various mitigation measures to be detailed within an Excavated Materials Management Plan (EMMP), to ensure the proper handling, storage, and disposal of excavated materials during construction.
- Development of a plan for mine closure and restoration (in line with Chapter 17 'Facilitating the Sustainable Use of Minerals' of the NPPF), one of the primary objectives of which is to mitigate potential impacts associated with the Proposed Development by developing a scheme of restoration, rehabilitation and aftercare, with the aim of generating positive effects within large parts of the Site (such as the Mining Waste Facilities) over the full lifetime of the Proposed Development.

6.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

6.6.1.1 Potential significant effects on land quality and ground conditions which may occur as a result of the Proposed Development include:

- Effects upon the Trelavour Downs SSSI (which is also a JNCC and GCR site), within the Trelavour Pit.
- The Site is located within an area with a history of china clay mining, mineral processing, mining waste disposal and non-mineral waste disposal (in licensed landfills). Such infrastructure, such as processing plant or infilled land, could create structural stability concerns and have the potential to be sources of historic contamination that could be remobilised during development.
- Remobilisation of historical contaminants may develop new or enhance existing pathways from sources of contamination in the ground to surrounding sensitive receptors outlined in Section 6.3.3 above (including groundwater and surface waters).
- Introduction of new potential contaminants to the environment from construction, operation and decommissioning activities, from accidental or uncontrolled releases of hazardous and harmful materials such as fuels, reagents, dust, and soil and wastes suspended in surface water run-off.
- Groundworks may impact the quality of the soil resource during construction and decommissioning from the trafficking of vehicles / plant and poor soil handling, which can cause damage to soil structure through compaction and smearing. These effects compromise the ability of the soil to perform functions, such as providing adequate water, air and nutrients to plant roots.
- Whilst the majority of the Site is former mined land considered Non-Agricultural Land, there is some Grade 3 'good to moderate' land within the Site, near St Dennis. The Proposed Development therefore has the potential to impact some BMV land, which is ALC class 1, 2 and 3a; it could, in certain areas, either permanently or temporarily affect land quality by, for example, sealing the soil in certain areas, taking that land out of agricultural use or altering the land grade.

6.7 EFFECTS SCOPED OUT OF THE EIA

- 6.7.1.1 Table 6.1, below, details the potential land quality and ground conditions effects/ topics that are proposed to be scoped out of the assessment, together with the basis for doing so. While an effect may be proposed to be scoped out, the ES will still provide baseline information on the receptor(s) concerned and set out any relevant

measures the Proposed Development will adopt to mitigate impacts on the receptor(s).

TABLE 6.1: EFFECTS/ TOPICS SCOPED OUT OF THE LAND QUALITY AND GROUND CONDITION ASSESSMENT

Potential Effect / Topic	Rationale for Scoping Out of the Assessment
Construction Phase	
Construction within Mineral Safeguarding Areas / sterilisation of mineral resources	The Proposed Development is in line with the MSA designation and authorised land use. Whilst the mining areas will encompass MSAs, the proposed locations of the other project facilities have been selected to minimise mineral sterilisation, such as the location of plant infrastructure outside of any "Area believed to contain china clay reserves" ⁴⁷ on the metamorphic bedrock (as opposed to the mineral-rich granitic bedrock). The mineral waste facilities are to be located on mined-out land which minimises the potential for sterilisation despite these legacy sites still being designated as "Areas believed to contain china clay reserves" ⁴⁷ . This will be confirmed in consultation with the LPA Minerals Officer.
Contaminated Soil and Unstable Ground Conditions	Phase 1 and, where required, Phase 2 and 3 Contaminated Land Risk Assessments will ensure no potential significant effects are likely, and the measures detailed in the CEMP and EMMP will mitigate accidental and residual effects.
Damage to soil structure	Mitigation measures to be detailed within the CEMP and EMMP will mitigate any potential impacts.
Operational Phase	
Operation within Mineral Safeguarding Areas	Mitigated during construction.
Damage to soil structure	Mitigation measures to be detailed within the CEMP will mitigate any potential impacts.
Decommissioning, Closure and Restoration Phase	
Damage to soil structure	Standard mitigation measures to be detailed within the CEMP, EMMP and the mine closure plan will mitigate any potential impacts.

6.8 PROPOSED APPROACH TO THE ASSESSMENT

6.8.1 BASELINE

- 6.8.1.1 ALC surveys will be performed on any agricultural fields within the Site, and these will provide baseline information on soil types, agricultural land usage, micro-relief and chemical quality, as well as the ALC determination of BMV land.
- 6.8.1.2 The ALC surveys will be supplemented by a Phase 1 desk-based assessment (DBA) for the environmental setting that will cover all areas where the ground is to be disturbed, with a focus on areas where potentially contaminated land (such as former mineral processing plant and historic and current landfills) may be present. The Phase 1 study will include a site walkover, the development of conceptual site models (CSMs) for specific parts of the Site, and a preliminary risk assessment of potential pollutant pathways from sources to receptors (described in further detail in Section 6.8.2, below).
- 6.8.1.3 To inform this, it is considered likely that baseline information will be required from commercial geodata sources, such as Landmark Envirocheck; this would include information regarding historic land use, industrial land use, sensitive land use and recorded pollution incidents. Advice from Cornwall Council will also be sought.
- 6.8.1.4 Supplemental Phase 2 intrusive investigations may be required for certain parts of the Site. If required, these investigations would apply a risk-based approach to confirm the presence (or lack of) land pollution or historic mining features which affect ground conditions and to inform the classification of any construction wastes.

6.8.2 SPECIFIC METHODOLOGIES

ALC Surveys

- 6.8.2.2 The ALC survey will involve soil augering to a depth of 1.2 m at an interval of one sample per hectare. If required, soil pits up to 0.6 m by 0.6 m wide and 0.6 m in depth will be excavated to examine the soil structure if needed. The interval between samples may be varied as necessary to develop a map of soil characteristics relevant to ALC determination and in accordance size and shape of the Site. The survey will be completed on foot and the soil removed during the

augering and pit excavation will be carefully replaced following excavation.

Overall Approach to Assessment

- 6.8.2.3 The land quality and ground conditions assessment will be undertaken in line with the general approach to EIA described in Section 4 and the approach detailed in the Soil in EIA Guidance⁴¹. This will take into consideration soil function, land use and ecosystem services, as well as contaminated land' in assessing the soil and land value / sensitivity as a receptor to impacts from the Proposed Development.
- 6.8.2.4 As described above, CSMs and a preliminary risk assessment of potential pollutant pathways from sources to receptors will be developed. The identification of pollutant linkages consists of the following three elements:
- a source hazard (a substance or situation that has the potential to cause harm or pollution);
 - a pathway (a means by which the hazard moves along/ is transmitted); and
 - receptor/target (an entity that is vulnerable to the potential adverse effects of the hazard, such as controlled waters, humans and livestock).
- 6.8.2.5 Land contamination may be a hazard but does not constitute a risk unless all three elements are present, creating a pollutant linkage.
- 6.8.2.6 Sources include any former industrial or commercial land ('brownfield land') where potentially contaminating activities occurred, and potential ground gas, including radon and landfill gasses. The CSMs will specify and assess the identified sources, pathways and receptors and potential pollutant linkages, in line with the approach in the Land Contamination Risk Management (2023)³⁷ and the 2012 statutory guidance under Part 2A of the Environmental Protection Act (1990).
- 6.8.2.7 The assessment of soil and land value/sensitivity will also take into account the baseline information and value assessments of other topic areas including socio-economics and land use, landscape and visual impact; ecology and nature conservation; water resources and flood risk; and the historic environment.

6.8.2.8 The assessment of potential significant effects will consider the mitigation measures to be employed and utilise the assessment criteria defined in Section 6.8.3 below.

Cumulative Effects

6.8.2.9 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same land quality and ground conditions receptors.

6.8.3 ASSESSMENT CRITERIA

6.8.3.1 In the context of land quality, four main criteria are considered in determining overall value which includes consideration of both receptor sensitivity and vulnerability:

- Soil quality, structure and sensitivity, e.g. whether it has intrinsic agricultural fertility, presence of historical or natural contaminants, degree of anthropogenic disturbance such as compaction. The Phase 1 and any Phase 2 site investigations and the ALC surveys and designation of BMV land will be critical in determining this aspect;
- Soil ecosystem function as a supporting service to flora and fauna, e.g. a particular soil type, such as peats, supporting a specific habitat or vulnerable species;
- Soil ecosystem function as regulating service for water, e.g. the extent to which whether the soil helps partition rainfall into surface water run-off, evapo-transpiration and groundwater recharge, as well as water retention capacity in the unsaturated zone; and
- Soil resource importance in terms of 'provisioning', e.g. the extent to which the soil is utilised as an agricultural resource.

6.8.3.2 Table 6.2 provides the criteria for assessing the value and sensitivity of soils within the Site.

TABLE 6.2: SOIL VALUE/ SENSITIVITY CRITERIA

Value	Definition / Examples
High	Intensively farmed and/or highly fertile soils (e.g. ALC class 1, 2), wetland soils, soil supporting features in a UK designated site (e.g. SSSI), soils which host shallow aquifers relied upon for abstraction or

Value	Definition / Examples
	essential for river baseflow, soils of specific characteristics (e.g. pH, carbon content, mineralogy) that support specific significant or high-value flora or faunal habitats.
Medium	Typical agricultural land (e.g. ALC class 3) or soils supporting specific habitats (e.g. forests), soils on residential sites.
Low	Low soil fertility (e.g. ALC class 4 and 5) or not used for agriculture, urban soils, contaminated made-ground soils at brownfield sites, soils not supporting any particularly sensitive or important habitats.

Magnitude of Impact

6.8.3.3 The magnitude of impacts to soils will be determined by the considering the spatial coverage and longevity of an impact. The magnitude assigned below is from the IEMA soil impact assessment guidelines⁴¹ and considers the magnitude only of changes that are "*permanent and irreversible*". Many of the impacts to soils, land quality and ground conditions will occur during construction and operation of the Proposed Development.

6.8.3.4 Table 6.3 provides the criteria for assessing the magnitude of the impacts upon soils within the Site.

TABLE 6.3: IMPACT MAGNITUDE CRITERIA FOR SOIL AND LAND QUALITY

Impact Magnitude	Definition / Examples
Large	Change is likely to cause a direct adverse permanent effect on the quality/value of the soil over a large area (i.e. >20 ha)
Medium	Change is likely to cause a direct adverse permanent effect on the quality/value of the soil over a moderate area (i.e. 5 - 20 ha).
Small	Change is likely to cause a direct adverse permanent effect on the quality/value of the soil over a small area (i.e. <5 ha)
Negligible	Change well within the bounds of normal natural variation. No effect detectable or recovery within a very short timescale (<1 year). Could occur over any size of area.

Significance of Effect

6.8.3.5 The importance of the asset, the value of the soil (incorporating sensitivity) and the magnitude of the predicted impacts will be used

as a guide, in addition to professional judgement, to predict the significance of the likely effects. Table 6.4 summarises guideline criteria for assessing the significance of effects. Moderate and Major effects are considered to be Significant.

TABLE 6.4: SIGNIFICANCE OF EFFECT MATRIX FOR LAND QUALITY AND GROUND CONDITIONS

	Receptor Value/ Sensitivity		
Magnitude of Impact	Low	Medium	High
Negligible	Negligible	Negligible	Negligible
Small	Negligible	Minor	Moderate
Medium	Minor	Moderate	Major
Large	Moderate	Major	Major

7. WATER RESOURCES AND FLOOD RISK

7.1 INTRODUCTION

7.1.1.1 This section of the Scoping Report identifies the water resources and flood risk receptors of relevance to the Proposed Development (including both surface water and groundwater resources and designated sites) and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available. Potential effects of the impacts on water resources to ecological receptors are considered in Section 11 (Ecology and Nature Conservation).

7.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

7.2.1.1 The assessment will be undertaken in line with the following legislation, policy and guidance:

- The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017;
- EU Directive 2000/60/EC to establish a framework for the protection of all water bodies (including marine waters up to one nautical mile from shore) by 2015⁵²;
- EU Directive 2006/118/EC on the protection of groundwater against pollution and deterioration⁵³;
- EU Directive 2008/105/EC on environmental quality standards in the field of water policy (the Priority Substances Directive)⁵⁴;
- EU Directive 2007/60/EC on the Assessment and Management of Flood Risks (the Floods Directive)⁵⁵;
- The Water Act 2014;
- Water Resources Act 1991 (as amended);

⁵² European Parliament and the Council of the European Union (2000). Directive 2000/60/EC. Available Online at: <https://eur-lex.europa.eu/eli/dir/2000/60/oj/eng>

⁵³ European Parliament and the Council of the European Union (2006). Directive 2006/118/EC Available Online at: <https://eur-lex.europa.eu/eli/dir/2006/118/oj/eng>

⁵⁴ European Parliament and the Council of the European Union (2008). Directive 2008/105/EC. Available Online at: <https://eur-lex.europa.eu/eli/dir/2008/105/oj>. [Accessed on 10 April 2025].

⁵⁵ European Parliament and the Council of the European Union (2007) Directive 2007/60/EC. Available Online at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32007L0060>. [Accessed on 10 April 2025].

- Environmental Protection Act 1990;
- Flood and Water Management Act 2010;
- The Bathing Water Directive (2006/7/EC) as implemented by the Bathing Water Regulations 2013⁵⁶;
- Land Drainage Act 1991;
- British Standard Code of Practice for Earthworks BS 6031 2009⁵⁷;
- The Construction Industry Research and Information Association (CIRIA) Environmental Good Practice on Site (C741) (2015)⁵⁸;
- CIRIA Control of Water Pollution from Construction Sites (C532) (2001)⁵⁹;
- The Cornwall Local Plan Strategic Policies (2016)²³;
- EA Pollution Prevention Guidelines and General Pollution Plans (GPPs)⁶⁰, whilst archived, give advice on statutory responsibilities and good environmental practice; Environment Agency (2012) West Cornwall and the Fal WFD Management Area Abstraction Licensing Strategy⁶¹; and
- Nitrate Pollution Prevention Regulations 2015.

7.3 BASELINE ENVIRONMENT

7.3.1 DATA SOURCES

7.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for the EIA:

- baseline water monitoring data collected by CLL;

⁵⁶ European Parliament and the Council of the European Union (2006) Directive 2006/7/EC. Available Online at:

<http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32006L0007>. [Accessed on 10 April 2025].

⁵⁷ The British Standards Institute (BSI) (2009). BS 6031:2009 Code of Practice for Earthworks. Available Online at:

<https://knowledge.bsigroup.com/products/code-of-practice-for-earthworks/standard>. [Accessed on 10 April 2025].

⁵⁸ CIRIA (2015). Environmental good practice on site guide (fourth edition) (C741). Available Online at:

https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductcode=C741&Category=BOOK. [Accessed on 10 April 2025].

⁵⁹ CIRIA (2001) Control of water pollution from construction sites. Guidance for consultants and contractors (C532). Available Online at:

https://www.ciria.org/CIRIA/CIRIA/Item_Detail.aspx?iProductCode=C532&Category=BOOK. [Accessed on 10 April 2025].

⁶⁰ NetRegs (2022). Guidance for Pollution Prevention (GPP) documents. Available Online at:

<https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/>. [Accessed on 14 April 2025].

⁶¹ Environment Agency (2012). West Cornwall and the Fal WFD Management Area Abstraction Licensing Strategy. Available Online at:

https://assets.publishing.service.gov.uk/media/5a7c637aed915d6969f44873/LIT_7635_7bac59.pdf. [Accessed on 14 April 2025].

- The Ordnance Survey (OS) 1:50,000 (Digital) and OS 1:25,000 Map (Digital);
- The Environment Agency Flood map for planning⁶²;
- The EA Catchment Data Explorer⁶³;
- The Internal Drainage Boards (IDB) Map; and
- Defra's Magic Map⁴⁴.

7.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

Study Area

- 7.3.2.2 The study area for the water resources and flood risk assessment will be the Site plus a 500m buffer zone, shown in Figure 9.

Climate

- 7.3.2.3 The climate at the site is temperate maritime, characterized by mild winters and cool summers. The average annual rainfall for St. Mawgan (approximately 14 km to the west of the site) is 1,020 mm and the average annual rainfall for St Austell (approximately 12 km to the southeast of the site) is 1,230 mm (both for the period 1991-2020). Rainfall occurs throughout the year, with maximum rainfall occurring between October and February. The average temperature is approximately 14°C.

Surface Water

- 7.3.2.4 The Site is located within the Water Framework Directive (WFD) Cornwall West and the Fal Management Catchment, and the Fal Operational Catchment. The Site is located within two WFD waterbodies, namely the Upper River Fal Water Body (waterbody ID: GB108048001390, which is of good ecological status) and the Gwindra Stream Water Body (waterbody ID: GB108048001350, which is of moderate ecological status). The Upper River Fal and the Gwindra Stream are proximal to the Site.
- 7.3.2.5 OS mapping indicates the presence of multiple springs in the vicinity of the Site. Water feature surveys have been completed in Trelavour

⁶² Environment Agency (2023). Flood Map for Planning. Available Online at: <https://flood-map-for-planning.service.gov.uk/>. [Accessed on 14 April 2025].

⁶³ Environment Agency (2023). Catchment Data Explorer. Available Online at: <https://environment.data.gov.uk/catchment-planning/>. [Accessed on 14 April 2025].

Pit and Trelavour Processing Plant areas and are proposed to be completed in the vicinity of the proposed Mining Waste Facilities.

- 7.3.2.6 The hydrological and hydrogeological environment across the Site is relatively complex, with much of the area being subjected to current and historical kaolin mining, which has resulted in a modified landscape comprising numerous used and disused, now-flooded pits, some filled with mica residues. Key flooded pits include Old Trelavour pit, Treviscoe pit, Goonveen pit and Old Hendra mica dam. There are also numerous existing active discharge permits throughout the Site and as such numerous different operators are discharging effluent to the Fal and Gwindra water courses within the vicinity of the Site.
- 7.3.2.7 There is ongoing baseline surface water monitoring (including surface water levels, flows and quality) along the Fal River and its tributaries, and the Gwindra Stream and its tributaries. The Applicant is also currently looking to obtain any available surface water monitoring data from the Environment Agency (EA) and other operators within the local area and also any information available regarding existing surface water abstractions, discharges and any historical surface water related pollution incidents.

Flood Risk

- 7.3.2.8 The Site is located within Flood Zone 1. It is at very low risk of flooding from rivers or the sea, and from surface water, meaning that it has a chance of flooding of less than 0.1% each year.
- 7.3.2.9 However, according to the Cornwall Council interactive map, the low-lying parts of the Site are located within an "*area susceptible to groundwater flooding (superficial deposits flooding)*". Parts of the Site, primarily along drainage features and in historic pits and reservoirs, are identified as areas at risk of surface water flooding.

Hydrogeology

- 7.3.2.10 The Site is located within the WFD "South West GW Management Catchment", the Cornwall South Operational Catchment (for groundwater) and the South Cornwall Water Body (waterbody ID: GB40802G800200), which is of poor overall status. Water is available for licensing within the South Cornwall groundwater body.
- 7.3.2.11 There is ongoing baseline groundwater monitoring (both groundwater levels and quality) at the Trelavour Pit and Trelavour Processing Plant

sites. The Applicant is also currently looking to obtain any available groundwater monitoring data from the EA and other operators within the local area and also any information available regarding groundwater abstractions and any historical groundwater related pollution incidents.

- 7.3.2.12 Groundwater monitoring data from the wells installed to date suggests that groundwater levels across the Trelavour Pit area vary from approximately 1.2 m to 21 m below ground level (bgl), whilst levels across the Trelavour Processing Plant site vary from approximately 2.4 m to 23.4 m bgl. Hydrogeological field investigation at the Mining Waste Facilities is currently ongoing.
- 7.3.2.13 The EA classifies the bedrock underlying the Site as Secondary A aquifer, which is defined as "*permeable layers that can support local water supplies and may form an important source of base flow to rivers*". Superficial deposits present within the Site, primarily along stream and rivers features, are mainly classified as Secondary A aquifers, with minor areas of Secondary (undifferentiated) aquifers.
- 7.3.2.14 The EA's Groundwater Vulnerability Maps (available via Defra's Magic Map⁴⁴) classify the groundwater resources underlying the Site as ranging from medium to high vulnerability to pollution.
- 7.3.2.15 There is the potential for private water supplies to exist within the Site, given the rural location and the potential agricultural uses. This will be confirmed with the EA and Cornwall Council to inform the assessment of potential effects of the Proposed Development on any water supplies identified.

Designated Sites

- 7.3.2.16 Nitrate Vulnerable Zones (NVZs) are areas at risk of agricultural nitrate pollution, designated in accordance with the Nitrate Pollution Prevention Regulations 2015. The entirety of Site is located within a NVZ, namely ET5: Truro, Tresillian and Falmouth.
- 7.3.2.17 The Site is not located within or in close proximity to a Source Protection Zone (SPZ). The closest SPZ is located approximately 6.2 km to the southeast of the Site, in St Austell.
- 7.3.2.18 A Drinking Water Protected Area for surface water is located approximately 800 m to the west of the Site, at Indian Queens. Surface water drinking water protected areas are defined by the EA

as "locations where raw water is abstracted for human consumption providing, on average, more than 10 cubic metres per day, or serving more than 50 persons, or is intended for such future use.... Water sources used for drinking supplies need to be protected under the WFD Regulations to ensure they are not polluted and avoid / minimise the need for additional purification treatment which can be costly and resource intensive". The Site is not located within a Drinking Water Safeguard Zone for surface water or groundwater.

7.3.2.19 The Trelavour Downs SSSI and St Austell Clay Pits SAC are located within the Site. The Mid Cornwall Moors SSSI and The Breney Common and Goss & Tregoss Moors SAC are located adjacent to the Site.

7.3.3 KEY SENSITIVITIES

7.3.3.1 The following sensitive receptors have been identified and will be considered within the EIA:

- all groundwater including any active groundwater abstractions;
- all surface waters, including active surface water abstractions and discharges, flooded pits and land drains;
- land use; and
- designated sites including protected areas and ecological habitats.

7.3.3.2 Refinement of receptors requiring assessment will take place during the EIA process as more detailed information is obtained from baseline surveys for this topic and other relevant EIA topics, and where appropriate, in response to stakeholder engagement.

7.4 PROJECT BASIS FOR SCOPING ASSESSMENT

7.4.1.1 The Proposed Development has the potential to both permanently and temporarily affect the surface water and groundwater baseline within the Site. These effects will be distinct between the differing project phases, being the construction, operational and decommissioning/closure phases.

7.4.2 CONSTRUCTION

7.4.2.1 Activities that have the potential to affect the surface water environment during the construction phase include:

- all direct disturbance activities (e.g. from land clearing, excavation, trenching);

- construction / installation of project-related infrastructure;
- accidental spills and releases leading to direct or indirect contamination;
- storage of materials and equipment;
- changes to drainage patterns; and
- Mining Waste Facility preparation (including dewatering flooded pit(s) and management of surplus water associated with dewatering).

7.4.2.2 With the exception of changes to drainage patterns, all of the activities listed above also have the potential to affect the groundwater environment during the construction phase.

7.4.3 OPERATION

7.4.3.1 Activities that have the potential to affect the surface water environment during the operation phase include:

- all direct disturbance activities (e.g. from land clearing, excavation, trenching, etc.);
- physical presence of temporary and/or permanent project-related infrastructure;
- changes to drainage patterns and surface water pathways as a result of mining operations and associated surface water management;
- storage and handling of fuels, oils, other pollutants, and waste streams;
- accidental spills and releases leading to direct or indirect contamination;
- the use and movement of plant and equipment;
- temporary and/or permanent storage of ore;
- impoundment or abstraction of surface water for water supply;
- groundwater abstraction for water supply (flooded pits, production boreholes, etc);
- mining activities;
- mine dewatering activities (Trelavour Pit) or groundwater abstraction for water supply;
- mining waste management (including ongoing dewatering, management of surplus water associated with dewatering and

management of surface water runoff associated with mining waste); and

- discharge of surplus water to surface water.

7.4.3.2 With the exceptions of the use and movement of plant and equipment and the discharge of surplus water to surface water, all of the activities listed above also have the potential to affect the groundwater environment during the operational phase.

7.4.4 DECOMMISSIONING, CLOSURE AND RESTORATION

7.4.4.1 Activities that have the potential to affect the surface water environment during the decommissioning, closure and restoration phase include:

- all direct disturbance activities (e.g. from land clearing, excavation, trenching, etc.);
- removal of infrastructure and/or reinstatement of lands;
- storage and handling of fuels, oils, other pollutants, and waste streams;
- accidental spills and releases;
- presence of mine workings and surface water management infrastructure post-mining;
- water level rebound on cessation of dewatering;
- discharges from mine workings post-mining; and
- mining waste management post-mining.

7.5 MITIGATION

7.5.1.1 The Proposed Development will be designed and operated in a way that will mitigate impacts upon water resources and flooding, through the incorporation of embedded mitigation measures. Where potential effects are identified during the impact assessment process as likely and significant, potential additional mitigation measures will be identified, where possible, to avoid or minimise the scale of any potential effect. The mitigation measures will evolve during the EIA progression, the development process and upon consultation reviews.

7.5.1.2 A CEMP will be developed, which will include best practice mitigation measures that will be employed as standard across all the construction activities. The following additional plans may also be required depending on the outcome of the EIA:

- An EMMP may also be required, to ensure the proper handling, storage, and disposal of excavated materials during the construction phase.
- A Stormwater Management Strategy, including a Sediment Control and Erosion Plan (SCEP), which would outline mitigation measures such as the segregation of 'clean' and 'dirty' stormwater and provision of settling areas to allow sediment contained in the stormwater to settle out.
- A Water and Wastewater Management Plan, which would incorporate the water supply, dewatering, water balance and discharge of surplus water for the Proposed Development and detail measures to be taken to maximise water reuse and minimise water discharge.

7.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

7.6.1.1 Potential effects on water resources and flood risk which may occur as a result of the Proposed Development include:

Potential contamination of water resources arising from general demolition, construction and closure/decommissioning activities.

- General demolition and construction activities undertaken during the construction and decommissioning of project infrastructure could potentially lead to the release of sediments and/or a contamination source. This could potentially subsequently lead to a surface water and/or groundwater contamination event, should contaminated site drainage enter existing drainage channels or should the contamination migrate vertically downwards into the groundwater environment.
- The use and movement of plant and equipment and handling and storage of fuels, oils and other potential pollutants could potentially lead to the contamination of surface water and/or groundwater.
- All direct disturbance activities could potentially lead to mobilisation of contamination in soils and subsequently could potentially contaminate the groundwater environment.

Potential effects on spring flows and/or baseflow to local waterbodies due to the interruption of groundwater flows (with added effects of climate change).

- Pit dewatering activities, dewatering of currently flooded pits to facilitate mining waste storage and/or water abstraction for water supply (from existing flooded pits or boreholes) could potentially cause changes to the baseflow of streams/rivers and spring flow and may be cumulative with other mining-related dewatering operations within the vicinity of the Site.
- The physical presence of temporary and permanent infrastructure, ground clearance, top-soil stripping, profiling, cut and fill may effect groundwater recharge, alter the aquifer, reduce aquifer storage and possibly groundwater levels, groundwater flow directions and/or water quality. These effects may cause changes to catchment drainage flows and subsequently the baseflow of streams/rivers and spring flow.
- There is potential for the exacerbation of potential water stress due to future climate change over the Proposed Development's lifetime.

Potential for increased surface water runoff as a result of the Proposed Development (with added effects of climate change) arising from changes to land characteristics, use and drainage.

- 7.6.1.2 The construction, presence and decommissioning of temporary and/or permanent project-related infrastructure for the Proposed Development and associated surface water management systems could potentially cause changes to surface water runoff volumes, rates, and drainage patterns.
- 7.6.1.3 Changes to surface composition (for example increase in hardstanding areas), ground slope, land use and/or vegetation could potentially impact surface water runoff characteristics. There is potential for exacerbation of potential surface water runoff flows due to future climate change over the Proposed Development's lifetime.

Potential for increase in flood risk arising from changes to surface water and groundwater flows.

- 7.6.1.4 The Proposed Development has the potential to increase flood risk as a result of the following:
- changes to surface water runoff volumes, rates, and drainage patterns;
 - changes to catchment drainage flows and groundwater recharge; and
 - site water discharges from the Proposed Development.
- 7.6.1.5 Potential flooding issues may be cumulative with other mine-related discharges in the area and may be exacerbated due to future climate change over the Proposed Development's lifetime.

Potential for contamination of surface waters as a result of the Proposed Development arising from surface water management and site discharges.

- 7.6.1.6 The Proposed Development has the potential to contaminate surface waters from a number of sources including:
- uncontrolled surface water runoff;
 - surface water management systems; and
 - surplus water discharges.
- 7.6.1.7 The contaminants present in surface water run-off from the Proposed Development could potentially include heavy metals, silt, oils and lubricants. Surface water runoff from ore stockpiles and/or waste rock stockpiles could potentially exhibit acid rock drainage characteristics and/or heavy metals due to the chemical characteristics of the material. The ore body is developed within granite, which would not typically generate acid rock drainage. Surface water run-off from the Proposed Development will at least in part be discharged to the local surface water environment and as such could potentially lead to contamination of the downstream surface water environment.
- 7.6.1.8 Inappropriate and/or incorrectly operated surface water management systems for the Proposed Development could potentially impact surface water quality through the release of contaminated water from the Trelavour Pit, Trelavour Processing Plant, mining waste and/or ore storage facilities.

- 7.6.1.9 Surface water management systems will be designed to minimise “contact” water and to separate “contact” and “non-contact” surface water runoff, and as such minimise the potential for surface water contamination.
- 7.6.1.10 Site water discharges from the Proposed Development could potentially impact surrounding surface water quality if the effluent being discharged exceeds stipulated discharge criteria.

Potential effects on yield and quality of private water supplies.

- Pit dewatering activities, dewatering of currently flooded pits to facilitate mining waste storage and/or water abstraction for water supply (from existing flooded pits or boreholes) could potentially impact groundwater levels at private water supply boreholes/wells and springs and may be cumulative with other mine-related dewatering operations in the area.
- Contamination resulting from the Proposed Development could potentially impact groundwater quality at private water supply boreholes/wells and springs.
- Potential effects may be cumulative with other mine-related dewatering activities in the area.
- Potential water stress may be exacerbated due to future climate change over the Proposed Development’s lifetime.

Potential contamination of groundwater resources arising from storage of ore and mining waste (waste rock and tailings).

- Seepage arising from ore stockpiles, pit areas and/or the Mining Waste Facilities could potentially impact groundwater quality due to the chemical characteristics of the materials present in each of these areas.
- Post mining discharges could also potentially impact groundwater quality.
- Potential contamination of groundwater resources may be cumulative with other mine-related activities in the area.

Potential effects on availability of groundwater resources.

- All direct disturbance activities (e.g. from excavation, drilling, trenching, material stockpiling, dewatering, etc.) could potentially

lead to alterations to the aquifer, reduced groundwater storage and alterations to groundwater levels/flow regime.

- Pit dewatering activities, dewatering of currently flooded pits to facilitate mining waste storage and/or water abstraction for water supply (from existing flooded pits or boreholes) could potentially impact groundwater levels and flows and may be cumulative with other mine-related dewatering operations in the area.
- Post mining conditions and/or drainage could potentially also impact groundwater levels/flow regime.
- Potential water stress may be exacerbated due to future climate change over the Proposed Development's lifetime.

Potential effects on designated sites.

- The potential impacts on surface water and groundwater quality, groundwater levels and surface water levels and flows may impact water dependent ecosystems and water related designated sites.

7.7 EFFECTS SCOPED OUT OF THE EIA

7.7.1.1 The water related topics to be scoped out of the EIA are detailed in Table 7.1 below, as likely significant effects are not anticipated.

TABLE 7.1: EFFECTS/ TOPICS SCOPED OUT OF THE WATER RESOURCES AND FLOOD RISK ASSESSMENT

Potential Effect / Topic	Rationale for Scoping Out of the Assessment
Construction	
Contamination of surface water and groundwater from use and movement of plant and equipment and handling and storage of fuels, oils and other pollutants.	Measures detailed in the CEMP and EMMP will mitigate any potential impacts.
Operation	
Contamination of surface water and groundwater from use and movement of plant and equipment and handling and storage of fuels, oils and other pollutants.	Measures detailed in the CEMP and EMMP will mitigate any potential impacts.
Decommissioning, Closure and Restoration	

Potential Effect / Topic	Rationale for Scoping Out of the Assessment
Contamination of surface water and groundwater from use and movement of plant and equipment and handling and storage of fuels, oils and other pollutants.	Measures detailed in the CEMP and EMMP will mitigate any potential impacts.

7.8 PROPOSED APPROACH TO THE ASSESSMENT

7.8.1 BASELINE

- 7.8.1.1 The hydrological and hydrogeological baseline will be informed through desk-based data collection, site investigations, on-going surface water and groundwater monitoring, consultation with the EA, and appropriate water feature surveys.
- 7.8.1.2 The baseline data will be used to develop conceptual hydrological and hydrogeological models for the Site and will include a source-pathway-receptor assessment.
- 7.8.1.3 The hydrology and hydrogeology sensitivity will be placed in a matrix against the magnitude of each likely impact to determine the significance of the effect, following the overall EIA approach described in Plate 4.1.

7.8.2 SPECIFIC METHODOLOGIES

- 7.8.2.1 The baseline data and conceptual models will be used to support the following assessments:

Environmental Risk Assessment

- 7.8.2.2 A site-specific Environmental Risk Assessment will be prepared for proposed discharges from the Proposed Development. This assessment shall include undertaking the following tasks:
- identification of potential pollutants from proposed discharges; and
 - screening of potential pollutants to evaluate the risk from hazardous chemicals and elements to the environment (specific substances assessment).

Flood Risk Assessment

7.8.2.3 A site-specific Flood Risk Assessment (FRA) will be prepared for the Proposed Development. The risk of fluvial flooding (rivers and streams) is possible as a result of the Proposed Development. This assessment shall include undertaking the following tasks:

- a visual inspection of site and watercourses by a qualified hydrologist;
- site topographical survey;
- site survey of watercourses for hydraulic modelling;
- a review of existing information and planning guidelines;
- an assessment of historical flooding; and
- estimation of the 100 and 1,000-year Mid-Range Future Scenario (MRFS) design flood events in the Proposed Development area downstream of proposed site water discharges.

7.8.2.4 The hydrological assessment of the site may include:

- Estimation of design flood flow from catchment descriptors and rainfall.
- Hydraulic modelling, using Hydrologic Engineering Centre – River Analysis System (HEC-RAS) or similar, of watercourses for the 100 and 1,000-year design flood events. Where possible, the model shall be calibrated against historical and gauged flow data if available in the vicinity of the Proposed Development.
- Floodplain mapping for the 100 and 1,000-year MRFS design flood events for the watercourses.

Water Framework Directive Risk Assessment

7.8.2.5 A site-specific risk assessment will be prepared to assess whether the proposed development supports the objectives set out in the local River Basin Management Plan. This assessment will include:

- identification of the current 'baseline' hydromorphology, biological and chemical status of the water body and assessment of the potential effects of the proposed development on that status; and
- evaluation whether the proposed development is compliant with the WFD in terms of prevention of deterioration of ecological status of the WFD waterbody and allows future targets for the water body to be achieved.

Numerical Groundwater Modelling

7.8.2.6 Numerical groundwater modelling will be completed to provide the following predictions:

- mine inflows;
- groundwater level variation with time (pre-construction, operation and post-operation);
- reduction in groundwater baseflow contributions to drainage channels or spring flows; and
- interaction between mining waste (waste rock and tailings) and the surrounding water environment (seepage modelling).

7.8.2.7 The numerical groundwater modelling will provide input data for the subsequent assessment of potential impacts on water dependent ecosystems (Section 11.8).

Cumulative Effects

7.8.2.8 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same water resources and flood risk receptors.

7.8.3 ASSESSMENT CRITERIA

7.8.3.1 The assessment of potential effects on water resources and flooding will be established using the following approach.

- the sensitivity or importance of the water resources will be established on the basis of their use, proximity to the site, existing designations, existing quality or resource value and WFD status and risk;
- an evaluation of the magnitude of the potential impact on water resources and flooding including the extent (local, district, regional and/or national) and scale of the potential impacts (negligible, minor, moderate or major), as set out below; and
- based on the nature and scale of each effect, the effect will be assessed as set out below.

7.8.3.2 Where potential effects are identified as likely and significant, potential additional mitigation measures will be identified, where possible, to avoid or minimise the scale of any potential effect. The residual effect, following implementation of the proposed mitigation measures, will then be assessed. This will include the assessment of

cumulative impacts with other planned, consented and reasonably foreseeable projects.

Magnitude of Impact

- 7.8.3.3 The magnitude of the impact on water resources and flooding will be determined by considering the scale (or intensity), spatial coverage and longevity of an impact. The magnitude assigned will also use professional judgement to take into consideration the application of statutory standards and non-statutory standards under international or external guidelines. Table 7.2 provides the criteria for assessing the magnitude of impact upon water resources and flooding within the Study Area.

TABLE 7.2: IMPACT MAGNITUDE CRITERIA FOR WATER RESOURCES AND FLOOD RISK

Impact Magnitude	Definition / Examples
Large	Change is likely to cause irreversible loss or major/substantial alteration to key elements/features of the water resources and flooding baseline (pre-development) conditions such that the post-development character/composition/attributes will be fundamentally changed on a regional level.
Medium	Change is likely to cause loss or alteration to one or more key elements/features of the baseline conditions such that post-development character/composition/attributes of the baseline will be materially changed on a district level.
Small	Change is likely to cause a reversible shift away from baseline conditions on a local level. Change arising from the loss/alteration will be discernible/detectable but not material. The underlying character/composition/attributes of the baseline condition will be similar to the pre-development circumstances/situation. Effect will be detectable or recover within a short timescale (1-5 year).
Negligible	Change well within the bounds of normal natural variation. No effect detectable or recovery within a very short timescale (<1 year).

Significance of Effect

- 7.8.3.4 The relevance of the potential effects will be considered against the receiving environment conditions, which would be expected to occur if no development took place. The importance of the asset, the value of the Water Resources (incorporating sensitivity) and the magnitude

of the predicted impacts will be used as a guide, in addition to professional judgement, to predict the significance of the likely effects. Table 7.3, below, summarises guideline criteria for assessing the significance of effects. Moderate and Major effects are considered to be Significant.

TABLE 7.3: SIGNIFICANCE OF EFFECT MATRIX FOR WATER RESOURCES AND FLOOD RISK

Sensitivity / Vulnerability / Importance of Resource / Receptor			
Magnitude of Impact	Low	Medium	High
Negligible	Negligible	Negligible	Negligible
Small	Negligible	Minor	Moderate
Medium	Minor	Moderate	Major
Large	Moderate	Major	Major

8. NOISE AND VIBRATION

8.1 INTRODUCTION

8.1.1.1 This section of the Scoping Report identifies the (human) noise and vibration sensitive receptors that are of relevance to the Proposed Development, and considers the potential effects of the noise and vibration generating activities associated with the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available. Potential effects of noise and vibration on ecological receptors are considered in Section 11 (Ecology and Nature Conservation).

8.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

8.2.1 RELEVANT POLICY, GUIDANCE AND STANDARDS

- 8.2.1.1 The noise and vibration assessment will be carried out within the context of relevant Government policy and guidance in England, including the Noise Policy Statement for England (NPSE) (2010)⁶⁴, the NPPF (2024)⁶⁵, and the Government's PPG for noise (PPGN) (2019) .
- 8.2.1.2 There is no specific National Policy Statement (NPS) regarding the assessment of noise and vibration impacts as a result of mineral extraction. However, specific government guidance on the planning for mineral extraction is provided in Minerals Policy Statement 2 Annex 2: Noise⁶⁶.
- 8.2.1.3 The explanatory note to the NPSE introduces the following concepts:
- Lowest Observed Adverse Effect Level (LOAEL) - the level above which adverse effects on health and quality of life can be detected; and

⁶⁴ Defra (2010). Noise Policy Statement for England (NPSE). Available Online at: <https://assets.publishing.service.gov.uk/media/5a7956e0ed915d0422067947/pb13750-noise-policy.pdf>. [Accessed on 14 April 2025].

⁶⁵ Defra (2010). Noise Policy Statement for England (NPSE). Available Online at: <https://assets.publishing.service.gov.uk/media/5a7956e0ed915d0422067947/pb13750-noise-policy.pdf>. [Accessed on 14 April 2025].

⁶⁶ Office of the Deputy Prime Minister (2005). Minerals Policy Statement 2 Annex 2: Noise. Available Online at: <https://balcombeparishcouncil.com/wp-content/uploads/2012/12/minerals-policy-statement-2-annexe.pdf>

- Significant Observed Adverse Effect Level (SOAEL) - the level above which significant adverse effects on health and quality of life occur.

8.2.1.4 The PPGN provides more in-depth guidance to the NPSE. It introduces the additional concepts of the No Observed Adverse Effect Level (NOAEL), and the Unacceptable Adverse Effect Level (UAEL). A summary of the guidance on effect levels from the PPGN on is provided in Table 8.1.

TABLE 8.1: PPGN GUIDANCE ON NOISE ADVERSE EFFECT LEVELS

Response	Examples of Outcomes	Increasing Effect Level	Action
No Observed Adverse Effect Level (NOAEL)			
Present and not intrusive	Noise can be heard, but does not cause any change in behaviour, attitude or other physiological response. Can slightly affect the acoustic character of the area but not such that there is a change in the quality of life.	No Observed Adverse Effect	No specific measures required
Lowest Observed Adverse Effect Level (LOAEL)			
Present and intrusive	Noise can be heard and causes small changes in behaviour, attitude or other physiological response, e.g. turning up volume of television; speaking more loudly; where there is no alternative ventilation, having to close windows for some of the time because of the noise. Potential for some reported sleep disturbance. Affects the acoustic character of the area such that there is a small actual or perceived change in the quality of life.	Observed Adverse Effect	Mitigate and reduce to a minimum
Significant Observed Adverse Effect Level (SOAEL)			
Present and disruptive	The noise causes a material change in behaviour, attitude or other physiological response, e.g. avoiding certain activities during periods of intrusion; where there is no alternative ventilation, having to keep windows closed most of the time because of the noise. Potential for sleep disturbance resulting in difficulty in getting to sleep, premature awakening and difficulty in getting back to sleep.	Significant Observed Adverse Effect	Avoid

Response	Examples of Outcomes	Increasing Effect Level	Action
	Quality of life diminished due to change in acoustic character of the area.		
Present and very disruptive	Extensive and regular changes in behaviour, attitude or other physiological response and/or an inability to mitigate effect of noise leading to psychological stress, e.g. regular sleep deprivation/awakening; loss of appetite, significant, medically definable harm, e.g. auditory and non-auditory.	Unacceptable Observed Adverse Effect	Prevent

8.2.1.5 Government guidance on the planning for mineral extraction outlines appropriate noise standards specifically for mineral operators⁶⁷ which should be considered when determining planning applications in support of the NPPF. This reflects standards in Minerals Policy Statement Annex 2. This guidance is discussed further in Section 8.3.3.

8.2.1.6 The following documents (including legislation and standards) are of particular relevance to noise and vibration generated by the construction and decommissioning phases of the Proposed Development:

- The Control of Pollution Act 1974 (COPA);
- The Environmental Protection Act 1990; and
- BS 5228:2009+A1:2014⁶⁸ Code of practice for noise and vibration control on construction and open sites part 1: Noise and part 2: Vibration.
- The Design Manual for Roads and Bridges 2020 (DMRB)⁶⁹; and
- The Cornwall Local Plan Strategic Policies (2016)²³.

8.2.1.7 The following standards are of particular relevance to noise generated by the operational phase of the Proposed Development:

⁶⁷ UK Government (2014). PPG for Minerals (Paragraph: 021 Reference ID: 27-021-20140306 and Paragraph: 022 Reference ID: 27-022-20140306). Available Online at: <https://www.gov.uk/guidance/minerals#Noise-emissions>. [Accessed on 14 April 2025].

⁶⁸ BSI Group (2014). BS 5228-1:2009+A1:2014. Code of practice for noise and vibration control on construction and open sites. Available Online at: https://www.warrington.gov.uk/sites/default/files/2020-08/cf53_bs_5228_pt1-2009a1-2014.pdf. [Accessed on 14 April 2025].

⁶⁹ National Highways (2020). Design Manual for Roads and Bridges (DMRB): LA 111 - Noise and Vibration; Standards for Highways. Available Online at: <https://www.standardsforhighways.co.uk/search/cc8cfc7-c235-4052-8d32-d5398796b364>. [Accessed on 14 April 2025].

- BS 8233:2014: Guidance on sound insulation and noise reduction for buildings⁷⁰;
- BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound (BS4142)⁷¹; and
- ISO 9613-2:2024: Attenuation of Sound during Propagation Outdoors⁷².

8.2.2 RELEVANT PLANNING HISTORY

Review of Mineral Planning Permissions (ROMPS) – Overview

8.2.2.2 As noted in Section 2.3.3 there are extant mineral planning permissions covering much of the Site. Both the Trelavour Pit and the Trelavour Processing Plant sites benefit from extant planning permissions relating to the winning and working of china clay, china stone, mica, sand and allied minerals, and ancillary operations and some local receptors have been identified as noise sensitive locations in the past. These may be relevant to consideration of the context of the area when considering the potential noise and vibration from the Proposed Development, although these potential impacts will also be assessed using current guidance. The extant planning permissions include Conditions 3.1 and 11 which relates to noise and Conditions 12, 13, and 14 which relate to blasting. These are summarised below.

- Conditions 3.1: noise levels limits from permitted operations at Rostowrack Farm and Hendra Road.
- Condition 11: noise level limits arising from mining, restoration, or aftercare operations on site for any occupied residential property.
- Condition 12: ground vibration limit for any building used for human occupation and timeframe restrictions for blasting
- Condition 13: an approved scheme for monitoring blasting
- Condition 14: an approved scheme for secondary blasting

⁷⁰ BSI (2014). BS 8233:2014: Guidance on sound insulation and noise reduction for buildings. Available online at: <https://knowledge.bsigroup.com/products/guidance-on-sound-insulation-and-noise-reduction-for-buildings>.

⁷¹ BSI (2019). BS 4142:2014+A1:2019 Methods for rating and assessing industrial and commercial sound (BS4142). Available online at: <https://knowledge.bsigroup.com/products/methods-for-rating-and-assessing-industrial-and-commercial-sound>.

⁷² ISO (2024). ISO 9613-2:2024 Acoustics — Attenuation of sound during propagation outdoors. Available online at: <https://www.iso.org/standard/74047.html>.

8.3 BASELINE ENVIRONMENT

8.3.1 DATA SOURCES

8.3.1.1 Imagery, mapping data from Google Earth, and The DEFRA strategic noise mapping have been used to identify baseline receptors and noise sources likely to significantly contribute to the baseline sound environment. These data sources will be further utilised for the EIA process.

8.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

Study Area

8.3.2.2 The noise and vibration study area is defined as that which includes all sensitive receptors that are potentially affected by noise and vibration or are in areas where there is a reasonable stakeholder expectation that a construction noise and vibration assessment would be undertaken:

- While not specifically stated in BS 5228⁶⁸, it is typical that a study area of 300 m from the closest construction activity is normally sufficient to encompass NSRs (100 m from the closest construction activity with the potential to generate vibration, for vibration sensitive receptors)
- DMRB LA 111⁷³ requires that the construction traffic noise study area will include a 50 m width from the kerb line of public roads with the potential for an increase in basic noise level (BNL)⁷⁴ of 1dB or more as a result of the introduction of construction traffic.
- BS 4142⁷¹ does not stipulate a minimum operational noise study area however it is expected that a study area of 2 km from the Site would be sufficient to capture impacts at NSRs.

Baseline Noise Conditions

8.3.2.3 The baseline noise environment is likely to include anthropogenic sources such as those associated with quarrying and other industrial operations, farming activity (including some of the residential properties identified in the section below), and road traffic noise from the existing road network (including the B3279 which runs through

⁷³ DMRB (2020). DMRB LA 111 Noise and Vibration. Available online at: <https://www.standardsforhighways.co.uk/search/cc8cfcf7-c235-4052-8d32-d5398796b364>.

⁷⁴ The Basic Noise Level (BNL) refers to the LA10,18hr noise level from road traffic at 10m from the nearside carriageway edge as defined within the Calculation of Road Traffic Noise (CRTN)

the Site as well as Gothers Road, Crown Road and Currian Road which pass residential areas). Natural sources of noise such as birdsong and the wind in the trees are also likely to contribute to the baseline noise level.

Noise Sensitive Receptors

- 8.3.2.4 Nearby settlements include Gothers, Carne, Whitemoor, Currian Vale, Nanpean, Treviscoe, Central Treviscoe, St Dennis, and Bodella. There are approximately 7,400 residential addresses or residential Noise Sensitive Receptors (NSRs) within 2 km of the Site, within and around these settlements as shown by Figure 10. There are two within the Site: one at the junction of Whitegate and Hendra Praze, the other on an unnamed road near the CERC.
- 8.3.2.5 Ecological receptors in the vicinity of the Site may also be affected by noise associated with the Proposed Development, including (but not limited to) the designated sites present within 1 km of the Site (as detailed within Section 11).
- 8.3.2.6 There are several Noise Important Areas (NIAs) designated under the DEFRA strategic noise mapping adjacent to the A30 within 2 km of the Site, indicating that noise levels at residential receptors in these areas are already high.

8.3.3 KEY SENSITIVITIES

- 8.3.3.1 The key receptors for noise and vibration are the nearby residential properties and ecological receptors identified in Section 8.3.2.

8.4 PROJECT BASIS FOR SCOPING ASSESSMENT

8.4.1 CONSTRUCTION

- 8.4.1.1 During construction, the Proposed Development has the potential to directly alter the noise and vibration baseline for sensitive receptors for a temporary period. These impacts would be in the vicinity of the Site, although this could extend along elements of the existing road network, depending on haul routes and the quantity of construction-related traffic.
- 8.4.1.2 Factors which have the potential to affect noise and vibration effects during construction include:
- construction plant inventory and utilisation;

- the programme and the duration of activities with noise and vibration impacts exceeding relevant thresholds;
- hours of working;
- the proximity of the works to receptors;
- the frequency and routing of the movement of construction vehicles;
- the location of compounds; and
- the routing of temporary diversions, the volumes of traffic using them and duration they are applied.

8.4.1.3 A review of construction activities will be undertaken for the EIA and appropriate mitigation measures will be identified as appropriate.

8.4.2 OPERATION

8.4.2.1 During operation there is the potential for changes to the acoustic environment that result in noise and vibration effects at NSRs. Impacts due to changes in noise and vibration may affect residential, ecological and other sensitive receptors (for example commercial or community uses). Activities which will take place during operation and which have the potential to result in noise effects include surface mining activities including blasting, use of fixed plant and on-site vehicle movements, and operational road and rail traffic. Blasting may also generate vibration effects.

8.4.3 DECOMMISSIONING, CLOSURE AND RESTORATION

8.4.3.1 Since activities during decommissioning, closure and restoration are generally considered to be similar to or less noisy than those during construction and operation, noise and vibration effects during this phase are expected to be similar (as a worst-case) are not discussed further in this report.

8.5 MITIGATION

8.5.1 CONSTRUCTION

8.5.1.1 The construction contractor will use BPM (Best Practicable Means) as defined by the COPA and EPA, to minimise noise (including vibration) at neighbouring residential properties and other sensitive receptors. As part of BPM, mitigation measures will be applied following the guidance set out in Section 8 of BS 5228: Part 1 and Part 2. BS 5228

describes measures to control noise at source. These may include the following mitigation measures:

- control of the timing of works;
- restrictions on the noisiest of activities;
- use of acoustic screening or enclosures around noisy items of plant and machinery;
- careful siting of haul routes;
- early construction of mitigation or screening where required for operational purposes;
- careful site layout to minimise noise and vibration impacts (for example location of compounds and compound internal layout); and
- noise and vibration monitoring.

8.5.2 OPERATION

8.5.2.1 Appropriate mitigation will be considered during the EIA. Noise control measures such as choosing low noise versions of equipment, use of acoustic enclosures, noise barriers/bunding, siting equipment and positioning new buildings to provide screening will be considered, where necessary and practicable. Blasting will be designed so that it meets appropriate standards at receptors in terms of air overpressure⁷⁵ and vibration.

8.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

8.6.1.1 With strict adherence to mitigation as described in Section 8.5, construction and operational noise and vibration would be managed to appropriate levels and therefore significant adverse effects are not anticipated. However, further assessment will be required in the EIA to confirm this, and to inform the mitigation strategy, when further information regarding the design of the Proposed Development and construction and operational activities is available.

8.6.1.2 The following activities are scoped into the EIA:

- construction activity and traffic;
- mineral extraction, including blasting activity;

⁷⁵ Airborne pressure waves generated by blasting, produced over a range of frequencies, including those that are audible and those which are below the lower end of the audible spectrum.

- operation of fixed plant and associated on-site vehicle movements; and
- operational road traffic.

8.7 EFFECTS SCOPED OUT OF THE EIA

8.7.1.1 Operational vibration from fixed plant, on-site vehicle movements, and road traffic are scoped out of the assessment due to the distances between the Site and likely location of on-site plant and the fact that paved on-site road surfaces will be maintained in good condition to avoid irregularities.

8.8 PROPOSED APPROACH TO THE ASSESSMENT

8.8.1 BASELINE

- 8.8.1.1 The noise baseline will be characterised through noise monitoring (which has already been undertaken in some areas). Noise monitoring locations will be identified through a desk-based study, including the review of satellite mapping and agreed with Cornwall Council.
- 8.8.1.2 Baseline monitoring data will be used to support the construction and operational assessments and therefore will require the following metrics and timescales:
- Daytime, evening, and night-time $L_{Aeq,T}$ – to identify the ABC category of the represented sensitive receptors to support the construction noise assessment (see Table 8.2).
 - Daytime and night-time $L_{A90,T}$ – to quantify the background sound level to support the operational noise assessment (see Table 8.7 and BS 4142⁷¹).
- 8.8.1.3 Approval from the Cornwall Council and secure land access will be required. The measurements will be carried out using Class 1 noise meters. Weather stations will be installed to log weather events, which will be used to discard measurements if necessary.
- ### 8.8.2 SPECIFIC METHODOLOGIES
- 8.8.2.1 Noise level predictions will be carried out using environmental noise modelling software (SoundPLAN or CadnaA); the prediction method set out in ISO 9613-2⁷² will be implemented. Construction noise level predictions will be carried out according to BS 5228-1⁶⁸.

- 8.8.2.2 The assessment will apply the assessment criteria outlined in Section 8.3.3 below.

Cumulative Effects

- 8.8.2.3 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same NSRs.

8.8.3 ASSESSMENT CRITERIA

Construction

Construction Noise (On-Site)

- 8.8.3.2 Potential noise effects from construction activities would be assessed with reference to the 'ABC method' described in BS5228 section E.3.2.
- 8.8.3.3 The ABC method proposes receptor categories and noise thresholds (Table 8.2) to determine the magnitude of a noise impact. For this assessment, the threshold would equate to the LOAEL in general and the category C threshold would equate to the SOAEL.

TABLE 8.2: AIRBORNE SOUND FROM CONSTRUCTION – IMPACT CRITERIA AT RESIDENTIAL RECEPTORS

Period		Assessment Threshold (façade) (dB L _{Aeq,T})		
		A ⁽¹⁾	B ⁽²⁾	C ⁽³⁾
Daytime	T=12hr, Weekdays, 07:00-19:00; T=6hr, Saturday, 07:00-13:00	65	70	75
Evenings and weekends	T=4hr, Weekdays 19:00-23:00; T=10hr, Saturdays 13:00-23:00; T=16hr, Sundays 07:00-23:00	55	60	65
Night-time	T=8hr, Every day 23:00-07:00	45	50	55

(1) Category A: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are less than these values.

(2) Category B: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are the same as category A values.

(3) Category C: threshold values to use when ambient noise levels (when rounded to the nearest 5 dB) are higher than category A values. If the ambient noise level exceeds the Category C threshold values given in the table (i.e. the ambient noise level is higher than the above values), then a potential

significant effect is indicated if the total LAeq, T noise level for the period increases by more than 3 dB due to site noise.

8.8.3.4 BS 5228-1 advocates that other project-specific factors, such as the number of receptors affected and the duration and character of the impact, should be considered in determination of significance. Table 8.3 provides the adopted significance criteria in the default case.

TABLE 8.3: IMPACT MAGNITUDE AND SIGNIFICANCE CRITERIA FOR CONSTRUCTION NOISE

Exceedance of LOAEL Threshold (dB)	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
5 dB or more below the threshold	Negligible	Factors which may influence significance of effects, e.g. duration of construction activity	Negligible (Not Significant)
< 5 dB below, up to the threshold	Small		Minor (Not Significant)
Up to 5 dB above the threshold	Medium		Moderate (Significant)
> 5 dB above the threshold	Large		Major (Significant)

8.8.3.5 For non-residential premises, guidance in BS 8233, or other standards relevant to the specific building use, will be referred to.

Construction Traffic Noise

8.8.3.6 The magnitude of impact from noise due to construction traffic and diversion routes (within the study area distances defined in DMRB LA111) would be classified by considering changes in the basic noise level (BNL) as presented in Table 8.4.

TABLE 8.4: IMPACT MAGNITUDE AND SIGNIFICANCE CRITERIA FOR CONSTRUCTION TRAFFIC

Increase in BNL	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
Less than 1.0 dB	Negligible	Factors which may influence	Negligible (Not Significant)

Increase in BNL	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
Greater than or equal to 1.0 dB and less than 3.0 dB	Small	significance of effects, e.g. duration of construction activity, absolute level of noise and potential masking by other baseline noise sources.	Minor (Not Significant)
Greater than or equal to 3.0 dB and less than 5.0 dB	Medium		Moderate (Significant)
Greater than or equal to 5.0 dB	Large		Major (Significant)

8.8.3.7 Construction traffic noise is determined to cause a significant effect where a moderate or major magnitude of impact will occur for a duration exceeding: 10 or more days or nights in any 15 consecutive days or nights; or a total number of days exceeding 40 in any six consecutive months as per DMRB LA 111 Section 3.19.

Construction Vibration

- 8.8.3.8 The primary cause of community concern relating to vibration during construction generally relates to building damage from sources of vibration. BS 5228-2 indicates that the threshold of human perception to vibration is between approximately 0.15 and 0.3 mm/s peak particle velocity (PPV).
- 8.8.3.9 Vibration at a criterion of 1.0 mm/s PPV level is described in BS 5228-2 as being likely to cause complaint, but that it can be tolerated if prior warning and explanation has been given to residents. It is appropriate to designate LOAEL as 1.0 mm/s.
- 8.8.3.10 Vibration is likely to be intolerable for any more than a very brief exposure to 10mm/s. It is therefore appropriate to designate SOAEL as 10 mm/s.
- 8.8.3.11 Table 8.5 provides the proposed significance criteria in the default case.

TABLE 8.5: IMPACT MAGNITUDE AND SIGNIFICANCE CRITERIA FOR CONSTRUCTION VIBRATION

Vibration Magnitude (PPV in mm/s)	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
Less than 0.3 mm/s	Negligible	Factors which may influence significance of effects, e.g. duration of construction activity.	Negligible (Not Significant)
Greater than or equal to 0.3 mm/s and less than 1.0 mm/s	Small		Minor (Not Significant)
Greater than or equal to 1.0 mm/s and less than 10 mm/s	Medium		Moderate (Significant)
Greater than or equal to 10 mm/s	Large		Major (Significant)

Operation and Maintenance

8.8.3.12 This section sets out the assessment methodology and significance criteria for the assessment of operational noise associated with the Proposed Development.

Mineral Extraction Noise

8.8.3.13 Government guidance on the planning for mineral extraction outlines appropriate noise standards specifically for mineral operators⁷⁶ which will be applied.

8.8.3.14 The guidance reflects standards first set in Minerals Policy Statement 2 Annex 2 which endorses the use of Guidelines for Community Noise (1999) in the avoidance of adverse noise effects, which states: *"to protect the majority of people from being seriously annoyed during the daytime, the outdoor sound level from steady continuous noise should not exceed 55 dB L_{Aeq} on balconies, terraces, and outdoor living areas."*

⁷⁶ <https://www.gov.uk/guidance/minerals#Noise-emissions> (Paragraph: 021 Reference ID: 27-021-20140306 and Paragraph: 022 Reference ID: 27-022-20140306 accessed April 2025).

8.8.3.15 This endorsement forms the basis of the limits that Minerals Policy Statement Annex 2 proposes. These would be appropriate values for SOAEL.

- *"Subject to a maximum of 55 dB $L_{Aeq,1h}$ (free field), MPAs should aim to establish a noise limit at the noise-sensitive property that does not exceed the background level by more than 10 dB."*
- *"Evening (1900-2200) limits should not exceed background level by more than 10 dB"*
- *"Night-time limits should not exceed 42 dB $L_{Aeq,1h}$ (free field) at noise-sensitive dwellings"*
- *"Increased temporary daytime noise limits of up to 70 dB $L_{Aeq,1h}$ (free field) for periods of up to 8 weeks in a year at specified noise-sensitive properties should be considered to facilitate essential site preparation and restoration work and construction of baffle mounds where it is clear that this will bring longer-term environmental benefits to the site or its environs."*

8.8.3.16 As Mineral Policy Statement Annex 2 is only concerned with noise limits, it is necessary to propose values for LOAEL using alternative recognised means.

8.8.3.17 BS 8233:2014 sets out desirable internal noise levels. These are internal noise levels and therefore have been converted to equivalent external levels by accounting for the transmission losses from outside to inside assuming an open window (approximately +10 dB) and applying a free-field correction (approximately -3 dB)⁷⁷. These are presented in Table 8.6.

TABLE 8.6: INDOOR AMBIENT NOISE LEVELS FOR DWELLINGS

Activity	Location	Desirable internal levels		Equivalent external levels	
		Daytime (07:00-23:00)	Night-Time (23:00-07:00)	Daytime (07:00-23:00)	Night-Time (23:00-07:00)
Resting	Living Room	35 dB $L_{Aeq,16hour}$	n/a	42 dB $L_{Aeq,16hr}$	n/a

⁷⁷ It should be noted that transmission losses of more than 10 dB can be expected, for instance when windows are partially open when 15 dB can be applied. The criteria are therefore considered precautionary.

Activity	Location	Desirable internal levels		Equivalent external levels	
		Daytime (07:00-23:00)	Night-Time (23:00-07:00)	Daytime (07:00-23:00)	Night-Time (23:00-07:00)
Dining	Dining Room	40 dB L _{Aeq,16hour}	n/a	47 dB L _{Aeq,16hr}	n/a
Sleeping	Bedroom	35 dB L _{Aeq,16hour}	30 dB L _{Aeq,8hour}	42 dB L _{Aeq,16hr}	37 dB L _{Aeq,8hour}
Amenity	Outdoor	n/a	n/a	50 to 55 dB L _{Aeq,16hr}	n/a

8.8.3.18 Based on these external levels, an appropriate daytime and evening LOAEL would be 42 dB L_{Aeq,16hr} and an appropriate night-time LOAEL would be 37 dB L_{Aeq,8hr}. This addresses the situation where background noise levels are low, however these would not be appropriate values for LOAEL where background noise levels are higher.

8.8.3.19 BS 4142 sets out guidance used for the assessment of sound of an industrial and/or commercial nature. However, Mineral Policy Statement Annex 2 sets suggested planning condition noise limits for mineral extraction noise. Trelavour Pit and the Mining Waste Facilities are defined as mineral extraction activities and so minerals planning guidance discussed above has been applied to these elements of the project. Some elements of the Proposed Development are fixed industrial facilities such as the Trelavour Processing Plant and BS 4142 is appropriate in these circumstances as discussed in the following section.

8.8.3.20 Although, BS 4142 will not be applied to minerals extraction, BS 4142 Section 11 states the following regarding assessment of impacts: "A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context." In the absence of alternative guidance an appropriate LOAEL where the background noise level is high would be 5 dB above the background sound level.

8.8.3.21 Table 8.7 summarises LOAEL and SOAEL values during the daytime, evening, and night-time for mineral extraction noise.

TABLE 8.7: SUMMARY OF LOAEL AND SOAEL FOR MINERAL EXTRACTION NOISE

Period	LOAEL	Precautionary SOAEL ⁽¹⁾
Daytime	42 dB $L_{Aeq,16hr}$ or 5 dB above background ⁽²⁾	55 dB $L_{Aeq,1h}$ / 70 dB $L_{Aeq,1h}$ ⁽³⁾ and 10 dB above background ⁽⁴⁾
Evening	42 dB $L_{Aeq,16hr}$ or 5 dB above background ⁽²⁾	10 dB above background ⁽⁵⁾
Night-time	37 dB $L_{Aeq,8hr}$ or 5 dB above background ⁽²⁾	42 dB $L_{Aeq,1h}$

(1) Minerals Planning Guidance planning limit i.e. not originally developed as a SOAEL, which may be precautionary when used as a SOAEL. To be discussed further in the EIA.

(2) whichever is greater subject to a maximum of 55 dB $L_{Aeq,1h}$

(3) increased to 70 dB $L_{Aeq,1h}$ (free field) for short-term operations of up to 8 weeks

(4) as far as reasonably practicable

(5) subject to a minimum of 42 dB $L_{Aeq,16hr}$

8.8.3.22 Table 8.8 provides the proposed significance criteria in the default case.

TABLE 8.8: IMPACT MAGNITUDE AND SIGNIFICANCE CRITERIA FOR MINERAL EXTRACTION NOISE

Magnitude of Predicted Impact	Consideration of Context	Noise Effect Definition	EIA Significance
Negligible	Factors which may influence significance of effects, e.g. duration of activity.	Below LOAEL	Negligible
Small		Above LOAEL but below SOAEL ⁽¹⁾	Minor
Medium		Above LOAEL but below SOAEL ⁽¹⁾	Moderate
Large		Above SOAEL	Major

(1) It would be appropriate to determine marginal exceedances of LOAEL as minor adverse effects and larger exceedances of LOAEL as moderate adverse effects.

Vibration and Air Overpressure (Blasting)

8.8.3.23 The primary cause of ground vibration on surface mineral extraction sites is blasting.

8.8.3.24 BS 5228-2 also states that most complaints of vibration relate to blasting and that blasting should only be used where there is no

viable alternative. The standard also outlines general practical measures, including good blast design, that have been found to reduce air overpressure and/or vibration and provides general guidance and best practice for the assessment of vibration control.

- 8.8.3.25 Other references on good practice in vibration management include IRMA Standard for Responsible Mining⁷⁸, BS 6472-2 (2008) Guide to evaluation of human exposure to vibration in buildings - Blast-induced vibration and BS 7385-2:1993: Evaluation and measurement for vibration in buildings Guide to damage levels from ground-borne vibration.
- 8.8.3.26 Specific environmental design criteria for vibration will be established in the Blast Management Plan.

Fixed plant and associated on-site vehicle movement noise

- 8.8.3.27 In this context, BS 4142 would be relevant to fixed premises that are not covered by the mining guidance (i.e. the Trelavour Processing Plant). This would be likely to apply only to facilities that would not be on the main mining or waste sites.
- 8.8.3.28 The methods described in BS 4142 use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling used for residential purposes.
- 8.8.3.29 BS 4142 includes an assessment of the difference between the background sound level and the rating level at the receptor. This is referred to as the 'initial assessment'. The rating level is equal to the specific sound level (Proposed Development noise) plus any adjustment for characteristic features of the sound.
- 8.8.3.30 The following acoustic features are described in the standard:
- tonality: up to a +6 dB penalty;
 - impulsivity: up to a +9 dB penalty (if necessary, this can be summed with the tonality penalty);
 - intermittency: a +3 dB penalty; and
 - distinctiveness: other sound characteristics (neither tonal nor impulsive but still readily distinctive): a +3 dB penalty.

⁷⁸ IRMA (Initiative for Responsible Mining Assurance) Standard for Responsible Mining IRMA-STD-001 STANDARD v.1.0 – June 2018.

- 8.8.3.31 BS 4142 Section 11 states the following regarding assessment of impacts: *"A difference [between the rating level of the specific sound source and the background sound level] of around +10 dB or more is likely to be an indication of a significant adverse impact, depending on the context. A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context."* An appropriate SOAEL would be 10 dB above the background sound level. An appropriate LOAEL where the background noise level is high would be 5 dB above the background sound level.
- 8.8.3.32 In terms of the absolute level of sound, BS 4142 states "Where background sound levels and rating levels are low, absolute levels might be as, or more, relevant than the margin by which the rating level exceeds the background. This is especially true at night." In this assessment, where background sound levels are low, modelled rating levels would be compared against absolute levels as well as considering other relevant factors in BS 4142 when considering the significance of the sound.
- 8.8.3.33 Table 8.9 shows how LOAEL and SOAEL values can be equated to the definitions in BS4142 during the daytime and night-time for fixed plant and on-site operational vehicle movements.

TABLE 8.9: CRITERIA DEFINING THE MAGNITUDE AND SIGNIFICANCE OF POTENTIAL NOISE EFFECTS FROM FIXED PLANT AND ASSOCIATED ON-SITE VEHICLE MOVEMENT NOISE

Noise Rating level ⁽¹⁾ , L _{Ar,Tr}	BS 4142 Extract Regarding the Initial Assessment	Magnitude of Impact	Factors which may affect Significance (from BS 4142)	EIA Significance of Effect ⁽⁴⁾	Noise Policy context
≤ background ⁽²⁾	The lower the rating level is relative to the measured background sound level, the less likely it is that the specific sound source will have an adverse impact or a significant adverse impact. Where the rating level does not exceed the background sound level, this is an indication of the specific sound source having a low impact, depending on the context.	Negligible	Where the initial estimate of the impact needs to be modified due to the context, take all pertinent factors into consideration, including: the absolute level of sound ⁽³⁾ ; the character and level of the residual sound compared to the character and level of the specific sound; and the sensitivity of the receptor and whether dwellings or other premises used for residential purposes will already incorporate design measures that secure good internal and/or outdoor acoustic conditions.	Not Significant	Below LOAEL – not significant
> background ⁽²⁾ up to and including background ⁽²⁾ + 5 dB		Small		Minor ⁽⁵⁾ (Not Significant)	Above LOAEL, but below SOAEL
> background ⁽²⁾ + 5 dB up to and including background ⁽²⁾ + 9 dB	A difference of around +5 dB is likely to be an indication of an adverse impact, depending on the context.	Medium		Moderate (Significant)	
Greater than or equal to background ⁽²⁾ + 10 dB	A difference of around +10 dB or more is likely to be an indication of a significant	Large		Major (Significant)	Significant – above SOAEL

Noise Rating level ⁽¹⁾ , L _{Ar,Tr}	BS 4142 Extract Regarding the Initial Assessment	Magnitude of Impact	Factors which may affect Significance (from BS 4142)	EIA Significance of Effect ⁽⁴⁾	Noise Policy context
	adverse impact, depending on the context				

(1)Rating Level, L_{Ar,Tr} according to BS 4142. The specific sound level corrected to allow for certain distinctive acoustic features.

(2)Background Sound Level according to BS 4142. The measured L₉₀ level in the absence of the specific level.

(3)Similar guidance on absolute noise levels will be used as for minerals extraction noise where noise is steady and free from notable acoustic features.

(4)Impacts of Moderate and above will be reported as significant in the EIA. However, it is noted that this a precautionary approach as BS 4142 describes significant impacts as starting when rating noise levels exceed background noise by around 10 dB which is only applicable to the highest Moderate impacts.

(5)Note that impacts of Minor significance or above would be considered for mitigation. BPM will be used to minimise impacts of Minor significance or above. Residual Major impacts are avoided in all cases. This mitigation approach follows policy objectives in terms of minimising residual impacts between LOAEL and SOAEL and avoiding impacts above SOAEL.

Operational Road Traffic Noise

8.8.3.34 The DMRB LA111 proposed an assessment methodology for operational road noise effects at sensitive receptors. LA111 proposes LOAEL and SOAEL values presented in Table 8.10

TABLE 8.10: SUMMARY OF LOAEL AND SOAEL FOR OPERATIONAL ROAD TRAFFIC NOISE

Period	LOAEL	SOAEL
Daytime (06:00 to 24:00)	55 dB $L_{A10,18hr}$ (façade)	68 dB $L_{A10,18hr}$ (façade)
Night-time (23:00 to 07:00)	40 dB $L_{night,outside}$ (free field)	55 dB $L_{night,outside}$ (free field)

8.8.3.35 Table 8.11 provides the proposed significance criteria in the default case. LA111 Table 3.60 provides recommendation for final designation of significance based on context including exceedances of LOAEL and SOAEL, the magnitude of noise change and other contextual factors.

TABLE 8.11: IMPACT MAGNITUDE AND SIGNIFICANCE CRITERIA FOR OPERATIONAL ROAD TRAFFIC NOISE

Short term noise change ($L_{A10,18hr}$ or L_{night})	Long term noise change ⁽¹⁾ ($L_{A10,18hr}$ or L_{night})	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
Less than 1.0 dB	Less than 3.0 dB	Negligible	Factors which may influence significance of effects, e.g. duration of activity and absolute noise level.	Negligible (Not Significant)
Greater than or equal to 1.0 dB and less than 3.0 dB	Greater than or equal to 3.0 dB and less than 5.0 dB	Small		Minor (Not Significant)
Greater than or equal to 3.0 dB and less than 5.0 dB	Greater than or equal to 5.0 dB and less than 10.0 dB	Medium		Moderate (Significant)

Short term noise change (L _{A10,18hr} or L _{night})	Long term noise change ⁽¹⁾ (L _{A10,18hr} or L _{night})	Magnitude of Predicted Impact	Consideration of Context	Likely Significance of Effect
Greater than or equal to 5.0 dB	Greater than or equal to 10.0 dB	Large		Major (Significant)

(1) typically 15 years after commencement of operation.

Summary of Noise and Vibration Assessment Criteria

8.8.3.36 This section summarises the assessment criteria proposed for this assessment with references to relevant tables where appropriate. It should be noted that for noise and vibration, the sensitivity and vulnerability of the receptor is included in the adopted criteria, which are based on specific building types and time periods for instance, as well as the broader context of the potential impact. Therefore, it is not necessary to make further adjustments using a matrix approach to derive overall significance as has been done in other topic sections of this Scoping Report.

TABLE 8.12: SUMMARY OF ASSESSMENT CRITERIA

Source	LOAEL and SOAEL	EIA Significance
Construction noise	LOAEL: Threshold values in Table 8.2 , SOAEL: Category C values in Table 8.2.	Table 8.3
Construction traffic	n/a ⁽¹⁾	Table 8.4
Construction vibration	LOAEL: 1.0mm/s SOAEL: 10 mm/s	Table 8.5
Mineral extraction noise	Table 8.7	Table 8.8
Blasting	Not defined ⁽²⁾	Not defined ⁽²⁾
Fixed plant and associated on-site vehicle movements	Table 8.9	Table 8.9
Operational road traffic noise	Table 8.10	Table 8.11

(1) significance for construction traffic noise relates to changes in traffic, therefore it is not appropriate to set and absolute level to represent LOAEL and SOAEL for construction traffic noise

(2) specific environmental assessment criteria for vibration from blasting will be further established in the EIA when details of blasting and construction are known.

9. AIR QUALITY

9.1 INTRODUCTION

- 9.1.1.1 This section of the Scoping Report identifies the air quality receptors of relevance to the Proposed Development (residential, recreational and ecological) and considers the potential air quality and dust effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development, based on the likely emissions to air detailed in Section 2.12. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.
- 9.1.1.2 Potential air quality effects upon ecological receptors are considered in Section 11 (Ecology and Nature Conservation).

9.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

9.2.1 OVERVIEW

- 9.2.1.1 The air quality assessment will be undertaken in line with the following legislation, policy and guidance:
- Environment Agency (2022), Guidance on Air emissions risk assessment for your environmental permit⁷⁹;
 - Environment Agency (2014), AQTAG06 Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air⁸⁰.
 - Air Quality Standards imposed in UK law (The Air Quality Standards Regulations 2010 2008/301, transposed from EU standards (EU Air Quality Standards);
 - Guidance on the assessment of dust from demolition and construction, Version 1.1⁸¹;

⁷⁹ Environment Agency (2025). Air emissions risk assessment for your environmental permit. Available Online at: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screen-out-insignificant-pecs>. [Accessed on 17 April 2025].

⁸⁰ Environment Agency (2014) AQTAG06 Technical guidance on detailed modelling approach for an appropriate assessment for emissions to air. Available Online at: https://ukwin.org.uk/files/ea-disclosures/AQTAG06_Mar2014%20.pdf. [Accessed on 17 April 2025].

⁸¹ Institute of Air Quality Management (IAQM) (2014). Guidance on the assessment of dust from demolition and construction. Available Online at: <https://iaqm.co.uk/text/guidance/construction-dust-2014.pdf>. [Accessed on 16 April 2025].

- UK Environmental Improvement Plan 2023⁸²;
- The Clean Air for Cornwall Strategy (2020)⁸³;
- Cornwall Air Quality Action Plan (AQAP) (2020)⁸⁴;
- The Cornwall Local Plan Strategic Policies (2016)²³;
- Institute for Air Quality Management (2016) Guidance on the Assessment of Mineral Dust Impacts for Planning 2016 v1.1⁸⁵;
- Institute for Air Quality Management (2017) Land-Use Planning & Development Control: Planning for Air Quality⁸⁶; and
- Defra (2022) Local Air Quality Management Guidance TG (22)⁸⁷.

9.2.2 APPLICABLE AIR QUALITY STANDARDS

Human Health

9.2.2.2 The protection of human health and of designated conservation areas from adverse air quality is regulated through the use of Air Quality Standards (AQS) transposed in UK law (The Air Quality Standards Regulations 2010). from EU standards⁸⁸ as well as Environmental Assessment Levels (EAL) which are part of the UK permitting guidance⁸⁹. The Proposed Development will need to comply with both. The statutory criteria of relevance for this assessment are set out in Table 9.1 below.

⁸² Department for Environment, Food and Rural Affairs (2021). Environmental Improvement Plan 2023. Available Online at: <https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64fffa/environmental-improvement-plan-2023.pdf>. [Accessed on 16 April 2025].

⁸³ Cornwall Council (2020). The Clean Air for Cornwall Strategy. Available Online at: <https://www.cornwall.gov.uk/environment/environmental-protection/air-quality/clean-air-for-cornwall-strategy/>. [Accessed on 16 April 2025].

⁸⁴ Cornwall Council (2020). Cornwall AQAP. Available Online at: <https://www.cornwall.gov.uk/environment/environmental-protection/air-quality/>. [Accessed on 16 April 2025].

⁸⁵ Institute for Air Quality Management (2016). Guidance on the Assessment of Mineral Dust Impacts for Planning, Version 1.1. Available Online at: https://iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf. [Accessed on 16 April 2025].

⁸⁶ Institute for Air Quality Management (2017). Land-Use Planning & Development Control: Planning For Air Quality. Available Online at: <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>. [Accessed on 16 April 2025].

⁸⁷ Department for Environment, Food and Rural Affairs (2022). Local Air Quality Management Technical Guidance. Available Online at: <https://laqm.defra.gov.uk/wp-content/uploads/2022/08/LAQM-TG22-August-22-v1.0.pdf>. [Accessed on 16 April 2025].

⁸⁸ European Commission. European Union Air Quality Standards. Available Online at: https://environment.ec.europa.eu/topics/air/air-quality/eu-air-quality-standards_en. [Accessed on 05 July 2024].

⁸⁹ Environment Agency (2025). Air emissions risk assessment for your environmental permit. Available Online at: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit> Last Accessed: 05/07/24. [Accessed on 16 April 2025].

TABLE 9.1: APPLICABLE AIR QUALITY STANDARDS ($\mu\text{G}/\text{M}^3$)

Applicability	Compound	Averaging Period	Assessment Criterion ($\mu\text{g}/\text{m}^3$)	Percentile
Sensitive Human Receptor	SO ₂	24 hour, <4 exceedances yearly	125	99 th
		1 hour, <25 exceedances yearly	350	99.71 th
		15 min, <36 exceedances yearly	266	99.9 th
	H ₂ SO ₄	Annual, mean	10	n/a
		1-hour, maximum	300	100 th
	PM ₁₀	Annual, mean	40	n/a
		24 hour, <36 exceedances yearly	50	90.14 th
	PM _{2.5}	Annual, mean	20	n/a
		Annual, mean (by end 2028 ⁹⁰)	12	n/a
		Annual, mean (by end 2040 ⁹⁰)	10	n/a
	NO ₂	Annual, mean	40	n/a
		1-hour, <18 exceedances yearly	200	99.79 th
	NH ₃	Annual, mean	180	n/a
		1-hour, maximum	2 500	100 th
	Carbon monoxide (CO)	Maximum 8 hour running mean in any daily period	10 000	100 th

⁹⁰ Published by the Department for Environment, Food and Rural Affairs. Available online at:
<https://assets.publishing.service.gov.uk/media/64a6d9c1c531eb000c64ffa/environmental-improvement-plan-2023.pdf>

Applicability	Compound	Averaging Period	Assessment Criterion ($\mu\text{g}/\text{m}^3$)	Percentile
	Lead	Annual, mean, limit value	0.5	n/a
		Annual, mean, objective	0.25	n/a
	Arsenic	Annual, mean	0.006	n/a
	Cadmium	Annual, mean	0.005	n/a
	Nickel	Annual, mean	0.020	n/a
	Antimony and compounds (as antimony) except antimony trisulfide and antimony trioxide	1-hour, maximum	150	100 th
		Annual, mean	5	n/a
	Chromium (III) and chromium (III) compounds (as chromium)	1-hour, maximum	150	100 th
		Annual, mean	5	n/a
	Copper dusts and mists (as copper)	1-hour, maximum	200	100 th
		Annual, mean	10	n/a
	Manganese and compounds (as manganese)	1-hour, maximum	1 500	100 th
		Annual, mean	0.15	n/a
	Mercury and compounds, except mercury alkyls (as mercury)	1-hour, maximum	7.5	100 th
		Annual, mean	0.25	n/a

Applicability	Compound	Averaging Period	Assessment Criterion ($\mu\text{g}/\text{m}^3$)	Percentile
	Selenium and compounds, except hydrogen selenide (as selenium)	1-hour, maximum	30	100 th
		Annual, mean	1	n/a
	Vanadium	24-hour, maximum	1	100 th

n/a = not applicable

Ecology

- 9.2.2.3 Environmental standards for potential ecological effects associated with emissions of NO_x, SO₂ and NH₃ upon habitats are set out in Table 9.2.

TABLE 9.2: RELEVANT ENVIRONMENTAL STANDARDS (µG/M³)

Substance	Emission period	Target (mean)
Nitrogen oxides (NO _x)	Annual	30
	Daily (24hr mean)	75
Sulfur dioxide (SO ₂)	Annual	10 – where lichens / bryophytes are present
	Annual	20 – for all other vegetation
NH ₃	Annual	1 – where lichens / bryophytes are present
	Annual	3 – for all other vegetation

- 9.2.2.4 The relative sensitivity to nutrient nitrogen and acid deposition is habitat specific. Information on the qualifying interest habitats and plant species, and habitats supporting qualifying interest fauna species for each protected site, will be obtained (where available) from the Air Pollution Information System (APIS)⁹¹.
- 9.2.2.5 Due to the nature of the Proposed Development, dust impacts on habitats due to soiling will also be considered for locations with a statutory designation, e.g. SACs and SSSIs. Consideration should be given as to whether the particular site is sensitive to dust, given the reasons for its designation. Some non-statutory sites (i.e. local wildlife sites) and/or locations with very specific sensitivities may also need to be considered. Professional judgement will be applied to determine receptor sensitivity and value.
- 9.2.2.6 As outlined in Section 3.3.3 and Section 11.8.1 (Ecology and Nature Conservation), a HRA will be undertaken for the Proposed Development which will include identification and assessment of

⁹¹ Join Nature Conservation Committee et al. (2025). UK Air Pollution Information System (APIS). Available Online at: <http://www.apis.ac.uk>. [Accessed on 12 May 2025].

impacts from changes in air quality on the sensitive qualifying interest feature habitats of national network sites.

9.3 BASELINE ENVIRONMENT

9.3.1 DATA SOURCES

9.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for the EIA:

- Defra's online interactive monitoring networks map⁹²;
- Defra's online UK Ambient Air Quality Interactive Map⁹³;
- Defra's online Air Quality Management Area Interactive Map⁹⁴;
- Extrium's England Noise and Air Quality Viewer⁹⁵;
- Cornwall Council's interactive map;
- Cornwall Council's 2022, 2023 and 2024 Air Quality Annual Status Report (ASR) (2022)⁹⁶, (2023)⁹⁷ & (2024)⁹⁸; and
- St. Stephen-in-Brannel Parish Council's 'Particulate Matter (PM10) Monitoring, St. Stephen-in-Brannel, Treviscoe, Nanpean and St Dennis' (2023) ⁹⁹.

9.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

9.3.2.1 The extent of the Study Area for air quality is defined primarily by the expected emissions during operation and maintenance (see Section 9.4.2) and may extend to a radius of up to 15 km from the emission source.

⁹² Defra (2023) Interactive Monitoring Networks Map. Available Online at: <https://uk-air.defra.gov.uk/interactive-map>. [Accessed on 12 May 2025].

⁹³ Defra (2022) Ambient Air Quality. Available Online at: <https://uk-air.defra.gov.uk/>. [Accessed on 12 May 2025].

⁹⁴ Defra (2022) AQMA Map. Available Online at: <https://uk-air.defra.gov.uk/aqma/maps/>. [Accessed on 12 May 2025].

⁹⁵ Extrium (2019), England Noise and Air Quality Viewer. Available online at: <http://www.extrium.co.uk/noiseviewer.html>.

⁹⁶ Cornwall Council (2022). Air Quality Annual Status Report. Available Online at: <https://www.cornwall.gov.uk/media/fmvltzik/2022-cornwall-council-asr.pdf>. [Accessed on 20 March 2025].

⁹⁷ Cornwall Council (2023). Air Quality Annual Status Report. Available Online at: <https://www.cornwall.gov.uk/media/cmsalfyy/cornwall-council-asr-2023-for-website.pdf>. [Accessed on 20 March 2025].

⁹⁸ Cornwall Council (2024). Air Quality Annual Status Report. Available Online at: <https://www.cornwall.gov.uk/media/qrdpsxay/cornwall-council-asr-2024.pdf>. [Accessed on 20 March 2025].

⁹⁹ Air Quality Monitors Limited for St. Stephen-in-Brannel Parish Council (2023). Particulate Matter (PM₁₀) Monitoring St. Stephen-in-Brannel, Treviscoe, Nanpean and St Dennis, March-May 2023. Available Online at: <https://ststepheninbrannel-pc.gov.uk/wp-content/uploads/2023/06/St-Stephen-in-Brannel-PM10-March-to-May-2023.pdf>. [Accessed on 20 March 2025].

- 9.3.2.2 Air quality in Cornwall is generally considered to be good, however, there are certain locations where national air quality objectives for NO₂ are not being met and Air Quality Management Areas (AQMA) have been declared. Nine AQMA have been declared in Cornwall.
- 9.3.2.3 The Site is not located within an AQMA or a proposed AQMA. The closest AQMA is Grampound AQMA, located approximately 4.5 km south of the Site, and St Austell AQMA, located approximately 5 km to the southeast of the Site.
- 9.3.2.4 UK Defra 2023 background maps¹⁰⁰ show that for the wider environment around the Site (see Table 9.3) no exceedances of Air Quality Standards (AQSS) have been recorded for NO₂, SO₂, PM₁₀ or PM_{2.5}.

TABLE 9.3: UK DEFRA 2023 BACKGROUND MAPPING (µG/M³)

	NO₂	SO₂	PM₁₀	PM_{2.5}
Average	3.19	0.613	10.4	5.15
Maximum	6.92	2.55	16.6	6.44
AQS	40	20 (EU)	40	20 12 (by 2028 ⁸²) 10 (by 2040 ⁸²)

Area from: 179000-213000 m Easting and 40000-74000 m Northing (OSGrid)

- 9.3.2.5 Monitoring of NO₂ is undertaken by Cornwall Council in a number of towns and villages across Cornwall, though only one record of sampling is available for St Dennis, in 2012 (< 10 µg NO₂/m³ – well below the Government objective for NO₂, which is 40 µg/m³).
- 9.3.2.6 St Stephen-in-Brannel Parish Council also conduct air quality monitoring in the area, to establish baseline air quality conditions (specifically PM₁₀ concentrations) prior to the commissioning of the CERC Energy from Waste (EfW) plant in St Dennis. The four monitors are located in St Stephen-in-Brannel, Treviscoe, Nanpean and St Dennis. Monitoring commenced in 2016. PM₁₀ results for 2022-2024 are presented in Table 9.4 below for St Dennis (the closest monitoring location to the Site).

¹⁰⁰ UK Air (2022). Modelled background pollution data. Available Online at: <https://uk-air.defra.gov.uk/data/pcm-data>. [Accessed on 20 March 2025].

TABLE 9.4: ST DENNIS PM₁₀ (µG/M³)

	2022	2023	2024	AQS
Annual Mean	19.5	19.1	16.4	40
No of Days > 50 µg/m ³	2	0	1	35
Maximum 24-Hour Mean	52.7	37.3	53.9	50

Source: St. Stephen-in-Brannel Parish Council (2023)⁹⁹

9.3.2.7 The PM₁₀ annual mean for 2022, 2023 and 2024 are well below the National Air Quality Strategy (NAQS) annual mean objective of 40 µg/m³ at all four monitoring locations; the mean in St Dennis was between 16.4 and 19.5 µg/m³. Exceedances of the 24-hour (daily) mean PM₁₀ National Air Quality Objective (NAQO) objective of 50 µg/m³ were recorded at each of the four locations, but never more than eight exceedances in one year. At St Dennis two exceedances were recorded in 2022 and one in 2024, with a maximum of 53.9 µg/m³.

9.3.2.8 Other pollutants of interest like NH₃ and metals are likely to be well below the AQS. The geology of the area is however known for elevated levels of NORM.

9.3.2.9 Adjacent to the Site (specifically the Trelavour Processing Plant), SUEZ's CERC is located which is also an emission source of:

- NO_x/NO₂, NH₃ and SO₂ (which can impact human and ecological receptors); and
- PM₁₀/PM_{2.5} and metals (which can impact human receptors).

9.3.3 KEY SENSITIVITIES

9.3.3.1 The Site is located close to both human (residential) and ecological receptors, as shown by Figures 10, 12 and 13.

9.3.3.2 The closest human receptors to the Site are those in the settlements of St Dennis, Treviscoe, Nanpean and Whitemoor.

9.3.3.3 Key sensitivities with regards to air quality for human receptors will be:

- dust soiling and PM₁₀/PM_{2.5} impacts during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;

- impacts from particle-bound metals during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- impacts from NO₂ during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- impacts from SO₂ during operation and maintenance of the Proposed Development; and
- impacts from particle-bound NORM during operation and maintenance and decommissioning, closure and restoration of the Proposed Development.

9.3.3.4 The closest ecological statutory designated sites to the Site are Breney Common and Goss and Tregoss Moors SAC, St Austell Clay Pits SAC & SSSI and Mid Cornwall Moors SSSI, all within the Site.

9.3.3.5 Key sensitivities with regards to air quality for ecological receptors will be:

- impacts from NO_x, sulfuric acid and SO₂ during operation and maintenance of the Proposed Development; and
- impacts from nutrient nitrogen and acid deposition during operation and maintenance of the Proposed Development.

9.3.3.6 Potential effects upon ecological receptors will be assessed in detail in the ecological assessment outlined in Section 11 and in a HRA (see also Section 3.3.3 and Section 11.8.1), which will include identification and assessment of effects resulting from changes in air quality on the sensitive qualifying interest feature habitats of national network sites.

9.3.3.7 Key residential and ecological receptors are shown by Figures 10, 12 and 13.

9.4 PROJECT BASIS FOR SCOPING ASSESSMENT

9.4.1 CONSTRUCTION/DECOMMISSIONING

9.4.1.1 The construction phase of the Proposed Development is expected to generate dust and PM₁₀ emissions (related primarily to construction activities such as earthworks, building works, demolition of existing buildings) and combustion emissions (NO_x/NO₂ and, PM₁₀/PM_{2.5}) from construction-related traffic.

9.4.1.2 The impacts of these emissions would be limited to the immediate vicinity of the Site (<250 m from construction activities and site entrance and <50 m from public access routes used by construction traffic).

9.4.1.3 Air quality effects during decommissioning, closure and restoration activities are expected to be largely similar to construction activities and are therefore not assessed separately.

9.4.2 OPERATION AND MAINTENANCE

9.4.2.1 During operation and maintenance, emissions of the following primary pollutants of interest are expected:

- dust and particulate matter from mining activities, crusher(s), storage, transport and handling of friable materials, ROM, waste rock and tailings;
- NO_x, NO₂ and SO₂ from the sulfuric acid plant;
- NO_x and NO₂ from project-related traffic; and
- particle-bound metals and NORM (depending on metallurgy of soil, waste rock, ore and tailings).

9.4.2.2 The impacts of these emissions may extend to a radius of up to 15 km from the emission source. The acid plant is currently designed with NO_x emissions limited to 15 ppmv (~31 mg/m³) without application of SCR, hence emissions of ammonia (NH₃) are not expected; however, this will be reviewed and given their importance to habitats NH₃ emissions are scoped in for further assessment.

9.4.2.3 Operation of the Trelavour Processing Plant is likely to be associated also with emissions of VOCs, PAHs and fluorine (to be contained). It is currently not expected that these emissions will be of such relevance that they would be considered key emissions of interest.

9.5 MITIGATION

9.5.1 CONSTRUCTION AND DECOMMISSIONING, CLOSURE AND RESTORATION

9.5.1.1 Construction and decommissioning, closure and restoration impacts will be mitigated as deemed appropriate based on the construction dust assessment through measures as outlined in the Institute of Air Quality Management (IAQM) Construction Dust guidance⁸¹.

9.5.1.2 Where impacts from construction/decommissioning-related traffic are predicted to be significant, appropriate mitigation measures will be included in the CEMP and any necessary subsidiary plans (for example a Dust Management Plan (DMP)).

9.5.2 OPERATION

9.5.2.1 There are a range of mitigation measures available for reducing emissions from mining activities and the need for these will be determined during the EIA process. Similarly, there are a range of options available for controlling emissions and impacts from the processing plant and these will also be identified if required during the EIA process.

9.5.2.2 Where impacts from operational traffic are predicted to be significant, appropriate mitigation measures will be determined in collaboration with the traffic and transport SMEs and CLL.

9.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

9.6.1.1 Potential effects on air quality which may be generated by the Proposed Development include:

- dust soiling (nuisance) and elevated levels (with potential health effects) of PM₁₀/PM_{2.5} during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- elevated levels (with potential health effects) of particle-bound metals during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- elevated levels (with potential health effects) of NO₂ during construction, operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- elevated levels (with potential health effects) of SO₂ during operation and maintenance of the Proposed Development;
- elevated levels (with potential health effects) of particle-bound NORM during operation and maintenance and decommissioning, closure and restoration of the Proposed Development;
- elevated levels (with potential effects on ecology) of NO_x, sulfuric acid and SO₂ during operation and maintenance of the Proposed Development; and

- elevated loads (with potential effects on ecology) of nutrient nitrogen and acid deposition during operation and maintenance of the Proposed Development.

9.6.1.2 With strict adherence to mitigation measures such as those described in Section 9.5, it is expected that these effects could be managed to appropriate levels, with no significant adverse effects generated. However, further assessment will be required to confirm this and to inform the mitigation approach.

9.7 EFFECTS SCOPED OUT OF THE EIA

9.7.1.1 On the basis of currently available design information/ project description, there are no effects on air quality that can be scoped out of the EIA.

9.8 PROPOSED APPROACH TO THE ASSESSMENT

9.8.1 BASELINE

9.8.1.1 An air quality baseline study will determine in detail the current state of the airshed, provide robust data and inform possible Action Levels that will be set in the Air Quality Management Plan (AQMP). The baseline study will capture the current air quality, including both spatial and temporal variability.

9.8.1.2 The baseline study is expected to be undertaken for a period of twelve months. The air characterisation will be carried out for the following parameters:

- monthly monitoring for SO₂, NO₂ and NO_x using diffusion tubes at 15 sites;
- monthly monitoring for dust deposition using DustDisc sticky pads at 15 sites;
- chemical characterisation of deposited dust for toxic trace metals in dust particles as identified from the ore metallurgy, such as arsenic, nickel, cadmium, lead etc. from samples taken in two different monitoring events; and
- continuous monitoring for particles (PM₁₀, PM_{2.5}) using active monitoring at up to eight sites (depending on availability of secure locations with mains power).

9.8.2 SPECIFIC METHODOLOGIES

Air Quality Effects from Traffic

Screening

9.8.2.2 The significance of the expected impact of traffic emissions depends on the areas affected by increased traffic resulting from the Proposed Development. A staged screening process will be used to determine whether there are any roads where expected construction/decommissioning or operational traffic flows could potentially result in a significant impact on air quality or require a detailed modelling assessment based on expected traffic routing. The screening is based on the screening criteria set out in the IAQM planning guidance¹⁰¹. The criteria are as follows:

- Outside an AQMA: a change in HDVs > 100 HDVs/Day;
- Outside an AQMA: a change in Light Duty Vehicles (LDVs) > 500 LDVs/Day;
- Inside/adjacent to an AQMA: a change in HDVs > 25 HDVs/Day;
- Inside/adjacent to an AQMA: a change in LDVs > 100 LDVs/Day.
- Where these criteria are exceeded, a detailed modelling assessment of air quality impacts due to traffic emissions will be carried out.

Detailed Traffic Assessment

9.8.2.3 The detailed assessment methodology follows two pieces of UK guidance:

- IAQM (2017) Guidance on land-use planning and development control: Planning for air quality v1¹⁰²; and
- Defra (2022) Local Air Quality Management Guidance TG (22).

9.8.2.4 Modelling of traffic emissions will be undertaken using detailed dispersion modelling using the ADMS-Roads model¹⁰³. ADMS uses information on traffic flows, traffic speeds, road characteristics,

¹⁰¹ Institute of Air Quality Management (2017). Planning for Air Quality. Available Online at: <https://iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>. [Accessed on 24 June 2024].

¹⁰² Institute for Air Quality Management (2017). Land-Use Planning & Development Control: Planning For Air Quality. Available Online at: <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>. [Accessed on 24 June 2024].

¹⁰³ Developed by Cambridge Environmental Research Consultants. Available Online at: <https://www.cerc.co.uk/environmental-software/ADMS-Roads-model.html> [Accessed on 24 June 2024].

surrounding area and local meteorology. Two scenarios will be considered:

- Base: this is the expected traffic on the existing road network in 2024; and
- Base + the Proposed Development: this is the expected traffic on the existing road network in 2024 plus the total future traffic (LDVs + HDVs) expected due to the Proposed Development.

9.8.2.5 The Base and Base+Proposed Development scenarios are used to assess the potential net change in air quality due to the Proposed Development. The difference in these two cases is then used to determine the overall potential impact at nearby receptors and its significance. On the basis of the significance of impact, the need for mitigation will be identified. The significance of impacts will be based upon the IAQM guidelines set out in Section 9.8.3.

Construction and Decommissioning, Closure and Restoration

9.8.2.6 The methodology used to assess impacts during the construction/decommissioning of the Proposed Development will be based on IAQM guidance¹⁰⁴ (summarised in Plate 9.1). By applying the IAQM guidance, impacts associated with construction dust can generally be mitigated to the point that impacts are negligible, or at worst minor, with the implementation of appropriate mitigation measures.

¹⁰⁴ Institute for Air Quality Management (2024) Guidance on the assessment of dust from demolition and construction (Version 2.2). Available Online at: [Construction-Dust-Guidance-Jan-2024.pdf](#) [Accessed on 24 June 2024].

PLATE 9.1: ASSESSING AIR QUALITY IMPACTS FROM CONSTRUCTION DUST

Step 1			Step 2					
Define the Potential Dust Emission Magnitude for each activity, note that, in each case, not all the criteria need to be met, and that other criteria may be used if justified in the assessment.			Define the Sensitivity of the Area					
ACTIVITY	DESCRIPTION	EMISSION CATEGORY	Annual Mean PM ₁₀ concentration		Distance from the Source (m)			
Demolition	Total building volume >75,000 m ³ , on-site crushing and screening, demolition activities >12 m above ground level	Large	Human health	<20	<50	<100	<250	
	Total building volume 12,000 m ³ – 75,000 m ³ , demolition activities 6-12 m above ground level	Medium		>32 µg/m ³	High	High	High	Medium
	Total building volume < 12,000 m ³ , demolition activities <6 m above ground, demolition during wetter months	Small		<32 µg/m ³	High	High	Medium	Low
Earthworks	Total site area >110,000 m ² , >10 heavy earth moving vehicles active at any one time	Large	Ecology	-	High	Medium	-	-
	Total site area 18,000 m ² – 110,000 m ² , 5-10 heavy earth moving vehicles active at any one time	Medium						
	Total site area < 18,000 m ² , <5 heavy earth moving vehicles active at any one time	Small						
Construction	Total building volume >75,000 m ³ , on site concrete batching, sandblasting	Large	Step 3					
	Total building volume 12,000 m ³ – 75,000 m ³ , onsite concrete batching	Medium	Combine the Emission Magnitude and Sensitivity of the Area to define Risk Impact for each activity					
	Total building volume < 12,000 m ³	Small	Sensitivity of the Area		Emission Magnitude			
Trackout	>50 HDV outward movements in any one day, unpaved road length >100 m	Large	High	Large	Medium	Small		
	20-50 HDV outward movements in any one day, unpaved road length 50 m–100 m	Medium	Medium	High	Medium	Low		
	<20 HDV outward movements in any one day, unpaved road length <50 m	Small	Low	High	Medium	Low		
HDV = Heavy Duty Vehicle			Step 4		Apply mitigation and assess residual effects			
					Propose measures to mitigate adverse effects → Assess the significance of the residual effects			

Operation and Maintenance

- 9.8.2.7 A quantitative air quality assessment will be undertaken to assess the impacts of the Proposed Development upon air quality during operation. This assessment will assess the impacts from identified sources of emissions on ambient air quality in and around the Site.
- 9.8.2.8 The assessment will draw upon UK standards and the overall significance of effects will be assessed using UK planning significance criteria (described in Section 9.8.3, below), with due consideration of environmental permitting requirements.
- 9.8.2.9 The air quality assessment will be based on forecast operations and mine layout to inform an emissions inventory derived from published sources, including UK guidance¹⁰⁵, European Environment Agency¹⁰⁶, the USEPA AP-42 Emissions Inventory¹⁰⁷ and the Australian NPi Mining Manual¹⁰⁸. The EA have confirmed that this approach is suitable. Detailed dispersion modelling will be utilised, using dispersion model (either ADMS or Aermid) to quantify the impacts of emissions at nearby sensitive receptors.
- 9.8.2.10 Air quality effects upon statutory designated sites up to 15 km from the Site, which are highly sensitive, will be assessed. The significance of the potential effects will be defined in the ecological assessment described in Section 11 (Ecology and Nature Conservation).
- 9.8.2.11 The following operational scenarios will be assessed:
- Scenario 1: operations with embedded mitigation; and
 - Scenario 2: operations with embedded and additional mitigation, if required.

Cumulative Effects

- 9.8.2.12 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same receptors.

¹⁰⁵ Institute for Air Quality Management (2016) Guidance on the Assessment of Mineral Dust Impacts for Planning 2016 v1.1: https://iaqm.co.uk/text/guidance/mineralsguidance_2016.pdf

¹⁰⁶ <https://www.eea.europa.eu/en/datahub>

¹⁰⁷ <https://www.epa.gov/air-emissions-factors-and-quantification>

¹⁰⁸ <https://www.dcceew.gov.au/sites/default/files/documents/mining.pdf>

9.8.3 ASSESSMENT CRITERIA

Air Quality Effects Upon Human Health

Construction and Decommissioning, Closure and Restoration

9.8.3.2 The construction/decommissioning dust assessment uses a specific significance framework designed to steer towards appropriate mitigation measures to render the risk of residual impacts as negligible or at worst minor (as illustrated by Plate 9.1, above).

Operation

9.8.3.3 The IAQM planning guidance¹⁰⁹ sets out descriptors for evaluating a potential impact at individual receptor locations; these criteria are presented in Table 9.5. These criteria will be used to assess impacts of air emissions for the operational activities of the Proposed Development.

9.8.3.4 The potential significance of the modelled emissions from the Proposed Development will be assessed by comparison with applicable standards on the basis of the:

- Process Contribution (PC); and
- Predicted Environmental Concentration (PEC), the PEC being the Process Contribution (PC) added to the baseline.

TABLE 9.5: IMPACT DESCRIPTIONS FOR INDIVIDUAL AIR QUALITY RECEPTORS

Long-term average concentration at receptor in assessment year	% Change in concentration relative to AQS			
	1%	2-5%	6-10%	>10%
Long Term PEC				
75% or less of AQAL	Negligible	Negligible	Minor	Moderate
76-94% of AQAL	Negligible	Minor	Moderate	Moderate
95-102% of AQAL	Minor	Moderate	Moderate	Major
103-109% of AQAL	Moderate	Moderate	Major	Major
110% or more of AQAL	Moderate	Major	Major	Major
Short Term PC	<10%	10-20%	20-50%	>50%

¹⁰⁹ Institute for Air Quality Management (2017) Land-Use Planning & Development Control: Planning For Air Quality, <https://www.iaqm.co.uk/text/guidance/air-quality-planning-guidance.pdf>

Long-term average concentration at receptor in assessment year	% Change in concentration relative to AQS			
(not dependent on baseline)	Negligible	Minor	Moderate	Substantial

9.8.3.5 The IAQM guidance states that percentage change in concentration, relative to the AQS of less than 1%, but greater than or equal to 0.5%, should be rounded up to 1%. Changes of less than 0.5% are considered to be 'negligible'.

9.8.3.6 The overall significance of the effects will be determined using professional judgement, taking into account the anticipated air quality impact at individual receptors and other factors such as the number of individuals or properties that will be exposed to a change in air quality.

Air Quality Effects Upon Ecology

9.8.3.7 The EA guidance criteria¹¹⁰ that will be used for assessing the potential significance of the effect on ecology are presented in Table 9.6 below.

TABLE 9.6: SIGNIFICANCE CRITERIA FOR AIR QUALITY-RELATED EFFECTS ON ECOLOGY

Site Designation	PC, as % CL (Critical Level or Critical Load)	PEC, as % CL	Significance (based on Process Contribution and Predicted Environmental Concentration)
Long-term Impact			
Ramsar, SAC, SPA or SSSI	<10%	-	Not significant
	>10%	-	Potentially significant
AW, LWS, LNR or NNR	<100%	-	Not significant
	>100%	-	Potentially significant
Short-term Impact			
	<1%	-	Not significant
	>1%	<70%	Not significant

¹¹⁰ Environment Agency (2022) Air emissions risk assessment for your environmental permit. Available online: <https://www.gov.uk/guidance/air-emissions-risk-assessment-for-your-environmental-permit#screen-out-insignificant-pecs>.

Site Designation	PC, as % CL (Critical Level or Critical Load)	PEC, as % CL	Significance (based on Process Contribution and Predicted Environmental Concentration)
Ramsar, SAC, SPA or SSSI	>1%	>70%	Potentially significant
AW, LWS, LNR or NNR	<100%	-	Not significant
	>100%	-	Potentially significant

9.8.3.8 Impacts to ecological receptors where identified will be assessed in detail in a HRA for the Proposed Development (see also Section 3.3.33 and Section 11.8.1), which will include identification and assessment of impacts from changes in air quality on the sensitive qualifying interest feature habitats of national network sites.

10. TRAFFIC AND TRANSPORT

10.1 INTRODUCTION

10.1.1.1 This section of the Scoping Report identifies the traffic and transport receptors of relevance to the Proposed Development and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development upon the local and strategic road network. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.

10.1.1.2 The IEMA 2023 Guidelines¹¹¹ also necessitate the consideration of traffic-related noise and vibration, visual and air quality effects; this is addressed within Sections 8, 12 and 9, respectively.

10.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

10.2.1.1 The traffic and transport assessment will be undertaken in line with the following legislation, policy and guidance:

- The National Planning Policy Framework (2025);
- The Planning Practice Guidance on Travel Plans, Transport Assessment and Statements (2014)¹¹²;
- The Institute of Environmental Management and Assessment (IEMA), Guidelines for the Environmental Assessment of Traffic and Movement' (2023)¹¹³;
- Department for Transport (DfT) Circular 01/2022: The Strategic Road Network and the Delivery of Sustainable Development¹¹⁴;
- Planning Practice Guidance on Travel Plan, Transport Assessment and Statements¹¹⁵;
- The Cornwall Local Plan Strategic Policies (2016)²³; and

¹¹¹ IEMA 2023. Environmental Assessment of Traffic and Movement. Available Online at: [iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf](https://www.iema.org.uk/reports-and-publications/iema-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf)

¹¹² UK Government (2014). Planning Practice Guidance on Travel Plans, Transport Assessment and Statements. Available online at: <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements> [Accessed on 02/04/2025]

¹¹³ Institute of Environmental Management and Assessment (2023) *Guidelines for the Environmental Assessment of Road Traffic and Movement*. [Online] Available at: <https://www.thenbs.com/PublicationIndex/documents/details?Pub=IEA&DocID=257892> [Accessed on 02/04/2025]

¹¹⁴ Department for Transport (2022). Strategic Road Network and the Delivery of Sustainable Development. Available Online At: <https://www.gov.uk/government/publications/strategic-road-network-and-the-delivery-of-sustainable-development> [Accessed on 02/04/2025]

¹¹⁵ Department for Transport. Guidance: Travel Plans, Transport Assessments and Statements. Available Online at: <https://www.gov.uk/guidance/travel-plans-transport-assessments-and-statements>

- The Cornwall Transport Plan (2022)¹¹⁶.

10.3 BASELINE ENVIRONMENT

10.3.1 DATA SOURCES

10.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for EIA:

- OS and mapping data from Google Earth¹¹⁷;
- The Department for Transport Traffic Counts Website;
- Cornwall Council's Interactive Map;
- Defra's Magic Map⁴⁴; and
- Sustrans Website¹¹⁸.

10.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

The Study Area

10.3.2.2 The Study Area has been defined by the public road network (and potential haul routes) in Site and in the vicinity of the Site that are expected to experience increased traffic flows associated with the Proposed Development. The Study Area for the Scoping Report is based on an initial assessment of the potential sources of labour and potential delivery corridors associated with the operations of the Proposed Development, as described in Section 2.

10.3.2.3 The A30, A39, A392, B3279 and Gother Road, shown on Figure 11, are all anticipated to be included in the Study Area. However, the extent of the Study Area will be agreed in consultation with Cornwall Council and National Highways as appropriate and further details will be provided in the ES.

Site Access

10.3.2.4 Section 2.9.1 provides information about vehicular access routes to and from the Trelavour Pit and Trelavour Processing Plant. The proposed access junctions are existing and well formed, with

¹¹⁶ Cornwall Council (2022). The Cornwall Transport Plan. Available online at: <https://www.cornwall.gov.uk/transport-parking-and-streets/local-transport-plan/>. [Accessed on 02/04/2025]

¹¹⁷ DfT (2023). Road Traffic Statistics. Available online at: <https://roadtraffic.dft.gov.uk/#6/55.254/-6.053/basemap-regions-countpoints>. [Accessed on 02/04/2025]

¹¹⁸ Sustrans (2023). Available online at: <https://www.sustrans.org.uk/>. [Accessed on 02/04/2025]

adequate visibility splays in each direction, therefore no upgrades are expected to be required.

Public Rights of Way

10.3.2.5 There are a number of PRoWs within and surrounding the Site, including the Cornish Way/ Goss Moor Multi-Use Trail and National Cycle Network Route 305⁴⁴. Further detail regarding ProWs in the vicinity of the Site is included at Section 12.3.2.

10.3.3 KEY SENSITIVITIES

10.3.3.1 The following sensitive receptors have been identified and will be considered within the EIA:

- motorised users of the surrounding highway network, including vehicle drivers and public transport users;
- non-motorised users of the surrounding highway network, PRoWs and non-designated public routes, including pedestrians, cyclists, and equestrians (and vulnerable groups); and
- residents (and amenities) within settlements (including St Dennis, Nanpean and Treviscoe) along the roads likely to be impacted by traffic associated with the Proposed Development.

10.4 PROJECT BASIS FOR SCOPING ASSESSMENT

10.4.1.1 The traffic and transport scoping assessment is based on the following:

- the construction activities outlined in Section 2.6.2 which will generate traffic movements on the highway network (including the Strategic Road Network), including potentially the transportation of abnormal loads associated with the delivery of various components for the Site; and
- the operation and maintenance activities outlined in Section 2.6.3 which will generate traffic movements on the highway network (including the Strategic Road Network).

10.4.1.2 Traffic and transport effects associated with these activities in the decommissioning, closure and restoration phase of the Proposed Development are expected to be similar to or less than those experienced during construction. It is not possible to accurately forecast baseline environment including traffic flow levels over 20 years into the future. As such, this phase will not be assessed to the

same level of detail as construction and operation, and further work will be undertaken, and appropriate traffic management procedures agreed with Cornwall Council and National Highways, at the time of decommissioning.

10.5 MITIGATION

10.5.1.1 The traffic and transport assessment will provide details of any appropriate mitigation measures where necessary, in the form of a Traffic Management Plan outlining how the traffic associated with the construction and operation of the mine will be safely and efficiently managed. As detailed in Section 10.8.2, below, a Travel Plan aimed at promoting sustainable travel choices and reduce reliance on single-occupancy private car use during the operational phase of a development will also be developed. Mitigation measures will be discussed with Cornwall Council and National Highways.

10.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

10.6.1.1 In accordance with IEMA 2023¹¹⁹ Guidelines, the following effects on access, traffic and transport receptors have the potential to result from the Proposed Development and shall be considered in the undertaking of further assessment:

- severance of communities;
- non-motorised delay;
- non-motorised amenity;
- road vehicle and passenger delay;
- fear and intimidation on and by road users;
- road user and pedestrian safety; and
- hazardous and large loads (abnormal loads).

10.6.1.2 The IEMA 2023 Guidelines also necessitate the consideration of traffic-related noise and vibration, visual and air quality effects; this is addressed within Sections 8, 12 and 9, respectively.

10.7 EFFECTS SCOPED OUT OF THE EIA

10.7.1.1 On the basis of currently available design information/ project description, there are no traffic and transport effects that can be scoped out of the EIA.

¹¹⁹ IEMA (July 2023) Environmental Assessment of Traffic and Movement. Available at: [iera-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf](https://www.iera.org.uk/wp-content/uploads/2023/07/iera-report-environmental-assessment-of-traffic-and-movement-rev07-july-2023.pdf). [Accessed on 20/05/2025]

10.8 PROPOSED APPROACH TO THE ASSESSMENT

10.8.1 BASELINE

- 10.8.1.1 The main data considered fundamental to the assessment of traffic and transport effects will be traffic flow data and Road Traffic Collision (RTC) accident data. RTC data will be obtained for the most recent five-year period ending in 2025 (where available), which will provide information on each collision, including severity as well as the factors that were attributed to the collision to determine whether the roads are safe around the Site and if there are any accident hotspots.
- 10.8.1.2 With respect to traffic flow data, baseline traffic data will be obtained through independent Automatic Traffic Counts (ATC) surveys, Manual Classified Counts (MCC) and queue surveys will be undertaken particularly at junctions where significant increase in vehicle movements are anticipated within the Study Area and augmented with data from publicly available data sources where possible. If required, additional surveys in the form of Non-Motorised User (NMU) counts will be undertaken to provide a snapshot of the usage of the NMU network with the Study Area.
- 10.8.1.3 The timings and locations of the surveys will be agreed with Cornwall Council and National Highways as relevant, and the locations selected will provide a basis for the analysis and incorporate all routes within the Study Area close to potential sensitive receptors and routes along key strategic links to provide a robust baseline for assessment.
- 10.8.1.4 The traffic flow data collected will be used to assess the predicted impact on traffic flows resulting from the proposed traffic associated with the Proposed Development.
- 10.8.1.5 Further detail will be provided in the EIA.

10.8.2 SPECIFIC METHODOLOGIES

- 10.8.2.1 The assessment would be undertaken in accordance with the IEMA 2023 Guidelines¹¹⁹. The guidance notes two rules to be used as a screening process to the appropriate extent of the assessment area and the likelihood of potentially significant environmental effects occurring. These are:
- Rule 1 - Road links where traffic flows are predicted to increase by more than 30% as a result of the Proposed Development (or

where the number of heavy goods vehicles is predicted to increase by more than 30%) must be assessed; and

- Rule 2 - Road links of high sensitivity where traffic flows have increased by 10% or more.

10.8.2.2 Any change in traffic flow which is greater than the thresholds outlined above would be subject to further detailed assessment. It is acknowledged that in instances where traffic flow is lower than the IEMA Guidelines thresholds, the significance of the effects can be considered low or not significant with no further detailed assessments warranted.

10.8.2.3 The IEMA 2023 Guidelines however noted that the Rule 1 and Rule 2 criteria process is not appropriate for some impacts, and it is generally accepted by regulators and practitioners that it should not be applied to assessments of road user and pedestrian safety as well as road vehicle driver and passenger delay. These impacts can be potentially significant for lower changes in traffic flow when high baseline traffic flows are evident. Full details of the methodology adopted for these effects are set out later in this section.

10.8.2.4 Rules 1 and 2 are used as a screening tool to determine whether or not a full assessment of effects on routes within the Study Area is required as a result of intensification of road traffic. Therefore, it should be noted that an increase in total traffic or HGV levels of more than 30% (or 10% depending on the sensitivity of the area) does not necessarily equate to a significant effect in terms of the EIA Regulations.

10.8.2.5 The process for determining significance where Rules 1 or 2 are triggered is undertaken on a Site-specific basis and the framework for determining the magnitude of change in traffic flow as well as the methodology for assessing the significance of an effect is described in detail in the sections below.

Transport Assessment

10.8.2.6 A Transport Assessment (TA) will be prepared to support the EIA process. The TA and the EIA will utilise the same baseline data, however, the TA will be prepared in accordance with its own relevant guidance and best practice and will be subject to a separate scoping exercise with Cornwall Council and National Highways. It will focus on the ability of the surrounding highway network to accommodate, in

particular, the operational traffic associated with the Proposed Development considering the longer-term traffic impacts.

Travel Plan

- 10.8.2.7 In accordance with guidance (as outlined in Section 10.2), a Travel Plan aimed at encouraging the operational work force to use sustainable modes of travel will be prepared in accordance with its own guidance and in consultation with the relevant authorities.

Abnormal Load Assessment

- 10.8.2.8 It is currently not anticipated that the Proposed Development would require the need for regular abnormal load deliveries. Should a need be identified for the movement of abnormal loads during construction, the routing of such movements would be discussed in advance with the relevant local highway authority and police to determine the most appropriate route, taking account of known network pinch points, general highway safety issues and weight / height restrictions. Such movements would ultimately be regulated under a local abnormal load license, which would be secured in advance of any abnormal load deliveries to the Site.

Cumulative Effects

- 10.8.2.9 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same traffic and transport receptors.

10.8.3 ASSESSMENT CRITERIA

Receptor Sensitivity

- 10.8.3.2 The sensitivity of the baseline conditions, including the importance of environmental features on or near to the Site or the sensitivity of potentially affected receptors, will be assessed in line with best practice guidance, legislation, statutory designations and / or professional judgement. Table 10.1 below, outlines the framework for determining the sensitivity of receptors.

TABLE 10.1: RECEPTOR SENSITIVITY CRITERIA FOR TRAFFIC AND TRANSPORT

Receptor Sensitivity	Description
Very High	The receptor has no ability to absorb change without profoundly altering its present character, is of high strategic value, or of national importance, would include receptors such as populated areas where existing traffic levels are high and there is no capacity to absorb additional traffic flow on adjacent routes; and strategic nationally important routes with no capacity to absorb additional traffic flow.
High	The receptor has little ability to absorb change without fundamentally altering its present character, is of high strategic value, or of national importance. These would include receptors such as populated areas where existing traffic levels are high and there is little capacity to absorb additional traffic flows on adjacent routes. Accident hotspots would also be considered, as well as locations where pedestrian crossing facilities are informal, where a significant change in traffic flow level might induce significant pedestrian crossing delay, and where children/elderly people might regularly cross an informal or priority crossing.
Medium	Areas where the transport network has moderate capacity to change, without significantly altering its state. These would include routes with existing moderate traffic levels which have some additional traffic flow capacity, receptors such as populated areas where existing traffic levels are moderate and there is some capacity to absorb additional traffic flow on adjacent routes, slight accident hotspots where an increase in traffic flow may increase the likelihood or severity of accidents, locations where pedestrian crossing facilities are informal or substandard, and where a significant change in traffic flow level might induce a moderate pedestrian crossing delay.
Low	Areas where the transport network is tolerant to change without detriment to its state. These would include routes with existing low traffic levels which have additional traffic flow capacity, areas such as trunk road or A class roads constructed to accommodate significant HGV volumes, receptors such as populated areas where existing traffic levels are low and there is capacity to absorb additional traffic flow on adjacent routes, routes with a low level of historical accident data where a change in traffic flow or composition would have a low effect on the likelihood or severity of accidents, and locations where pedestrian crossing facilities are formal but priority, or pedestrian flows are sufficiently low that changes to traffic flow or composition are unlikely to cause a significant pedestrian delay.
Negligible	Areas where the transport network is tolerant to change without detriment to its state. These would include routes with existing low traffic levels which have a lot of additional traffic flow capacity,

Receptor Sensitivity	Description
	areas such as trunk road or A class roads constructed to accommodate significant HGV volumes, receptors such as populated areas where existing traffic levels are very low and there is capacity to absorb additional traffic flow on adjacent routes, routes with a very low level of historical accident data where a change in traffic flow or composition would have a negligible effect on the likelihood or severity of accidents, and locations where pedestrian crossing facilities are formal and controlled, or pedestrian flows are negligible (i.e. where there are no footways) such that changes to traffic flow or composition would not result in a change to pedestrian delay. This would also refer to receptors that are sufficiently distant from the affected roads and junctions.

Impact Magnitude

10.8.3.3 The magnitude of potential change is a function of the existing volumes of traffic, the percentage increase and degree of change to baseline conditions predicted as a result of the Proposed Development, the duration and reversibility of an effect, and professional judgement, best practice guidance (IEMA 2023¹¹⁹), and relevant legislation.

10.8.3.4 The criteria for assessing the magnitude of change on receptors is presented in Table 10.2 below.

TABLE 10.2: IMPACT MAGNITUDE CRITERIA FOR TRAFFIC AND TRANSPORT

Type of Impact	Magnitude of Impact and Description			
	Negligible	Small	Medium	Large
Severance (the perceived division that can occur within a community when it becomes separated by major transport infrastructure)	Change in total traffic flow of <30%	Change in total traffic flow of 31% to 60%	Change in total traffic flow of 61% to 90%	Change in total traffic flow of >91%
Non-Motorised User Amenity	Change in traffic flow (or HGV	Change in traffic flow (or HGV	Change in traffic flow (or HGV	Change in traffic flow (or HGV

Type of Impact	Magnitude of Impact and Description			
	Negligible	Small	Medium	Large
	component) <50%	component) of 51% to 100%	component) of 101% to 150%	component) of >151%
Non-Motorised User Delay	Change in total traffic flow of <30%	Change in total traffic flow of 31% to 60%	Change in total traffic flow of 61% to 90%	Change in total traffic flow of >90%
Fear and Intimidation	No change in step changes	One step change in level, with <400 vehicles increase in average 18hr AV two-way all vehicle flow; and/or <500 HGV increase in total 18hr HGV flow	One step change in level, but with >400 vehicles increase in average 18hr AV two-way all vehicle flow; and/or >500 HGV increase in total 18hr HGV flow.	Two step changes in level
Road User and Pedestrian Safety	Magnitude of impact derived using professional judgment informed by the frequency and severity of collisions within the Study Area and the forecast increase in traffic.			
Road Vehicle Driver and Passenger Delay	Magnitude of impact derived in conjunction with a Transport Assessment and professional judgment informed by the increase in vehicle delay and whether a junction or highway link is at, or close to capacity, particularly on the weekday peak hour periods when baseline traffic flows are at their highest.			
Abnormal Loads	Defined by an assessment of the suitability of the access routes to accommodate abnormal load vehicles.			

Significance of Effects

10.8.3.5 Table 10.3 summarises guideline criteria for assessing the significance of effects. The sensitivity of the receptor and the magnitude of the predicted effects will be used as a guide, in addition to professional judgement, to predict the significance of the likely effects by considering both the sensitivity of the receptors and magnitude of change as shown in Table 10.3. Moderate and Major effects are considered to be Significant.

TABLE 10.3: SIGNIFICANCE OF EFFECT MATRIX FOR TRAFFIC AND TRANSPORT

Impact Magnitude	Sensitivity of Receptors				
	Very High	High	Medium	Low	Negligible
Large	Major	Major	Moderate	Moderate	Minor – Not Significant
Medium	Major	Moderate	Moderate	Minor – Not Significant	Not Significant
Small	Moderate	Moderate	Minor – Not Significant	Not Significant	Not Significant
Negligible	Minor – Not Significant	Minor - Not Significant	Not Significant	Not Significant	Not Significant

11. ECOLOGY AND NATURE CONSERVATION

11.1 INTRODUCTION

11.1.1.1 This section of the Scoping Report identifies the ecological receptors of relevance to the Proposed Development (including habitats, species and designated sites) and considers the potential effects from the construction, operation, maintenance, and decommissioning, closure and restoration of the Proposed Development. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available. The assessment will draw upon other topics outlined in this Scoping Report, such as air quality and noise, where there may be impacts on ecological receptors.

11.1.1.2 Additional assessments for Biodiversity Net Gain (BNG) and Habitats Regulations Assessment (HRA) will also be undertaken and the approach to these described in the below section.

11.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

11.2.1.1 The ecology assessment will be undertaken in line with the following legislation, policy and guidance:

- Directive 92/43/EEC on Conservation of Natural Habitats and of Wild Fauna and Flora ("The Habitats Directive") (as amended)¹²⁰
- The Conservation of Habitats and Species Regulations 2017 (Habitat Regulations);
- Directive 2009/147/EC on the Conservation of Wild Birds (The "Birds Directive")¹²¹
- The Wildlife and Countryside Act 1981 (as amended);
- The Countryside and Rights of Way (CROW) Act (2000);
- The Natural Environment and Rural Communities (NERC) Act 2006;
- UK Post-2010 Biodiversity Framework (2012)¹²²;
- The NPPF (2025)⁹;

¹²⁰ European Parliament (1992) The Habitats Directive. Available online: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:31992L0043&from=EN>.

¹²¹ European Parliament (2009) The Birds Directive. Available online [The Birds Directive - European Commission](#)

¹²² JNCC (2012). UK Post-2010 Biodiversity Framework. Available online at: <https://hub.jncc.gov.uk/assets/587024ff-864f-4d1d-a669-f38cb448abdc#UK-Post2010-Biodiversity-Framework-2012.pdf>.

- PPG for the Natural Environment (2025)¹²³;
- The Environment Act (2021);
- The Hedgerows Regulations (1997);
- The Protection of Badgers Act (1992);
- Chartered Institute of Ecology and Environmental Management (CICEM) Guidelines for Ecological Impact Assessment in the UK and Ireland (2024)¹²⁴;
- Birds of Conservation Concern (BoCC): the population status of birds in the United Kingdom, Channel Islands, and Isle of Man¹²⁵;
- The Cornwall Local Plan Strategic Policies (2016)²³;
- Cornwall Planning for Biodiversity Guide (2023)¹²⁶,
- Cornwall Council, Climate Emergency Development Plan¹²⁷;
- Bat Conservation Trust (2023). Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition)¹²⁸;
- The dormouse conservation handbook (2nd edition)¹²⁹;
- Reason, P.F. and Wray, S. (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats¹³⁰;
- Froglife (1999). Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. Froglife Advice Sheet 10¹³¹;

¹²³ UK Government (2025). The Natural Environment PPG. Available online at: <https://www.gov.uk/guidance/natural-environment>.

¹²⁴ CIEEM (2018) Guidelines for Ecological Impact Assessment in the UK and Ireland: Terrestrial, Freshwater, Coastal and Marine version 1.3. Chartered Institute of Ecology and Environmental Management, Winchester

¹²⁵ British Trust for Ornithology (BTO). BoCC: the population status of birds in the United Kingdom, Channel Islands, and Isle of Man. Available online at: <https://www.bto.org/our-science/publications/birds-conservation-concern/status-our-bird-populations-fifth-birds>.

¹²⁶ Cornwall Council (2023). Cornwall Planning for Biodiversity Guide. Available online: <https://www.cornwall.gov.uk/media/v1roqk0x/planning-for-biodiversity-v15.pdf>.

¹²⁷ Cornwall Council, Development Plan Document, February 2023. Available Online [Climate Emergency Development Plan Document - Strategic Planning](#)

¹²⁸ Bat Conservation Trust (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th Edition) [Online] Available at: <https://www.bats.org.uk/resources/guidance-for-professionals/bat-surveys-for-professional-ecologists-good-practice-guidelines-4th-edition>

¹²⁹ Bright, P., Mitchell-Jones, T, English Nature 2006. The Dormouse Conservation Handbook. Available online: [EN DORMOUSE HANDBOOK \(4663\)](#)

¹³⁰ CIEEM (2023). UK Bat Mitigation Guidelines: a guide to impact assessment, mitigation and compensation for developments affecting bats. [Online] Available at: <https://cieem.net/resource/uk-bat-mitigation-guidelines-2023/>

¹³¹ Froglife (1999) Froglife Advice Sheet 10: Reptile Survey: An introduction to planning, conducting and interpreting surveys for snake and lizard conservation. [Online] Available at: https://www.wildcare.co.uk/media/wysiwyg/pdfs/froglife_advice_sheet_10_-_reptile_surveys.pdf

- Harris et al. (1989). Surveying Badgers, Mammal Society¹³²;
- Chanin P (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10¹³³,
- UKHab Ltd (2023). UK Habitat Classification Version 2.0¹³⁴; and
- Handbook for Phase 1 Habitat Survey, JNCC (2010)¹³⁵.

11.3 BASELINE ENVIRONMENT

11.3.1 DATA SOURCES

- 11.3.1.1 As much of the Site is comprised of existing mine sites or assets which have been under management for many years, the ecological baseline for the Site is reasonably well understood. Nonetheless, secondary data and surveys are being undertaken to confirm and enhance this understanding, as detailed in the paragraphs below.
- 11.3.1.2 The preliminary baseline conditions presented in this report are based on current understanding from previous and ongoing ecology field surveys, and desk study results.
- 11.3.1.3 Natural England's Multi Agency Geographic Information for the Countryside (MAGIC) website⁵³ has been consulted to obtain information about internationally and nationally important sites within 15 km and priority habitats and local designated sites within 2 km. In addition, information from the Environmental Records Centre for Cornwall and the Isle of Scilly (ERCCIS¹³⁶) was obtained on the 4 July 2021 for the Trelavour Pit and Trelavour Processing Plant, this data will be updated along with new requests for background data where this information was not previously obtained.
- 11.3.1.4 This information has been reviewed to assist in identifying potential constraints for the Proposed Development and to inform the survey scope.
- 11.3.1.5 The Trelavour Pit and Trelavour Processing Plant were comprehensively surveyed in 2022/2023 and update surveys are currently underway. Surveys commenced in 2025 for the Mining

¹³² Harris S, Cresswell P and Jeffries D (1989) Surveying Badgers, Mammal Society.

¹³³ Chanin P (2003). Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No. 10, English Nature, Peterborough

¹³⁴ UKHab Ltd (2023). UK Habitat Classification Version 2.0. [Online] Available at: <https://www.ukhab.org>

¹³⁵ JNCC. (2010) *Handbook for Phase 1 Habitat Survey – a Technique for Environmental Audit*. Joint Nature Conservation Committee, Peterborough.

¹³⁶ ERCCIS (2023). The ERCCIS. Available online at: <https://ercis.org.uk/>

Waste Facilities at Treviscoe and Goonvean. Survey data at this time is limited to UKHab and protected species scoping with further species-specific surveys ongoing at the time of writing. Additional areas outside of those detailed above that require surveys are proposed for 2025/2026.

11.3.1.6 In summary, the following data sources have been used to inform this Scoping Report and will be further utilised for the EIA:

- Baseline data collected to date by CEC for the Trelavour Pit, Trelavour Processing Plant and Mining Waste Facilities.
- OS mapping;
- Defra's Magic Map⁴⁴;
- ERCCIS¹³⁶;
- Google Earth¹³⁷ (for context only); and
- National Biodiversity Network (NBN) Gateway¹³⁸ (for context only).

11.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

The Study Area

11.3.2.2 The study area considered for ecology and nature conservation includes the area within the Site, with an appropriate wider area of influence for individual receptors.

11.3.2.3 For the background data search, good EIA practice includes identification of statutory and non-statutory designated sites of nature conservation interest within a potential zone of influence of the Proposed Development. A search has been undertaken within 2 km of the Site for non-statutory designated sites, extended to 15 km for nationally designated statutory designated sites and sites that form part of the National Site Network (NSN). The extent of the zone of influence was informed by the potential for impacts on sensitive habitats and designated sites from emissions to air (see Section 9).

11.3.2.4 The design process for the Proposed Development is ongoing and at varying stages for different elements; as such, more ecological surveys have been carried out for certain parts of the Site than for others. Definition of the ecological baseline for the Trelavour Pit Area

¹³⁷ Google (2023). Google Earth. Available online at: <https://earth.google.com/web/>.

¹³⁸ NBN Trust (2023). NBN Gateway. Available online at: <https://nbn.org.uk/the-national-biodiversity-network/archive-information/nbn-gateway/>.

(including the Pit Infrastructure Site) and the Trelavour Processing Plant is more progressed than that for other parts of the Site, such as the Mining Waste Facilities, where surveys have recently begun. The following sections which describe the current understanding of the ecological baseline are divided into key elements of the Proposed Development where relevant, to reflect the current survey status/ data availability for each area.

Designated Sites

Statutory Designated Sites

11.3.2.5 Statutory designated sites located within 15 km of the Site are described in Table 11.1 below and by Figure 12. There are an additional 11 sites that have geological designations and three with marine biological designations, these are scoped out of the ecology and nature conservation assessment and are therefore not listed below.

TABLE 11.1: STATUTORY DESIGNATED SITES WITHIN 15 KM OF THE SITE

Site Name	Designation Type	Designated Features	Distance from the Site (km)
St. Austell Clay Pits	SSSI	Biological	Within the Site
St. Austell Clay Pits	SAC	S1390 Western rustwort, Marsupella profunda	Within the Site
Mid Cornwall Moors	SSSI	Biological	Adjacent to the Site
Breney Common and Goss & Tregoss Moors	SAC	H4010 Northern Atlantic wet heaths with Erica tetralix H4030 European dry heaths H7140 Transition mires and quaking bogs S1065 Marsh fritillary, Eurodryas aurinia	Adjacent to the Site
River Camel Valley and Tributaries	SSSI	Biological	0.6

Site Name	Designation Type	Designated Features	Distance from the Site (km)
River Camel	SAC	H4030 European dry heaths H91A0 Old sessile oak woods with Ilex and Blechnum in the UK H91E0 Alluvial woods with A. glutinosa, F. excelsior S1106 Atlantic salmon, Salmo salar S1163 Bullhead, Cottus gobio S1355 Otter, Lutra lutra	0.6
Crowhill Valley	SSSI	Biological	1.3
Rosenannon Bog and Downs	SSSI	Biological	3.3
Borlasevath and Retallack Moor	SSSI	Biological	4.2
Trelow Downs	SSSI	Biological	5.9
Carrick Heaths	SSSI	Biological	6.7
Newlyn Downs	SSSI	H4020 Temp Atlantic wet heaths with Erica ciliaris and E. tetralix H4030 European dry heaths	7.7
Newlyn Downs	SAC	Biological	7.7
Trehane Barton	SSSI	Biological	8.5
Falmouth Bay to St Austell Bay	SPA	Marine Black-throated diver, Gavia arctica - A002, nb Great northern diver, Gavia immer - A003, nb Slavonian grebe, Podiceps auritus - A007, nb	8.8
Upper Fal Estuary and Woods	SSSI	Biological	9.7

Site Name	Designation Type	Designated Features	Distance from the Site (km)
Amble Marshes	SSSI	Biological	11.3
Penhale Dunes	SSSI	Biological	12.4
Penhale Dunes	SAC	H2120 Shifting dunes along the shoreline with <i>Ammophila arenaria</i> ('White dunes') H2130 Fixed dunes with herbaceous vegetation ('Grey dunes') H2170 Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) H2190 Humid dune slacks S1395 Petalwort, <i>Petalophyllum ralfsii</i> S1441 Shore dock, <i>Rumex rupestris</i> S1654 Early gentian, <i>Gentianella anglica</i>	12.4
Bedruthan Steps and Park Head	SSSI	Mixed	13.0
Kelsey Head	SSSI	Biological	13.0
Carnkief Pond	SSSI	Biological	13.4
Rock Dunes	SSSI	Mixed	13.4
Malpas Estuary	SSSI	Biological	13.7
Redlake Meadows & Hoggs Moor	SSSI	Biological	14.2
Gerrans Bay to Camels Cove	SSSI	Mixed	14.3
Ventongimps Moor	SSSI	Biological	14.3

11.3.2.6 The statutory ecological designated sites which are within or adjacent to the Site are described in more detail below.

11.3.2.7 St Austell Clay Pits SAC is designated because it supports an Annex II species, which is internationally very rare: western rustwort

(*Marsupella profunda*). This SAC is comprised of three separate units in the St Austell area, where this species occurs.

- 11.3.2.8 The St Austell Clay Pits SSSI shares its boundaries with the St Austell Clay Pits SAC and is designated for the same species: western rustwort.
- 11.3.2.9 Goss Moor National Nature Reserve occupies part of the Breney Common and Goss & Tregoss Moors SAC and Mid Cornwall Moors SSSI, representing the parts of this ecologically diverse area that are best suited to public access, and offers important opportunities for people to engage with wildlife and learn more about nature conservation.
- 11.3.2.10 The Mid Cornwall Moors SSSI includes the Breney Common and Goss & Tregoss Moors SAC. The SSSI is designated for its diverse mosaic of semi-natural habitats, the populations of nationally rare and nationally scarce plants, the invertebrate assemblage and the breeding population of willow tit (*Poecile montanus*).
- 11.3.2.11 Breney Common and Goss and Tregoss Moors SAC is designated for the Annex I habitats that it supports: Northern Atlantic wet heaths and *Erica tetralix*, European dry heaths and transition mires and quaking bogs. An Annex II species, the marsh fritillary butterfly (*Euphydryas aurina*), is present but not a primary reason for selection.
- 11.3.2.12 The Site also falls within the Impact Risk Zone (IRZ) for Mid Cornwall Moors SSSI, Trelavour Downs SSSI, St Austell Clay Pits SSSI and Tregargus Quarries.

Non-Statutory Designated Sites

- 11.3.2.13 There are eight County Wildlife Sites within 2 km of the Site, shown on Figure 13. They are generally remote from the main components of the Site (the Trelavour Pit, the Trelavour Processing Plant and the Mining Waste Facilities), but are located within 2 km of ancillary infrastructure. The closest County Wildlife Sites to the main components of the Site are Longstone Downs and Hensbarrow, located approximately 1.9 km to the southeast and 2 km to the east of Trelavour Pit, respectively.
- 11.3.2.14 There are no Royal Society for the Protection of Birds (RSPB) reserves within 5 km of the Site.

Habitats

11.3.2.15 Current understanding of the habitats present within the key components of the Site are summarised in the section below, based on the surveys carried out to date.

Trelavour Pit

11.3.2.16 Trelavour Pit a disused china clay extraction area; since operations ceased it has been left undisturbed, and habitats have naturally re-vegetated supporting a range of habitats.

11.3.2.17 The north-eastern section of Trelavour Pit has been left undisturbed for the longest, and the habitats here (predominantly willow scrub and dry acid heath) are the most well developed. The south-western part of Trelavour Pit has been subject to more recent disturbance, and vegetated habitats here are generally much younger, with the exception of a block of woodland in the far southern end. These more recently disturbed parts of Trelavour Pit have been mapped as Open Mosaic Habitat (OMH) on previously developed land. There are also areas of open water, varying from the large, flooded pit in the east of Trelavour Pit to small, shallow, possibly ephemeral pools within the OMH.

11.3.2.18 The surveys undertaken to date identified the following habitats within the Trelavour Pit:

- OMH on previously developed land;
- broad-leaved semi-natural woodland;
- dense scrub;
- marsh/ marshy grassland;
- semi-improved grassland;
- bracken;
- dry heath/ acid grassland mosaic;
- quarry face;
- spoil;
- ephemeral/ short perennial;
- standing water (Site value); and
- built-up land and bare ground.

Trelavour Processing Plant

11.3.2.19 The Trelavour Processing Plant site is a former kaolin drying site, with large structures and bare ground with some natural vegetation regeneration. The area is largely developed and contains a series of large industrial buildings are present, along with a few smaller buildings and a historical chimney, and associated access roads and hard standing. There are small patches of vegetation within the main part of the Trelavour Processing Plant area, and larger areas of vegetated habitats (predominantly broadleaved plantation woodland, broadleaved seminatural woodland and heathland) around its northern, eastern and southern boundaries.

11.3.2.20 The surveys undertaken to date identified the following habitats within the Trelavour Processing Plant area:

- OMH on previously developed land;
- broad-leaved semi-natural woodland;
- broad-leaved plantation woodland;
- bramble scrub;
- semi-improved grassland;
- lowland dry acid heath;
- ephemeral/ short perennial; and
- built-up land and bare ground.

The Mining Waste Facilities

11.3.2.21 The Treviscoe Mining Waste Facility is a disused, flooded pit. The Goonvean Mining Waste Facility is also flooded and currently being backfilled with waste material by Imerys.

11.3.2.22 Treviscoe Mining Waste Facility

11.3.2.23 The Treviscoe Mining Waste Facility become colonised with dense rhododendron scrub. The deepest area at the centre of the quarry is a flooded pit. Steep cliffs surround most of this flooded pit. Large areas of exposed rock are present at the north of the site and on the cliffs surrounding the flooded pit. Settlement tanks were recorded within the northwest corner of the site. Sheds and small buildings were recorded at the north of the Site.

11.3.2.24 The surveys undertaken to date identified the following habitats on the Treviscoe Mining Waste Facility:

- mixed scrub;
- gorse scrub;
- rhododendron scrub;
- Holcus- Juncus neutral grassland;
- modified grassland;
- sparsely vegetated urban land;
- other woodland;
- lake/ reservoir;
- dense scrub;
- buildings;
- other developed land;
- standing water and canals (disused quarry);
- gorse scrub (invasive species); and
- mixed scrub (invasive species).

11.3.2.25 **Goonvean Mining Waste Facility**

11.3.2.26 The majority of the Goonvean Mining Waste Facility has become colonised with dense mixed scrub. Areas of artificial unvegetated unsealed surface were present across the site in the form of tracks. A large, flooded pit was situated at the centre of the site. Smaller areas of standing water were located to the north and northeast of the site. Small areas of dry heathland were recorded at the southwest of the site.

- The surveys undertaken to date identified the following habitats within the Goonvean Mining Waste Facility:
- dense mixed scrub;
- dwaft scrub;
- bramble scrub;
- lake/ flooded pit; and
- dry heathland.

Species

11.3.2.27 Current understanding of the species present within the key components of the Site are summarised in the section below, based on the surveys carried out to date. The value of the Site areas for

protected and notable species will be confirmed upon completion of the surveys.

Vascular Plants

11.3.2.28 Sixty-nine species of vascular plant were recorded during the survey at Trelavour Pit, whilst 70 species were recorded at Trelavour Processing Plant. The only species of conservation importance recorded was bluebell (*hyacinthoides non-scripta*). The desk study also revealed several records for plant species of conservation concern within a 1 km radius of the Site, that were not recorded within the Trelavour Pit or Trelavour Processing Plant site.

11.3.2.29 No notable plant species or species of conservation concern were identified at the Mining Waste Facilities, with only a small list of commonly found species recorded on the Mining Waste Facilities. Further habitat surveys will be carried out during the optimal botanical survey period. The poor-condition dense scrub habitats comprising the majority of these sites are unlikely to support any conservation notable species.

Non-Native Invasive species

11.3.2.30 Several non-native invasive plant species that are listed in Schedule 9 of the Wildlife and Countryside Act 1981 were observed at the Site. These include the following:

- *Reynoutria japonica* (Japanese knotweed), *Rhododendron* and variegated *Lamium galeobdolon* (yellow archangel) and *Crocasmia* (montbretia) were recorded at the Trelavour Pit.
- *Rhododendron*, variegated yellow archangel and *Impatiens glandulifera* (Himalayan balsam) were recorded at the Trelavour Processing Plant.
- Both of the Mining Waste Facilities had extensive amount of *Rhododendron* present. *Rhododendron* is listed under Schedule 9 of the Wildlife and Countryside Act (1981), making it an offence to cause spread.
- A stand of *Cotoneaster horizontalis* (wall cotoneaster) was also observed at Treviscoe, cotoneaster is also listed in Schedule 9 of the Wildlife and Countryside Act (1981).

Lower Plants

11.3.2.31 Western rustwort is present at the Trelavour Pit and at Treviscoe and Goonvean Mining Waste Facilities. Western rustwort is a globally threatened liverwort which typically grows on exposed rock as part of the early successional vegetation community. It benefits from recently exposed areas of rock and its British stronghold is within the Cornish china clay region. It is recognised as a priority for biodiversity conservation in England under the NERC Act 2006 and is protected under Schedule 8 of the WCA 1981 (as amended) and listed on Annex II of the EC Habitats Directive. The liverwort is found on habitat created by the quarrying of china clay. The largest documented population of the species in the world occurs within the St Austell China Clay Region (Callaghan 2024)¹³⁹, including within the Site. A Natural England protected species license was previously obtained at Trelavour Pit for drilling operations which could affect the western rustwort population there.

11.3.2.32 Recent surveys undertaken in 2025 identified populations of western rustwort at both the Goonvean and Treviscoe Mining Waste Facilities. One of the three units of the St Austell Clay Pits SSSI and SAC, designated specifically for the conservation of western rustwort occupies approximately 0.6 ha of which a small part is within the Goonvean Mining Waste Facility.

Bats

11.3.2.33 Surveys for bats are currently ongoing. The desk study for the Trelavour Pit revealed seven records for bats within 1 km most of which were pipistrelle (*pipistrellus*) species. The desk study for the Trelavour Processing Plant site identified multiple records of six bat species within 1 km, namely common pipistrelle (*Pipistrellus pipistrellus*), soprano pipistrelle (*Pipistrellus pygmaeus*), serotine (*Eptesicus serotinus*), noctule (*Nyctalus noctula*) and lesser horseshoe (*Rhinolophus hipposideros*) and greater horseshoe (*Rhinolophus ferrumequinum*) bats.

11.3.2.34 Activity surveys undertaken to date at Trelavour Pit have identified at least eight species foraging and/ or commuting bats: common pipistrelle, noctule, long-eared (*Plecotus auritus*), whiskered/ Brandt's

¹³⁹ Callaghan DA. 2024. Population status and ecology of the globally threatened liverwort *Marsupella profunda* Lindb. in Britain. Journal of Bryology. 46:198–207.

(*Myotis brandtii*)), Daubenton's (*Myotis daubentonii*), Natterer's (*Myotis nattereri*), greater horseshoe and lesser horseshoe. All of the species recorded during the activity surveys were also recorded during remote monitoring surveys, along with two additional species: soprano pipistrelle and barbastelle (*barbastella barbastellus*). Emergence surveys have also been undertaken, but no bats were recorded to date emerging from the engine house and chimney at Trelavour Pit, or from the buildings at the Trelavour Processing Plant site. A mine shaft is present at the Trelavour site, surveys undertaken to date during the winter have not recorded hibernation activity.

- 11.3.2.35 Bat surveys have not yet taken place at the Mining Waste Facilities, however, both offer moderate potential for foraging bats including dense scrub and water bodies present onsite. A number of structures have been recorded at both the Treviscoe and Goonvean Mining Waste Facilities, which could provide roosting potential for bats.

Badgers

- 11.3.2.36 The desk study identified records of badger (*Meles meles*) within 1 km of the Trelavour Pit and Trelavour Processing Plant. The badger survey undertaken at the Trelavour Pit in September 2022 only identified badger pawprints at three locations. One active sett was found at the Trelavour Processing Plant site, with five entrances. There was evidence of fresh digging, tracks and badger hair at two of the entrances. Additional surveys for badger are ongoing.
- 11.3.2.37 The Mining Waste Facilities both have potential to support resident, commuting or foraging badger across these sites and further surveys are proposed.

Dormice

- 11.3.2.38 Hazel dormouse (*Muscardinus avellanarius*) surveys are in progress at the Trelavour Pit Area. The desk study revealed no records of dormouse within 1 km of the Site, though dormice are known to be relatively widespread in this part of Cornwall, and there is some suitable habitat present within the Site. No dormouse survey has been undertaken at the Trelavour Processing Plant site, as the proposed activities will retain the existing areas of woodland and connected scrub habitat. The surveys undertaken to date have found no evidence of dormice within the Site. Surveys were not undertaken

at the Trelavour Processing Plant as the Proposed Development is not expected to impact potential dormouse habitat.

- 11.3.2.39 Dormouse surveys are in progress at the Mining Waste Facilities. The desk study revealed one granted dormouse licence application within 1 km of both sites, located approximately 600 m to the west of the Treviscoe and approximately 700 m northwest of the Goonvean Mining Waste Facility. This licence was granted in 2019 to allow for the destruction of resting and breeding habitat. Scrub habitat, present at both the Treviscoe and Goonvean Mining Waste Facilities, provides potential for nesting and foraging dormice and as such further surveys are proposed.

Otter

- 11.3.2.40 The desk study did not identify any records of otter (*Lutra lutra*) within 1 km of the Site. Otter are considered to be absent from Trelavour Pit and the Trelavour Processing Plant site. Although there is open water within Trelavour Pit, it is located some distance from the nearest watercourses and is considered unlikely to be used by otter. Whilst otter cannot be fully ruled out in areas difficult to access, they are presumed to be absent. Surveys for badger will consider any signs or evidence for otter in terrestrial habitats. At this stage, both the Trelavour Pit and Trelavour Processing Plant site are expected to be of negligible value for otter.
- 11.3.2.41 Habitats present within the Treviscoe and Goonvean Mining Waste Facilities provide some limited potential for commuting otter, with dense scrub on both sites which is suitable for sheltering otter. The smaller waterbody observed at the west of Treviscoe has steep sides, which would make it difficult for otters to access. The waterbody at the centre of Goonvean has less steep banks, allowing more accessibility. A series of flooded pits are within 1 km of Treviscoe, meaning there is potential for otter to be commuting across Treviscoe to access these waterbodies, and potentially sheltering in the scrub on site. The woodland stream approximately 200 m south of Goonvean could be suitable to support this species, making it possible that otters may be commuting across Goonvean to access this stream, or using dense scrub within this site for shelter. Signs of sheltering otter within terrestrial habitat will be noted during ongoing badger surveys.

Hedgehog

11.3.2.42 The desk study identified several records of hedgehog (*Erinaceus eripaeus*) within 1 km of the Trelavour Pit and the Trelavour Processing Plant site. Hedgehogs are considered likely to be present within the Trelavour Processing Plant site, due to its proximity to residential areas. Hedgehogs are considered less likely to be widespread at Trelavour Pit, as it is more remote from residential areas.

11.3.2.43 No evidence of hedgehog was found during initial surveys of the Mining Waste Facilities, although there is potential for hedgehogs to be both commuting and foraging on both.

Birds

11.3.2.44 Desk study data revealed that a number of bird species of conservation value have been recorded near Trelavour Pit and the Trelavour Processing Plant site. Those species have the potential to use habitats within the site for foraging, breeding or resting. Wintering and breeding bird surveys (including nightjar surveys) are ongoing at the two sites.

11.3.2.45 The dense scrub across both Mining Waste Facilities has potential to support nesting birds. The woodland habitat recorded in the northern part of Treviscoe also has potential to support nesting birds. Habitat is suitable for willow tit and nightjar, therefore further surveys are proposed to cover these species as well as general breeding and wintering bird surveys. Peregrine falcon (*Falcon peregrinus*) has been seen onsite at Treviscoe (breeding status to be confirmed).

Reptiles and Amphibians

11.3.2.46 Great crested newt (*Triturus cristatus*) (GCN) are considered absent from Cornwall and are therefore not considered further.

11.3.2.47 Other reptile and amphibian surveys are in progress at the Trelavour Pit and Trelavour Processing Plant sites. The desk study identified records of common lizard (*Zootoca vivipara*) within the Trelavour Pit. Grass snake (*Natrix natrix*) and slow worm (*Anguis fragilis*) were recorded within 1 km of the Trelavour Processing Plant site.

11.3.2.48 Habitats present at both the Trelavour Pit and Trelavour Processing Plant have potential for reptiles and surveys to date show that

Trelavour supports a good population of slow worm and a low population of common lizard. Grass snake and adder (*Vipera berus*) have been recorded onsite as incidental sightings, the Site is therefore considered to support low populations of these. The Trelavour Processing Plant site supports a good population of slow worm and a low population of adder and grass snake.

- 11.3.2.49 Surveys have not yet been undertaken on the Mining Waste Facilities however habitat such as roadside edges and small ponds could support species of reptiles and amphibians and further surveys are proposed.

Invertebrates

- 11.3.2.50 Ten species of conservation significance have been identified within Trelavour Pit thus far, including Small Red Damselfly (*Ceriagrion tenellum*), Broom-tip (*Chesias rufata*), Dingy Skipper (*Erynnis tages*), *Helina deleta*, Scarce Blue-tailed Damesfly (*Ischnura pumilo*) and a further five of which are nationally scarce including two moth species (elephant hawkmoth (*Drino lota*) and double Line (*Mythimna turca*)), two Diptera species (*Helina consimilis* and *Micropeza lateralis*) and an Arthropoda (*Sarcophaga subilata*).
- 11.3.2.51 Three species of conservation importance have been identified within the Trelavour Processing Plant site thus far, including garden tiger moth (*arctia caja*), grayling (*Hipparchia Semele*) and *Stenolophus teutonius* beetle, which is nationally scarce.
- 11.3.2.52 Surveys are yet to be undertaken at the Mining Waste Facilities however habitats such as damp Holcus- juncus grassland have the potential to support a range of invertebrate species and given the results from the nearby Trelavour Pit and Trelavour Processing Plant it is likely that these sites also support invertebrate assemblages of conservation interest. Further surveys at both Treviscoe and Goonvean are proposed.

11.3.3 KEY SENSITIVITIES

- 11.3.3.1 The key receptors for the Proposed Development are:

- European Protected Species and other protected species which could be vulnerable from impacts during each phase of the Proposed Development;

- statutory designated sites and their qualifying interest features which could be vulnerable from impacts during each phase of the Proposed Development; and
- loss of habitats, which could be vulnerable from impacts during the construction stage.

11.4 PROJECT BASIS FOR SCOPING ASSESSMENT

11.4.1 CONSTRUCTION

11.4.1.1 The key types of impacts which may occur during construction are:

- loss of, and disturbance to, terrestrial habitats due to land take by the Proposed Development;
- direct impacts including removal and loss of habitat from designated sites e.g. the St Austell Clay Pits SAC;
- loss of land that is possibly linked functionally to statutory and non-statutory designated sites, which may be important for the maintenance of species' conservation statuses;
- impacts resulting from construction noise on protected species present onsite, or within statutory designated sites;
- impacts resulting from construction dust on habitats and protected species including nearby designated sites and the species for which they are designated;
- direct disturbance of, and harm to, animals, including the displacement of species from the proximity of the Proposed Development; and
- potential legal offences, even when significant adverse ecological effects are unlikely.

11.4.1.2 Construction without mitigation could also result in the direct disturbance of, and harm to, animals, including the displacement of species from the proximity of the Site. The assessment will determine the significance of these effects.

11.4.2 OPERATION AND MAINTENANCE

11.4.2.1 The key types of impacts which may occur during operation are:

- disturbance from operational mining activities including noise, impacts on habitats, protected species, or designated sites;

- disturbance from operational mining activities including air quality impacts associated with dust, impacts on habitats, protected species, or designated sites;
- disturbance from lighting of operational mine on habitats, protected species, or designated sites;
- potential disturbance to aquatic environments through water discharge;
- disturbance from machinery or vehicles required for operation and maintenance; and
- point source emissions from the processing facilities.

11.4.3 DECOMMISSIONING, CLOSURE AND RESTORATION

11.4.3.1 Potential impacts of decommissioning works on ecology features of the Proposed Development are likely to be similar to those during construction. Prior to decommissioning, it is anticipated that the Site would be assessed by an ecologist to identify the requirement for surveys to update the baseline condition and/or any mitigation or best practice measures, in accordance with prevailing guidance and legislation at the time of works.

11.5 MITIGATION

11.5.1.1 Standard construction and operational good practice will be adopted to safeguard habitats and species, including buffers from watercourses, woodland, and buffers for root protection zones. Good practice mitigation measures will be described in the ES and the means for securing them will be set out in relevant documents (such as the CEMP).

11.5.1.2 Good practice measures aside, site-specific mitigation measure will also be identified following the completion of the surveys and Ecological Impact Assessment (EcIA) and may include, but not be limited to:

- adherence with Environmental Good Practice on Site¹⁴⁰;
- adherence with Pollution Prevention Guidelines;
- establishment of clearly defined working areas that exclude works around sensitive features; and

¹⁴⁰ Charles, P. and Edwards, P. (eds) (2020) Environmental good practice on site (4th ed.). CIRIA. Accessed: August 2024

- adherence with the Construction Code of Practice for the Sustainable Use of Soils on Construction Sites¹⁴¹.

11.5.1.3 Mitigation measures will be developed taking account of the detailed survey findings and the evolving design. The approach will follow the mitigation hierarchy, and where impacts can be avoided this will be adopted as the first approach.

11.5.1.4 Where the disturbance to protected species cannot be prevented, the Applicant will seek to obtain protected species licences from Natural England where applicable and appropriate.

11.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

11.6.1.1 The assessment will consider effects from the Proposed Development, both on-site and in the surrounds. Examples of the potential effects considered, which may be beneficial or adverse are listed below:

- loss of habitat or species of flora and fauna from permanent or temporary land take;
- loss of habitat directly from designated sites;
- indirect effects from dust, noise etc on nearby designated sites effecting site integrity;
- disturbance to, or displacement of a species from the Site because of permanent or temporary land take;
- impacts to adjacent habitats (and the species that use them) that are not directly required for construction or operation (e.g. through movements of vehicles and site personnel, lighting, dust, noise and vibration, discharges to water, alteration to drainage regimes);
- fragmentation of habitat or severance of ecological corridors (such as watercourses, hedgerows, flyways); and
- creation of new habitat and the introduction of species as a result of the reinstatement works and landscaping.

11.6.1.2 A summary of the potential effects/ topics to be scoped in to the EIA is included in Table 11.2 , below, with rationale (based on currently available survey and desk-based information).

¹⁴¹ Defra (2009) Construction Code of Practice for the Sustainable Use of Soils on Construction Sites. Defra. Accessed: August 2024

TABLE 11.2: EFFECTS/ TOPICS SCOPED IN TO THE ECOLOGY AND NATURE CONSERVATION ASSESSMENT

Effect/ Topic	Phase of the Proposed Development	Rationale for Scoping Into the Assessment
International Statutory Designated Sites	All phases	International designated sites present within the defined area of influence.
Local and National Designated Sites	All phases	National designated sites present within the defined area of influence.
Protected Species- Bats	All phases	Species recorded in desk study and ongoing surveys onsite. Suitable habitat present for foraging, commuting and roosting bats.
Protected Species- Hazel Dormouse	All phases	Species recorded in the area of influence of desk study results. Habitats onsite suitable for dormice surveys ongoing.
Protected Species- reptiles	Construction; Decommissioning, Closure and Restoration	Species recorded in desk study and ongoing surveys onsite. Suitable habitat present across the site.
Protected Species- Badger	All phases	Records in desk study and evidence of badger recorded onsite.
Protected Species- Invertebrates	All phases	Records in desk study and evidence of invertebrate assemblages through surveys.
Protected Species- nesting and Schedule 1 listed birds	All phases	Site surveys have highlighted potential for nesting birds and schedule 1 bird species recorded.
Protected Species- Bryophytes	All phases	Western rustwort present across the sites.
Priority Species- Birds, Amphibians and Mammals	All phases	Desk study records and site surveys identified priority species.

Effect/ Topic	Phase of the Proposed Development	Rationale for Scoping Into the Assessment
Priority Habitats- Hedgerows, broadleaved woodland, ponds, watercourses, Open Mosaic Habitats.	All phases	Site surveys identified priority habitats including large areas of Open Mosaic Habitats.
Invasive Species	Construction; Decommissioning, Closure and Restoration	Invasive species identified onsite.

11.6.1.3 The assessment will include input from other technical disciplines, for example the noise, air quality, water resources and flood risk assessments, all of which will provide the basis for assessing effects on biodiversity features.

11.6.1.4 Surveys and assessments are ongoing at the time of writing. Where the surveys and assessments identify additional survey requirements, these will be added to the elements that can be scoped in or out.

11.7 EFFECTS SCOPED OUT OF THE EIA

11.7.1.1 A summary of the proposed effects/ topics to be scoped out of the EIA is included in Table 11.3 below, with rationale (based on currently available survey and desk-based information).

TABLE 11.3: EFFECTS/ TOPICS SCOPED OUT OF THE ECOLOGY AND NATURE CONSERVATION ASSESSMENT

Effect/ Topic	Rationale for Scoping Out of the Assessment
Protected Habitats- Ancient Woodland	Not present within the site or within area of influence.
Protected Species- Otter	Waterbodies onsite are generally unsuitable for otter and habitat onsite provides limited potential for this species.
Protected Species- Great Crested Newt, White Claw Crayfish and Water Vole	Site outside of geographical range for these species.

11.8 PROPOSED APPROACH TO THE ASSESSMENT

11.8.1 SPECIFIC METHODOLOGIES

Survey Methods

11.8.1.2 Where surveys were commenced prior to updated guidance they were completed under that guidance (for example bat surveys undertaken prior to 2023 followed guidance Bat Conservation Trust 2016 but subsequent/ updating surveys adopted the latest guidance available; for example bat surveys completed after 2023 follow updated guidance from the Bat Conservation Trust 2023.

11.8.1.3 Survey methodologies have been/will be undertaken as per the specific species guidelines as listed below:

- Monitoring the Otter *Lutra lutra* (2003)¹⁴²;
- Bat Surveys for Professional Ecologists: Good Practice guidelines (2016)¹⁴³;
- Bat Surveys for Professional Ecologists: Good Practice guidelines, (ed) (2023)¹⁴⁴;
- Bird Monitoring Methods (1998)¹⁴⁵; and
- Surveying Badgers (1989)¹⁴⁶
- Guidelines for Baseline Ecological Assessment (1995)¹⁴⁷
- Handbook for Phase 1 Habitat Survey (2010)¹⁴⁸.
- UK Habitat Classification System (2023)¹⁴⁹
- Common Bird Census Instructions (1983)¹⁵⁰.

¹⁴² Chainn P (2003) Monitoring the Otter *Lutra lutra*. Conserving Natura 2000 Rivers Monitoring Series No,10, English Nature, Peterborough;

¹⁴³ Collins, J. (ed) (2016) Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust. London;

¹⁴⁴ Collins, J. (ed) (2023) Bat Surveys for Professional Ecologists: Good Practice Guidelines (4th edition). The Bat Conservation Trust London;

¹⁴⁵ Gilbert, G., Gibbons, DW & Evans, J (1998) Bird Monitoring Methods: A Manual of Techniques for Key UK Species;

¹⁴⁶ Harris, S., Cresswell, P., and Jefferies, D. (1989). 146Surveying Badgers. Occasional publication No.9 Mammals Society, London;

¹⁴⁷ Institute for Environmental Assessment (1995) Guidelines for Baseline Ecological Assessment, Spon, London;

¹⁴⁸ Joint Nature Conservation Committee. (2010). Handbook for Phase 1 Habitat Survey - a Technique for Environmental Audit (revised reprint). Joint Nature Conservation Committee, Peterborough;

¹⁴⁹ UK Hab Ltd (2023). UK Habitat Classification Version 2.0 available from: [ukhab – UK Habitat Classification](https://ukhab.com/)

¹⁵⁰ Marchant, J.H. (1983). Common Bird Census Instructions. BTO, Tring;

- Barn Owl Survey Methodology and Techniques for use in Ecological Assessment. (2011)¹⁵¹
- Water Vole Conservation Handbook (2011)¹⁵².
- The dormouse conservation handbook 2nd edition (2006)¹⁵³.

Biodiversity Net Gain

- 11.8.1.4 There is currently no legal requirement for a certain level of biodiversity net gain to be achieved by a proposed development being consented under the Planning Act 2008. The Environment Act 2021 made amendments to the Planning Act 2008 to provide that the Secretary of State may not grant an application for a DCO for a development where a "*biodiversity gain statement*" applies unless satisfied that the "*biodiversity gain objective*" is met. However, these provisions have not yet been brought into force.
- 11.8.1.5 On 28 May 2025 DEFRA opened a consultation on its proposals to implement biodiversity net gain for nationally significant infrastructure projects. The consultation indicates that DEFRA proposes introducing BNG for infrastructure projects from May 2026.
- 11.8.1.6 Regardless of the legislative position, the Applicant is committed to achieving biodiversity net gain through the delivery of the Proposed Development through habitat retention, enhancement and creation with consideration to local priority habitats. The biodiversity gain objective is that the biodiversity value attributable to the development in question must exceed the pre-development value by a specified percentage.
- 11.8.1.7 The Applicant will be watching DEFRA announcements about how they intend any mandatory BNG requirements to be applied to infrastructure projects and will ensure that it complies with any relevant legislation and guidance issued.
- 11.8.1.8 BNG will be a key consideration in development of the restoration plan for the Proposed Development, and opportunities will be sought to link the delivery of BNG to relevant local plans and strategies,

¹⁵¹ Shawyer, C.R (2011). Barn Owl Tyto alba: Survey Methodology and Techniques for use in Ecological Assessment. Developing Best Practice in Survey and Reporting. IEEM, Winchester.

¹⁵² Strachan, R., Moorhouse, T. and Gelling, M. (2011). Water Vole Conservation Handbook. Third Edition. Wildlife Conservation Research Unit, Oxford.

¹⁵³ P Bright, T, Mitchell- Jones, amended English Nature (2006), The Dormouse Conservation Handbook (2nd Edition) available online from: EN DORMOUSE HANDBOOK (4663)

including Cornwall Council's Climate Emergency Development Plan Document and Planning for Biodiversity Guide (2023)¹⁵⁴.

11.8.1.9 A BNG Assessment Report will be produced in accordance with the required methodology which is expected to be that set out in the Statutory Biodiversity Metric User Guide using the Statutory Biodiversity Metric (2024)¹⁵⁵ and the following relevant guidance such as:

- Chartered Institute of Ecology and Environmental Management (CIEEM), CIRIA & Institute of Environmental Management and Assessment (IEMA): Biodiversity Net Gain: Good practice principles for development¹⁵⁶;
- CIEEM, CIRIA & IEMA. Biodiversity Net Gain: Good practice principles for development. A practical guide; and
- HM Government: Biodiversity net gain planning practice guidance.

11.8.1.10 A detailed Habitat Monitoring and Management Plan (HMMP) will be prepared; this will include details of the creation and ongoing monitoring and management of created habitats for BNG and any compensation alongside the enhancement of existing habitats.

Habitats Regulations Assessment (HRA)

11.8.1.11 A HRA refers to the several distinct stages of assessment which must be undertaken in accordance with the Conservation of Habitats and Species Regulations 2017. A HRA is required to assess whether there are any significant effects on qualifying features of national sites (formerly European protected sites) that are likely to arise as a result of a Proposed Development. Due to the proximity of the Proposed Development to a number of SACs, a HRA Report will be prepared, including a HRA Screening to identify sites where a Likely Significant Effect cannot be discounted.

¹⁵⁴ Cornwall Council (2023, Climate Emergency Development Plan Document and Planning for Biodiversity Guide. Available online from: [Climate Emergency Development Plan Document \(DPD\) - Cornwall Council](#)

¹⁵⁵ Department for Environment Food & Rural Affairs (2024). The Statutory Biodiversity Metric User Guide available from: [The Statutory Biodiversity Metric](#)

¹⁵⁶ CIEEM, Construction Industry Research and Information Association (CIRIA) & Institute of Environmental Management and Assessment (IEMA): Biodiversity Net Gain: Good practice principles for development

11.8.1.12 As per the Planning Inspectorate's guidance¹⁵⁷, to fulfil the requirements of the Habitats Regulations, the Applicant will submit information to inform a HRA in the form of a HRA Report or a No Significant Effects Report (NSER), as required, to the Competent Authority.

Assumptions, Limitations and Uncertainties

11.8.1.13 As baseline surveys are still underway, there may be new findings which result in the increase or decrease of survey scope and ecological effects from that described in this section.

11.8.1.14 Due to the nature of the sites there are some areas that are difficult and unsafe to access. Where possible alternative survey methods will be explored in these areas. Where this is not possible then the use of ecological assumptions and professional judgement may be necessary.

Assessment Methodology

11.8.1.15 The approach taken to the assessment of ecological effects will follow the CIEEM Guidelines for Ecological Impact Assessment in the United Kingdom and Ireland¹⁵⁸. These guidelines set out the process for assessment through the following stages:

- evaluation of the importance of features identified during the Desk Study and Baseline Surveys – those considered to be Important Ecological Features (IEFs) are scoped into the assessment, while those considered to be not present are scoped out;
- identification and characterisation of potential effects on IEFs;
- assessment of potential effects on IEFs, both from the Proposed Development alone and cumulatively with other developments in the surrounding area;
- identification of measures required to avoid and mitigate (avoid, minimise, reduce) adverse effects and to introduce possible enhancements; and

¹⁵⁷ National Planning Infrastructure (2024) *Nationally Significant Infrastructure Projects: Advice on Habitats Regulations Assessments*. Available online at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-habitats-regulations-assessments#3>

¹⁵⁸ CIEEM (2024) *Guidelines for Ecological Impact Assessment in the UK and Ireland*. Available at: [EcIA-Guidelines-v1.3-Sept-2024.pdf](#) [Accessed 21/05/2025]

- assessment of the significance of any residual effects after mitigation.

11.8.1.16 The ecology and nature conservation section will contain the ecological assessment and be supported by appendices, including information such as desk study results, survey methodologies and survey results. Information relating to any protected and sensitive species potentially subject to persecution will be presented in a confidential annex with restricted access. The section will include measures to mitigate likely adverse effects, either by sensitive design or applied techniques, and will outline measures to enhance biodiversity with the view of delivering net gain, as well as the requirement for associated monitoring and adaptive management.

Cumulative Effects

11.8.1.17 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same ecological receptors.

11.8.2 ASSESSMENT CRITERIA

Determining Value

11.8.2.2 The baseline conditions, including the importance of environmental features on or near to the Proposed Development, or the sensitivity of potentially affected IEFs, are assessed in line with best practice guidance, legislation, statutory designations, and professional judgement.

11.8.2.3 Ecological features can be important for a variety of reasons, and may relate, for example, to rarity, the extent to which they are threatened throughout their range, or to their rate of decline. The level of importance of features identified during the desk study and baseline surveys will be determined with reference to CIEEM guidance¹⁵⁸, and include a consideration of relevant legislation, conservation status, population size and distribution and the level of Proposed Development use with potential to impact habitats and protected species. Some examples of nature conservation value of the ecological interests are provided in Table 11.4.

11.8.2.4 It is anticipated that features matching the criteria for Local, or higher, importance level will be included in the EIA. Features of Less than Local importance will be scoped out of the assessment; however,

where relevant, safeguards necessary to ensure legal compliance (i.e., protection of nesting common bird species) will be included.

TABLE 11.4: RECEPTOR VALUE CRITERIA FOR ECOLOGY AND NATURE CONSERVATION

Value/ Importance Level	Description
International	- The regular presence within or around the Proposed Development of a qualifying feature of an existing or proposed statutory site of international ornithological importance, i.e. SPA or Ramsar site, with potential connectivity to the Proposed Development. Generally, species recorded in numbers representing more than 1% of the cited SPA population, are included, with an element of professional judgement. - An internationally designated site (e.g. a SAC) or a site meeting criterion for international designations. This includes candidate SACs/SPAs. - Species in internationally important numbers (>1% of biogeographic populations). SAC qualifying species connected to a SAC.
National (England)	- The regular presence within or around the Proposed Development of a designated feature of a statutory site of national importance, i.e. SSSI, with potential connectivity to the site, or the regular presence of a group of species which form part of a designated assemblage feature of a SSSI. - Exceptional population of reptile(s) confirmed present within the Proposed Development or notable presence of European Protected Species i.e., maternity/hibernation roost for rare bat species such as, Barbastelle bat. - Large areas of priority habitats¹⁵⁹ or habitats listed on Annex I of the Habitats Directive and smaller areas of such habitats that are essential to maintain the viability of the habitat.
Regional (County)	- Species listed on Annex I of the Birds Directive, or breeding species listed on Schedule 1 of the Wildlife and Countryside Act 1981 (as amended), that are present within or around the Proposed Development infrequently or in low numbers (regionally or locally important numbers) but could use the Proposed Development more regularly post-construction. - Medium population of reptile(s) confirmed present within the Proposed Development or notable presence of European Protected Species, i.e. maternity/hibernation roost for more common bat species such as Common/Soprano Pipistrelle bat. - Local Nature Reserve (LNR).
Local	A locally important population of a bird species of conservation concern, or other species of conservation interest, e.g. Local

¹⁵⁹ Section 41, Natural Environment and Rural Communities (NERC) Act 2006. Accessed: August 2024

Value/ Importance Level	Description
	Biodiversity Action Plan (BAP), that regularly occurs within or around the Proposed Development. • Local Wildlife Sites (LWS) or equivalents that may be designated according to criteria at the local authority level. • Areas of semi-natural woodland smaller than 0.25 ha. • Areas of habitat or species considered to appreciably enrich the ecological resource within the local context.
Less than Local	• All other bird species that are widespread and common and of low conservation concern (e.g. included on the Birds of Conservation Concern green list) and which are not present in locally important (or greater) numbers. • Usually widespread and common habitats and non-avian species. Features falling below local value are not considered in detail in the assessment process unless they have policy implications for the Proposed Development, e.g. common habitats supporting legally protected species.

Characterisation of Potential Effects

11.8.2.5 In line with the CIEEM EcIA guidance¹⁵⁸, consideration is given to the following characteristics when identifying the potential effects of the Proposed Development on ecological features:

- Nature of effect: whether it is positive (beneficial) to features, e.g. by increasing species diversity or extending habitat, or negative (detrimental), e.g. by loss of, or displacement from, suitable habitat;
- Extent: the spatial or geographical area over which the effect may occur;
- Magnitude: the size, amount, intensity, and volume of an impact that leads to the effect;
- Duration: the duration of an effect as defined in relation to ornithological characteristics (such as a species' life cycle) as well as human timeframes. It should also be noted that the duration of an activity may differ from the duration of the resulting effect; e.g. if short-term construction activities cause disturbance to breeding birds, there may be long-term implications from failure to reproduce that season;
- Frequency: the number of times an activity occurs may influence the resulting effect; and

- Timing: this may result in an impact on an ecological feature if it coincides with critical life stages or seasons (e.g. the breeding season).

11.8.2.6 The criteria for assessing the magnitude of an impact that leads to an effect are defined as follows:

- High: A fundamental change to the baseline condition of the IEF, leading to total loss or major alteration of the relevant population;
- Medium: A material change to the baseline condition of the IEF, leading to partial loss or alteration of the relevant population;
- Low: A slight, detectable, alteration of the baseline condition of the IEF; and
- Negligible: A barely distinguishable change from baseline conditions.

11.8.2.7 It is considered that a magnitude level of medium or higher could have a likely significant effect on an IEF, where the IEF is sensitive to the impact concerned.

Determining Significance

11.8.2.8 Prevailing CIEEM guidance avoids and discourages use of the matrix approach to determining significance and describes only two categories: 'significant' or 'not significant'.

11.8.2.9 According to the CIEEM guidance, for the purpose of EcIA, a 'significant effect' is one *"...that either supports or undermines biodiversity conservation objectives for important ecological features or for biodiversity in general"*.

11.8.2.10 The approach adopted will aim to determine whether an effect is significant or not significant, on the basis of a discussion of the variables that characterise it. The significance of an effect is linked to the geographical scale at which the receptor is valued but does not necessarily depend on the value of the receptor or its legal protection.

11.8.2.11 When assessing the significance of effects on European and other designated sites, the term *"site integrity"* is used. This is the *"...coherence of ecological structure and function...that enables it to sustain the habitat, complex of habitats and/or levels of populations of species for which it was classified"*. In the case of European sites there will be clear conservation objectives for the sites that are to be

met and maintained. For non-designated sites/species this can be amended to *"the coherence of ecological structure and function, which enables it (in this case, the area being considered e.g. region) to maintain the levels of populations of species in its/their pre-development condition"*. Maintaining integrity therefore refers to the maintenance of the conservation status of a habitat or species population at a specific location or geographical scale.

12. LANDSCAPE AND VISUAL IMPACT

12.1 INTRODUCTION

12.1.1.1 This section of the Scoping Report identifies the landscape and visual receptors of relevance to the Proposed Development and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development upon landscape character and visual receptors, including those at settlements and users of PRoWs and the local road network. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.

12.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

12.2.1.1 The Landscape and Visual Impact Assessment (LVIA) will be undertaken in line with the following legislation, policy and guidance:

- The NPPF (2025) ⁹⁹;
- Landscape Institute/ Institute of Environmental Management and Assessment (2013), Guidelines for Landscape and Visual Impact Assessment, 3rd Edition ('GLVIA3')¹⁶⁰;
- Landscape Institute (2023), Notes and Clarifications on GLVIA3¹⁶¹;
- Landscape Institute (2019), 'Visual Representation of Development Proposals', Technical Guidance Note 06/19;¹⁶²
- Landscape Institute (2021), Technical Guidance Note 02/21 Assessing landscape value outside national designations¹⁶³;
- National Design Guide (2021)¹⁶⁴;

¹⁶⁰ Landscape Institute/ IEMA (2013). Guidelines for Landscape and Visual Impact Assessment, 3rd Edition. Available Online at: <https://www.landscapeinstitute.org/technical/glvia3-panel/>. [Accessed on 20 March 2025].

¹⁶¹ Landscape Institute (2023). Notes and Clarifications on GLVIA3. Available Online at: https://www.landscapeinstitute.org/wp-content/uploads/2024/08/LITGN-2024-01-GLVIA3-NC_Aug-2024.pdf [Accessed on 20 March 2025].

¹⁶² Landscape Institute 2019. Visual Representation of Development Proposals', Technical Guidance Note 06/19. Available Online at: https://landscapewpstorage01.blob.core.windows.net/www-landscapeinstitute-org/2019/09/LI_TGN-06-19_Visual_Representation.pdf. [Accessed on 20 March 2025].

¹⁶³ Landscape Institute (2021). Technical Guidance Note 02/21 Assessing landscape value outside national designations. Available Online at: <https://www.landscapeinstitute.org/publication/tgn-02-21-assessing-landscape-value-outside-national-designations/>. [Accessed on 21 March 2025].

¹⁶⁴ Ministry of Housing, Communities & Local Government (2021). National Design Guide. Available Online at: https://assets.publishing.service.gov.uk/media/602cef1d8fa8f5038595091b/National_design_guide.pdf. [Accessed on 19 May 2025].

- National Model Design Code (2021)¹⁶⁵
- Natural England and Defra (2014) Landscape and Seascape Character Assessments¹⁶⁶;
- Natural England (2014) An Approach to Landscape Character Assessment¹⁶⁷;
- Natural Environment and Rural Communities Act 2006;
- The Cornwall Local Plan Strategic Policies (Policy 21, 22, 23, 24 and 25) ²³; and
- PPG for the Natural Environment (2025)¹²³.

12.2.1.2 Paragraph 174, of the NPPF states inter-alia that *"planning policies and decisions should contribute to and enhance the natural and local environment by, amongst other things, protecting and enhancing valued landscapes [...] (in a manner commensurate with their statutory status or identified quality in the development plan)"*.

12.3 BASELINE ENVIRONMENT

12.3.1 DATA SOURCES

12.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for the EIA:

- Natural England (September 2014) National Character Area Profiles¹⁶⁸;
- Cornwall Council Landscape Character Assessment (LCA) 2023 Review¹⁶⁹;
- Cornwall Council Interactive Map⁴⁷;
- Cornwall Local Plan (2016)²³;
- OS mapping at 1:50,000, 1:25,000 and 1:10,000;
- aerial photography;

¹⁶⁵ UK Government (2021). National Model Design Code. Available Online at: <https://www.gov.uk/government/publications/national-model-design-code> [Accessed on 19 May 2025].

¹⁶⁶ Natural England and Defra (2014). Landscape and Seascape Character Assessments. Available Online at: <https://www.gov.uk/guidance/landscape-and-seascape-character-assessments>. [Accessed on 21 March 2025].

¹⁶⁷ Natural England (2014). An Approach to Landscape Character Assessment. Available Online at: <https://assets.publishing.service.gov.uk/media/5aabd31340f0b64ab4b7576e/landscape-character-assessment.pdf>. [Accessed on 20 March 2025].

¹⁶⁸ Natural England (2014). National Character Area Profiles. Available online at: <https://www.gov.uk/government/publications/national-character-area-profiles-data-for-local-decision-making/national-character-area-profiles>.

¹⁶⁹ Cornwall Council (2023). Cornwall Council Landscape Character Assessment (LCA) 2023 Review. Available online at: <https://www.cornwall.gov.uk/environment/cornish-landscape/>.

- Defra's Magic Map⁴⁴;
- Google Earth; and
- fieldwork and site visits.

12.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

The Site and its Setting

- 12.3.2.2 Trelavour Pit is a disused China clay extraction site, whilst the Trelavour Processing Plant site is an existing industrial site, with large structures and bare ground with some natural vegetation regeneration. Both the Trelavour Pit and the Trelavour Processing Plant site are bordered by woodland.
- 12.3.2.3 Trelavour Pit is located to the immediate southeast of the village of St Dennis, whilst the remainder of the Site is located to its north, northwest and west. The village of Nanpean is adjacent to the south of the Site and the town of St Austell is located approximately 5 km southeast of the Site.
- 12.3.2.4 In addition to these small settlements, the surrounding landscape is characterised by open clay pits (both active and disused), mining waste tips, industrial buildings and agricultural land.
- 12.3.2.5 Two of these open clay pits will be used as Mining Waste Facilities; the Treviscoe Pit and the Goonvean Pit. These pits are located south of the Trelavour Processing Plant site, contain standing water and are surrounded by vegetation.
- 12.3.2.6 There are a number of soil heaps within the Study Area; of particular relevance are two conical kaolin spoil heaps (or 'sky tips') located in close proximity to St Dennis, both of which are considered to be distinctive local landmarks.

Landscape Character

- 12.3.2.7 The Site falls within the National Character Area (NCA) Profile 154 Hensbarrow (NE486), which is described as a varied landscape, named after the granite hills (Hensbarrow Downs) which are the focus of the china clay industry in the area.
- 12.3.2.8 At a local level, the Cornwall Council LCA 2023 Review divides the landscape of the county into 44 Cornwall Character Areas (CCAs) and 19 Landscape Character Types (LCTs). The Site is situated within CCA

27: St Austell or Hensbarrow China Clay Area and LCT A: China clay workings.

12.3.2.9 CCA 27 is described as being *"defined from the surrounding landscape by its historically elevated landform, which has been altered by extensive mining activity to become a dramatic skyline of conical and flat-topped spoil heaps, now covered in naturally regenerating scrub and heath"*, in contrast to the lower-lying, more traditional agricultural landscapes that surround it. The LCA lists its most valued and sensitive attributes, including:

"1. Distinctive large-scale spoil heaps and turquoise-coloured settling ponds, lakes and mica dams.

2. Small areas of pastoral farmland and rough grazing enclosed by stone-faced Cornish hedges.

3. Distinctive small-scale mining settlements with a strong character and sense of place, including the small-scale field pattern of miners' smallholdings around St Dennis..."

12.3.2.10 LCT A is an area characterised by large-scale china clay pits and heaps. Its extent is *"reflective of the distinctive landforms created as a result of extensive mining in the area, forming a dramatic skyline of conical and flat-topped spoil heaps"*.

Landscape Definitions

12.3.2.11 There are no statutory landscape designations (National Landscapes (NLs), formerly Areas of Outstanding Natural Beauty (AONB) or National Parks) within the Site or in close proximity to it. The nearest National Landscape is the Cornwall National Landscape, located approximately 9 km to the southeast of the Site. The nearest National Park is Dartmoor, located approximately 50 km to the east of the Site.

12.3.2.12 The Site is not within an Area of Great Landscape Value (AGLV) or a candidate AGLV. There are four AGLVs within 5 km of the Site:

- The Fal Valley AGLV, located approximately 0.9 km to the south of the Site;
- Camel & Allen Valleys AGLV, located approximately 1.1 km to the north of the Site;

- Trenowth AGLV, located approximately 1.6 km to the south of the Site; and
- Arrallas Farm AGLV, located approximately 3.1 km west of the Site.

Visual Receptors and Visual Amenity

12.3.2.13 Visual effects will be experienced by the people who live and work in the area, as well as those enjoying recreational activities in this area or simply passing through. Visual receptors are the people who would be affected by changes in views; they are typically grouped by their activities at those places. This includes residents within settlements and users of the local transport network and PRowS, as well as people visiting local areas of interest.

Residential Receptors

12.3.2.14 There are a number of small villages/ hamlets within approximately 2 km of the Site, from where views of the Proposed Development may be possible, including St Dennis, Nanpean, Whitemoor, Foxhole, Treviscoe and St Stephen (Figure 10).

Recreational Receptors

12.3.2.15 The Proposed Development may also be viewed from the local network of PRowS, including the Cornish Way/ Goss Moor Multi-Use Trail and National Cycle Network Route 305. A number of PRowS are located close to the Site (Figure 14). The one which crosses the Trelavour Processing Plant site will require to be diverted. A PRow to the north of the Trelavour Processing Plant approaches along the access road to the CERC and may include views of the Proposed Development. There is also a route which commences at Nanpean and partially enters Trelavour Downs. There are also two PRowS which skirt the southern edges of both the Treviscoe and Goonvean Pits.

12.3.2.16 There is also a PRow north of St Dennis which passes the St Denys Church and provides wide, open and elevated views to the south towards the site.

Transport Routes

12.3.2.17 There is a network of local, rural roads within the vicinity of the Site, including Gothers Road, Brewers Hill and the B3279. The LVIA

will consider the effects on sequential views experienced by road users, including the pattern of visibility and how this would affect views from the road network.

12.3.3 STUDY AREA

12.3.3.1 Based on the anticipated visibility of the Proposed Development and initial identified landscape and visual receptors, the assessment will utilise a Study Area of 5 km radius around the Site for the examination of effects on landscape character and views / visual amenity. It is not expected that significant landscape and visual effects would occur beyond this distance. A Zone of Theoretical Visibility (ZTV) will be generated to show the maximum visibility of the Proposed Development, based on upper height limits (with the tallest structure currently expected to be up to 35 m in height). The suggested Study Area may be adjusted up or down depending on the results of the ZTV.

12.3.4 REPRESENTATIVE VIEWPOINTS

- 12.3.4.1 An assessment of the visual effects of the Proposed Development will be based on the analysis of the ZTV, field studies, and assessment of representative viewpoints.
- 12.3.4.2 An initial list of proposed viewpoints for the assessment is set out in Table 12.1 below and are shown on Figure 14. The list has been compiled following good practice guidance (in particular paragraphs 6.18 to 6.20 within GLVIA3) and provides a representative range of viewing distances and viewing experiences. Final viewpoint positioning will be informed by the design evolution of the Proposed Development, consultation feedback and refinement in the field, and will be agreed with Cornwall Council's Landscape Officer.
- 12.3.4.3 Baseline photographic panoramas have been produced during winter to represent the worst-case scenario in terms of visibility, for each of the above viewpoints, illustrating the nature of existing views in the direction of the Proposed Development. They will be included with the ES (with visualisations where appropriate).

TABLE 12.1: INITIAL REPRESENTATIVE VIEWPOINTS

Viewpoint Number	Viewpoint Location Description	X	Y	Approximate Distance from the Site (m)
VP1	St Denys Church, St Dennis. PRoW. Recreational receptors. Visitors to the church.	195080	058264	470
VP2	Path crossing small hill south of Rostowrack Downs Clay Pit. Recreational receptors.	195742	057486	Within the Site
VP3	Brewers Hill Road users.	196125	057519	Within the Site
VP4	PRoW within open space near Trelavour Downs Recreational receptors.	196239	056823	Within the Site
VP5	B3279 at entrance to Site Road user.	195593	056590	Adjacent to the Site
VP6	Public access road to Energy to Waste plant also PRoW Recreational user. Road user.	194117	056812	Within the Site
VP7	Unclassified road running east of Treviscoe Clay Pit Road user.	194867	056078	Within the Site
VP8	St Stephen's Beacon. Accessible prehistoric hillfort near Goonabarn. Recreational receptors. Visitors with a historic interest.	195985	054524	850

12.3.5 KEY SENSITIVITIES

12.3.5.1 At this stage, the key sensitivities are considered to be:

- potential direct and indirect landscape effects on local landscape character, including cumulative landscape effects, particularly on the host landscape character types;
- views for visual receptors including from key routes, settlements and nearby individual properties; and
- cumulative visual effects on users of the main and local road network.

12.4 PROJECT BASIS FOR SCOPING ASSESSMENT

12.4.1.1 The following aspects of the Proposed Development may result in landscape and visual effects upon the identified receptors:

- site preparation and construction activities across the Site;
- visibility of various buildings such as the Hydromet Plant, the Concentrator Plant and the crusher during operation;
- waste deposition and restoration of the Mining Waste Facilities;
- excavation and mining activities within the Trelavour Mine Site during operation; and
- ancillary infrastructure including the waste transport corridor and electrical infrastructure, which may include sections of overhead line.

12.5 MITIGATION

12.5.1.1 The effects resulting from the Proposed Development will vary in nature and degree throughout its lifecycle. Mitigation measures will be incorporated into the design of the development wherever feasible. Alternative measures may be proposed where the design cannot sufficiently address the likely significant adverse effects. The purpose of mitigation measures is, first, to prevent or avoid potentially adverse effects and, if that is not possible, to reduce the adverse effects. Where adverse effects are unavoidable, the purpose is to offset or compensate for the effect.

12.5.1.2 An important design mitigation measure will be to retain significant amounts of the extensive mature vegetation which surrounds many parts of the Site wherever possible. This wooded/scrub vegetation, often located on berms, is currently very effective at limiting views into the Site from the surrounding roads and recreational routes, as well as nearby settlements

12.5.1.3 Where this screening vegetation is missing or is proposed for removal during construction it may be replaced. This would be particularly important where such measures would result in a reduction in the level of residual effects. This will be captured in the outline HMMP along with other relevant mitigation measures.

12.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

- 12.6.1.1 Due to a number of factors, such as the existing landscape character of the area, the abundant existing screening and the nature of the development, significant landscape or visual effects arising as a result of the Proposed Development will be limited. Many of the proposed structures and activities will be occurring at the base of already excavated pits, which are heavily screened by a combination of berms and vegetation. Therefore, widespread visibility will be extremely limited. However, two conical sky tips created by excavated waste being piled up during previous mining activities are widely visible, and have become distinctive features in the local landscape. As it is known that the removal of these two tips is required in order to realise the Development (see Section 2.6.2), the removal of such features is likely to give rise to visual effects for a number of sensitive visual receptors.
- 12.6.1.2 Significant visual effects may also arise as a result of the construction of the various buildings and structures on the Trelavour Processing Plant Site, which are likely to be visible to a number of sensitive visual receptors, particularly to the north. However, there are already a large number of building and structures on this part of the Site.
- 12.6.1.3 There may be changes in the views of recreational receptors from elevated open spaces in the vicinity of the Site. At a number of accessible elevated locations such as viewpoint 8, there are views into existing pits, some filled with water, providing visual amenity value. This includes both the proposed Treviscoe and Goonvean Mining Waste Facilities.

12.7 EFFECTS SCOPED OUT OF THE EIA

- 12.7.1.1 It is considered that effects on landscape designations outside of the Study Area should be scoped out of the LVIA; this would include the Cornwall National Landscape located approximately 9 km to the southeast of the Site and Dartmoor National Park located approximately 50 km to the east of the Site.

12.8 PROPOSED APPROACH TO THE ASSESSMENT

- 12.8.1.1 The purpose of the LVIA is to identify and record the potential significant effects that the Proposed Development may have on physical elements of the landscape; landscape character; areas that

have been designated for their scenic or landscape-related qualities; and views from various locations such as settlements, routes, hilltops and other sensitive locations.

Cumulative Effects

12.8.1.2 The potential cumulative effects that may arise from the Proposed Development in combination with other large-scale developments are also considered in Section 19.

12.8.2 SPECIFIC METHODOLOGIES

Assessment Guidance

12.8.2.2 This section describes the methodology to be adopted in the undertaking of the LVIA of the Proposed Development. The assessment has been undertaken with reference to the GLVIA3. To inform and assist the decision maker, consultees and members of the public, the LVIA comprises two distinct assessments, as defined in GLVIA3 as follows:

- *"Assessment of landscape effects: assessing effects on the landscape as a resource in its own right"; and*
- *"Assessment of visual effects: assessing effects on specific views and on the general visual amenity experienced by people".*

Professional Judgement

12.8.2.3 GLVIA3 places a strong emphasis on the importance of professional judgement in identifying and defining the significance of landscape and visual effects. As part of the assessment, professional judgement will be used in combination with structured methods and pre-defined criteria to evaluate landscape value, receptor susceptibility and associated sensitivity in addition to magnitude of change. Professional judgement will then be applied in bringing sensitivity and magnitude of change together to determine the significance of effect; again, using appropriate criteria.

Methodology

12.8.2.4 Landscape and visual assessments are separate, though linked, procedures. GLVIA3 advises that landscape and visual effects should be assessed from a clear understanding of the development proposed and any mitigation measures that are being adopted.

- 12.8.2.5 The GLVIA3 approach to landscape assessment involves an appreciation of the existing landscape resource, the susceptibility of its key components to accept the change proposed, and an understanding of the potential effects which could occur and how these could affect these key components.
- 12.8.2.6 Visual assessment deals with the effects of change and development on the views available to people and their visual amenity. It is concerned with assessing how the surroundings of individuals or groups of people may be specifically affected by changes in the content and character of views as a result of the change or loss of existing elements of the landscape and/or introduction of new elements.
- 12.8.2.7 Familiarity with the site and the extent, nature and expectation of existing views by visual receptors is a key factor in establishing the visual sensitivity in terms of the development proposed. The guidelines require evaluation of magnitude of change to views experienced by sensitive receptors, comprising individuals living, working, travelling and carrying out other activities within the landscape, and the subsequent evaluation of the significance of effects.
- 12.8.2.8 Although visitors to cultural heritage assets such as designed gardens or monuments will be included in the visual assessment, the impact on settings will be addressed under the cultural heritage section/topic.

Assessment Stages

- 12.8.2.9 The assessment stages applied to the LVIA comprise a combination of desk studies and field surveys, with subsequent analyses to define the value, sensitivity, magnitude of change, and significance of effect on landscape resource, representative views, and visual amenity. The assessment considers potential adverse and beneficial effects categorised on a matrix from Negligible to Major (Adverse/Beneficial), with Moderate or greater effects deemed Significant.

12.8.3 VISUALISATIONS

- 12.8.3.1 Visualisations will be prepared for some of the more sensitive VP locations identified, to support the LVIA. They will reflect the maximum design parameters defined for the Proposed Development.

12.8.3.2 They will be used in the assessment of potential visual effects. They will also be used to identify opportunities for mitigation and enhancement (for example, by identifying gaps in existing planting which could be filled).

12.8.4 ASSESSMENT CRITERIA

Landscape Value

12.8.4.2 The value of the landscape is an important consideration that informs later judgments regarding the significance of effects. Landscape value pertains to the perceived importance of the landscape as a whole and within the context of the study area. It is established through consideration of the following factors:

- Presence of landscape designations, registered landscapes, or identified planning constraints;
- The scenic quality of the landscape;
- Perceptual aspects, such as wildness or tranquillity;
- Conservation interests such as cultural heritage assets or associations, or if the landscape supports notable habitats or species;
- Recreational value; and
- Rarity, either in the national or local context, or if it is a particularly important example of a specific landscape type.

12.8.4.3 It should be noted that absence of a designation does not necessarily mean that a landscape or component is not highly valued, as factors such as accessibility and local scarcity can render areas of nationally unremarkable quality, highly valuable as a local resource. Criteria for the allocation of perceived landscape value are outlined in Table 12.2 below:

TABLE 12.2: LANDSCAPE VALUE CRITERIA

Landscape Value	Criteria
High	• The landscape is associated with features of international or national importance which are rare within the wider context; • The landscape is of high scenic quality and forms a key part of an important designated landscape or planning constraint; and/or

Landscape Value	Criteria
	The landscape is an example of a scarce resource within the local context and is of considerable local importance for its scenic quality, recreational opportunities, and/or cultural heritage associations.
Medium	- The landscape is associated with features of national or regional importance which are relatively common within the wider context; - The landscape forms part of a designated landscape or is associated with other features of importance but is not rare or distinctive within the local context; and/or - The landscape is one of a number within the local context appreciated for its scenic quality, recreational opportunities, and/or cultural heritage associations.
Low	- The landscape characteristics are common within the local and regional context and the landscape is not associated with any features or attributes considered to be important; and/or - The landscape is of poor scenic quality and is not appreciated for any recreational or cultural associations.

Value Attached to Views

12.8.4.4 The value attached to views and overall visual amenity is categorised as High, Medium, or Low. The value is based on the criteria set out in Table 12.3.

TABLE 12.3: VALUE ATTACHED TO VIEWS

Value Attached to Views	Criteria
High	- The view from the representative viewpoint is highly exceptional, identified with a designated heritage asset, or a planning policy designation, and/or mentioned in a number of guidebooks or on tourist maps and/or referenced in art and literature; and/or - Where the views have a generally high scenic value. The view may be within, from or towards a designated heritage asset or a planning policy designation, and/or mentioned in a number of guidebooks or on tourist maps, and/or referenced in art and literature.
Medium	The view from the representative viewpoint has some scenic value, with moderate local importance and scenic quality: it is typically identified as a heritage asset and/or of local visual amenity importance. Limited potential for substitution of certain features within the view; some incongruous elements may be present.

Value Attached to Views	Criteria
Low	- The view from the representative viewpoint is not related to designated or non-designated heritage asset or a planning policy designation, and/or not mentioned in a guidebook or on tourist maps, and/or not referenced in art and literature, and/or of little visual amenity importance. Considerable potential for substitution of some features in the view; and/or - A degraded landscape in poor condition exhibits no scenic quality and holds low visual amenity importance. The view contains many incongruous features.

Landscape Sensitivity

TABLE 12.4: LANDSCAPE SENSITIVITY CRITERIA

Sensitivity Rating	Criteria
High	- A landscape that is highly valued, such as one of national or international importance, whose character or key characteristics are susceptible to change; - Aspects of the landscape character that are highly valued as 'key characteristics' and are susceptible to change in national or local character assessments; - A landscape character that is highly valued for being intact and in good condition and is particularly vulnerable to disturbance; and/or - A highly valued landscape that has no or limited potential for substitution or replacement.
Medium	- A landscape of local importance or value whose character or key characteristics are susceptible to change; - Other characteristics of the landscape character are also noted in national or local character assessments and are susceptible to change; - The landscape character is valued for moderate condition and is not particularly vulnerable to disturbance; and/or - A moderately valued landscape with some potential for substitution or replacement.
Low	- No or little evidence of value or importance attached to the landscape area, its features, or characteristics; - Few features, characteristics, or qualities susceptible to disturbance or particularly susceptible to improvement or upgrading; and/or - Good potential for substitution or replacement.

Sensitivity Rating	Criteria
Negligible	• A landscape that has undergone significant change due to human intervention, including industrial, urban, or intensive agricultural use; • Areas that do not contribute to regional or local designated landscapes or protected sites; • A landscape lacking distinct features, such as unique landforms, habitats, or cultural significance; and/or • A landscape capable of accommodating development with minimal impact on its character or overall experience.

Visual Sensitivity

TABLE 12.5: VISUAL SENSITIVITY CRITERIA

Sensitivity Rating	Criteria
High	• Visual receptors from dwellings and publicly accessible buildings where the changed aspect is a key element in the view, with no detracting features; • Visual receptors from recreational routes and locations where the changed aspect is a key element in the view, with no detracting features; • Visual receptors with open views of the Proposed Development from residential or community properties; • Views that are daily, prolonged, or sustained over a long period, or where the landscape view is a significant attractant; and/or • Views from landscapes, recreation facilities, or routes of national or international visual amenity value.
Medium	• Visual receptors from dwellings and publicly accessible buildings where the changed aspect is a less important element in the view and/or some detracting features are present; • Visual receptors from recreational routes and locations where the changed aspect is a less important element in the view and/or some detracting features are present; • Visual receptors using roads and transport routes where the changed aspect is an important element in the view, with no detracting features; • Visual receptors from workplaces where the changed aspect is an important element of the view, with no detracting features; • Visual receptors from residential or community properties with partial or screened views of the Proposed Development;

Sensitivity Rating	Criteria
	- Visual receptors engaged in activities like sports or outdoor work, where the landscape is not the main reason for their presence or the focus on the view is only partial; and/or - A view of the Proposed Development from other valued landscapes or a regionally important recreation facility or route.
Low	- Visual receptors from dwellings and publicly accessible buildings where the changed aspect is an unimportant element in the view and/or numerous detracting features are present; - Visual receptors from recreational routes and locations where the changed aspect is an unimportant element in the view and/or numerous detracting features are present; - Visual receptors using roads and transport routes where the changed aspect is a less important element in the view and/or some detracting features are present; - Visual receptors from workplaces where the changed aspect is a less important element in the view and/or some detracting features are present; - A view where the visual receptor's attention is not focused on their surroundings, indicating low importance or value; - A view from a landscape of moderate or lesser importance; and/or - Occasional open views or glimpsed views of the Proposed Development available to travellers in vehicles as they pass by.
Negligible	- Visual receptors from dwellings and publicly accessible buildings where the changed aspect is an imperceptible element in the view; - Visual receptors from recreational routes and locations where the changed aspect is an imperceptible element in the view; - Visual receptors using roads and transport routes where the changed aspect is an unimportant element in the view. - Visual receptors from workplaces where the changed aspect is an unimportant element in the view; - A view where the visual receptor's attention is not focused on their surroundings, indicating no importance or value; and/or - Glimpsed or no views of the Proposed Development are available to visual receptors.

Visual Magnitude of Change

- The visual magnitude of change is evaluated in terms of size or scale, the geographical extent of the area influenced, duration and reversibility, as detailed below:
- The scale or extent of proposed changes within the view;

- The location of proposed changes within the view, relevant to other existing features;
- The extent to which this may alter the composition or focus of the view; and
- The duration and reversibility of proposed changes (taking into consideration proposed mitigation measures where relevant).

12.8.4.5 Criteria for the evaluation of visual magnitude of change are presented in Table 12.6 below.

TABLE 12.6: VISUAL MAGNITUDE OF CHANGE CRITERIA

Magnitude Rating	Criteria
High	A major alteration in size or scale, affecting a large proportion of the viewing angle or impacting views from a wide area.
Medium	An intermediate alteration in size or scale, affecting the viewing angle or views from the wider context, or a larger-scale change in views from within the corridor of land designated for installation, maintenance, and operation of the Proposed Development or its immediate surroundings.
Low	A minor proportion of the viewing angle is affected, or the altered elements and characteristics make an insignificant contribution to the overall composition of the view.
Negligible	A barely perceptible change or one that is difficult to discern.
None	No visible alteration in the view, or any changes resulting from the Proposed Development remain out of sight.

Significance of Landscape and Visual Effects

12.8.4.6 The significance of landscape or visual effect, whether adverse or beneficial, is assessed by relating the sensitivity of the landscape or visual receptor and the magnitude of landscape or visual change, and by considering the following indicative criteria set out in Table 12.7 below.

TABLE 12.7: LANDSCAPE AND VISUAL SIGNIFICANCE OF EFFECT CRITERIA

Effect Significance	Criteria
Major Adverse	• The Proposed Development substantially contrasts with the landscape's landform, scale, and pattern, becoming a

Effect Significance	Criteria
	dominant feature that reduces scenic quality and alters intrinsic character; and/or It would be highly noticeable and detract from a valued and well-composed view.
Moderate Adverse	- The Proposed Development is out of scale or inconsistent with the local landscape pattern, potentially dominant in some areas, leading to a reduction in scenic quality; and/or - It may introduce detracting elements into a valued view or become more prominent in a less well-composed view, causing noticeable deterioration.
Minor Adverse	- The Proposed Development does not fully align with the landscape's scale, landform, or pattern, causing minor intrusion but little reduction in scenic quality; and/or - It may be perceptible but not overly detracting in a valued view or prominent in a poorly composed view, leading to slight deterioration.
Negligible	- The Proposed Development integrates well with the landscape's scale, landform, and pattern, causing no discernible reduction in scenic quality or change in character; and/or - It would be barely perceptible in the view and have no noticeable impact.
None	- The Proposed Development leads to no reduction in scenic quality or change in character; and/or - It would be imperceptible in the view and have no impact.
Minor Beneficial	- The Proposed Development introduces or removes features, leading to a small, localised improvement in landscape character and scenic quality; and/or - It may enhance an existing less well-composed view by adding an attractive feature or removing a detracting one.
Moderate Beneficial	- The Proposed Development results in a noticeable improvement in landscape characteristics and scenic quality; and/or - It may introduce an attractive feature or remove a detracting one, enhancing the composition and value of a poorly composed view.
Major Beneficial	- The Proposed Development brings a significant improvement to landscape characteristics and scenic quality; and/or - It may create a striking new feature or eliminate a highly detracting one, greatly enhancing the composition and attractiveness of a poorly composed view.

12.8.4.7 Table 12.8 describes the main correlations between magnitude of change and sensitivity. This matrix will not be used as a prescriptive

tool but instead will allow for the exercise of professional judgement in the assessment of landscape and visual effects.

TABLE 12.8: MATRIX FOR DETERMINING THE SIGNIFICANCE OF EFFECTS

Magnitude of Change	Sensitivity			
	High	Medium	Low	Negligible
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Minor	Negligible
Negligible	Minor	Negligible	Negligible	Negligible
None	None	None	None	None

12.8.4.8 For the purposes of this assessment, where the landscape or visual effect is classified as 'major' or 'moderate' this will be considered to be significant. The assessment will be logically set out to maximise its transparency and ensure that conclusions are readily traceable.

13. HISTORIC ENVIRONMENT

13.1 INTRODUCTION

13.1.1.1 This section of the Scoping Report identifies the historic environment receptors of relevance to the Proposed Development, including both built heritage and archaeology, and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development upon these heritage assets. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.

13.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

13.2.1.1 The historic environment assessment will be undertaken in line with the following legislation, policy and guidance:

- Ancient Monuments and Archaeological Areas Act 1979 (as amended);
- The NPPF (2025);
- Planning (Listed Buildings and Conservation Areas) Act 1990 (as amended);
- The Hedgerows Regulations 1997;
- PPG for the Historic Environment (2019)¹⁷⁰;
- The Cornwall Local Plan Strategic Policies (2016)²³ (Policy 24);
- Cornwall Council (2022). Heritage at the Heart of an Evolving Cornwall: A Strategy for Cornwall's Historic Environment (2022-2030)¹⁷¹;
- Chartered Institute for Archaeologists (CIfA) guidelines: Standard and guidance for archaeological desk-based assessment (2020)¹⁷²;

¹⁷⁰ UK Government (2019) PPG for the Historic Environment. Available online at: <https://www.gov.uk/guidance/conserving-and-enhancing-the-historic-environment>.

¹⁷¹ Cornwall Council (2022). Heritage at the Heart of an Evolving Cornwall: A Strategy for Cornwall's Historic Environment (2022-2030) <https://letstalk.cornwall.gov.uk/12831/widgets/41331/documents/25014>

¹⁷² CifA (2020). Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment. Available online at: https://www.archaeologists.net/sites/default/files/CIfAS%26GCommissioning_2.pdf.

- CIfA (2020) Standard and guidance for commissioning work or providing consultancy advice on archaeology and the historic environment¹⁷³;
- English Heritage (2008) Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment¹⁷⁴;
- Historic England (2015) Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment¹⁷⁵;
- Historic England (revised 2017) Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets¹⁷⁶;
- Historic England (2016) Preserving Archaeological Remains, Decision-taking for Sites under Development¹⁷⁷;
- Historic England (2020) Mineral Extraction and Archaeology. Historic England Advice Note 13¹⁷⁸; and
- Historic England (2021) Industrial Heritage (Draft)¹⁷⁹.

13.3 BASELINE ENVIRONMENT

13.3.1 DATA SOURCES

Summary

13.3.1.2 The following data sources have been used to inform this Scoping Report and will be further utilised for the EIA:

¹⁷³ English Heritage (2008). Conservation Principles, Policies and Guidance for the Sustainable Management of the Historic Environment. Available online at: <https://historicengland.org.uk/images-books/publications/conservation-principles-sustainable-management-historic-environment/>.

¹⁷⁴ Historic England (2015). Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment. Available online at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/>.

¹⁷⁵ Historic England (2015). Historic Environment Good Practice Advice in Planning Note 2: Managing Significance in Decision-Taking in the Historic Environment. Available online at: <https://historicengland.org.uk/images-books/publications/gpa2-managing-significance-in-decision-taking/gpa2/>.

¹⁷⁶ Historic England (revised 2017) Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets. Available online at: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/>.

¹⁷⁷ Historic England (2016). Preserving Archaeological Remains, Decision-taking for Sites under Development. Available online at: <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/>.

¹⁷⁸ <https://historicengland.org.uk/images-books/publications/mineral-extraction-and-archaeology-advice-note-13/heag278-mineral-extraction-and-archaeology/>

¹⁷⁹ Historic England (2021). Industrial Heritage Strategy (Draft). Available online at: <https://historicengland.org.uk/content/docs/guidance/he-industrial-heritage-strategy-consultation-draft/>

- Wessex Archaeology's Historic Environment Desk-Based Assessment (HEDBA) (2022);
- Historic England (National Heritage List)¹⁸⁰ for information on World Heritage Sites (WHs), Scheduled Monuments, Listed Buildings, Registered Historic Parks and Gardens, and Historic Battlefields;
- the Cornwall and Isles of Scilly Historic Environment Record (HER) (CISHER)¹⁸¹;
- historic OS mapping;
- Cornwall Council's Historic Environment Record online map⁴²;
- Historic England's Heritage Gateway online database¹⁸²;
- relevant published and grey literature, including desk-based assessments archaeological survey, field evaluation and building recording reports; and
- readily accessible published sources and grey literature (e.g., results from previous studies).

Previous Archaeological Investigations

Cornish Archaeological Unit: The Archaeology of the St Austell China Clay Area (1991)

13.3.1.3 *The Archaeology of the St Austell China Clay Area* (Herring and Smith 1991) is the publication of a systematic assessment of the archaeological resources of the entire St Austell China Clay mining area¹⁸³. It presented a desk-based assessment, field survey and aerial photography analysis to summarise the archaeological resource. As part of this work, a site visit was undertaken to Trelavour in 1990.

The Cornwall National Mapping Programme (NMP)

13.3.1.4 Undertaken as part of the wider NMP commissioned by English Heritage, over 50,000 aerial photographs were taken across Cornwall

¹⁸⁰ Historic England (2023). National Heritage List. Available online at: <https://historicengland.org.uk/listing/the-list/>.

¹⁸¹ Cornwall Council (2023). CISHER. Available online at: <https://www.cornwall.gov.uk/environment/conservation-and-environment-protection/strategic-historic-environment-service/cornwall-and-isles-of-scilly-historic-environment-record/>.

¹⁸² Historic England (2024). Website offering local and national information on England's historic sites and buildings. Available online at: <https://www.heritagegateway.org.uk/gateway/>

¹⁸³ Herring, P, & Smith, J, R (1991). The archaeology of the St Austell China-Clay area: an archaeological and historical assessment. Cornwall Archaeological Unit.

between 1926 and 2005. Combined with the surveys and literature reviews undertaken as part of the Cornwall Archaeological Unit (CAU) 1991 study, this work forms the basis of the HER dataset for the China Clay area.

CAU UK China-Clay Bearing Grounds: Mineral Resource Archaeological Assessment (2014)

13.3.1.5 This project was aimed at assessing the impact of past and potential future china-clay extraction on the historic environment across the china clay-bearing grounds of the UK¹⁸⁴. The study included a reassessment of the HER Data for the China Clay region which was in the most part based on the CAU 1991 study. It found that the existing datasets are not adequate for secure assessment of past impact and future risk. Importantly, it also highlighted the challenges of preserving older parts of a still active industry. The study was regional in scale and used the delineation of Historic Landscape Character Area types as its study unit. As such, no new survey within the Site was undertaken, but it does represent an important reassessment of the value of industrial heritage for local communities.

Wessex Archaeology Historic Environment Desk-Based Assessment (HEDBA) (2022)

13.3.1.6 The report titled *Cornish Lithium Trelavour Project Cornwall Historic Environment Desk-Based Assessment (HEDBA)*¹⁸⁵, provides a high-level historic environment assessment of the Trelavour Pit and the Trelavour Processing Plant site.

13.3.2 STUDY AREAS

13.3.2.1 The following two study areas are proposed for the historic environment assessment:

- A 1 km Study Area, as measured from the Site boundary; and
- A 3 km Study Area, as measured from the Site boundary.

¹⁸⁴ Kirkham, G (2014). United Kingdom China-Clay bearing grounds: mineral resource archaeological assessment. Cornwall Archaeological Unit.

¹⁸⁵ Wessex Archaeology (2022). Cornish Lithium Trelavour Project Cornwall Historic Environment Desk-Based Assessment (HEDBA). Unpublished report by Wessex Archaeology.

1 km Study Area

- 13.3.2.2 The 1 km Study Area, consisting of the Site and 1 km in all directions, will be used to identify any potential direct impacts and to inform the Site's archaeological potential through provision of context.

3 km Study Area

- 13.3.2.3 The 3 km study area will take in land within 3 km of the Site boundary and will be used to identify potential indirect impacts upon heritage assets whose setting may be affected by the Proposed Development.
- 13.3.2.4 For heritage assets located within the 3 km study area, a preliminary selection exercise will be undertaken to determine those to be included within the setting assessment. A table listing assets for inclusion or exclusion within the forthcoming setting assessment will be provided to Historic England and Cornwall Council's Historic Environment advisors along with a rationale for any decisions made.
- 13.3.2.5 The 3 km study area will not be used as an arbitrary cut-off point for assessing potential impacts. Due consideration will be given to heritage receptors beyond 3 km that fall within a bare earth ZTV, as well as heritage receptors specifically identified for inclusion within any cumulative assessment by Historic England and Cornwall Council's Historic Environment advisors.

13.3.3 DESCRIPTION OF THE BASELINE CONDITIONS

The Site and its Settings

- 13.3.3.2 The Site is centred around the town of St Dennis on the northwestern edge of the St Austell granite intrusion which has been the focus of china clay extraction for over 250 years. The main components of the Proposed Development, including all the proposed hard rock extraction, processing and Mining Waste Facilities are in areas that have previously been transformed by clay works to the extent that there a few original land surfaces remaining.
- 13.3.3.3 Some areas do, however, preserve portions of 19th and early 20th century clay working areas, including several pits, dumps, engine houses, pan kilns and settling structures. Pockets of upland heath also survive within the Site, where important early mining remains are located and some potential for earlier buried archaeology exists.

13.3.3.4 Ancillary components of the Proposed Development (such as temporary construction storage areas, service easements and access roads) extend into hillside and lowland grazing areas, where some medieval and prehistoric settlement patterns remain intact.

Designated Assets

13.3.3.5 The Site is located within a rich cultural heritage landscape; a number of designated sites and assets are present within the Site and the surrounding area.

13.3.3.6 The Cornwall and West Devon Mining Landscape, a United Nations Educational, Scientific and Cultural Organisation (UNESCO) designated WHS, is located approximately 8 km to the east and southeast of the Site. In relation to this WHS, Historic England state that *"the mining landscape of Cornwall and west Devon, and particularly its characteristic engine houses and beam engines as a technological ensemble in a landscape, reflect the substantial contribution the area made to the Industrial Revolution and formative changes in mining practices around the world."*

13.3.3.7 There are 23 scheduled monuments within 3 km of the Site. Within 1 km, there are 10 scheduled monuments. These are:

- A "Standing cross in St Dennis churchyard" (1003115), located adjacent to potential enhancement areas and 500 m from the processing area at Carsella Farm, in the northern part of the Site.
- An "Earlier prehistoric hillfort and round cairn at St Stephen's Beacon" (1003091) located approximately 820 m to the southeast of the Site.
- A "Round 310 m east of Carloggas Moor Farm" (1007291), located below St Stephen's Beacon, approximately 880 m to the southeast of the Site.
- "Tregargus stone grinding mill No 2" (1003101), located in the Tregargus Valley, approximately 650 m south of the Site.
- "Three bowl barrows between 120 m and 820 m south of Brynn Barton Cottage" (1004231), located in Roche, approximately 100 m east of the Site.
- A "Holy well NW of Roche Station" (1004342), located approximately 460 m east of a potential enhancement area in the northeast of the Site.

- A “Wayside cross 515 m northeast of Castle Farm” (1004647), located approximately 650 m north of the Site.
- A “Round 310 m east of Carloggas Moor Farm” (1007291), located approximately 870 m southeast of the Site.
- A “Wayside cross and cross base in St Stephen's churchyard, 6 m south of the church” (1018694), located approximately 890 m southeast of the Site.
- A “Churchyard cross shaft and base in St Stephen's churchyard, 3 m south of the church” (1018695), located approximately 890 m southeast of the Site.

13.3.3.8 There are no conservation areas within 3 km of the Site. The nearest are those in St Columb Major and St Austell, located approximately 4.5 and 6 km to the northwest and southeast of the Site, respectively.

13.3.3.9 There are no registered parks and gardens or registered battlefields within 3 km of the Site.

13.3.3.10 There are 138 listed buildings and structures within 3 km of the Site (Figure 15). Within the Site there are two listed buildings as follows:

- Grade II* listed “Parkandillick Engine House” (1138336), located within the western side of the Trelavour Processing Plant;
- Grade II “Trece Bridge” (144082), located within the Site (a utility corridor).

13.3.3.11 Within 1 km, there is one Grade I, three Grade II* and 47 Grade II listed buildings (Figure 16), as follows:

- One Grade I listed “Church of St Stephen” (1137033) and 18 Grade II listed funerary monuments associated with the church, located 890 m southeast of the Site;
- One Grade II* and six Grade II listed buildings and structures within and surrounding the Church of St Dennis, located approximately 490 m northeast of the Site. The Grade II* listed building is the Church of St Dennis (1327433), whilst the Grade II listed structures are monuments and a font within the grounds;
- Grade II* listed “Treveor Farmhouse With Attached Front Wall And Gateway” (1312571), located approximately 980 m east of the Site;

- Grade II* listed "Meledor Farmhouse" (1327463), located approximately 960 m north of the Site;
- Grade II listed "Resugga Farmhouse" (1136836), located approximately 850 m southeast of the Site;
- Grade II listed "The Stack House" (1143992), located approximately 570 m northeast of the Site;
- Grade II listed "House immediately east of the old Rectory" (1144085), located in St Dennis, approximately 160 m from the Site;
- Grade II listed "Belowda Mine Buildings Including Engine House, at SW 969621" (1144194), located approximately 250 m southeast of the Site;
- Grade II listed "Higman Monument in Churchyard About 5 Metres West of Roche Wesleyan Methodist Church" (1144202), located approximately 890 m southwest of Site.
- Grade II listed "Queens Head Inn (1144790)", located approximately 910 m south of the Site;
- Grade II listed "Milestone at SW 903566" (1146372), located approximately 920 m south of the Site
- Grade II listed "Cross at Cross Hand, at SW 957626" (1158660), located approximately 650 m north of the Site;
- Grade II listed "Royalton Mine Engine House at SX 977617" (1158758), located approximately 680 m northwest of the Site;
- Grade II listed "Wynberg" (1158795), located approximately 690 m northeast of Site;
- Grade II listed "Cottage at SW 9646 5925" (1247110), located approximately 960 m west of Site;
- Grade II listed "Roche Wesleyan Methodist Church and Attached Schoolroom" (1311309), located approximately 890 m southeast of the Site;
- Grade II listed "Trewheela Farmhouse" (1311829), located approximately 380 m northwest of Site;
- Grade II listed "Milestone at SW 910576" (1311854), located approximately 750 m northwest of Site;
- Grade II listed "Church Room" (1312479), located approximately 970 m south of Site;

- Grade II listed "Milestone at SW 939602" (1327412), located approximately 860 m west of the Site;
- Grade II listed "Milestone at SW 905573" (1327418), located approximately 820 m northwest of the Site;
- Grade II listed "Dovecote and Pigsties With Screen Wall Attached to East of Resugga Farmhouse" (1327464), located approximately 860 m southeast of the Site;
- Grade II listed "Trethosa School" (1327466), located adjacent to, and on the western side of, the Site (the Goonvean Mining Waste Facility);
- Grade II listed "St Stephen Churchtown Cemetery War Memorial" (1407749), located approximately 900 m south of Site;
- Grade II listed "Church of St Stephen (Methodist)" (1386522), located approximately 790 m south of the Site;
- Grade II listed "Nanpean Cemetery War Memorial" (1407730), located approximately 530 m southeast of the Site; and
- Grade II listed "Tregargus Mill" (1327465), located approximately 640 m south of the Site.

13.3.3.12 There were formerly two listed buildings within the Goonvean Mining Waste Facility that were recorded and demolished ahead of further clay mining works:

- Grade II listed "Engine house with detached chimney" (1327462); and
- Grade II* listed "Goonvean China Clay Works - engine house with boiler-house and detached chimney" (1136944).

Known Archaeology

13.3.3.13 This section provides a chronological overview of the known archaeological resource using relevant time periods. For heritage assets located within or very close to the Site, the HER reference number, with the prefix MCO is provided.

Mesolithic and Neolithic (8800–2000 BC)

13.3.3.14 There is limited evidence for human habitation in the vicinity of the Site prior to the Bronze Age, but this is more likely a consequence of the concentration of clay mining activities rather than a genuine reflection of settlement density. Mesolithic flint scatters have been

recorded across the wider China Clay region indicating that from the beginning of the Holocene, hunter-gatherers were inhabiting this landscape (Herring & Smith 1991)¹⁸⁶. Populations increased across Britain with the onset of farming during the Neolithic and numerous examples of Tor enclosures from the beginning of this period¹⁸⁷, are known across mid Cornwall and Devon. A Neolithic pit alignment has been excavated at Tregarrick Farm, below Roche Rock Tor¹⁸⁸, approximately 1.3 km southeast of the potential enhancement area in the far northeastern part of the Site and a polished Neolithic axe head (MCO1273) was retrieved 430 m north of the Site the early 20th century. It is therefore likely that other Neolithic settlement and ritual landscapes would have once been present within the China Clay region but that they have largely been removed by extractive works.

Bronze Age (2000–800 BC)

13.3.3.15 Mid-Cornwall has a rich Bronze Age record, with a relatively well preserved funerary and settlement landscape surviving within areas that have remained as upland and lowland grazing over millennia. In the St Austell granite area, however, much of this has been lost. On the fringes of the clay region, there are known Bronze Age settlements and barrows at St Stephen-in-Brannel, to the southeast of the Site¹⁸⁹. A funerary landscape consisting of nine barrows and a standing stone was also recorded on Fraddon Down between India Queens and the western edge of the Site in the late 19th century but was subsequently lost to clay mining. A further barrow site is indicated by placename evidence (MCO3752), located 30 m from one of the proposed service easements in the northeast of the site, close to the Wheal Remfry clay works, but no remains are known. In and around St Dennis, there are six further possible barrow locations, but all remain unconfirmed. This includes three within and close to the village itself (MCO3509, MCO3510, and MCO4499, located 490, 520 and 750 m northeast of the proposed processing area at Carsella Farm, respectively), and one on top of the rounded hill, 150 m north

¹⁸⁶ Herring & Smith (1991)

¹⁸⁷ Pollard, J. & Healy, F. n.d. The Neolithic and Early Bronze Age Research Framework. Accessed Online at: <https://researchframeworks.org/swarf/the-neolithic-and-early-bronze-age/>

¹⁸⁸ Cole, D. & Jones, A. (2002). Journeys to the Rock: Archaeological Investigations at Tregarrick Farm, Roche, Cornwall. *Cornish Archaeology* 41–42:107–143.

¹⁸⁹ Jones, A. & Taylor, S. (2013). Excavations at Scarcewater tip, Pennance, St Stephen-in-Brannel. *Cornish Archaeology* 52: 99–133.

of the Trelavour Pit Site (MCO4074), though this last example has also been interpreted as a beacon and a stone clearance cairn.

Iron Age and Romano-British (800 BC – AD 450)

- 13.3.3.16 Archaeological evidence suggests that mid-Cornwall was well-populated during the Iron Age and Romano-British period and a network of lower-lying settlements known as rounds and hillforts connected by trackways and field systems was distributed across the region. One possible round (MCO53401) indicated by the name 'Round Meadow' on the 1840 tithe map of St Dennis and a curving portion of field boundary, is located within the Site. It is sited on the northwestern edge of the Trelavour Processing Plant and though it is likely to have been partially disturbed or removed by railway construction works, it also extends into the adjacent part of the Site to the north, within the TPP Support Site.
- 13.3.3.17 There are 11 other possible rounds, all between 360 m and 460 m of the Site, evidenced by place name or the presence of curving field boundaries, though like the Bronze Age barrows, all remain unconfirmed. Several Iron Age hillforts are also known in the area, including at St Dennis Churchyard, although excavations there failed to yield any dating evidence. One hundred and twenty-eight metres to the northeast of the Site, at Carnegga Farm, two square-sided enclosures linked by linear features interpreted as a trackway indicates a likely Romano-British settlement or fort (MCO66672). An extensive landscape of likely Iron Age or Romano-British enclosures and field-systems was identified in recent geophysical surveys on the eastern perimeter of the china-clay region at Burthy Farm (MCO76458), 1.5 km to the west of the utility connection route in the western edge of the Site¹⁹⁰.

Early Medieval/ Medieval (AD 450–1500)

- 13.3.3.18 Archaeological evidence for the early medieval and medieval period is sparse within the Site and its vicinity, though many of the current settlements such as Treviscoe and Carsella Farm feature in Domesday indicating they were established before then. A Trecice charter from 1049 describes a landscape of roads, lanes, dykes, commons, arable,

¹⁹⁰ Morris, B and Webb, P (2023). Burthy Row Farm, Fraddon, St Enoder, Cornwall: Interim Report. South West Archaeology.

pasture and mills¹⁹¹, which suggests the area was a well populated mixed farming landscape with small villages and field-systems. The standing cross in St Dennis Churchyard (1003115, 480 m from Site) may also date from the early medieval period indicating an earlier settlement and church was located there. Settlement density increased post-conquest and an ecclesiastical and manorial landscape developed with other settlements founded such as Rostowrack ('Restauroc') recorded in AD 1211 (MCO16563, within the Site), St Dennis and Trelavour in the 1300s, and Bodella (MCO13426, 30 m from the Site) in 1554.

Post-Medieval (AD 1500–1800)

13.3.3.19 Although the pre-china clay industry post-medieval landscape has largely been lost within the previously mined portions of the Site, elsewhere, within other parts of the Site and in its vicinity, the village and farmstead landscape inherited from the medieval period is largely in place. Traces of early tin and clay mining in the form of eluvial (stream) works, which may also have its origins in the medieval period, survives on the northern and northeastern edges of the proposed Trelavour Pit site.

The Modern Period (AD 1800–Present)

13.3.3.20 Together with Hendra to the south, Trelavour was one of seven early china clay pits in operation from at least 1799. In the early to mid-19th century, clay mining remained small scale and took the form of shallow pits (<5 m deep), accompanied by small granite-lined settling pits (<2 m long), larger ponds, drying pans and sheds¹⁹². Most of the evidence for this early phase of clay extraction has been lost during later 19th and 20th century phases of extraction, although fragments remain in certain parts of the landscape.

13.3.3.21 Within the Site, the best-preserved example of early mining remains are present within the northern and northeastern corner of the proposed Trelavour Pit site and extending into the northern part of the Pit Infrastructure site where small surface mining pits (MCO26900), old clay mining pits (MCO25285), a series of square

¹⁹¹ Wessex Archaeology (2022).

¹⁹² When ponds were full, their liquid clay contents were barrowed into pans and left to dry before being cut out and transported as bricks to the drying sheds. The drying shed would have typically been built of timber and open on three sides. There was usually only one other building containing an office for the manager and a storeroom.

“air drying pans” (MCO48286), and a larger prospecting pit (MCO26901) are known. Two lines of likely 19th century prospecting pits have also been recorded from air photos within the Belowda Support Site (MCO42672).

13.3.3.22 In the mid to late 19th century and into the first half of the twentieth centuries, demand for china clay grew and mines became increasingly larger and more mechanised. Engine houses supported pumps that allowed pits to reach depths of up to 24 m below the surface; pressure hoses were employed to wash the clay from the pit face, more elaborate systems of settling tanks were built and coal fired kilns¹⁹³ were introduced. New transport and haulage infrastructure in the form of tramways, railways and roads, meant the mines were connected to St Austell harbour and could keep pace with increasing demand. The value of land soared and the area for sand and gravel waste was reduced accordingly by taking it higher on steep skip runs to form large conical “sky-tips”.

13.3.3.23 Remnants of 19th and early to mid-20th century works remain across the Site, including large pits, dumps and sky tips created from mining waste. Several locations within the Site also preserve associated granite and brick built structural remains including engine houses, mica drags, pan kilns, settling pits and ponds amongst other structures, though the continuation of china clay extraction into the late 20th century and early 21st century meant that none of these works survive in their original form. One of the better-preserved clay works, is the former Trelavour Clay Works located in the central northern part of the proposed Trelavour Pit site, which ceased operation in the 1940s, where the large pit, three sky-tips and associated settling pits and tanks all survive, alongside some ruined buildings association to the former engine house (MCO25284/MCO25283). Within the proposed Belowda Support Site, there are also extant features associated with the late 19th and early 20th century Belowda Beacon Clay Works including former pits and dumps, remains of buildings and possibly settling tanks and kilns (MCO25813).

¹⁹³ One of the earliest coal-fired pan kilns built c1845 by Charles Truscott was formerly located within the proposed Trelavour Processing Plant. It was demolished in the late 20th century to make way for the expanded Parkandillick/Trelavour Clay Works.

- 13.3.3.24 Two engine houses from this period also survive within the Site, the Hallow Engine House (MCO26805) and detached chimney in the south of the proposed Trelavour Pit site, and the above mentioned Parkandillick Engine House (Grade II* Listed Building: 1138336) located on the western side of the proposed Trelavour Processing Plant. Two chimney stacks also survive in isolation, one within the proposed Trelavour Processing Plant (MCO25699) and one in the northern end of Goonvean Mining Waste Facility (MCO26749), their associated engine houses having long been demolished. No intact pan kilns survive within the Site, though recent surveys at Parkandillick (northern part of the Trelavour Processing Plant) identified one of the 19th century coal-fired kilns had been incorporated into a modern building¹⁹⁴.
- 13.3.3.25 In addition to structural remains, a mid-19th century incline plane horse-drawn tramway linking Hendra and Parkandillick China Clay Works to Newquay survives in places within the Site (MCO54371), including along the northeastern side of the proposed Trelavour Processing Plant and to a lesser extent in the northwestern corner of the proposed Pit Infrastructure Site on Hendra Downs. This was replaced with the Cornish Minerals Railway in 1874, present within the northwestern edge of the proposed Trelavour Processing Plant (MCO55880).
- 13.3.3.26 Villages across the china clay region underwent a period of rapid growth alongside industrial expansion. The St Dennis census documents a population that grew from 478 in 1811 to 2,030 in 1911. In the late twentieth century and into the 21st century, extractive works have continued across much of the Site, with major operations in the central part of the proposed Trelavour Pit. The clay works within the proposed Trelavour Processing Plant went out of use and were reconfigured to become part of the wider Parkandillick Dryers. Most of the earlier structures were demolished to make way for new clay processing machinery, which is now also out of use.
- 13.3.3.27 The china clay industry is now reduced in scale and a number of former working areas have been inactive for many decades. The legacy of historic mining lives on in the prominent landscape features

¹⁹⁴ Wessex Archaeology (2022).

it left behind. Some of the older sky-tips, such as the two largest at Trelavour, have become landmarks in the St Dennis area.

13.4 KEY SENSITIVITIES

13.4.1.1 At this stage, the key sensitivities are considered to be:

- archaeological features, artefacts, and deposits; and
- upstanding cultural heritage assets that draw value from their setting.

13.4.1.2 The Site is located within a known archaeological landscape, which could be vulnerable to physical disturbance. This includes buried archaeology and built heritage. There are a number of listed buildings and scheduled monuments within close proximity to the Site that are potentially vulnerable to an impact on their setting.

13.5 PROJECT BASIS FOR SCOPING ASSESSMENT

13.5.1.1 The construction, operation and maintenance, and decommissioning, closure and restoration phases of the Proposed Development are likely to introduce new and different effects to the historic environment through direct and indirect impacts.

13.5.1.2 In historic environment terms, a direct impact refers to any material alteration of a heritage asset resulting directly from the Proposed Development. Direct impacts are most likely to occur during groundworks associated with construction, hard rock extraction and waste deposition operations. Any surface infrastructure such as construction compounds and storage, access routes and car parks are also likely to involve groundworks as are below ground services, utility connections, water discharge routes and the construction of landscaping features. Groundworks are likely to remove any buried archaeological deposits or built heritage they encounter. Existing waste dumps and tips within former clay mining areas may also cover older buried and surface archaeological features and structures that could be sensitive to groundworks.

13.5.1.3 It should be noted however that large portions of the Site are located within former china clay pits, where the original ground surface has been removed and there is therefore, no potential for buried and built archaeology to survive.

13.5.1.4 An indirect impact refers to any change in the baseline condition of a heritage asset beyond the boundaries of the Site. Most commonly,

indirect impacts involve changes to the setting of heritage sites (considering effects such as visual intrusion, noise pollution, dust and vibration), though other effects such as changes in water table, can have an impact beyond the Site. One element of the Proposed Development that may generate changes to the setting of heritage assets beyond the main extraction, processing and disposal areas would be the construction of overhead powerlines, although the use of overhead or buried cabling is yet to be determined. Activities during each phase of the Proposed Development have the potential to result in indirect impacts on heritage assets beyond the boundary of the Site.

13.6 MITIGATION

- 13.6.1.1 Following guidance provided by Historic England¹⁹⁵, impacts on the historic environment will be avoided in the first instance. If avoidance is not proportionate or possible, and a direct impact is predicted, then recording and investigations to capture evidence from the historic environment would be conducted, and the information gathered made available to the public.
- 13.6.1.2 Within former clay mining areas, much of the archaeological resource consists of surface remains that will not require excavation, although some limited excavation to record buried elements may be required. Those mining remains that do extend below ground are likely to lack sub-surface structure and archaeological excavation is unlikely to yield additional information. Detailed building recording, augmented with photogrammetry and 3-D modelling is therefore likely to be the preferred technique employed to create a record for future generations. Mitigation strategies for industrial heritage assets of high community value will be designed as part of the engagement process described below.
- 13.6.1.3 If avoidance is not proportionate or possible, and an indirect impact on the setting of the historic environment is predicted, then practical

¹⁹⁵ Historic England (2016) Preserving Archaeological Remains: Decision-taking for Sites under Development: <https://historicengland.org.uk/images-books/publications/preserving-archaeological-remains/heaq100a-preserving-archaeological-remains/> (Accessed 20/09/2021).

measures to reduce the impact will be developed, following specific guidance provided by Historic England¹⁹⁶.

13.7 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

- 13.7.1.1 Due to the heavily transformed and industrial character of the area, the abundant existing screening and the nature of the development, it is considered unlikely that there will be significant effects caused by changes to the settings of cultural heritage assets.
- 13.7.1.2 The Proposed Development is very likely to change the setting of the Grade II listed building; Parkandillick Engine House. It is, however, considered that by employing sensitive design principles and maintaining the assets historical associations with its immediate setting, the effects of this change will be minimal.
- 13.7.1.3 Further, due to the heavily transformed and industrial character of the area and the nature of the development, it is considered unlikely that there will be the potential for additional significant effects as a result of changes to the settings of cultural heritage assets.
- 13.7.1.4 As noted above, it is also unlikely that there will be significant effects caused to buried archaeology within much of the Site due to prior disturbance associated with former china clay mining. There are, however, parts of the Site that have not witnessed any prior industrial development, notably portions of the utilities corridors and the construction storage area around the CERC site. Here there is some potential for buried archaeology. However, as the components of the Proposed Development in these portions of the Site can be designed to avoid archaeological remains of the highest value, it is considered unlikely that groundworks in these areas will result in significant adverse effects.
- 13.7.1.5 Within the former clay mining parts of the Site, there are a number of standing structures, surface and landscape features associated to late 19th and early 20th century industry located in areas where extraction or construction activities are proposed. Three stand out as heritage assets of value, the removal of which, without the mitigation efforts described in Section 13.6, would likely be considered a significant effect:

¹⁹⁶ Historic England (revised 2017) Historic Environment Good Practice Advice in Planning Note 3: The Setting of Heritage Assets: <https://historicengland.org.uk/images-books/publications/gpa3-setting-of-heritage-assets/heag180-gpa3-setting-heritage-assets/> (Accessed 20/09/2021)

- Hallow Engine House, which although not listed retains a considerable degree of architectural, aesthetic and archaeological interest.
- Post-medieval to mid-19th century surface mining and eluvial works located in the northern and northeastern parts of the Trelavour Pit site. These assets are of archaeological importance, as material (evidential) records of early Cornish industry has largely been removed from the granite uplands by subsequent clay mining activities.
- The Trelavour sky-tips, which are of historic interest as landmarks associated with former clay mining. They also hold communal and social value for local communities in the St Dennis area^{197,198}.

13.8 EFFECTS SCOPED OUT OF THE EIA

13.8.1.1 While an effect may be proposed to be scoped out, the ES will still provide baseline information on the receptor(s) concerned and set out any relevant measures the Proposed Development will adopt to mitigate impacts on the receptor(s).

13.8.1.2 Some parts of the Proposed Development have been subjected to comprehensive removal of the original and historically created ground surfaces. In these areas there is no potential for the survival of buried and built archaeology. This includes within the Trelavour, Hallow and Hendra Treviscoe and Goonvean Pits. These particular areas can therefore be scoped out of further assessment for buried archaeology. However, many of these pits are heritage assets in their own right and will be described and evaluated as part of the baseline assessment.

13.9 PROPOSED APPROACH TO THE ASSESSMENT

13.9.1 BASELINE DATA GATHERING

13.9.1.1 The assessment will consist of a multi-staged and iterative approach to baseline data gathering consisting of community engagement, desk-based assessment (DBA), landscape modelling and walkover survey, followed by a targeted programme of built heritage recording, geophysical survey and trial trench investigations. Archaeological

¹⁹⁷ Smith, J.R. (2008). Sky-Tips in the St Austell China Clay District: an archaeological assessment. Historic Environment Service, Cornwall Council.

¹⁹⁸ Kirkham (2014).

research is by its very nature iterative – the results of one stage determines the type of investigation and level of detail required in the next.

Community Engagement

13.9.1.2 As detailed in Section 4.7, the Applicant's team has been embedded in the local community and undertaking engagement activities with stakeholders since 2022. An early stage of non-statutory public consultation is being carried out shortly after the submission of this Scoping Report, whilst formal statutory consultation is planned for 2026.

13.9.1.3 With regard to the historic environment, a participatory approach will be undertaken to draw out the full range of opinions and perspectives concerning the role and importance of the recent industrial heritage within the Site. It is important that this process is launched prior to undertaking the baseline archaeological surveys so that the community are informed and involved in both processes, and to allow for elements identified by community members to be explored in the archaeological surveys. This will be followed by additional engagement throughout the assessment process.

Desk-Based Assessment

13.9.1.4 The DBA aims to:

- identify all known cultural heritage assets that may be affected by the proposed development including buried and surface archaeological remains, built heritage and historic landscapes;
- identify areas of high archaeological potential; and
- identify the gaps in the baseline data and potential risks of encountering unknown features during construction, operation, decommissioning and maintenance and restoration.

13.9.1.5 A cultural heritage DBA consists of elements of research and consultation that are typically summarised in a standalone report for inclusion in planning submissions. The research will include archival work and detailed Light Detection and Ranging (LiDAR) review, historic map, air photo and satellite image transcription to create a comprehensive spatial database of known assets and their extents¹⁹⁹.

¹⁹⁹ Analysis of LiDAR data can be particularly useful for identifying standing remains in areas of dense vegetation.

It will also include the production of GIS data packages that form the spatial framework for subsequent stages of the baseline data gathering programme. One of the key outputs of the DBA, is the production of a comprehensive gazetteer of every asset that may be affected by the Proposed Development. Each asset is assigned a unique identifying code, and their location, condition, extent and likely date is described. This gazetteer is then updated throughout the subsequent phases of investigation and forms the basis of the impact assessment.

Landscape Modelling

13.9.1.6 Alongside the DBA, drone photogrammetry survey of the post-medieval and modern historic landscape will be undertaken to produce a 3D model to assist both in the public engagement described above and in the creation of a record of the historic mining landscape²⁰⁰. As a minimum this would document:

- the northern part of the Trelavour Pit site and those assets immediately outside its boundaries on the northern and eastern sides of the Site, where features associated to eluvial and surface mining are known to survive;
- the centre north of the Trelavour Pit site including the former Trelavour Clay Works;
- parts of the southwestern and southern corners of the Trelavour Pit site and the where former Hendra and Hallel Works are located; and
- the historic tramway leading from Hendra Downs through Parkandillick and to the northwest.

13.9.1.7 It is envisaged that this would, like the overall heritage survey, be a staged process with an initial landscape model produced as part of the baseline survey to assist with recording, assessing heritage value and participatory engagement. As soon as the final extents of the Trelavour Pit and associated infrastructure are available, feedback will be sought through the engagement process and consultation with Cornwall Council's Historic Environment Service team, and further stages of more detailed 3D model construction of specific assets will be undertaken.

²⁰⁰ Examples of photogrammetry include the recording of lead and silver mines in the North Pennines National Landscape. Accessed online: <https://northpennines.org.uk/photogrammetry/>

Site Walkover

13.9.1.8 The second stage of this process will be a walkover survey of the Site to confirm the presence and condition of identified receptors, and to identify heritage assets that may only be detectable on the ground. An initial assessment of archaeological visibility will also be undertaken at this time whereby the potential for previously unidentified buried remains and those hidden by thick vegetation will be qualitatively assessed. Walkover surveys will ideally be scheduled to overlap with the DBA research, so they can both inform one another. The nature of the walkover survey will depend on current and prior land use in the different portions of the Site. Where access and vegetation cover permits, in those parts of the Site that have not been subjected to recent (late twentieth or twenty-first century) extraction activities, a systematic walkover survey using set transect widths will be undertaken. An initial setting assessment of any upstanding heritage asset that may be affected by the Proposed Development will be undertaken during this walkover survey.

Non-intrusive Surveys: Geophysics and Built Heritage Recording

- 13.9.1.9 Further non-intrusive surveys form the third stage of baseline data gathering and would involve recording and assessment of built heritage within the former clay mines and geophysical investigations in other portions of the Site outside of the former clay mines, such as in the proposed construction storage area close to the CERC site.
- 13.9.1.10 Historic England's building recording Level 1-2 is likely to be considered adequate for assessing heritage value for most of the clay working infrastructure²⁰¹. This involves recording of the exterior and interior of each of the structures and features present through photography and a written record. More detailed historic building recording at a level 3-4, will be undertaken where there are standing buildings such as the Hallow Engine House and the chimney stacks within the Trelavour Processing Plant and Goonvean Mining Waste Facility, including detailed drawings of interior and exterior architectural details and a systematic photographic record.

²⁰¹ Historic England (2016). Understanding historic buildings: a guide to good recording practice. Accessed online: <https://historicengland.org.uk/images-books/publications/understanding-historic-buildings/>

Intrusive Surveys

- 13.9.1.11 Intrusive surveys form the fourth stage of the investigation. These may include geoarchaeological evaluation to allow for a more rigorous understanding of the sub-surface conditions and the potential for buried archaeology to be encountered within the Site and would likely target portions of the development that are closest to drainage networks such as in the northwestern side of the Trelavour Processing Plant and surrounding parts of the Site. Geoarchaeological work would optimally be programmed and considered alongside any pre-construction engineering works such as Ground Investigation boreholes.
- 13.9.1.12 If deemed appropriate, trial trenching, which can be undertaken as an additional part of the assessment, or as a further stage of investigation, would be aimed at evaluating possible archaeological features identified through geophysical survey and assessing any 'blank' areas where geophysical survey did not yield positive results²⁰².

13.9.2 ASSESSMENT OF HERITAGE VALUE

- 13.9.2.1 For the purposes of assessment, the term 'value' will be used to describe the significance of a heritage asset to avoid confusion with the wider EIA term 'significance of effect'.
- 13.9.2.2 Heritage assets will be assessed in terms of their value, following the requirement in NPPF (2025) paragraph 207, and taking account of Historic England's guidance on 'Managing Significance in Decision-Taking in the Historic Environment' (GPA2)¹⁷⁴.
- 13.9.2.3 Value, in relation to heritage policy, is defined in the NPPF as "*the value of a heritage asset to this and future generations because of its heritage interest. That interest may be archaeological, architectural, artistic or historic. Significance [Value] derives not only from a heritage asset's physical presence, but also from its setting.*"
- 13.9.2.4 The NPPF glossary and the PPG (Paragraph: 006) provide that an asset's significance ('value', for the purposes of this assessment) derives from its heritage 'interests', which they define as follows:
- Archaeological interest: "*As defined in the Glossary to the National Planning Policy Framework, there will be archaeological interest in*

²⁰² Trial trench evaluation is unlikely to be very effective within the former clay extraction areas.

a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point”.

- Architectural and artistic interest: *“These are interests in the design and general aesthetics of a place. They can arise from conscious design or fortuitously from the way the heritage asset has evolved. More specifically, architectural interest is an interest in the art or science of the design, construction, craftsmanship and decoration of buildings and structures of all types. Artistic interest is an interest in other human creative skills, like sculpture.”*
- Historic interest: *“An interest in past lives and events (including pre-historic). Heritage assets can illustrate or be associated with them. Heritage assets with historic interest not only provide a material record of our nation’s history but can also provide meaning for communities derived from their collective experience of a place and can symbolise wider values such as faith and cultural identity.”*

13.9.2.5 Historic England’s ‘Statements of Heritage Significance: Analysing Significance in Heritage Assets’, Historic England Advice Note 12 (2019)²⁰³, also promotes the use of this terminology and methodology²⁰⁴. This approach allows for a detailed and justifiable determination of heritage value and the interests from which that value derives.

13.9.2.6 In accordance with the NPPF, the level of value attributed to heritage assets will be articulated as follows:

- designated heritage assets of the highest value;
- designated heritage assets of less than the highest value; and
- non-designated heritage assets.

Designated Heritage Assets of the Highest Value

13.9.2.7 As identified in paragraph 213 of the NPPF, these assets comprise:

- Grade I and II* Listed buildings;

²⁰³ Statements of Heritage Significance: Analysing Significance in Heritage Assets. (2019). Historic England Advice Note 12. Available Online at: <https://historicengland.org.uk/images-books/publications/statements-heritage-significance-advice-note-12/>

²⁰⁴ Historic England’s *Conservation Principles* (2008) provides a more detailed explanation of heritage interest. Of relevance for the post-medieval and modern china clay landscape is the expanded definition of aesthetic, communal and social values found in this guidance. As such these expanded definitions will be used alongside those set out above in this assessment.

- Grade I and II* Registered Parks and Gardens;
- Scheduled Monuments;
- Protected Wreck Sites;
- World Heritage Sites and Registered Battlefields
- some conservation areas; and
- non-designated heritage assets of archaeological interest which are demonstrably of equivalent value to Scheduled Monuments, as identified in section paragraph 213, footnote 75.

Designated Heritage Assets of Less Than the Highest Value

13.9.2.8 As identified in paragraph 213 of the NPPF, these assets comprise Grade II Listed buildings, Grade II Registered Parks and Gardens and some conservation areas.

Non-Designated Heritage Assets

13.9.2.9 Defined within the PPG as "*buildings, monuments, sites, places, areas or landscapes identified by plan-making bodies as having a degree of significance [value] meriting consideration in planning decisions, but which do not meet the criteria for designated heritage assets*".

Cumulative Effects

13.9.2.10 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same historic environment receptors.

13.9.3 MAGNITUDE OF IMPACT

13.9.3.1 Magnitude of impact is the predicted degree of change to the existing baseline environment during the construction, operation and decommissioning of the Proposed Development. The methodology for predicting the degree of change that will be employed in this assessment moves away from the more traditional 'scalar', matrix-led approach. It instead adopts a descriptive, qualitative presentation of the changes to heritage value that are predicted as a result of the Proposed Development, which directly reflects key concepts in current planning policy and heritage guidance, allowing for a less constrained assessment of effects, while retaining the reliability of the assessment.

13.9.4 SIGNIFICANCE OF EFFECTS

13.9.4.1 The process of carefully describing the level of heritage value of each asset that may be affected by the Proposed Development and the interests from which that value derives, combined with a prediction of the degree of change (impact magnitude) to this value, will allow for an assessment of the overall effect of the Proposed Development upon the asset in question. In each case, professional judgement will be employed to determine the likely significance of the effect. Where the Proposed Development is predicted to result in a substantial erosion of the value of a heritage asset, this may be described as a significant effect.

13.9.5 ASSESSING HARM TO HERITAGE VALUE

13.9.5.1 Effects will also be discussed in terms of harm to heritage value with reference to the NPPF (2025), through either of the options as follows:

- substantial harm or total loss; or
- less than substantial harm.

13.9.5.2 'Substantial harm or total loss' is defined as a level of harm that, as confirmed in 2013 case law²⁰⁵, would "*have such a serious impact on the significance [value] of the asset that its significance [value] was either vitiated altogether or very much reduced*". 'Less than substantial harm' is defined as being any lesser level of harm than that defined by 'substantial harm or total loss'. Recent case law has confirmed that this includes any level of harm (not considered substantial) regardless of its quantification, e.g. the finding of a 'negligible' level of harm must still be treated as less than substantial harm and be weighed in the balance under paragraph 216 of the NPPF.

13.9.5.3 The PPG provides that the category of harm identified for any given asset be 'explicitly identified', and that the extent of that harm be 'clearly articulated'. For purposes of this assessment, this is done with reference to a 'scale', e.g. at the lower/upper end of the scale of less than substantial.

²⁰⁵ Bedford Borough Council v. Secretary of State for Communities and Local Government and Nuon UK Ltd, (2013) EWHC 2847

13.9.5.4 The NPPF does not provide that harm to non-designated heritage assets be categorised as 'substantial' or 'less than substantial', only that the scale of any harm or loss is articulated.

13.9.5.5 The High Court has clarified that 'preservation' does not mean no change; it specifically means no harm²⁰⁶. This is echoed in Historic England's Good Practice Advice (GPA) 2, which states that "*Change to heritage assets is inevitable but it is only harmful when significance [value] is damaged*".

²⁰⁶ R (Forge Field Society, Barraud and Rees) v. Sevenoaks District Council, West Kent Housing Association and Viscount De L'Isle, (2014) EWHC 1895,

14. SOCIO-ECONOMICS AND LAND USE

14.1 INTRODUCTION

14.1.1.1 This section of the Scoping Report identifies the socio-economic and land use receptors of relevance to the Proposed Development and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.

14.1.1.2 The assessment of socio-economic and land use effects is closely associated with the human health and wellbeing assessment. Therefore, there will be a degree of overlap in the datasets used to inform the development of the socio-economic and health baselines, undertake the assessment of potentially significant effects, and determine the requirement for mitigation (should it be appropriate). This includes the community profile which is also included within the human health and wellbeing section of this Scoping Report.

14.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

14.2.1.1 The socio-economics and land use assessment will be undertaken in line with the following legislation, policy and guidance:

- Countryside and Rights of Way Act 2000; and
- Section 257 and Section 261 of the Town and Country Planning Act 1990.
- The National Planning Policy Framework (NPPF), including:
 - Chapter 6 Building a strong, competitive economy;
 - Chapter 8 Promoting healthy and safe communities;
 - Chapter 11 Making effective use of land; and
 - Chapter 17 Facilitating the sustainable use of minerals.
- The Cornwall Local Plan Strategic Policies (2016)²³, including:
 - Policy 5 Business and tourism;
 - Policy 7 Housing in the countryside;
 - Policy 16 Health and wellbeing;
 - Policy 17 Minerals – general principles;
 - Policy 21 Best use of land and existing buildings; and

- Policy 25 Green infrastructure.

14.2.1.2 There is limited published guidance on socio-economic and land use assessments, therefore, the approach adopted will be informed by professional judgement, best practice and feedback from stakeholders collated through the engagement and consultation activity undertaken to inform the Proposed Development and the EIA. Economic modelling will follow the principles of HM Treasury's Green Book²⁰⁷.

14.3 BASELINE ENVIRONMENT

14.3.1 DATA SOURCES

14.3.1.1 The socio-economic and land use baseline in the EIA will include a community profile which will serve as the baseline to support the assessment of the Proposed Development. The community profile will evolve as the assessment progresses, and will also draw upon feedback from stakeholders. Examples of data sources and information used for the community profile are as follows:

- Office for National Statistics (ONS) Census data²⁰⁸;
- ONS Population Estimates²⁰⁸;
- ONS Labour Market Profiles²⁰⁸;
- ONS Annual Population Survey²⁰⁸;
- ONS Business Register and Employment Survey²⁰⁸;
- ONS Annual Survey of Hours and Earnings²⁰⁸;
- ONS Regional GVA²⁰⁹;
- ONS Business Demography²¹⁰;
- English Indices of Deprivation (2020)²¹¹;
- Visit England (2023), England counties for domestic overnight trips²¹²;

²⁰⁷ HM Treasury (2024). The Green Book. Available online at: <https://www.gov.uk/government/publications/the-green-book-appraisal-and-evaluation-in-central-government/the-green-book-2020>.

²⁰⁸ ONS (2022), Census 2021. Available online via www.nomisweb.co.uk

²⁰⁹ ONS (2022), Gross Value Added. Available online via: [Gross Value Added \(GVA\) - Office for National Statistics](#)

²¹⁰ ONS, Business Demography. Available online via: [Business demography, UK Statistical bulletins - Office for National Statistics](#)

²¹¹ UK Government (2020), English Indices of Deprivation. Available online at: <https://www.gov.uk/government/collections/english-indices-of-deprivation>.

²¹² Visit England, England counties for domestic overnight trips (2022 to 2023). Available online at: [Domestic Tourism, regional and subregional data | VisitBritain.org](#)

- Visit England (2016), Accommodation stock audit 2016²¹³; and
- Cornwall Council Community Insight Profile²¹⁴.

14.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

The Study Area

14.3.2.2 The proposed geographical scope of the assessment covers multiple spatial scales, informed by the likely impacts of the Proposed Development and the scale at which they would be expected to occur:

- **Socio-economic impacts:** Socio-economic impacts, including impacts on supply chains impacts, are likely to be realised at a national and local level;
- **Wider socio-economic effects:** The wider socio-economic effects are unlikely to be significant at a national level but may affect very localised industries at the neighbourhood or local level;
- **Socio-cultural effects:** Socio-cultural effects are not likely to be significant at a national or local level but may be perceived or observed at a small area level where there are changes impacting small communities nearby;
- **Land use effects:** Changes in land use would arise within the site boundary and could have knock-on effects at the neighbourhood and local level; and
- **Tourism and recreation effects:** Tourism and recreation effects could be significant at a neighbourhood level where the community and related tourism and recreation receptors are directly impacted by the project. Tourism accommodation in the wider local area may also be affected.

14.3.2.3 The study areas proposed for the assessment are set out in Table 14.1 below. The baseline data will also be collected and reported for each respective study area as part of the EIA.

²¹³ Visit England (2016), Accommodation stock audit 2016. Available online at: [England Accommodation stock audit | VisitBritain.org](https://www.visitbritain.org/stock-audit)

²¹⁴ Cornwall Council, Community Insight Profile. Available online at: <https://www.cornwall.gov.uk/health-and-social-care/public-health/joint-strategic-needs-assessment/community-and-health-based-profiles/>

TABLE 14.1: PROPOSED STUDY AREAS FOR SOCIO-ECONOMICS AND LAND USE

Impacts and Effects	Site: Site boundary plus 5 km buffer	Neighbourhood: St Denis and St Enoder; Roche and Bugle; St Stephen-in-Brannel	Local: Cornwall	National: England
Socio-economic impacts			✓	✓
Wider socio-economic effects		✓	✓	
Socio-cultural effects		✓	✓	
Land use effects	✓	✓	✓	
Tourism & recreation effects	✓	✓	✓	

Economic Context

Employment

- 14.3.2.4 Socio-economic impacts and wider socio-economic effects will be assessed at the neighbourhood (St Dennis and St Enoder, Roche and Bugle, and St Stephen-in-Brannel), local (Cornwall) and national (England) levels.
- 14.3.2.5 Table 14.2 below, shows that the immediate neighbourhoods surrounding the Site have higher rates of economic activity than the Cornwall average. Economic activity rates in St Dennis and St Enoder are also higher than the national average.
- 14.3.2.6 The proportion of residents who are economically inactive is higher than the national average in Cornwall and in St Stephen-in-Brannel and Roche and Bugle. These areas all record larger than average proportions of residents who are retired. In St Dennis and St Enoder, economic inactivity is below average and the proportion of residents who are retired is also smaller than the national average.

TABLE 14.2: ECONOMIC ACTIVITY WITHIN THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Economic Category	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Economic Activity Rate (16-64)	60.8%	58.0%	57.7%	54.1%	58.6%
Employment Rate (16-64)	58.4%	55.6%	55.4%	52.0%	55.7%
Unemployment Rate (16-64)	2.4%	2.4%	2.3%	2.2%	3.9%
Economically inactive (16-64)	39.2%	42.0%	42.3%	45.9%	41.4%
Retired	21.7%	23.6%	24.4%	28.8%	21.5%
Student	3.1%	2.8%	3.5%	4.2%	5.6%
Looking after home or family	5.3%	5.5%	4.9%	4.1%	4.8%
Long-term sick or disabled	4.5%	5.5%	5.2%	4.5%	4.1%
Other	3.0%	3.3%	2.7%	2.5%	3.1%

Source: Census, 2021²⁰⁸

Gross Value Added

14.3.2.7 Gross Value Added (GVA) is a measure of economic productivity.

Table 14.3, below, shows that GVA per head in Cornwall and within the neighbourhood study area are below the English and UK averages, indicating low productivity and potentially low value jobs.

TABLE 14.3: GROSS VALUE ADDED (GVA) WITHIN THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Gross Value Added (GVA)	Area					
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England	United Kingdom
Total GVA (£m)	218	172	145	13,772	1,936,253	2,246,047
GVA per head (£)	27,270	22,904	20,892	23,929	33,902	33,224

Source: ONS, 2022²⁰⁸

Wider Socio-Economic Context

Economic Structure

14.3.2.8 The largest sectors by employment in the neighbourhood Study Area are wholesale and retail trade; human health and social work; and construction (Census 2021). This is also true of Cornwall more widely.

Qualifications

14.3.2.9 Table 14.4 below, shows that there are higher rates of residents with no qualifications at the neighbourhood level, especially in Roche & Bugle, compared with the national average. There is also disparity at the other end of the spectrum, with lower levels of residents with level 4 qualifications²¹⁵ across the neighbourhood levels when compared to Cornwall and national averages. Despite this, there are higher levels of apprenticeship qualifications at the neighbourhood level, which aligns with the high proportion of employment in sectors such as construction, where apprenticeships are common.

²¹⁵ Census Level 4 qualifications are degree-level qualifications and above.

TABLE 14.4: QUALIFICATIONS OF RESIDENTS OF THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Qualification Category	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
No qualifications	20.3%	23.2%	19.8%	16.3%	18.1%
Level 1 and entry level qualifications	12.5%	12.1%	11.4%	10.0%	9.7%
Level 2 qualifications	16.4%	15.8%	17.5%	15.2%	13.3%
Apprenticeship	6.7%	7.3%	6.8%	6.6%	5.3%
Level 3 qualifications	19.7%	19.1%	19.2%	18.8%	16.9%
Level 4 qualifications or above	22.1%	19.6%	22.6%	30.6%	33.9%
Other qualifications	2.4%	2.9%	2.7%	2.5%	2.8%

Source: Census, 2021²⁰⁸

Earnings

14.3.2.10 The latest average weekly earnings data shows that Cornwall has both lower weekly resident²¹⁶ (£669.30) and workplace²¹⁷ (£630.80) wages in comparison to the UK (£728.30 for both resident and workplace-based)²¹⁸. Further, the average weekly resident salary in Cornwall is £164.90 higher than the workplace salary – which indicates that some residents may commute outside of the local authority for higher paid employment. However, the uplift in wages since 2019 is greater in Cornwall than the UK level²¹⁸.

²¹⁶ Average weekly earnings for people living in Cornwall.

²¹⁷ Average weekly earnings for people working in Cornwall.

²¹⁸ ONS (2024) Annual Survey of Hours and Earnings

Socio-Cultural Context

Population and Demographics

14.3.2.11 Socio-cultural effects, such as changes in demographics and demand for services, are likely to be observed at the neighbourhood and local study areas. Therefore, data is provided for the neighbourhood areas and local (Cornwall) study areas, with UK data provided for comparison.

14.3.2.12 According to the latest ONS population estimates, the age profile in the surrounding neighbourhoods aligns better with the England average than with wider Cornwall. Cornwall has an ageing population in comparison to all other area levels and Cornwall's population has been ageing at a faster rate than the England average (Table 14.5).

TABLE 14.5: POPULATION PROFILE OF THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Age Profile	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
0-15	20%	19%	18%	16%	19%
16-64	62%	61%	61%	58%	63%
65+	19%	20%	21%	25%	18%

Source: Census, 2021²⁰⁸

Deprivation

14.3.2.13 Data from the English Indices of Deprivation shows that approximately 13% of Cornwall's population was classed as income-deprived in 2019²¹⁹. Of the 316 local authorities in England (excluding the Isles of Scilly), Cornwall is ranked 108th most income deprived. Of the 326 neighbourhoods in Cornwall, 46 were amongst the 20% most income deprived in England, whilst seven neighbourhoods were in the 20% least income deprived.

²¹⁹ Ministry of Housing, Communities and Local Government (2019), English Indices of Deprivation 2019. Available online at: <https://www.gov.uk/government/statistics/english-indices-of-deprivation-2019>

14.3.2.14 There is a high level of socio-economic deprivation in the neighbourhood study area. The majority of St Dennis is considered to be within the most deprived 20% of England. Nanpean and Treviscoe are in the most deprived 40% of England²²⁰.

Housing

14.3.2.15 Data on housing tenure is shown in Table 14.6, below. The proportion of residents who own their home is above the national average at the neighbourhood and local level. This could indicate the presence of established communities, with lower population churn. There is a higher than national average proportion of households in private rented accommodation in St Dennis and St Enoder. The proportion of households in social rented accommodation is below average across the neighbourhood study area, and across Cornwall as a whole.

TABLE 14.6: HOUSEHOLDS BY TYPE IN THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Household Tenure	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Total no. households	3,205	3,122	2,938	250,535	23,436,085
Owned	66.1%	62.2%	68.7%	66.2%	61.3%
Private rented	21.1%	25.3%	17.4%	19.7%	20.5%
Social rented	11.2%	11.3%	11.9%	12.8%	17.1%
Lives rent free	0.0%	0.1%	0.0%	0.1%	0.1%

Source: Census, 2021²⁰⁸

14.3.2.16 Second home ownership contributes to pressures on the housing market in some parts of Cornwall. In the ward of St Newlyn East, Cubert and Goonhavern, for example, the 2021 Census recorded 39.5% of accommodation units as vacant or second homes.

²²⁰ Cornwall Council Community and Health Profiles. Available online at: <https://cornwall.localinsight.org/#/map>

14.3.2.17 The data in Table 14.7 shows that the proportion of units recorded as vacant or second homes is lower in the neighbourhood study area than the Cornish average. In St Dennis and St Enoder, 2.7% of units were recorded as vacant or second homes (below the Cornish average of 4.6%), whilst the proportion of units recorded as vacant, or second homes recorded in Roche and Bugle and in St Stephen-in-Brannel was minimal.

TABLE 14.7: PROPORTION OF ACCOMMODATION UNITS RECORDED AS VACANT OR SECOND HOMES IN THE LOCAL AND NEIGHBOURHOOD STUDY AREAS

Area	Proportion of Units Recorded as Vacant or Second Homes (%)
St Dennis and St Enoder	2.7
Roche and Bugle	0.1
St Stephen-in-Brannel	0
Cornwall	4.6

Source: Census, 2021²⁰⁸

Land Use

Existing Land Use

14.3.2.18 The Site is located within a largely industrialised area which continues to be mined for china clay. Existing land use and ground conditions within the Site are described in detail in Sections 2 and 6. The Trelavour Pit is a former china clay extraction site, whilst the Trelavour Processing Plant will be located at a former kaolin drying site, with large structures and bare ground with some natural vegetation regeneration. The area surrounding the Site is rural in nature, and characterised by clay open pits (both active and disused), waste rock heaps, industrial buildings, agricultural land and small settlements.

Settlements

14.3.2.19 There are a number of small villages and hamlets within approximately 2 km of the Site, including St Dennis, Nanpean, Whitemoor, Foxhole, Carpalla, Treviscoe and St Stephen. Settlements within the wider neighbourhood study area include Indian Queens,

Fraddon, Toldish and Penhale (in St Dennis and St Enodur ward), Roche and Bugle (in Roche and Bugle ward), and Hornick (in St Stephen-in-Brannal ward). The larger town of St Austell is located approximately 8 km to the southeast of the Site.

Transport Links

14.3.2.20 The Site can be accessed via the A30, which is a major road between London and Land's End. There is also a network of local, rural roads within the vicinity of the Site, including Gothers Road, Brewers Hill and the B3279. There are railway stations at Roche, Bugle, and St Columb Road, with services to Newquay and Par.

Tourism and Recreation

Employment and Economic Value

14.3.2.21 In 2022/23, Cornwall was the fifth most visited county in England by domestic visitors, attracting 4.3 million trips²²¹. Domestic visitors to the county spent a total of £1.3 billion. In relation to holiday visitors only, Cornwall was the second most visited domestic destination, with only Greater London attracting more domestic visitors. Employment in tourism-related sectors of the economy is above the national average, with data from the 2021 Census showing that 8.6% of residents are employed in accommodation and food services²⁰⁸.

Tourist Accommodation

14.3.2.22 The most recent Visit England accommodation stock audit was conducted in 2016 and so the data should be treated with caution, particularly as it predates the Covid-19 pandemic which had a major impact on tourism in the UK²²². A summary is provided in Table 14.8.

14.3.2.23 Tourist accommodation within the neighbourhood study area includes a number of campsites and holiday lets, and a hotel located on a service area adjacent to the A30.

²²¹ Visit England, England counties for domestic overnight trips (2022 to 2023). Available online at: <https://www.visitbritain.org/research-insights/england-domestic-tourism-regional-and-subregional-data>.

²²² Visit England (2016), Accommodation stock audit 2016. Available online at: <https://www.visitbritain.org/research-insights/england-accommodation-stock-audit>.

TABLE 14.8: TOURISM ACCOMMODATION STOCK IN CORNWALL

Accommodation Type	Establishments	Rooms	Bedspaces
Hotels and other serviced accommodation	1,478	15,975	34,600
Non-serviced accommodation	4,107	43,666	234,821
Total	5,585	59,641	269,421

Source: Visit England (2016)²²²²¹³

Tourism and Recreation Receptors

14.3.2.24 There are a number of PRowS within the Site, and others are located within the vicinity of the Site. It is understood that there is also currently informal access to land within the Site that is sometimes used for recreation. PRowS within 1 km of the Site are shown on Figure 14 and further detail regarding PRowS within the vicinity of the Site is included in Section 12.3.2.

14.3.2.25 Other tourism and recreation receptors located within 5 km of the Site include Tregargus Wood and Tregargus Waterfall, the Hidden Valley, Screech Owl Sanctuary and Animal Park, St Dennis Association Football Club (AFC), Foxhole Stars Football Club (FC), St Stephen Cricket Club, Nanpean Social Club, Hosking Family Park, and St Dennis Skate Park. As noted above, there are also a number of campsites and self-catering complexes located nearby.

14.4 KEY SENSITIVITIES

14.4.1.1 At this stage, key sensitivities for the assessment of socio-economic, land use, tourism and recreation effects are considered to be:

- Presence of PRow and open space used informally for recreation within the Site boundary;
- Relatively high rates of deprivation, lower than average wages, and lower than average levels of qualifications within the neighbourhood Study Area;
- Presence of an incoming construction workforce, with potential implications for local demographics, community identity and the availability of accommodation and services; and

- Importance of the tourism sector to the economy of Cornwall.

14.5 PROJECT BASIS FOR SCOPING ASSESSMENT

14.5.1.1 The Proposed Development has the potential to both permanently and temporarily affect land use within the Site, including access to PRow and other recreational receptors. It will also create jobs directly and in the supply chain during construction and operation that will generate socio-economic effects and, potentially, wider socio-economic and socio-cultural effects.

14.6 MITIGATION

14.6.1.1 The assessment will take into account the relevant mitigation measures identified in other relevant topic sections, such as air quality, noise, traffic and transport, and landscape and visual. It will also consider the need for any further mitigation measures to address any significant adverse effects on socio-economics and land use. The assessment will also consider measures proposed to be put in place to maximise the delivery of positive effects for the national and local economy and supply chain.

14.7 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

14.7.1.1 Potential impacts and effects on socio-economics and land use that could occur from the operation and maintenance, and decommissioning, closure and restoration phases of the Proposed Development are likely to include:

- **Employment and supply chain effects** (construction, operation and maintenance, and decommissioning, closure and restoration). The construction and operation of the Proposed Development will create jobs directly and in the supply chain which have the potential for a positive effect. Decommissioning, closure and restoration could create some employment in the short-term, but is potential for negative net effects in the longer-term following mine closure and decommissioning.
- **GVA effects** (construction, operation, and decommissioning / closure). The construction and operation and maintenance of the Proposed Development will generate GVA in the local and national economy which is likely to have for a positive effect. There could be negative effects associated with decommissioning, closure and restoration.

- **Wider socio-economic effects** (construction, operation and decommissioning / closure). The construction, operation and decommissioning / closure of the Proposed Development could have wider and knock-on socio-economic effects including structural economic change or disruption to established local industries which could have the potential for significant positive or negative effects.
- **Socio-cultural effects** (construction, operation and decommissioning / closure). Changes to local demographics and the local environment associated with construction activities and the presence of an incoming construction workforce could result in increased demand for social infrastructure (such as housing, health and education) and changes in community identity and way of life. This could have the potential for positive and negative effects. There could also be longer-term effects associated with operation, and with the decommissioning, closure and restoration of the Proposed Development. Changes in land use, and environmental impacts arising during construction and operation, could also result in socio-cultural effects, including effects for local identity and sense of place. These could be both positive and negative, reflecting the history of the local area as a mining community.
- **Land use effects** (construction and decommissioning / closure). Changes to land use within the Site would arise during construction and continue into operation. The decommissioning, closure and restoration of the Proposed Development could result in further changes to land use.
- **Direct effects on tourism and recreation receptors** (construction, operation and decommissioning / closure). Direct impacts on tourism and recreation receptors, such as any temporary diversion of PRow or other access routes used for recreation, could have the potential for significant negative effects. The potential creation of a permissive multi-use community trail between St Dennis and Goss Moor NNR, and opportunities for engagement and interpretation, could have potential benefits during the operational phase.
- **Indirect effects on tourism and recreation receptors** (construction and operation). Indirect impacts on tourism and

recreation receptors, such as in-combination effects on amenity for users of PRow or sensitive visitor attractions, could have the potential for negative effects. These effects could occur during construction and during operation.

- **Effects on tourism accommodation** (construction and operation). There may be an increase in demand for tourist accommodation associated with the presence of an incoming construction workforce. This has the potential to result in positive or negative effects. The accommodation requirement associated with the operational workforce is likely to be smaller, however given the local context, it is proposed to scope this in for further assessment.

14.8 EFFECTS SCOPED OUT OF THE EIA

- 14.8.1.1 It is proposed to scope out land use effects (operation) from further assessment in the EIA. Changes in land use within the Site would occur during construction and decommissioning. It is not anticipated that any further effects would occur during the operational phase.

14.9 PROPOSED APPROACH TO THE ASSESSMENT

- 14.9.1.1 There is little published guidance for assessing the socio-economic and land use impacts and effects of a Proposed Development. The assessment will therefore be based on professional judgement and established industry best practice, informed by relevant policy and legislation and the approach taken for other comparable developments. Appropriate sensitivity and magnitude criteria will be determined and applied to assess the significance of effects. This section describes the methodology that will be used to assess each category of effect.

14.9.2 SPECIFIC METHODOLOGIES

Economic Effects

- 14.9.2.2 An economic model will be built to estimate the jobs and GVA associated with the construction and operation and maintenance phases of the Proposed Development. The model will be based on the estimated capital expenditure (CAPEX) and operational expenditure (OPEX) for the Proposed Development and will apply industry standard best practice to estimate the direct, indirect and induced effects of construction and operation on the local (Cornwall) and

national (England) economy and supply chain. Decommissioning effects will be assessed qualitatively.

Wider Socio-economic Effects

- 14.9.2.3 Wider socio-economic effects, such as structural economic change or disruption to established local industries, will be assessed based on the findings of the economic assessment and of relevant findings of other EIA topics. It will also take into account baseline data in relation to the structure of the local economy, its existing strengths and growth areas.

Socio-Cultural Effects

- 14.9.2.4 The assessment of socio-cultural effects will consider the potential effects on local demographics associated with an incoming construction workforce, and the effect on local service provision and availability (including the availability of housing) from any increase in demand. The assessment will be qualitative, and will take into account the size of the estimated workforce and baseline data relating to the age profile of the population and existing service provision. It will also consider the potential for changes in land use, and for environmental impacts identified in the noise, air quality and landscape and visual assessments, to affect community identity within the neighbourhood and local study areas.

Tourism and Recreation

- 14.9.2.5 The assessment of direct effects on tourism and recreation receptors will be based on the design of the Proposed Development and the findings of the traffic and transport assessment. There are several PRoWs within the Site, and it is understood that there has previously, at times, been informal public access to parts of the Site. Direct impacts would include any temporary or permanent closure or diversion of paths or loss of public access within the Site, as well as impacts on the surrounding road network which could affect access to tourism and recreation facilities.
- 14.9.2.6 The assessment of indirect effects on tourism and recreation receptors will take into account the findings of the noise, air quality, traffic and transport, and landscape and visual assessments. It will assess the potential for significant effects reported in these sections

to result in effects on amenity for users of tourism and recreation resources within 5 km of the Site.

14.9.2.7 In relation to tourism accommodation, the assessment will consider the likely size of the incoming construction workforce, their requirements in terms of location and length of stay, and the effect on the availability of serviced and non-serviced accommodation from the increase in demand. The assessment will be qualitative, and will take into account the seasonality of the construction programme in comparison to the peak tourist season, and the provision of any temporary worker accommodation as part of the Proposed Development.

Cumulative Effects

14.9.2.8 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same socio-economic and land use receptors.

14.9.3 ASSESSMENT CRITERIA

Socio-economic and Land Use Receptor Sensitivity

14.9.3.2 The sensitivity of receptors is assessed qualitatively, based on their scarcity, value or priority in local and national policy, and capacity to absorb change. Proposed sensitivity criteria are presented in Table 14.9 below.

TABLE 14.9: RECEPTOR SENSITIVITY CRITERIA FOR SOCIO-ECONOMICS AND LAND USE

Sensitivity Category	Receptor Sensitivity Criteria
High	• There is no or low availability of labour and skills in the local workforce, for example, as a result of very low unemployment rates. Therefore, the Proposed Development would lead to labour market pressure and distortions (i.e. skills and capacity shortages, import of labour, wage inflation). • A receptor is of high socio-economic or land use value. It is of importance at a national or international level and has little capacity to absorb change without fundamentally altering its present character. • A receptor possesses priority in national socio-economic or land use strategy / policy.

Sensitivity Category	Receptor Sensitivity Criteria
Medium	• The area has a constrained supply of labour and skills. Therefore, the Proposed Development may lead to labour market pressure and distortions. • A receptor is of moderate socio-economic or land use value. It is of importance as a national level and has some capacity to absorb change without fundamentally altering its present character. • A receptor possesses priority in local socio-economic or land use strategy / policy.
Low	• A receptor is of moderate socio-economic or land use value. It is of importance at a national/local level and can absorb change without fundamentally altering its present character. • A receptor is not identified as a priority in local socio-economic or land use strategy / policy

Magnitude of Impacts

14.9.3.3 The magnitude of impacts will be determined based on their intensity (or scale), spatial coverage and longevity. The magnitude assigned will also use professional judgement to take into consideration the application of statutory standards and non-statutory standards or guidelines. The proposed magnitude criteria are presented in Table 14.10, below.

TABLE 14.10: IMPACT MAGNITUDE CRITERIA FOR SOCIO-ECONOMICS AND LAND USE

Impact Magnitude Category	Impact Magnitude Criteria
Large	• Total loss or major alteration (positive or negative) of a socio-economic or land use receptor. • This could include permanent closure or severe effect upon the viability of a business, community facility or public service, or closure or restricted access to PRow.
Medium	• Loss of, or alteration to (positive or negative), one or more key elements of a socio-economic or land use receptor's baseline value. • This could include a moderate change to business revenues with potential job losses but no threat to the viability of the business, moderate change to the function or service of community facilities and public services, or a moderate reduction in access to recreational PRow.

Impact Magnitude Category	Impact Magnitude Criteria
Small	• Slight alteration (positive or negative) of the socio-economic or land use receptor's baseline value. • This could include a low change to business revenues with isolated job losses but no threat to the viability of the business, low change to the function or service of community facilities and public services, or low reduction in access to recreational PRow.
Negligible	• Very little change from baseline conditions. Change barely distinguishable, approximating to a 'no change' situation.

Significance of Effects

14.9.3.4 The significance of effect will be determined by assessing the potential magnitude of an impact against the sensitivity of the relevant receptor. The significance of effects matrix to be applied in the assessment is as per the one provided in Section 4 (EIA Methodology). Moderate and Major effects are considered to be Significant.

15. HUMAN HEALTH AND WELLBEING

15.1 INTRODUCTION

- 15.1.1.1 This section of the Scoping Report identifies the human health and wellbeing receptors of relevance to the Proposed Development, including local communities, and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development in relation to health and wellbeing. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.
- 15.1.1.2 The assessment of human health and wellbeing effects is closely associated with the socio-economic, land use and tourism and recreation assessment and will draw upon its findings, as well as the assessments of potential effects relating to air quality and dust, noise and vibration, land contamination, water resources and traffic and transport.

15.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

- 15.2.1.1 There is no statutory requirement to carry out a standalone Health Impact Assessment (HIA) for the Proposed Development. The amended EIA Directive (2014/52/EU)²⁵⁷ does, however, include the requirement to consider the likely significant effects of projects on “*population and human health*”. Evolving practice has, therefore, seen the integration of previously standalone assessments of human health and wellbeing into EIA reporting, consistent with the Directive.
- 15.2.1.2 The assessment will be undertaken pursuant to the EIA Directive²⁵⁷ and the continued application of EIA in the UK, post-Brexit, as set out in The Environmental Assessments and Miscellaneous Planning (Amendment) (EU Exit) Regulations 2018²²³.
- 15.2.1.3 The human health and wellbeing assessment will consider the following policies:
- The National Planning Policy Framework (NPPF)⁹, including Chapter 8 Promoting healthy and safe communities;
 - The Cornwall Local Plan Strategic Policies (2016)²³, including policy 16 Health and wellbeing.

²²³ UK Government, The Environmental Assessments and Miscellaneous Planning (Amendment) (EU Exit) Regulations 2018. Available online at: <https://www.legislation.gov.uk/ukxi/2018/1232/contents/made>

15.2.1.4 The human health and wellbeing assessment will be undertaken in line with the following guidance:

- World Health Organisation (WHO) (2022), Learning from practice: case studies of health in strategic environmental assessment and environmental impact assessment across the WHO European Region²²⁴;
- IEMA (2022), Effective Scoping of Human Health in Environmental Impact Assessment²²⁵;
- IEMA (2022), Determining Significance for Human Health²²⁶
- European Public Health Association (2020), Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment²²⁷;
- Public Health England (2020), Health Impact Assessment in Spatial Planning²²⁸; and
- National Health Organisation (NHS) Healthy Urban Development Unit (HUDU) (2019), Rapid Health Impact Assessment Tool²²⁹.

15.2.1.5 The guidance sets out the approach and expectations of how an assessment of human health and wellbeing should be conducted, drawing upon precedent and learnings from assessment work conducted to support an array of international, national, regional, and local level projects.

15.2.1.6 Consistent across the guidance documents is the expectation that a comprehensive baseline assessment is taken to consider determinants which impact human health and wellbeing. The role of stakeholder feedback is also recognised as a key consideration in

²²⁴ WHO (2022). Learning from practice: case studies of health in strategic environmental assessment and environmental impact assessment across the WHO European Region. Available online at: <https://iris.who.int/handle/10665/351998?show=full>.

²²⁵ IEMA (2022), Effective Scoping of Human Health in Environmental Impact Assessment. Available online at: [iema-eia-guide-to-effective-scoping-of-human-health-nov-2022.pdf](https://www.iema.org.uk/eia-guidance/eia-guidance-to-effective-scoping-of-human-health-nov-2022.pdf)

²²⁶ IEMA (2022), Determining Significance for Human Health. Available online at: [iema-eia-guide-to-determining-significance-for-human-health-nov-2022.pdf](https://www.iema.org.uk/eia-guidance/eia-guidance-to-determining-significance-for-human-health-nov-2022.pdf)

²²⁷ European Public Health Association (2020). Human health: Ensuring a high level of protection. A reference paper on addressing Human Health in Environmental Impact Assessment. Available online at: <https://eupha.org/repository/sections/HIA/Human%20Health%20Ensuring%20Protection%20Main%20and%20Appendices.pdf>.

²²⁸ Public Health England (2020). Health Impact Assessment in Spatial Planning, Public Health England. Available online at: <https://www.gov.uk/government/publications/health-impact-assessment-in-spatial-planning>.

²²⁹ National Health Organisation (NHS) Healthy Urban Development Unit (HUDU) (2019). Available online at: <https://www.healthyurbandevelopment.nhs.uk/wp-content/uploads/2019/11/HUDU-Rapid-HIA-Tool-Oct-2019-self-completion-form.pdf>.

identifying impacts and any appropriate mitigation. The assessment will reflect the learnings and recommendations set out in the guidance and will also be informed by the literature review which is being conducted to inform the detailed assessment of impacts.

15.3 BASELINE ENVIRONMENT

15.3.1 DATA SOURCES

15.3.1.1 The following data sources have been used to inform this Scoping Report and will be further utilised for the PEIR and ES:

- Office for National Statistics (ONS) Census data²⁰⁸;
- ONS Population Estimates²⁰⁸;
- English Indices of Deprivation (2020)²³⁰;
- Cornwall Council Community Insight Profile²³¹;
- Cornwall Council (2021), Cornwall and Isles of Scilly Population Health Summary²³²; and
- Cornwall Joint Strategic Needs Assessment²³³.

15.3.1.2 The human health and wellbeing baseline will also include a community profile setting out current health outcomes which will serve as a baseline to support the assessment of the Proposed Development, and building on that used in the socio-economic baseline. The community profile will evolve as the assessment progresses. It will also draw on the findings of other environmental assessments, including the air quality, traffic and transport and noise and vibration assessments.

15.3.1.3 Whilst the majority of the assessment will rely upon publicly available sources of data, further data may be obtained through stakeholder engagement and consultation. Relevant stakeholders including parish councils within the study area will be consulted, and their input will be fed into the assessment where appropriate.

²³⁰ UK Government (2020), English Indices of Deprivation. Available online at: <https://www.gov.uk/government/collections/english-indices-of-deprivation>.

²³¹ Cornwall Council, Community Insight Profile. Available online at: <https://www.cornwall.gov.uk/health-and-social-care/public-health/joint-strategic-needs-assessment/community-and-health-based-profiles/>

²³² Cornwall Council (2021), Cornwall and Isles of Scilly Population Health Summary. Available online at: [Population Health Summary](https://www.cornwall.gov.uk/health-and-social-care/public-health/joint-strategic-needs-assessment/population-health-summary/)

²³³ Cornwall Council, Joint Strategic Needs Assessment. Available online at: <https://www.cornwall.gov.uk/health-and-social-care/public-health/joint-strategic-needs-assessment/>

15.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

The Study Area

15.3.2.2 The health assessment is a population level assessment. It will consider the potential human health and wellbeing effects for communities within the wards of St Denis and St Enoder, Roche and Bugle, and St Stephen-in-Brannel. Data for the local authority of Cornwall and for England is provided as a comparator.

Social Environment

Socio-Economic Deprivation

15.3.2.3 Whilst the primary consideration of economic effects will be included within Section 14 (and the associated relevant assessment section), this section will also consider deprivation as a health determinant.

15.3.2.4 Deprivation has been associated with poor personal and societal wellbeing and a reduced quality of life, health and wellbeing. As stated in Section 14, there is some indication of socio-economic deprivation in the area surrounding the Site. Areas of increased deprivation tend to create health inequalities. The potential for the Proposed Development to affect deprivation will be considered in the ES.

Self-Reported Health

15.3.2.5 Table 15.1 below displays the self-reported health of the surrounding neighbourhoods from the latest Census. The data shows that at the neighbourhood and Cornwall levels there is a greater level of self-reported 'bad' and 'very bad' health, compared to the English average.

TABLE 15.1: SELF-REPORTED HEALTH CONDITION IN THE STUDY AREA

Self-Reported Health Condition	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Very good health	46.5%	42.8%	44.6%	45.7%	48.5%
Good health	33.7%	34.0%	33.7%	33.5%	33.7%
Fair health	13.8%	15.9%	15.1%	14.6%	12.7%

Self-Reported Health Condition	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Bad health	4.2%	5.5%	4.8%	4.7%	4.0%
Very bad health	1.7%	1.8%	1.8%	1.5%	1.2%

Source: Census, 2021²⁰⁸

Life Expectancy at Birth

15.3.2.6 Table 15.2 shows average life expectancy at birth for males and females, in Cornwall and England (this data is not available at ward level)²³⁴. Life expectancy for both males and females is above the England average in Cornwall, at 83.4 for females and 79.4 for males. In common with many parts of the UK, life expectancy in Cornwall was lower in 2021-2023 than prior to the Covid-19 pandemic.

TABLE 15.2: AVERAGE LIFE EXPECTANCY AT BIRTH IN CORNWALL AND ENGLAND (2021-2023)

Life Expectancy	Cornwall	England
Female life expectancy	83.4	83
Male life expectancy	79.4	79.1

Source: ONS, 2025²³⁴

Disability

15.3.2.7 Table 15.3 below shows the levels of reported disability under the Equality Act²⁰⁸. It shows that across the neighbourhood and local level there is a higher proportion of residents that are considered disabled under the Equality Act 2010, including a much higher proportion that have their day-to-day activities limited a lot compared to the national average.

15.3.2.8 All neighbourhood and local areas have a lower proportion of residents that have no long term physical or mental health conditions compared to the English average. The proportion of residents whose

²³⁴ ONS (2025), Life expectancy for local areas in England, 2021-2023. Available online at: [Life expectancy for local areas of Great Britain - Office for National Statistics](#)

day-to-day activities are limited a lot by their health problem or disability is also above average, particularly in St Dennis and St Enodur where it is 10.1%, compared with 7.3% for England.

TABLE 15.3: DISABILITY DATA FOR THE STUDY AREA

Long-term Health Problem or Disability	Area				
	St Dennis & St Enodur	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Disabled under the Equality Act	22.2%	20.1%	21.3%	21.1%	17.3%
Day-to-day activities limited a lot	10.1%	8.7%	9.2%	8.9%	7.3%
Day-to-day activities limited a little	12.1%	11.4%	12.1%	12.3%	10.0%
Not disabled under the Equality Act	77.8%	79.9%	78.7%	78.9%	82.7%
Has long term physical or mental health condition but day-to-day activities are not limited	6.0%	6.8%	7.1%	7.4%	6.8%
No long term physical or mental health conditions	71.8%	73.0%	71.6%	71.4%	75.9%

Source: Census, 2021²⁰⁸

Demographics

15.3.2.9 The age profile of the population of the study area is outlined in Table 14.5 in the Socio-economics and Land Use section above.

15.3.2.10 Table 15.4 sets out Census data on the proportion of the population by ethnic group. This shows that there is significantly less ethnic diversity across the neighbourhood and local areas in comparison to England.

TABLE 15.4: ETHNICITY DATA FOR THE STUDY AREA

Ethnic Group	Area				
	St Dennis & St Enoder	Roche & Bugle	St Stephen-in-Brannel	Cornwall	England
Asian, Asian British or Asian Welsh	0.4%	0.3%	0.2%	0.7%	9.6%
Black, Black British, Black Welsh, Caribbean or African	0.1%	0.1%	0.1%	0.2%	4.2%
Mixed or Multiple ethnic groups	0.9%	0.7%	0.8%	1.2%	3.0%
White	97.7%	97.3%	98.0%	96.8%	81.0%
Other ethnic group	1.0%	1.7%	0.8%	1.1%	2.2%

Source: Census, 2021²³⁵

Community

15.3.2.11 Developments have the potential to affect the structure and functioning of communities, including social capital, social networks, norms and customs. The area surrounding the Site is largely comprised of rural communities interspersed with more densely populated, though still relatively small, settlements. Further information is provided in Section 14.3.2 above.

Economic Environment

15.3.2.12 A socio-economic baseline is provided in Section 14 Socio-economics and Land Use which includes information regarding the local economic environment. The key points which are relevant to human health and wellbeing are:

- there are high levels of economic activity within the study area, however, GVA is low, indicating low productivity;

²³⁵ ONS (2022), Census 2021. Available online via www.nomisweb.co.uk

- there are higher than average proportions of residents with no qualifications in the study area, and lower than average proportions of residents educated to degree level or above; and
- wages are lower than average, and there are high levels of deprivation within the study area.

Physical, Institutional and Built Environment

Physical Environment

15.3.2.13 Given the history of the area, the communities surrounding the Site are accustomed to mining operations and industrial activity occurring in relatively close proximity to residential areas. However, whilst this brings familiarity with industry, it does not preclude potential concerns over further development or redevelopment at the Site and how this may affect local communities' interactions with the area.

15.3.2.14 Further information that is relevant to the physical environment within and surrounding the Site is detailed in other sections of this report, including Section 6: Land Quality and Ground Conditions, Section 8: Noise and Vibration, Section 9: Air Quality, Section 10: Traffic and Transport, Section 12: Landscape and Visual Impact.

Noise and Air Quality

15.3.2.15 The index of multiple deprivation (IMD) living environment domain shows high levels of deprivation across Cornwall. This is driven by high levels of deprivation in relation to the indoor living environment sub-domain, which measures housing quality and condition, including the availability of central heating. In relation to the outdoor living environment sub-domain, which measures air quality and road traffic accidents, deprivation across Cornwall is generally low. The areas that make up the neighbourhood study area are within the 20% least deprived in England in this sub-domain, with low levels of pollutants including nitrogen dioxide and particulate matter²³⁶.

15.3.2.16 The UK Government's Noise Action Plan: Roads²³⁷ designates a Noise Important Area at Indian Queens on the A30, within the study area for the health assessment. Mapping of road noise shows noise

²³⁶ Cornwall Council Community and Health Profiles. Available online at: [Map | Local Insight](#)

²³⁷ UK Government (2019). Noise Action Plan: Roads. Available Online at: [Noise Action Plan \(2019\): Roads](#)

levels of 55 decibels and above along the A30 corridor, including in some parts of Indian Queens and in neighbouring settlements⁹⁵.

Housing and Service Provision

15.3.2.17 As noted above, Cornwall records high levels of deprivation in relation to the indoor living environment, particularly in rural areas. The areas that make up the study area for the health assessment are within the 20% most deprived in England in this sub-domain²³⁶. Further information on the housing stock within the study area is provided in Section 14.

15.3.2.18 There are nine primary schools in the neighbourhood study area, and one secondary school (Brannel School in St Stephen). There are GP surgeries at Roche and St Stephen. There are no hospitals within the neighbourhood study area. There is a community hospital in St Austell, and the nearest general hospital is the Royal Cornwall Hospital, in Truro²³⁶.

Access to Open Space and Green Space for Recreation

15.3.2.19 Access to greenspace for recreation is lower than the national average across the study area. All three wards score poorly against the 'Access to Healthy Assets and Hazards Green Space' indicator, which provides data on access to passive green spaces (i.e. green spaces that provide recreational opportunities in a natural setting with minimal facilities), and OS data shows much lower than average cover of both parks and gardens and total greenspace²³⁶. Further information on recreation receptors within the study area, including PRoWs, is provided in Section 14.3, above.

15.3.3 KEY SENSITIVITIES

15.3.3.1 At this stage, the key sensitivities are considered to be:

- high levels of deprivation within the study area, coupled with low wages and lower than average qualifications;
- higher rates of disability and poorer self-reported health than average;
- presence of residential receptors in close proximity to the Site, including in St Dennis and other neighbouring settlements; and
- presence of community receptors (including publicly accessible routes and PRoWs used for recreation) within and in close

proximity to the Site, and limited access to greenspace for recreation across the wider study area.

15.3.3.2 As the community profile develops, the identification of sensitive community receptors will evolve. This will also be informed by stakeholder feedback.

15.4 PROJECT BASIS FOR SCOPING ASSESSMENT

15.4.1.1 The construction, operation and closure and decommissioning of the Proposed Development has the potential to both permanently and temporarily impact on wider determinants of health, with potential effects for the health of the local population, as summarised in Table 15.5 below.

15.5 MITIGATION

15.5.1.1 The assessment will take into account mitigation measures identified in other relevant topic sections, such as air quality, noise, traffic and transport, socio-economic and land use and landscape and visual. It will also consider the need for any further mitigation measures to address any significant adverse effects on human health and wellbeing.

15.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

15.6.1.1 IEMA guidance on health assessment confirms that EIA scoping should take a 'wider determinants of health' approach²³⁸. Table 15.5 lists the wider determinants that should be considered as part of the scoping process and indicates which are proposed to be scoped in for further assessment, with rationale.

²³⁸ IEMA (2022), Effective Scoping of Human Health in Environmental Impact Assessment. Available online at: [iema-eia-guide-to-effective-scoping-of-human-health-nov-2022.pdf](https://www.iema.org.uk/eia-guidance-to-effective-scoping-of-human-health-nov-2022.pdf)

TABLE 15.5: WIDER DETERMINANTS OF HEALTH TO BE SCOPED INTO THE HUMAN HEALTH AND WELLBEING ASSESSMENT

Categories	Wider Determinants of Health	Rationale
Health related behaviours	Physical activity (construction, decommissioning and closure)	Scoped in as there is the potential for impacts on PRow and on open space used for recreation within the site boundary, with potential implications for physical activity.
Social environment	Housing (construction)	Scoped in due to existing pressures on housing stock in Cornwall and likely demand for housing for construction workers.
	Open space, leisure and play (construction, decommissioning and closure)	Scoped in as there is the potential for impacts on PRow and on open space used for recreation within the site boundary, with potential implications for physical activity.
	Transport modes, access and connections (construction)	Scoped in as there is the potential for construction traffic on local roads to impact on travel behaviour and access to community facilities.
	Community safety (all phases)	Scoped in due to potential real or perceived safety concerns associated with construction activity and with the operation of the Proposed Development.
	Community identity, culture, resilience and influence (construction)	Scoped in due to potential demographic change associated with presence of construction workforce, and changes in land use which could affect community identity.
	Social participation, integration and support (construction)	Scoped in due to likely scale of incoming construction workforce and potential for effects on community cohesion.
Economic environment	Education and training (construction and operation)	Scoped in as the Proposed Development may create opportunities for training and skills development.
	Employment and income (construction and operation)	Scoped in as the Proposed Development will create employment opportunities.

Categories	Wider Determinants of Health	Rationale
Bio-physical environment	Air quality (construction and operation)	Scoped in as changes in air quality associated with construction and operation could impact on community health.
	Noise and vibration (construction and operation)	Scoped in as changes in air quality associated with construction and operation could impact on community health. There could also be community concerns around perceived impacts on noise.
Institutional and built environment	Health and social care services (construction)	Scoped in as the likely scale of the construction workforce could increase demand for health and social care services.
	Built environment (construction, decommissioning and closure)	Scoped in as the construction and decommissioning of the Proposed Development will impact on the built environment.
	Wider societal infrastructure and resources (construction)	Scoped in as the likely scale of the construction workforce could increase demand for wider societal infrastructure and resources.

15.7 EFFECTS SCOPED OUT OF THE EIA

15.7.1.1 Table 15.6 lists the wider determinants which are proposed to be scoped out of further assessment, with rationale.

TABLE 15.6: WIDER DETERMINANTS OF HEALTH TO BE SCOPED OUT OF THE HUMAN HEALTH AND WELLBEING ASSESSMENT

Categories	Wider Determinants of Health	Rationale
Health related behaviours	Physical activity (operation)	Impacts on PRow and open space used for recreation within the site boundary would arise during construction. No additional impacts are expected during operation.
	Risk taking behaviour (all phases)	The Proposed Development is not expected to impact on risk taking behaviour.
	Diet and nutrition (all phases)	The Proposed Development is not expected to impact on diet and nutrition.
Social environment	Housing (operation, decommissioning and closure)	The operation of the Proposed Development is not expected to impact on demand for housing. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.
	Open space, leisure and play (operation)	Impacts on PRow and open space used for recreation within the Site would arise during construction.
	Transport modes, access and connections (operation, decommissioning and closure)	Any impact on transport and connectivity arising from the operation of the Proposed Development is not expected to affect health at the population level. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.
	Community identity, culture, resilience and influence (operation, decommissioning and closure)	The operation of the Proposed Development is not expected to impact on community identity, culture, resilience and influence. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.

Categories	Wider Determinants of Health	Rationale
	Social participation, integration and support (operation, decommissioning and closure)	The operation of the Proposed Development is not expected to impact on social participation, integration and support. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.
	Relocation (all phases)	The Proposed Development is not expected to require any relocation of residents.
Bio-physical environment	Climate change mitigation and adaptation (all phases)	Assessed in Section 18 Climate Change and Greenhouse Gas Emissions. Effects on human health and wellbeing are not anticipated at the population level.
	Water quality or availability (all phases)	Assessed in Section 7 Water Resources and Flood Risk. Effects on human health and wellbeing are not anticipated at the population level.
	Land quality (all phases)	Assessed in Section 6 Land Quality and Ground Conditions. Effects on human health and wellbeing are not anticipated at the population level.
	Radiation (all phases)	Effects on human health and wellbeing are not anticipated at the population level.
Institutional and built environment	Health and social care services (operation, decommissioning and closure)	The operation of the Proposed Development is not expected to impact on demand for health and social care services. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.
	Built environment (operation)	Impacts on the built environment would arise during construction. No additional impacts are expected during operation.
	Wider societal infrastructure and resources (operation, decommissioning and closure)	The operation of the Proposed Development is not expected to impact on wider societal infrastructure and resources. Any impacts arising from decommissioning and closure are expected to be less than or equivalent to those arising during construction.

15.8 PROPOSED APPROACH TO THE ASSESSMENT

15.8.1 SPECIFIC METHODOLOGIES

15.8.1.1 In line with the guidance outlined in Section 15.2, the human health and wellbeing assessment will be qualitative, and will draw on a detailed baseline understanding of the local context and professional judgement to determine the following:

- the sensitivity of relevant populations; and
- the change in relevant determinants of health.

15.8.1.2 The assessment will draw on the findings of other relevant assessments, including noise, air quality, and traffic and transport, and will apply professional judgement to assess where effects identified by those topics could result in effects on human health and wellbeing at the population level.

Cumulative Effects

15.8.1.3 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same human health and wellbeing receptors.

15.8.2 ASSESSMENT CRITERIA

Population Sensitivity

15.8.2.2 In determining sensitivity, the assessment will take into account the characteristics of the local population and the presence of groups who may be more vulnerable to health inequalities. Proposed sensitivity criteria are described in Table 15.7, below.

TABLE 15.7: RECEPTOR SENSITIVITY CRITERIA FOR HUMAN HEALTH AND WELLBEING

Receptor Sensitivity Category	Sensitivity Criteria
High	• High levels of deprivation (including pockets of deprivation); • Existing wide health inequalities; • People who are prevented from undertaking daily activities; • People with very poor health status; • Dependents; • People with low capacity to adapt; and

Receptor Sensitivity Category	Sensitivity Criteria
	• Reliance on resources shared between the population and the Proposed Development.
Medium	• Moderate levels of deprivation; • Existing widening health inequalities; • People who are highly limited from undertaking daily activities; • People with poor health status; • Carers or people with additional support needs; • People with limited capacity to adapt; and • Few alternatives to shared resources.
Low	• Low levels of deprivation; • Few health inequalities; • People who are slightly limited from undertaking daily activities; • People with fair health status; • People providing or requiring some care; • People with capacity to adapt; and • Many alternatives to shared resources.

Magnitude of Impacts

15.8.2.3 The magnitude of impact will be determined by considering the intensity (or scale), spatial coverage and longevity of the change. The magnitude assigned will also use professional judgement to take into consideration the application of statutory standards and non-statutory standards or guidelines. Proposed impact magnitude criteria are provided in Table 15.8 below:

TABLE 15.8: IMPACT MAGNITUDE CRITERIA FOR HUMAN HEALTH AND WELLBEING

Impact Magnitude	Impact Magnitude Criteria
Large	• High exposure or scale; • Long-term duration; • Continuous frequency; • Severity predominantly related to mortality or changes in morbidity (physical or mental health) for very severe illness/ injury outcomes; • Majority of population affected; • Permanent change; and • Substantial service quality implications.

Impact Magnitude	Impact Magnitude Criteria
Medium	• Low exposure or medium scale; • Medium-term duration; • Frequent events; • Severity predominantly related to moderate changes in morbidity or major change in quality-of-life; • Large minority of population affected; • Gradual reversal; and • Small service quality implications.
Small	• Very low exposure or small scale; • Short-term duration; • Occasional events; • Severity predominantly related to minor change in morbidity or moderate change in quality-of-life; • Small minority of population affected; • Rapid reversal; and • Slight service quality implications.
Negligible	• Negligible exposure or scale; • Very short-term duration; • One-off frequency; • Severity predominantly relates to a minor change in quality-of-life; • Very few people affected; • Immediate reversal once activity complete; and • No service quality implication.

Significance of Effects

15.8.2.4 The significance of effect is determined by assessing the potential magnitude of change on relevant determinants of health against the sensitivity of the affected population. The significance of effects matrix to be applied in the assessment is as per the one provided in Section 4 (EIA Methodology). Moderate and Major effects are considered to be Significant.

16. MAJOR ACCIDENTS AND DISASTERS

16.1 INTRODUCTION

16.1.1.1 This section of the Scoping Report identifies sensitive receptors which could be vulnerable to major accidents and disasters (MA&Ds), and considers the potential effects of the construction, operation and maintenance, decommissioning, closure and restoration of the Proposed Development which may affect these receptors. Sensitive receptors include residential properties, local businesses PRowS, heritage receptors and designated ecological sites.

16.1.1.2 The potential MA&Ds risks are assessed by considering the likely consequences of the impact and the likelihood of occurrence. The prevention and mitigation measures are then proposed accordingly based on best practices (as recommended by IFC EHS guidelines²³⁹) and relevant regulations to minimise the impact of these events during the project's lifecycle.

16.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

16.2.1.1 The assessment will be undertaken in line with the following legislation, policy and guidance:

- The 2017 EIA Regulations;
- The Control of Major Accident Hazards Regulations (COMAH) Regulations 2015;
- The Planning (Hazardous Substances) Regulations 2015;
- The IEMA guidance document 'Major Accidents and Disasters in EIA: A Primer'²⁴⁰;
- The Health and Safety at Work etc. Act 1974 (HSWA);
- The Management of Health and Safety at Work Regulations 1999;
- The Construction (Design and Management) (CDM) Regulations 2015;
- Defra's Guidelines for Environmental Risk Assessment and Management (2011)²⁴¹;

²⁴⁰ IEMA (2020). Major Accidents and Disasters in EIA: An IEMA Primer – October 2020. Available online at: <https://www.iema.net/resources/reading-room/2020/09/28/major-accidents-and-disasters-in-eia-an-iema-primer>.

²⁴¹ Defra (2011). Guidelines for environmental risk assessment and management: Green leaves III. Available online at: <https://www.gov.uk/government/publications/guidelines-for-environmental-risk-assessment-and-management-green-leaves-iii>.

- Hazard and Operability (Analysis) (HAZOP) and Hazard Analysis (HAZAN): Identifying and Assessing Process Industry Hazards (1992)²⁴²;
- ISO 31000:2018 Risk Management principles and guidelines (2018)²⁴³;
- The HSE's Reducing Risks, Protecting People: HSE's decision making process (1999)²⁴⁴;
- Dangerous Substances and Explosive Atmospheres (DSEAR) Regulations 2002; and
- The Cornwall Local Plan Strategic Policies (2016)²³.

16.2.2 THE EIA REGULATIONS

16.2.2.1 The 2017 EIA Regulations require a MA&D Assessment to identify potential significant adverse effects of the Proposed Development on safety and the environment.

16.2.2.2 At this stage, the scoping exercise has not sought to identify likely significant effects. To do so requires a combination of sufficient design information and working alongside the design team on hazard identification. The MA&D Assessment activities will be carried out in future stages of the EIA.

16.2.3 CONTROL OF MAJOR ACCIDENT HAZARDS

16.2.3.1 The COMAH Regulations provide a framework for the regulation of establishments where there is potential for a major accident, with the potential to affect people or to the environment, to occur. The COMAH Regulations require operators to take all measures necessary to prevent major accidents and limit their consequences. The COMAH Regulations may be relevant for the Proposed Development, depending upon the volumes of hazardous substances which will need to be stored on the Site.

16.2.4 LAND USE PLANNING AND HAZARDOUS SUBSTANCES

16.2.4.1 Under the Planning (Hazardous Substances) Regulations 2015, Hazardous Substances Consent (HSC) is required to be obtained from the Hazardous Substances Authority (HSA), who then must consult

²⁴² Trevor A. Kletz (1992). HAZOP and HAZAN: Identifying and Assessing Process Industry Hazards.

²⁴³ ISO (2018). ISO 31000:2018 Risk Management principles and guidelines. Available online at: <https://www.iso.org/standard/65694.html>.

²⁴⁴ HSE (1999). Reducing risks, protecting people – R2P2. Available online at: <https://www.hse.gov.uk/enforce/expert/r2p2.htm>.

the Health and Safety Executive (HSE) on these applications to consider whether the presence of a significant quantity (referred to as the 'Controlled Quantity') of a hazardous substance is acceptable in a particular location.

- 16.2.4.2 The application must detail the expected inventory of the identified hazardous substances to be processed, stored and/or transferred (received/offloading/shipped) and expected applicable measures, methods for use/storage/transfer, as prescribed in the HSC application form.
- 16.2.4.3 In assessing the application for consent, the HSE will produce a map with three risk contours (or zones), representing defined levels of risk or harm which any individual would be subject to. Subject to consent granted by the HSA, this map will define the consultation distances within which HSE must be consulted over any relevant future planning applications.

16.3 BASELINE ENVIRONMENT

16.3.1 DATA SOURCES

- 16.3.1.1 This Scoping Report has been informed by aerial photography and the HSE's COMAH Public Information Search (3 mile radius search) ²⁴⁵. These sources and others will be further utilised for the EIA.

16.3.2 DESCRIPTION OF THE BASELINE CONDITIONS

- 16.3.2.1 The MA&D assessment will consider all Major Accident Hazards (MAHs) with potential to cause significant adverse effects on safety and the environment, from the proposed facilities and from 'domino effects' from other sites. The Study Area therefore comprises MAHs within the Site, as well as potential impacts to sensitive receptors and other sites within 5 km of the Site.
- 16.3.2.2 Trelavour Pit is a disused china clay extraction site, whilst the Trelavour Processing Plant site is an existing industrial site, with large structures and bare ground with some natural vegetation regeneration. Both the Trelavour Pit and the Trelavour Processing Plant site are bordered by woodland.

²⁴⁵ HSE (2015). COMAH 2015 Public Information. Available online at: <https://notifications.hse.gov.uk/COMAH2015/Results.aspx>

16.3.2.3 Trelavour Pit is located to the immediate southeast of the village of St Dennis, whilst the remainder of the Site is located to its north, northwest and west. The area is deemed to be an industrialised area with adjacent public roads and communities. The village of Nanpean is adjacent to the south of the Site and the town of St Austell is located approximately 5 km southeast of the Site.

16.3.2.4 In addition to these small settlements, the surrounding landscape is characterised by open clay pits (both active and disused), waste rock heaps, industrial buildings and agricultural land.

16.3.2.5 It is also noted that there is a lower tier COMAH site within 3 miles of the facility. The site, Indian Queens Power Ltd, is a power generation, supply and distribution facility.

16.3.3 KEY SENSITIVITIES

16.3.3.1 At this stage, the key sensitivities are considered to be:

- population and human health;
- ecology;
- land, soil, water, air, and climate;
- property and material assets; and
- cultural heritage and the landscape.

16.3.3.2 These key sensitivities are also identified and described elsewhere in this report, including in Sections 15 (human health and wellbeing); 11 (ecology and nature conservation); 6 (land quality and ground conditions); 14 (socio-economics and land use); 13 (historic environment); and 12 (landscape and visual impact).

16.4 PROJECT BASIS FOR SCOPING ASSESSMENT

16.4.1.1 The Proposed Development involves various activities which are relevant to MA&Ds, including open-pit excavation and blasting (at the Trelavour Pit), processing activities at the Trelavour Processing Plant, transportation of raw lithium products, and operation of the Mining Waste Facilities.

16.4.1.2 The Proposed Development also includes the use of, and potential upgrades to, Belowda Explosives Store / Magazine, for storage of explosives for blasting. The Belowda Explosives Store is currently classed as non-COMAH. An inventory analysis will need to be conducted in order to determine if any named dangerous substances

and/ or substance categories (i.e. category P1b Explosives) are within COMAH recognised quantity limits.

16.4.1.3 This scoping assessment aims to identify the potential hazardous events associated with these activities, and their potential impacts on the surrounding environment, communities, and infrastructure.

16.5 MITIGATION

16.5.1.1 To reduce risks associated with potential unplanned events and MA&Ds, the inherent safety of the design will be considered, and the standard mitigation hierarchy will be applied as appropriate.

16.5.1.2 Mitigation measures will be identified and applied as appropriate, following the completion of risk assessment workshops and studies, and there are expected to include both pre-event preventative actions (that reduce the likelihood of the potential impact occurring) and post-event mitigation (that reduces the magnitude of the consequences).

16.5.1.3 Mitigation measures typically relate to safety design and technology, related to hazards such as leaks and spills, traffic accidents and fires/explosions.

16.5.1.4 Potential mitigation measures for leaks and spills will be incorporated into the management plans described in Section 7.5. and mitigation measures for traffic accidents into the Traffic Management Plan, as outlined Section 10.5.

16.5.1.5 Potential mitigation measures for fires and explosions could include design of the site layout to prevent escalation and reduce risk to occupied buildings and offsite sensitive receptors and use of fire and gas detection systems

16.5.1.6 Emergency preparedness and response plans will be prepared for foreseeable incidents identified from the risk assessment.

16.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

16.6.1.1 The potential for the following effects related to MA&Ds will be considered in the EIA:

- Chemical spills and contamination: The risk of hazardous chemicals (such as acids, solvents, and other reagents used in lithium extraction) spilling into the environment. Special focus will be given to spills into watercourses, soil, and groundwater, given

the risk for long-term environmental consequences of this, should it occur.

- Explosion and fire hazards: The potential for accidents involving the combustion of volatile chemicals in the mining process, leading to significant fires and explosions that could result in injury or fatalities, as well as air and soil contamination.

16.6.1.2 The potential impacts to onsite personnel and offsite communities and other sensitive receptors shall be considered for these events.

16.6.1.3 Based on the activities proposed as part of the Proposed Development, the potential unplanned events and MA&Ds considered to have potential impacts to people, or the environment are shown in Table 16.1. Note that only indicative project activities are listed for commissioning and operational activities.

TABLE 16.1: EFFECTS/ TOPICS SCOPED INTO THE MA&DS ASSESSMENT

Activity	Phase of the Proposed Development	Potential Receptors Affected
Small scale leakage and spill incidents from site-preparation / construction activities	Site preparation and construction	Users of surface water Local habitat (flora / fauna)
Traffic accident		Users of the public roadways utilised by the project
Fire and explosion		Nearby communities Local habitat (flora / fauna)
Leakage and spill incidents from activities on site	Operation	Users of surface water Local habitat (flora / fauna)
Fire and explosion		Nearby communities Site workers Local habitat (flora / fauna)
Traffic accident		Users of the public roadways utilised by the project
Mining operations (e.g. crush injuries, dropped objects etc)		Site workers

Activity	Phase of the Proposed Development	Potential Receptors Affected
Expected to be similar to site preparation and construction	Decommissioning, closure and restoration	Expected to be similar to site preparation and construction

16.7 EFFECTS SCOPED OUT OF THE EIA

16.7.1.1 Geological hazards are considered outside the scope of this EIA due to their low likelihood or insignificant impact based on initial screenings. The risk of earthquakes or landslides caused by natural geological conditions has been scoped out, as there is minimal evidence of seismic activity in the region.

16.8 PROPOSED APPROACH TO THE ASSESSMENT

16.8.1 SPECIFIC METHODOLOGIES

16.8.1.1 The methodology used for this process will be based on a Hazard Identification (HAZID) Study (also known as a 'HAZAN', in industry). A HAZID study is a multidisciplinary workshop designed to identify the major accident hazards associated with a process or site. Attendees typically include a facilitator or chair with relevant experience, a scribe, and one or more personnel with relevant experience of:

- the design of the plant or site under analysis including the design limitations, materials of construction and condition of equipment, typically a site project or process engineer;
- the site controls and instrumentation, typically an Electrical, Controls and Instrumentation (EC&I) engineer;
- day-to-day operation of the site under analysis, typically a senior operations representative; and
- process safety and the major hazards associated with the site, typically the process safety engineer or Health, Safety, Quality, and Environment (HSEQ) manager.

16.8.1.2 The HAZID workshop will facilitate the identification of potential sources, pathways and receptors, an assessment of the worst-case credible safety and environmental consequences, and documentation

of the planned measures to prevent or mitigate the undesirable events.

16.8.1.3 It should be noted that the HAZID workshop is not considered part of the impact assessment itself. Rather, it serves as an initial workshop conducted to identify major accident hazards during early design stages. General MA&Ds have been noted in Table 16.1 for this scope. In summary, HAZID studies comprise the following key steps:

- **Step 1 – Select Major Accident Hazard Category and Guideword:** Relevant hazard categories and guidewords will be selected from a checklist (which will be developed in accordance with industry standards). Potential safety and environmental hazards associated with the Proposed Development will be identified and appropriately categorised, using this checklist.
- **Step 2 – Identify Sources, Pathways and Receptors**
 - For each hazard category and guideword, all potential sources (i.e., cause of the hazard) with potential to cause significant harm will be identified. Pathways (i.e., the route by which the source can reach the receptor) and receptors (i.e. specific component of the environment that could be adversely affected) will be assessed.
 - Screening should be carried out to assess whether the source and pathway could result in a hazard deemed significant, and therefore whether that hazard should be assessed further as part of the MAH assessment.
 - A review of previous incidents in the industry will then be undertaken, to ensure that relevant lessons can be learned and previous major incidents not repeated.
- **Step 3 – Develop Consequences:** The 'worst case credible' consequence for each undesirable event will be evaluated and recorded. This is without any mitigation or control mechanism in place. This conservative methodology establishes the worst-case scenarios, the risk of which should be reduced to a level that is As Low as Reasonably Practical (ALARP) during the detailed design, construction planning and operation of the Proposed Development.
- **Step 4 – Risk Rank Without Mitigation Measures:** Risk ranking is carried out by combining the severity and estimated likelihood of the MAH using a risk matrix. The risk ranking is

initially carried out without safeguards to assess the unmitigated risk.

- **Step 5 – Identify Mitigation Measures:** Appropriate mitigation measures for each MAH will be identified and recorded, considering relevant industry best practice.
- **Step 6 – Risk Ranking with Mitigation Measures:** The severity and estimated likelihood of each MAH is reevaluated based on the mitigation measures and compared against the unmitigated risk. This typically results in a lower risk ranking being assigned.
- **Step 7 – Define Specific Requirements to Achieve Mitigation Measures:** Where the HAZID team identify a requirement for additional mitigation measures to be developed in the subsequent phases of the Proposed Development, a record is made and an action raised.

16.8.1.4 The output of the HAZID workshop will be a structured, documented report, summarising the findings of the HAZID workshop. In summary, the report is expected to contain:

- MAHs identified and their respective consequence(s);
- existing control and mitigation measures;
- proposed control and mitigation measures;
- risk rankings (unmitigated and mitigated); and
- a list of actions and their respective responsible owners.

Cumulative Effects

16.8.1.5 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same receptors.

16.8.2 ASSESSMENT CRITERIA

16.8.2.1 Considering the Institute of Environmental Management and Assessment (2020) Major Accidents and Disasters in EIA Guide²⁴⁶, the factors that are considered in determining whether potential adverse effects are 'significant' include the following:

²⁴⁶ IEMA (2020). Major Accidents and Disasters in EIA Guide. Available Online at: <https://www.iema.net/resources/blogs/2020/09/23/iema-iema-major-accidents-and-disasters-in-eia-guide/>

- The geographic extent of the effects: effects beyond the project boundaries are more likely to be considered significant;
- The duration of the effects: effects which are permanent (i.e. irreversible) or long lasting are considered significant;
- The severity of the effects in terms of number, degree of harm to those affected and the response effort required: effects which trigger the mobilisation of substantial civil emergency response effort are likely to be considered significant;
- The sensitivity of the identified receptors: if a receptor has low tolerance, adaptability or ability to recover the effect is likely to be considered significant; and
- The effort required to restore the affected environment: effects requiring substantial clean-up or restoration efforts are likely to be considered significant.

17. WASTE

17.1 INTRODUCTION

- 17.1.1.1 This section of the scoping report deals with the waste that will be generated by the Proposed Development. The majority of the waste generated will be mining waste which will be disposed of on-site as part of a regeneration plan for the Goonvean and Treviscoe Mining Waste Facilities. Waste streams unsuitable for on-site disposal will be managed and disposed of at suitably permitted facilities.
- 17.1.1.2 This section of the Scoping Report identifies waste receptors of relevance to the Proposed Development, including allocated or safeguarded waste sites, and considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development, associated with the waste materials to be generated and managed. This section also sets out the proposed approach that will be taken in the impact assessment, together with a summary of information that is currently available.

17.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

- 17.2.1.1 The waste assessment will be undertaken in line with the following policy and guidance:
- the Control of Pollution (Amendment) Act 1989;
 - the Waste (England and Wales) Regulations 2011;
 - the Controlled Waste (England and Wales) Regulations 2012;
 - the Hazardous Waste (England and Wales) Regulations 2005;
 - the Waste Management Plan for England 2021²⁴⁷;
 - the Environmental Permitting Regulations (England and Wales) Regulations 2016;
 - Cornwall Council Minerals Safeguarding DPD (2018);
 - The Cornwall Local Plan Strategic Policies (2016)²³;
 - The Environment Act 2021;

²⁴⁷ Defra (2021). Waste Management Plan for England. Available online at: <https://assets.publishing.service.gov.uk/media/60103f71d3bf7f05bc42d294/waste-management-plan-for-england-2021.pdf>. [Accessed on 28 March 2025].

- The Definition of Waste: Development Industry Code of Practice²⁴⁸;
- Planning Policy Statement 10: Planning for Sustainable Waste Management²⁴⁹; and
- IEMA's guide to: Materials and Waste in Environmental Impact Assessment²⁵⁰.

17.2.2 CONTROL OF POLLUTION (AMENDMENT) ACT 1989

17.2.2.1 The Control of Pollution (Amendment) Act 1989 aims to “*provide for the registration of carriers of controlled waste and to make further provision with respect to the powers exercisable in relation to vehicles shown to have been used for illegal waste disposal*”.

17.2.2.2 It is an offence for anyone who is not a registered carrier of controlled waste to transport any controlled waste to or from a place in Great Britain whether for profit or for business.

17.2.3 WASTE (ENGLAND AND WALES) REGULATIONS (2011)

17.2.3.1 The Waste (England & Wales) Regulations (2011) (hereafter referred to as the ‘Waste Regulations 2011’) came into force on 29 March 2011. These regulations updated aspects of waste controls and reinforced the need for waste permits and authorisations for certain activities.

17.2.3.2 The Waste Regulations 2011 aim to protect the environment and human health by preventing or reducing the generation of waste, reducing the adverse impacts of the generation and management of waste, and reducing the overall impacts of resource use. The regulations:

- require companies to confirm that they have applied the waste management hierarchy when transferring waste and to include a declaration on their waste transfer note or consignment note;
- state that where a permit under the Environmental Permitting Regulations (England and Wales) Regulations 2010 is required, a

²⁴⁸ The Definition of Waste Development Industry Code of Practice. Available Online at: <https://claire.co.uk/projects-and-initiatives/dow-cop>.

²⁴⁹ UK Government (2011). Planning Policy Statement 10: Planning for Sustainable Waste Management. Available Online at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/11443/1876202.pdf

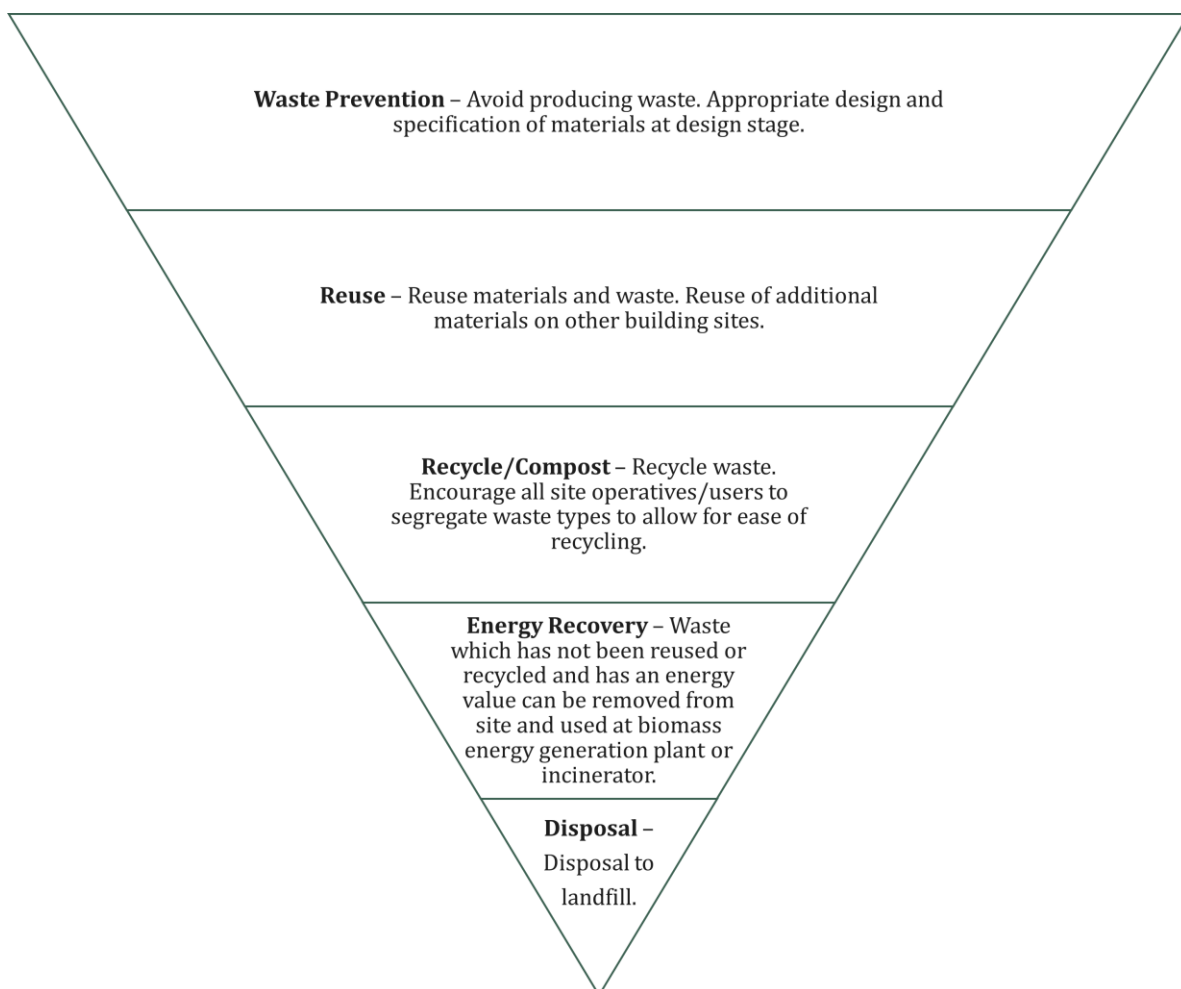
²⁵⁰ IEMA (2020). Materials and Waste in Environmental Impact Assessment. Available Online at: <https://www.iema.net/content/materials-and-waste-in-environmental-impact-assessment-march-2020/>

new waste hierarchy condition will be necessary and where appropriate, a condition relating to the mixing of hazardous waste;

- introduce a two-tier system for waste carrier and broker registration, which includes those who carry their own waste, and introduces a new concept of a waste dealer;
- make amendments to hazardous waste controls and definition; and
- exclude some categories of waste from waste controls, notably land spreading animal by-products whilst including a small number of radioactive waste materials.

17.2.3.3 The Waste Regulations 2011 also set out the principles for putting into place the "Waste Hierarchy", seeking to establish practice to reduce the volume of waste sent to landfill, as shown by Plate 17.1, below.

PLATE 17.1: THE WASTE HIERARCHY



17.2.3.4 The Waste (England and Wales) (Amendment) Regulations 2014, adopted in April 2014, amended the Waste Regulations 2011. Regulation 4 amends regulation 29 of the Waste Regulations 2011, adding a list of offences for the purposes of refusing registration of carriers, brokers and dealers of controlled waste. Regulation 7 inserts a new Part (Part 10A) relating to the production of authority for transporting controlled waste, specifying how an authority to transport waste must be presented.

17.2.4 CONTROLLED WASTE (ENGLAND AND WALES) REGULATIONS 2012

17.2.4.1 Under the Controlled Waste (England and Wales) Regulations 2012, waste from construction or demolition works, including preparatory works are to be classified as 'Industrial', and treated as household waste for the purposes of Section 34(2) and (2A) of the Environmental Protection Act 1990 only.

17.2.5 THE HAZARDOUS WASTE (ENGLAND AND WALES) REGULATIONS 2005

- 17.2.5.1 The Hazardous Waste (England and Wales) Regulations 2005 (hereafter referred to as the "Hazardous Waste Regulations 2005") set out the regime for the control and tracking of hazardous waste in England and Wales. Under the Hazardous Waste Regulations 2005, a process of the registration of hazardous waste producers and a new system for recording the movement of hazardous waste was introduced. All industrial and commercial premises producing more than 500 kg of hazardous waste must now inform the EA of their operations. In practice, the April 2016 amendment to the Hazardous Waste Regulations 2005 withdrew the need for such notification to the EA.
- 17.2.5.2 Under the Hazardous Waste Regulations 2005 the movement of waste is controlled by a documentation system which must be completed whenever waste is removed from premises. From the waste producer's perspective, a "Consignment Note" must be produced and completed before waste can be removed and the following information must be provided:
- a description of the waste;
 - the process giving rise to the waste;
 - the quantity of waste;

- the chemical (and / or biological) components and their concentrations;
- the hazard codes;
- the List of Waste (LoW) code;
- the container type;
- the locations of origin and destination of the waste; and
- the consignment notes with a unique number (“consignment note code”).

17.2.6 THE WASTE MANAGEMENT PLAN FOR ENGLAND 2021

17.2.6.1 The Waste Management Plan for England 2021 fulfils the requirements of the Waste Regulations 2011 (as amended) for the waste management plan to be reviewed every six years. It provides an analysis of the current waste management situation in England and evaluates how it will support the implementation of the objectives and provisions of the Waste Regulations 2011 (as amended).

17.2.6.2 The Waste Management Plan for England 2021 also provides an overview the following:

- type, quantity and source of waste generated within England;
- existing waste collection schemes and major disposal and recovery installations; and
- an assessment of the need for new collection schemes; and general waste management policies.

17.3 BASELINE ENVIRONMENT

17.3.1 STUDY AREA

17.3.1.1 The study area for the waste assessment is regional (Cornwall). If hazardous waste were to be generated (which is currently unknown), the study area for those effects would be national.

17.3.2 DATA SOURCES

17.3.2.1 The EA’s Waste Management Interrogator²⁵¹ has been used to inform this Scoping Report and will be further utilised for the EIA.

²⁵¹ Environment Agency (2023). 2021 Waste Data Interrogator. Available online at: <https://www.data.gov.uk/dataset/d8a12b93-03ef-4fbf-9a43-1ca7a054479c/2021-waste-data-interrogator>. and was last updated 14 May 2024. Providing data on waste allocations up to and including 2021.

17.3.3 DESCRIPTION OF THE BASELINE CONDITIONS

Existing Landfill Capacity and Inputs

17.3.3.2 The EA Waste Data Interrogator shows that Cornwall's capacity for non-hazardous and inert wastes is 1,502,000 m³ and 180,000 m³, respectively. Three operational landfills are present in Cornwall, namely:

- Roodscroft Landfill Site, operated by Roods Landfill Ltd;
- Cannon Bridge Landfill, SUEZ Recycling and Recovery UK Ltd; and
- Lean Quarry Landfill site, Viridor Waste Management Limited.

17.3.3.3 Approximately 57,000 tonnes of inert waste was deposited in landfills in Cornwall in 2021, with 62,000 tonnes deposited in 2022 and 48,000 tonnes in 2023. The majority of the waste received was generated from within Cornwall.

17.3.3.4 The county does not have a commercial hazardous landfill; the nearest is in Gloucestershire.

17.3.4 KEY SENSITIVITIES

17.3.4.1 The capacity of registered landfill sites used by the Proposed Development is the key receptor that will be considered in the impact assessment, due to the change in the available volumes of each landfill, as waste is deposited.

17.3.4.2 Residential receptors in the vicinity of the routes to be used by vehicles transporting waste material may be affected by the increase in traffic movements (and associated dust emissions); this will be considered in the air quality and traffic and transport assessments to be prepared (as described in Sections 9 and 10, respectively).

17.3.4.3 Soil and water receptors may also be affected by waste generation, handling and storage activities; this will be considered in the ground conditions and water resources assessments to be prepared (as described in Sections 6 and 7, respectively).

17.4 PROJECT BASIS FOR SCOPING ASSESSMENT

17.4.1.1 Waste will be generated during each phase of the Proposed Development, as outlined in Section 2.12. Table 17.1, below, provides an overview of the key mineral and non-mineral waste streams which are expected to be generated during each phase of the Proposed Development, and their potential management routes/ destinations.

The list of waste expected to be generated will be defined as the EIA and design processes progress.

TABLE 17.1: OVERVIEW OF WASTE GENERATION AS A RESULT OF THE PROPOSED DEVELOPMENT AND POTENTIAL DESTINATIONS

Phase of the Proposed Development	Mineral Wastes	Non-Mineral Wastes
Construction	Stripping of overburden, non-ore rock and soils in preparation for mining activities. Overburden materials to be appropriately stored in-line with a soil handling protocol and reused for restoration as part of site decommissioning process or progressive restoration activities during operation.	Wastes associated with construction, demolition and excavation to be appropriately segregated for recycling and use on site as part of the construction phase, use off sites, or disposal off-site.
Operation	Mining waste from the Trelavour Processing Plant to be retained on-site in specially constructed Mining Waste Facilities at Treviscoe and Goonvean. Some of these materials could be considered suitable for production of secondary aggregates. Overburden, non-rock and soils as identified for construction.	Operational non-mineral wastes would be generated from workshops, offices and canteens, these wastes to be appropriately segregated for recycling or disposal off site.
Decommissioning, Closure and Restoration	Mining Waste Facilities to be capped and restored as per mine closure plan. Overburden, non-rock and soils as identified for construction.	Demolition wastes to be segregated and recycled on-site or off-site through a materials management plan. Other decommissioning waste to be removed from the site and recycled or disposed of at an appropriately permitted facility.

17.5 MITIGATION

17.5.1.1 Any mitigation measures related to waste management will be defined as the EIA and design processes progress. They will be based

on standard industry best practice and focused on the principles of the waste hierarchy.

17.5.1.2 A CEMP will be developed and included with the DCO Application; this will outline any appropriate mitigation measures related to waste management for the construction phase of the Proposed Development.

17.5.1.3 For the operational phase of the Proposed Development, a Waste Management Plan (WMP) will be developed, in line with relevant UK legislation and international best practice. This will include information such as:

- the classification of extractive waste areas and facilities at the Site;
- the characterisation of different waste streams as inert, non-hazardous non-inert or hazardous materials;
- the volumes of extractive waste to be generated, storage locations and final point of deposition waste;
- potential impact of the extractive wastes on the environment and human health, and associated risk assessment;
- environmental controls to minimise environmental impacts during the life of mine;
- procedures to control and monitor the stability of the extractive waste and prevent soil or water pollution when placing extractive wastes into excavation voids;
- monitoring procedure; and
- closure planning relating to the Mining Waste Facilities, including rehabilitation, aftercare and monitoring environmental impacts.

17.5.1.4 In relation to non-mineral wastes, suitable third-party waste carriers and treatment/disposal sites will be identified and the details of the approach for the categorisation, storage, transportation, treatment and fate of each waste stream will also be set out in the WMP.

17.5.1.5 The WMP will be updated periodically, as more design information becomes available, and as relevant best practice evolves.

17.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

17.6.1.1 The waste assessment will consider the potential effects related to waste generation as a result of the Proposed Development, namely,

the potential loss of capacity / impact on the existing commercial waste market within Cornwall.

- 17.6.1.2 Other waste-related effects (such as traffic movements associated with the transport of waste material, and associated air quality and noise effects) will be considered within other assessments, as identified elsewhere in this Scoping Report.

17.7 EFFECTS SCOPED OUT OF THE EIA

- 17.7.1.1 At this stage, no waste effects are scoped out of the assessment; further assessment will be included in the ES; however, it should be noted that some waste streams (i.e. the waste generated by the Trelavour Processing Plant which will be used in the restoration of the Mining Waste Facilities) will be managed on-site and as such are not expected to affect landfill capacity.

17.8 PROPOSED APPROACH TO THE ASSESSMENT

17.8.1 BASELINE

- 17.8.1.1 Relevant legislation, policy and guidance documents (as described in Section 17.2), as well as existing baseline information (as described in Section 17.3), will be reviewed and used to inform the assessment detailed below.

17.8.2 SPECIFIC METHODOLOGIES

Waste Generation as a Result of the Proposed Development

- 17.8.2.2 The typical types of waste expected to be generated during the construction phase of the Proposed Development will be estimated using knowledge of the development and experience of similar schemes. Applying industry best practice guidance, consideration will be given to the potential reduction and re-use of waste produced during construction.
- 17.8.2.3 Waste generation during the operational phase of the Proposed Development will be calculated via a bespoke assessment of non-mining wastes, with reference to BS5906 in relation to 'domestic' office waste.
- 17.8.2.4 Estimated volumes of mining wastes to be generated during operation will be calculated based on an assessment of ore reserves available, and expected processing waste generated during the

mineral beneficiation and lithium processing stages, based on the process testing by the pilot plant.

Assessing Effects on Landfill Capacity

17.8.2.5 The effects of waste generated by the Proposed Development will be assessed by:

- defining the baseline landfill capacity in Cornwall for the relevant waste types;
- estimating the waste generation anticipated as a result of the Proposed Development, during each of its phases (as described in the section above), and which waste types the material will be classified into (assuming a worst-case scenario);
- comparing the waste estimates against baseline landfill capacity and applying the assessment criteria defined below to assess the likely effects upon landfill capacity and the ability of landfill sites to accept the waste.

17.8.2.6 The nature and volume of wastes being generated will change over the LoM. At this stage, waste generation during the closure, decommissioning and restoration phase is considered likely to be similar to that during construction, but with more inert CDW materials being generated.

Cumulative Effects

17.8.2.7 A cumulative effects assessment will also be undertaken (as outlined in Section 19), taking into account other nearby proposed schemes that may affect the same receptors.

17.8.3 ASSESSMENT CRITERIA

Receptor Sensitivity

17.8.3.2 As per the IEMA guidance²⁵⁰, “*the sensitivity of waste relates to availability of regional (and where appropriate, national) landfill void capacity in the absence of the proposed development. Landfill capacity is recognised as an unsustainable and increasingly scarce option for managing waste*”. It will be determined by comparing the expected volume of waste which will be generated against remaining landfill void capacity in the study area.

17.8.3.3 Sensitivity will be defined as either negligible, low, medium, high or very high. The exact criteria applied for this will depend upon the

waste categorisation. The criteria for inert and non-hazardous are as follows¹¹³:

- Negligible: landfill void capacity is expected to remain unchanged, or is expected to increase through a committed change in capacity.
- Low: landfill void capacity is expected to reduce minimally: by <1% as a result of wastes forecast.
- Medium: landfill void capacity is expected to reduce noticeably: by 1-5% as a result of wastes forecast.
- High: landfill void capacity is expected to reduce considerably: by 6-10% as a result of wastes forecast.
- Very High: landfill void capacity is expected to reduce very considerably (by >10%); end during construction or operation; is already known to be unavailable; or, would require new capacity or infrastructure to be put in place to meet forecast demand.

17.8.3.4 Different criteria would be applied for hazardous waste, should it be generated.

Magnitude of Impacts

17.8.3.5 In line with the IEMA guidance²⁵⁰, the 'W1 – Void Capacity' approach will be applied for determining impact magnitude, given the nature, scale and complexity of the Proposed Development. This means that the impact magnitude will be defined as either 'no change', negligible, minor, moderate or major, by "*determining the percentage of the remaining landfill void capacity that will be depleted by waste produced during the construction and/or operation phases of the development*"²⁵⁰. Again, the exact criteria applied for this will depend upon the waste categorisation (inert and non-hazardous vs hazardous). The categories for inert and non-hazardous waste are as follows:

- No change: Zero waste generation and disposal from the development.
- Negligible: Waste generated by the development will reduce regional landfill void capacity baseline by <1%.
- Minor: Waste generated by the development will reduce regional landfill void capacity baseline by 1-5%.

- **Moderate:** Waste generated by the development will reduce regional landfill void capacity baseline by 6-10%.
- **Major:** Waste generated by the development will reduce regional landfill void capacity baseline by >10%.

Significance of Effects

17.8.3.6 In line with the IEMA guidance²⁵⁰, the significance of effect will be determined by assessing the potential magnitude of an impact against the sensitivity of the relevant receptor, as shown by Table 17.2, below.

TABLE 17.2: SIGNIFICANCE OF EFFECT MATRIX FOR WASTE

Impact Magnitude	Sensitivity of Receptors				
	Very High	High	Medium	Low	Negligible
Large	Major	Major	Moderate	Moderate	Minor – Not Significant
Medium	Major	Moderate	Moderate	Minor – Not Significant	Negligible/ Not Significant
Small	Moderate	Moderate	Minor – Not Significant	Negligible/ Not Significant	Not Significant
Negligible	Minor – Not Significant	Minor - Not Significant	Negligible/ Not Significant	Negligible/ Not Significant	Negligible/ Not Significant
No change	Negligible/ Not Significant	Negligible/ Not Significant	Negligible/ Not Significant	Negligible/ Not Significant	Negligible/ Not Significant

17.8.3.7 The criteria above can be described as:

- **Major Beneficial:** A substantial reduction in waste generation or exceeding, by a considerable amount, the Council's landfill diversion, and recycling and composting targets.
- **Moderate Beneficial:** A moderate reduction in waste generation or moderately exceeding the Council's landfill diversion, recycling and composting targets.

- **Minor Beneficial:** A minor reduction in waste generation or slightly exceeding the Council's landfill diversion, recycling and composting targets.
- **Negligible:** A negligible change in waste generation or potential for re-use, recycling or composting.
- **Minor Adverse:** A minor increase in waste generation and potential for minor reduction in existing recycling, re-use or composting rate.
- **Moderate Adverse:** A moderate increase in waste generation and limited potential for increased recycling, re-use or composting.
- **Major Adverse:** A substantial increase in waste generation, and no re-use, recycling or composting undertaken.

17.8.3.8 Beneficial effects may be generated (as opposed to adverse).

Moderate and Major effects are considered to be Significant in EIA terms.

18. CLIMATE CHANGE AND GREENHOUSE GAS EMISSIONS

18.1 INTRODUCTION

18.1.1.1 This section of the Scoping Report considers the potential effects of the construction, operation and maintenance, and decommissioning, closure and restoration of the Proposed Development, in relation to climate change and greenhouse gas (GHG) emissions. It will consider effects upon the climate, as well as the effects of climate change upon the Site and its surrounding environment. This section also sets out the proposed approach that will be taken in the assessment, together with a summary of information that is currently available.

18.2 TOPIC SPECIFIC REGULATORY REQUIREMENTS AND GUIDANCE

18.2.1.1 The climate change and GHG emissions assessment will be undertaken in line with the following legislation, policy and guidance to ensure the assessment follows best practice and in accordance with the 2017 EIA Regulations:

- the 2017 EIA Regulations;
- the NPPF (2025)⁹;
- the UK Climate Change Act 2008;
- the Sixth Carbon Budget (2020)²⁵²;
- Task Force on Climate-related Financial Disclosures (TCFD) guidance on scenario analysis²⁵³;
- IEMA Guidance: Assessing Greenhouse Gas Emissions and Evaluating their Significance²⁵⁴;
- IEMA Guidance: Climate Change Resilience and Adaptation (2020)²⁵⁵;
- Net Zero Strategy: Build Back Greener¹⁸; and
- The Cornwall Local Plan Strategic Policies (2016)²³;

²⁵² Climate Change Committee (2020). Sixth Carbon Budget. Available online at: <https://www.theccc.org.uk/publication/sixth-carbon-budget/>.

²⁵³ Task Force on Climate-Related Financial Disclosures (TCFD) (2020). Guidance on Scenario Analysis for Non-Financial Companies. Available online at: https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-Scenario-Analysis-Guidance.pdf.

²⁵⁴ IEMA (2022). Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available online at: https://www.iema.net/media/xmgpooopk/2022_iema_greenhouse_gas_guidance_eia.pdf.

²⁵⁵ IEMA (2020). Environmental Impact Assessment Guide to: Climate Change Resilience & Adaptation. Available online at: <https://www.iema.net/media/mabhqino/iema-eia-climate-change-resilience-june-2020.pdf>.

- Cornwall Climate Emergency Development Plan Document²⁵⁶.

18.2.1.2 Article 3 of the amended EIA Directive (2014/52/EU)²⁵⁷ states that the EIA must *"identify, describe and assess in an appropriate manner, in light of each individual case, the direct and indirect significant effects of the proposed development on...climate"* and other factors specified.

18.2.1.3 Where relevant to the specific characteristics of a particular development or type of development and to the environmental features likely to be significantly affected, the ES is to include *"a description of the factors... likely to be significantly affected by the development...climate (for example greenhouse gas emissions, impacts relevant to adaptation)"* and *"a description of the likely significant effects of the development on the environment resulting from...the impact of the project on climate (for example the nature and magnitude of greenhouse gas emissions) and the vulnerability of the project to climate change"* EIA Directive (2014/52/EU)²⁵⁷.

18.2.1.4 The principles of the NPPF that are relevant to climate change are provided in Section 14 'Meeting the challenge of climate change, flooding and coastal change'. Section 14 states: *"the planning system should support the transitions to a low carbon future in a changing climate and take full account of all climate impacts including overheating, water scarcity, storm and flood risks and coastal change. It should help to: shape places in ways that contribute to radical reductions in greenhouse gas emissions, minimise vulnerability and improve resilience; encourage the reuse of existing resources, including the conversion of existing buildings; and support renewable and low carbon energy and associated infrastructure"*.

18.2.1.5 The UK Climate Change Act 2008 sets targets related to GHG emissions and establishes that a UK-wide Climate Change Risk Assessments for carbon budgets must be undertaken every five years.

²⁵⁶ Cornwall Council (2024) Cornwall Climate Emergency Development Plan Document. Available Online at: <https://www.cornwall.gov.uk/planning-and-building-control/planning-policy/adopted-plans/climate-emergency-development-plan-document/#:~:text=The%20Climate%20Emergency%20Development%20Plan,to%20act%20on%20climate%20change>.

²⁵⁷ European Union (2014). EIA Directive. Available Online at: <https://eur-lex.europa.eu/eli/dir/2014/52/oj/eng>

18.2.1.6 In June 2021, the UK government set into law the Sixth Carbon Budget²⁵² to reduce GHG emissions by 78% of 1990 levels by 2035 and for the UK to be net-zero by 2050. The strategy and policies proposed by the UK government to achieve this are outlined in the Net Zero Strategy.

18.2.1.7 Key guidance on assessing greenhouse gas emissions such as IEMA's EIA Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance²⁵⁸ will also be considered.

18.3 BASELINE ENVIRONMENT

18.3.1 CLIMATE CHANGE

Data Sources

18.3.1.2 Various data sources, including the State of the UK Climate 2022 report²⁵⁹ and Met Office climate summaries²⁶⁵ will be used to define the current status of the UK climate in relation to the Site (see 'Description' section below).

18.3.1.3 Other data that has not been used in the Scoping Report but will inform the Climate Change Risk Assessment (CCRA) which will form part of the climate chapter of the ES includes:

- project-specific information, such as: vehicle activity data; site equipment electrical load lists; site processes and associated emission sources, production rates, capacity and utilisation; waste disposal; site chemical input and outputs; and, venting rates and frequencies;
- Climate data from IPCC CMIP6 ²⁶⁰;
- BGS landslide database²⁶¹;
- European Space Agency (ESA) Burned Area Reference Dataset²⁶²;
- Forest Fire Danger Index (FFDI);

²⁵⁸ IEMA (2017). IEMA's EIA Guide: Assessing Greenhouse Gas Emissions and Evaluating their Significance. Available online at: <https://www.iema.net/preview-document/assessing-greenhouse-gas-emissions-and-evaluating-their-significance>.

²⁵⁹ Met Office (2023). State of the UK Climate 2022. Available online at:

<https://www.metoffice.gov.uk/research/climate/maps-and-data/about/state-of-climate>.

²⁶⁰ Inter-Sectoral Impact Model Intercomparison Project (2025). ISIMIP3b. Available Online at: <https://protocol.isimip.org/#/ISIMIP3b>

²⁶¹ British Geological Survey. National Landslide Database. Available Online at: <https://www.bgs.ac.uk/geology-projects/landslides/national-landslide-database/>

²⁶² ESA. Burned Area Reference Database: global and regional reference fire perimeters used for the validation of burned area products. Available Online at: <https://climate.esa.int/en/projects/fire/>

- EA flood mapping²⁶³; and
- World Resources Institute Aqueduct Water Risk Atlas ²⁶⁴

Description of the Baseline Conditions

18.3.1.4 Due to its proximity to the Atlantic Ocean, there is a strong maritime influence on the climate of Cornwall, therefore it does not typically experience extremes of temperature and is characterized by mild winters and cool summers. February is the coldest month in Cornwall, with mean minimum temperatures varying between 5 °C to 1.5 °C, while July and August are the warmest months in the region, with mean daily maximum temperatures around 19 °C. The maximum recorded Summer temperature (based on data from 1981-2010) is 32 °C (June). Conversely, the minimum summer temperature is recorded as 3 °C (June), whilst the minimum Winter temperature is recorded as -10 °C (February) (Met Office²⁶⁵).

18.3.1.5 Rainfall in Cornwall is mainly associated with Atlantic depressions in Autumn and Winter, and with convection due to surface heating in Spring and Summer. The southwest peninsula is prone to rare, but very heavy rainfall events, generally lasting from 5 to 15 hours. The highest level of rainfall occurs in December and January, when the sea is still relatively warm and the Atlantic depressions are most vigorous. The average annual rainfall for St. Mawgan (approximately 14 km to the west of the Site) is 1,020 mm and the average annual rainfall for St Austell (approximately 12 km to the southeast of the site) is 1,230 mm (both for the period 1991-2020), but totals in excess of 2000 mm may occur on high ground. Rainfall occurs throughout the year, with maximum rainfall occurring between October and February. The driest months are typically April to July (Met Office ²⁶⁵).

18.3.1.6 According to the Intergovernmental Panel on Climate Change (IPCC) 6th Assessment Report (AR6) published in 2021²⁶⁶, temperature and

²⁶³ UK Government (2024). Check Long Term Flood Risk. Available Online at: <https://check-long-term-flood-risk.service.gov.uk/map>

²⁶⁴ World Resources Institute. Aqueduct Water Risk Atlas. Available Online at: https://www.wri.org/applications/aqueduct/water-risk-atlas/#/?advanced=false&basemap=hydro&indicator=w_awr_def_tot_cat&lat=30&lng=-80&mapMode=view&month=1&opacity=0.5&ponderation=DEF&predefined=false&projection=absolute&scenario=optimistic&scope=baseline&threshold&timeScale=annual&year=baseline&zoom=3

²⁶⁵ Met Office (2026). Southwest England Climate Summary. Available Online at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/weather/learn-about/weather/regional-climates/south-west-england-climate-met-office.pdf>

²⁶⁶ IPCC (2021). 6th Assessment Report (AR6). Available Online at: <https://www.ipcc.ch/report/ar6/wg1/>

precipitation increases for Cornwall are projected. As a result of warmer ocean temperatures, more frequent storms are projected. Increases in both flooding and landslides are also predicted, as a result of increased precipitation ²⁶⁶.

18.3.2 GREENHOUSE GAS EMISSIONS

Data Sources

18.3.2.2 Various data sources, including the Greenhouse Gas Protocol, and will be used to assess the relevant GHG emissions that will be expected from the Proposed Development

18.3.2.3 Other data that has not been used in the Scoping Report but will inform the GHG Assessment includes:

- project-specific information, such as: vehicle activity data; site equipment electrical load lists; site processes and associated emission sources, production rates, capacity and utilisation; waste disposal; site chemical input and outputs; and, venting rates and frequencies;
- The Greenhouse Gas Protocol's Corporate Accounting and Reporting Standard²⁶⁷
- The UK governments Greenhouse Gas Reporting: Conversion Factors 2024²⁶⁸
- Ecoinvent LCA Emission Factor Database²⁶⁹

Description of the Baseline Conditions

18.3.2.4 For the GHG assessment, the baseline is a "business as usual" scenario whereby the Proposed Development is not implemented. Relevant GHG emissions prior to commencement of the Proposed Development are therefore considered to be zero. The emissions that may be avoided as a result of the Proposed Development, i.e. emissions generated from petrol or diesel vehicles that are used instead of electric vehicles if the Proposed Development does not go ahead can also be considered part of the baseline assuming no

²⁶⁷ The Greenhouse Gas Protocol (2004). A Corporate Accounting and Reporting Standard. Available Online at: <https://ghgprotocol.org/corporate-standard>

²⁶⁸ UK Government (2024). Greenhouse Gas reporting: Conversion factors 2024. Available Online at <https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024>

²⁶⁹ Ecoinvent (2024). Ecoinvent Database Version 3.11. Available online at <https://ecoinvent.org/database/>

growth in overall energy demand, however these are outside of the project assessment.

18.4 PROJECT BASIS FOR SCOPING ASSESSMENT

18.4.1 CLIMATE CHANGE

18.4.1.1 Climate hazards have the potential to impact all phases of the Proposed Development. For the CCRA, impacts will be assessed for the construction, operational and decommissioning/ restoration phases.

18.4.1.2 A range of climate hazards such as extreme temperatures, flooding and storms have the potential to impact the Proposed Development. Aspects of the Proposed Development that could be exposed to climate change may include:

18.4.1.3 Construction and decommissioning/ restoration:

- Exceedance of temperature design specifications may affect the equipment and materials used during the construction of the Proposed Development, resulting in delays.
- Flooding and extreme winds could disrupt construction / decommissioning activities through damaging key supporting infrastructure, such as substations, transport routes, or overhead transmission and distribution lines.

18.4.1.4 During operations:

- Extreme wind speeds and flooding could exceed the design threshold of building, equipment and temporary installations, resulting in operational downtime.
- Water stress and drought events may result in limitations to water availability for mine services, dust suppression and welfare facilities, causing operational downtime and/or affecting site personnel's health & safety.
- Extreme temperature events or storms may affect site personnel's health, safety and wellbeing.

18.4.1.5 Further detail on the type of climate hazard and the potential risk it poses to the Proposed Development will be determined through interpretation of climate trend data from the relevant datasets outlined in Section 18.3 above.

18.4.2 GREENHOUSE GAS EMISSIONS

18.4.2.1 The assessment will assess the predicted impacts of the Proposed Development's operation on climate change. Greenhouse gases (GHGs) will be emitted during all phases of the Proposed Development and will be estimated in the GHG emissions assessment.

18.4.2.2 Based on the design information available to date, it is anticipated that GHGs could be emitted as a result of the following activities:

- During construction: material transport, construction activities, waste management, water management and treatment, worker movements;
- During operation: mining activities, processing activities and ancillary activities (offices etc) at the Trelavour Processing Plant, material transport, waste management, water management and treatment, worker movements; and
- During decommissioning, closure and restoration: decommissioning and demolition activities, restoration and aftercare activities, material transport, waste management, water management and treatment, worker movements.

18.4.2.3 Further detail is outlined in Table 18.3. It is noted that CLL's proposed processing methodology will emit fewer emissions than other alternative established technologies.

18.5 MITIGATION

18.5.1 CLIMATE CHANGE

18.5.1.1 As described in Section 18.8.1, below, appropriate mitigation measures will be recommended as required for any climate-related risks identified to be material within the risk assessment. Any measures proposed will be hazard-specific and specific to the relevant phase of the Proposed Development. The mitigation measures proposed will cover different categories (e.g., control, transfer, accept and mitigate) to ensure a structured and flexible approach to identifying potential mitigation measures that may be implemented for the Proposed Development. The categories that will be covered are outlined in Table 18.1 alongside some examples of mitigation measures which could be employed. Appropriate and specific

mitigation measures will be identified for the Proposed Development at a later stage based on the findings of the assessment.

TABLE 18.1: EXAMPLES OF CLIMATE CHANGE MITIGATION MEASURES

Mitigation Measure Category	Examples of Mitigation Measures
Control Direct interventions to manage or reduce physical climate risks.	• Building flood protection (e.g. levees or diversion channels) around Site • Dust suppression systems during droughts
Transfer Shifting risk or responsibility elsewhere (financially or physically).	• Climate risk insurance for assets or operations • Water-sharing agreements with local communities or other industries during shortages
Accept Tolerating or adjusting to climate impacts through planning, design, or behaviour.	• Designing schedules to avoid work during peak heat hours • Allowing for planned temporary shutdowns during extreme weather events
Mitigate Reducing vulnerability or enhancing resilience to physical risks.	• Diversifying energy sources to handle disruptions • Implementing early warning systems for floods or extreme weather

18.5.2 GREENHOUSE GAS EMISSIONS

18.5.2.1 If required, mitigation measures will be proposed to manage GHG emissions; for example, electrification of mining or processing equipment.

18.6 LIKELY SIGNIFICANT EFFECTS TO BE CONSIDERED IN THE EIA

18.6.1 CLIMATE CHANGE

18.6.1.1 Table 18.2 sets out potential likely climate change effects associated with the Proposed Development, based on the information available at this early stage in the EIA process.

TABLE 18.2: EFFECTS/ TOPICS SCOPED INTO THE CLIMATE CHANGE ASSESSMENT

Climate Hazard	Phase of the Proposed Development	Rationale for Scoping In
Temperature-related hazards		
Extreme heat	Construction Operation Closure/ decommissioning / restoration	Increased temperatures and prolonged warm spells are anticipated to occur in the UK, including at the Site. Trends in acute extreme heat events (i.e., heat waves) and chronic temperature change (i.e., inter-annual temperature variability) may lead to heat stress and degradation of materials and structures, health and safety risks to workers, project delays in construction and disruption maintenance work timelines.
Extreme cold	Construction Operation Closure/ decommissioning / restoration	Extreme cold temperatures including ice and cold snap events are anticipated to occur at the Site. Like extreme heat events, extreme cold events may lead to degradation of materials and structures, health and safety risk to workers, project delays in construction and disruption maintenance work timelines.
Wildfires	Construction Operation Decommissioning and restoration	The Site is located on open land, with small pockets of woodland and trees, which have the potential to be impacted by wildfires. However, this risk is dependent on a number of climate parameters and should be taken forward to resilience review.
Water-related hazards		
Please note: A site-specific Flood Risk Assessment (FRA) will be prepared, as described in Section 7, which will cover flood risk effects associated with the Proposed Development. This will include climate change allowances.		
Water stress and drought	Operation	The Site lies on land with low risk of water stress which is

Climate Hazard	Phase of the Proposed Development	Rationale for Scoping In
		projected to remain a low water stress area by 2050 under the SSP5-8.5 (pessimistic) climate projection. However, as the development is likely to require high levels of water consumption, water stress should be taken forward to resilience review in the EIA.
Wind-related hazards		
Storms and extreme wind	Construction Operation Closure/ decommissioning/ restoration	The Proposed Development may be vulnerable to changing wind patterns, for example, high winds and falling trees could damage structures and assets. UK climate projections show an increase in mean wind speed in winter by the late 21st century and an increase in windstorm number and intensity over the UK ²⁷⁰ .
Solid mass-related hazards		
Landslides	Construction Operation Decommissioning and restoration	Topographic maps of the area indicate some steep slopes that may be susceptible to landslides, particularly considering the trends of increasing precipitation in the area. Therefore, landslides should be taken forward to resilience review in the EIA.

18.6.2 GREENHOUSE GAS EMISSIONS

18.6.2.1 For this assessment, any increase in GHG emissions compared to the baseline is considered to have a potential impact due to the climate's high sensitivity to rising GHG levels. This aligns with IEMA guidance²⁵⁸, which emphasises that all GHG emissions can be

²⁷⁰ Met Office (2023) UKCP18 Factsheet: Storms. Available Online at: <https://www.metoffice.gov.uk/binaries/content/assets/metofficegovuk/pdf/research/ukcp/ukcp18-factsheet-storms.pdf>.

significant. Table 18.3 outlines the activities/ emissions sources which are proposed to be scoped into the GHG assessment, with rationale.

TABLE 18.3: EMISSION SOURCES SCOPED INTO THE GREENHOUSE GAS ASSESSMENT

Proposed Development Phase	Activity	Emission Source and Rationale for Scoping In
Pre-construction and construction phases	Transportation of the materials to the manufacturing centre and transport of the manufactured materials to the draft Order Limits by Heavy Goods Vehicle (HGV) or rail	Emissions from diesel, petrol, or other fuels used in construction vehicles to transport materials and components. Emissions related to use of rail transportation of equipment and materials to site. Included as this is a key component of the before use stage.
	Construction activities to build the Proposed Development.	Emissions from construction due to energy consumption, such as electricity and other fuels from plant, vehicles, and generators. Included as this is a key component of the before use stage.
	Use of construction infrastructure e.g. a site office.	Emissions from energy consumption such as gas and electricity in temporary built infrastructure. Included as this is a key component of the before use stage.
	Disposal and treatment of construction waste.	Emissions from diesel or other fuel use in HGV or other vehicles to transport waste to appropriate waste centre. Included as this is a key component of the before use stage.
	Industrial / domestic water usage and treatment	Emissions from the provision of clean water to industrial and domestic activities carried out within the boundaries of the Proposed Development and energy use associated with offsite wastewater treatment from comfort facilities provided within construction compounds during construction.

Proposed Development Phase	Activity	Emission Source and Rationale for Scoping In
		Included as there is expected to be a lot of water use in the construction phase e.g. for dust suppression and cooling equipment. There is expected to be approximately 800 temporary and full-time equivalent (FTE) jobs in the construction phase leading to an equivalent quantity of on-site domestic water usage.
	Site works and managers travel to and from the site	Emissions from fuel use in vehicles by construction workers and visitors. Included as this is a key component of the before use stage.
	Installation and operation of electrical switch gear	Release of small quantities of SF ₆ gas during installation, operation and maintenance of electrical switch gear. Possibility of larger leaks can also occur during its lifecycle, for example due to equipment malfunction. Included as SF ₆ is a high Global Warming Potential (GWP) GHG gas (subject to confirmation from the project design)
	Raw material extraction and manufacturing of the materials and components required to build the Proposed Development.	The embodied greenhouse gas emissions in equipment and materials of construction, generated from production processes and energy used to extract and manufacture these. Additional impact related to extraction of fuels used. A high-level estimation of these embedded emissions would be included as will be a significant energy source. This is based on the provision of a bill-of-quantities.
Operation and maintenance phase – Trelavour Pit	Mineral ore extraction	GHG emissions from mining equipment. Included as this is a key operation of the Trelavour Pit.
	Crushing and milling of ore	GHG emissions from equipment operations and steam production. Included as this is a key operation of the Trelavour Pit.
	Transportation of materials to processing plant	Emissions from conveyor belt used to transport materials to processing plant. Powered by electricity. Included as this is a key operation of the Trelavour Pit.

Proposed Development Phase	Activity	Emission Source and Rationale for Scoping In
	Disposal and treatment of mining tailings	Emissions from diesel or other fuel use in HGV or other vehicles to transport waste to appropriate waste centre. Included as this is a key operation of the Trelavour Pit.
	Industrial / Domestic water usage and treatment	Emissions from the provision of clean water to industrial and domestic activities carried out within the boundaries of the Proposed Development and energy use associated with offsite wastewater treatment from comfort facilities provided within mining compounds during operations. Included as there is expected to be water use in the operational phase particularly for extraction. Permanent FTE workers in the operational phase is expected to lead to an equivalent quantity of on-site domestic water usage.
	Installation and operation of electrical switch gear	Release of small quantities of SF ₆ gas during installation, operation and maintenance of electrical switch gear. Possibility of larger leaks can also occur during its lifecycle, for example due to equipment malfunction. Included as SF ₆ is a high GWP GHG gas (subject to confirmation from the project design).
Operation and maintenance – Trelavour Processing Plant	Grinding	Emissions from equipment operation. Included as this is a key operation of the Trelavour Processing Plant.
	Desliming	Emissions from equipment operation. Included as this is a key operation of the Trelavour Processing Plant.
	Froth floatation	GHG emissions from equipment operations and steam production. Included as this is a key operation of the Trelavour Processing Plant.
	High Temperature Leaching	CO ₂ emissions from driers and high temperature leaching Emissions from energy used to heat the process. Included as this is a key operation of the Trelavour Processing Plant.

Proposed Development Phase	Activity	Emission Source and Rationale for Scoping In
	Purification & Precipitation	CO ₂ emissions from the precipitation reaction. Emissions from energy use of the process. Included as this is a key operation of the Trelavour Processing Plant.
	Industrial / domestic water use and treatment	Emissions from the provision of clean water for industrial and domestic activities carried out within the boundaries of the Proposed Development and energy use associated with offsite wastewater treatment from comfort facilities provided within mining compounds during operations. Included as there is expected to be water use in the operational phase particularly during the processing stages. Permanent FTE workers in the operational phase is expected to lead to an equivalent quantity of on-site domestic water usage.
	Transport of waste to the Mining Waste Facility	Emissions from diesel, petrol, or other fuels are used in transport vehicles to transport hydrometallurgical waste to the Mining Waste Facilities. Emissions from waste pumped to the Mining Waste Facilities. Included as this is a key operation of the Trelavour Processing Plant.
	Installation and operation of electrical switch gear	Release of small quantities of SF ₆ gas during installation, operation and maintenance of electrical switch gear. Possibility of larger leaks can also occur during its lifecycle, for example due to equipment malfunction. Included as SF ₆ is a high GWP GHG gas (subject to confirmation from the project design).
Operation and maintenance – Mining Waste Facilities	Waste processing	Emissions from the processing of the waste produced from the process plant, due to fuel use or electricity consumption. Included as this is a key operation of the Mining Waste Facilities.
	Facility electricity use	Emissions from electricity consumed by the Mining Waste Facilities. Included as this is a key operation of the Mining Waste Facilities.

Proposed Development Phase	Activity	Emission Source and Rationale for Scoping In
	Dry Stack method	Emissions due to operation of one of the following dry stack waste engineering processes: plate filter presses, vacuum belt filters, belt filter presses, centrifuges. Included as this is a key operation of the Mining Waste Facilities.
Decommissioning, Closure and Restoration phase	On-site decommissioning activity	Consumption of energy on-site for decommissioning purposes. Included as these are key components of the decommissioning and restoration phase.
	Transportation and disposal of waste materials	Release of emissions from transportation of waste. Included as these are key components of the decommissioning and restoration phase.
	Worker travel	Release of emissions from the vehicles used by workers. Included as these are key components of the decommissioning and restoration phase.
	Mine area rehabilitation	Transport of materials to the mine site to fill in the pit. Included as these are key components of the decommissioning and restoration phase.
	Installation and operation of electrical switch gear	Release of small quantities of SF ₆ gas during installation, operation and maintenance of electrical switch gear. Possibility of larger leaks can also occur during its lifecycle, for example due to equipment malfunction. Included as SF ₆ is a high GWP GHG gas (subject to confirmation from the project design)
	Water use and treatment	Emissions from the provision of clean water for decommissioning activities carried out within the Site and energy use associated with offsite wastewater treatment from comfort facilities provided within mining compounds during operations. Included as there is expected to be water use in the decommissioning phase e.g. for dust suppression, tailings management

18.7 EFFECTS SCOPED OUT OF THE EIA

18.7.1 CLIMATE CHANGE

18.7.1.1 As the Site is located approximately 10-13 km from the coast and at an elevation of approximately 150-200 m it is not considered to be located within an area that is susceptible to coastal flooding and therefore coastal flooding is proposed to be scoped out of the climate change assessment.

18.7.2 GREENHOUSE GAS EMISSIONS

18.7.2.1 The release of emissions through a carbon sink as a result of soil disruption during the pre-construction and construction phases is not predicted to be material. It is therefore proposed that this emission source be scoped out of the GHG assessment.

18.8 PROPOSED APPROACH TO THE ASSESSMENT

18.8.1 CLIMATE CHANGE

18.8.1.1 The CCRA will be conducted through the following key steps:

- Step 1: A high-level screening of the construction and operational phases of the Proposed Development through the collection and analysis of climate data and climate trends;
- Step 2: A risk assessment of the climate hazards identified as posing potentially material risks to the construction and/or operational phases of the Proposed Development; and
- Step 3: A review of relevant adaptation/risk mitigation measures that could be implemented by the Proposed development to reduce the risks identified within step 2.

Specific Methodologies

Step 1

18.8.1.2 Climate data used in the assessment will be collected primarily via ERM's Global Climate Database. ERM's Global Climate Database distils climate data from an array of leading data providers into a robust set of over 50 climate indicators that can be used to assess current and future physical climate risks under a wide range of future emissions scenarios. Physical scenario indicators will be selected to assess

relevant physical climate hazards, both acute and chronic²⁷¹, primarily from the IPCC's Assessment Report 6 (AR6)²⁶⁶, and supplemented by additional sources (e.g. World Resources Institute, Fathom, European Space Agency). Climate data will be gathered across the spatial footprint of the proposed location of the Proposed Development.

- Baseline data is used to understand the current presence and intensity/frequency of each climate hazard within the Site.
- Projection data is also collected from ERM's proprietary Global Climate Database and is used to suggest the potential change (if any) in the intensity/frequency of each climate hazard under specified future timeframes and climate scenarios.

18.8.1.3 Any trends identified in the projected climate data are analysed and interpreted to indicate the potential for a change in the presence and intensity of each climate hazard within the Site, for different climate scenarios (known as Shared Socio-Economic Pathways, or 'SSPs') and three time horizons: baseline and two future time horizons, relevant to the Proposed Development's lifetime. Any hazards projected to have a high-risk level or a potential for a significant change in the presence and intensity in the future, compared to baseline conditions, will be assessed further within step 2 and 3 of the assessment. Any hazards projected to have a low or minimal risk level for the proposed development will be excluded from further assessment in steps 2 and 3.

18.8.1.4 It is recommended that 2030 and 2050 are considered as the two future time horizons, as these time horizons provide insight into the impact of climate change on the Proposed Development in the immediate term (relevant for construction), as well as medium to long-term future, which may be more relevant for operational (20-year period) and decommissioning activities.

18.8.1.5 The technical guidance on physical scenario analysis from the TCFD advice²⁷² the inclusion of a selection of scenarios covering a variety of plausible views of future change. This includes the inclusion of a scenario representative of keeping global average temperatures at

²⁷¹ The nine climate hazards include: extreme temperatures (hot and cold), flooding (river, extreme rainfall and coastal), extreme winds & storms, landslides, wildfires, and water stress and drought.

²⁷² TCFD (2020) Guidance on Scenario Analysis for Non-Financial Companies. Available Online at: https://assets.bbhub.io/company/sites/60/2020/09/2020-TCFD_Guidance-Scenario-Analysis-Guidance.pdf

2°C or lower, most closely aligned with the Paris Agreement to the United Nations Framework Convention on Climate Change²⁷³. As a result, the use of a low emissions scenario (SSP1-2.6) and a high emissions scenario (SSP5-8.5) for this CCRA, detailed in Table 18.4 below, is recommended. The assessment will summarise the Proposed Development's exposure to the 9 climate hazards, using both ERM's climate data and additional information provided by the Applicant.

TABLE 18.4: DETAILS ON SHARED SOCIO-ECONOMIC PATHWAYS (SSPs)

Scenario	Definition	Mean annual temperature increase by 2100 compared to pre-industrial averages (1850)
SSP1-2.6	Envisions a central pathway in where trends continue their historical patterns without substantial deviations.	+1.8°C (very likely range of 1.0°C to 1.8°C)
SSP5-8.5	High challenges for mitigation (resource / fossil fuel intensive) and low for adaptation (rapid development).	+4.4°C (very likely range of 3.3°C to 5.7°C)

Step 2

18.8.1.6 The risk assessment of climate hazards will include the analysis of baseline and future projected trends for each climate hazard included within the assessment (i.e., hazards deemed to have a high-risk level or potential to increase in risk in the future for the Proposed Development) as assessed in step 1.

18.8.1.7 For each included hazard, the risk assessment will provide a description of any impacts related to the hazard which are identified as being potentially material to the Proposed Development. This will identify the specific climate-related risks associated for specific Project aspects (e.g. risks to buildings, water supply, site personnel etc.). The assessment will cover the potential significance of any risk identified as being present under baseline conditions, and how this could potentially change in the future according to key trends

²⁷³ United Nations (2016). The Paris Agreement. Available Online at: <https://www.un.org/en/climatechange/paris-agreement>

identified within the climate data. Each climate hazard will be assessed in relation to the Proposed Development using a mixture of climate data, qualitative research, sourced from industry-leading academic and governmental sources, and professional judgement.

- 18.8.1.8 The risk assessment completed in step 2 will also factor in any mitigation measures or design specifications when assessing the level of risk posed to the Proposed Development by climate change.

Step 3

- 18.8.1.9 For any climate-related risks identified to be significant for the Proposed Development under baseline conditions or in the relevant future time horizons, required adaptation/risk mitigation measures will be proposed. This will include a summary of the type of proposed adaptation/risk mitigation measure proposed and a description of how it will reduce climate-related risk for the Proposed Development.
- 18.8.1.10 Any adjustments to the proposed adaptation/risk mitigation measures will be made to the relevant phase (e.g., construction, operations, decommissioning) of the Proposed Development and the relevant site aspect (e.g., site personnel, buildings, water supply etc.).

Assessment Criteria

- 18.8.1.11 Once the climate data is collected, the trends associated with each variable are assessed for each climate hazard (within step 2 of the above proposed approach for assessment), and a review of the potential risks posed to the Proposed Development in relation to each climate hazard will be undertaken. This will provide an overview of any impacts (associated with specific hazards), which are identified as being potentially material to specific risk areas associated with the Proposed Development. Each potential risk will be scored with the following risk significance criteria, as outlined in Table 18.5 below. For risk areas identified as being material in the risk review, next steps will be recommended for the risk area, either to undertake further detailed assessment or to develop hazard/risk management plans for relevant risks.

TABLE 18.5: EXAMPLE OF SIGNIFICANCE CRITERIA CATEGORIES AND ASSOCIATED DEFINITIONS

Risk Significance Category		Definition
Not significant		Impacts within this category (such as those related to operational, financial, or other types of impacts) are unlikely to be material. This means that, for example, (a) operational impacts could be expected to be short term, impacting a limited proportion of the overall asset and its operations, or (b) financial impacts would be expected to be minimal relative to the project's overall revenue and/or costs.
Significant	Low to moderate	Impacts within this category (such as those related to operational, financial, or other types of impacts) are likely to be of low-moderate significance. This means that, for example, (a) operational impacts could be expected to be short to medium term, impacting a low to moderate proportion of the overall asset and its operations, or (b) financial impacts would be expected to be small to moderate relative to the project's overall revenue and/or costs.
	High	Impacts associated with this category (such as those related to operational, financial, or other types of impacts) are likely to be of high significance. This means that, for example, (a) operational impacts could be expected to be medium to long term, impacting a low to moderate proportion of the overall asset and its operations, or (b) financial impacts would be expected to be moderate to high relative to the project's overall revenue and/or costs.

18.8.2 GREENHOUSE GAS EMISSIONS

18.8.2.1 The GHG assessment will estimate GHG emissions generated during the pre-construction, construction phase, operation and maintenance phase, and decommissioning, closure and restoration phase of the Proposed Development shown in Table 18.3.

18.8.2.2 In line with the World Business Council for Sustainable Development and World Resources Institute GHG Protocol guidelines²⁷⁴, the GHG

²⁷⁴ The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004) Available online at: <https://ghgprotocol.org/corporate-standard>

assessment will be reported as tonnes of carbon dioxide equivalent (tCO₂e) and will consider the seven Kyoto Protocol²⁷⁵ gases:

- Carbon dioxide (CO₂);
- Methane (CH₄);
- Nitrous oxide (N₂O);
- Sulfur hexafluoride (SF₆);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Nitrogen trifluoride (NF₃).

Specific Methodologies

18.8.2.3 The GHG assessment will be prepared in accordance with the UK Government's environment reporting guidelines ²⁷⁶ and the Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (revised edition)²⁷⁴ developed by the World Resources Institute and the World Business Council for Sustainable Development (2004).

18.8.2.4 The methodology for the GHG assessment will be guided by the Environmental Impact Assessment Guide to: Assessing Greenhouse Gas Emissions and Evaluating the Significance²⁵⁸.

18.8.2.5 To report on the GHG emissions that arise from the activities associated with the Proposed Development, the GHG assessment will identify the sources of GHG emissions and categorised these in accordance with best practice GHG reporting guidelines as follows:

- Scope 1 GHG emissions (direct): GHG emissions that arise from sources that are owned or controlled by the Proposed Development such as consumption of diesel to generate electricity, for use in vehicles, plant or machinery and fugitive emissions (for example sulphur hexafluoride (SF₆) which can be used in high-voltage equipment).
- Scope 2 GHG emissions (indirect): GHG emissions from the generation of purchased electricity. This can involve electricity

²⁷⁵ United Nations Framework Convention on Climate Change (1997). What is the Kyoto Protocol? Available Online at: https://unfccc.int/kyoto_protocol

²⁷⁶ UK Government: Environmental Reporting Guidelines (2019). Available online at: <https://assets.publishing.service.gov.uk/media/67161e8696def6d27a4c9ab3/environmental-reporting-guidance-secr-march-2019.pdf>

consumed in transformers, substations, switch rooms, control buildings and operation or maintenance buildings.

- Scope 3 GHG emissions (indirect): GHG emissions that occur as a consequence of the activities of the Proposed Development, but occur from sources not owned or controlled by the Proposed Development. For instance, fuel and energy associated with the extraction, refining and transport of raw materials; disposal of wastes; recycling of materials at the end of their life.

18.8.2.6 Expected GHG emissions arising from the construction, operational and decommissioning emissions of the Proposed Development, will be quantified using a calculation-based methodology as per the following equation, and aligned with the GHG protocol.

$$\text{Activity data} \times \text{GHG emissions factors} \times \text{GWP} = \text{GHG emissions}$$

18.8.2.7 Activity data will be taken from project design estimates, such as the quantity of materials used, fuel consumed, waste generated, or distances travelled. Where data is not available, alternative approaches will be used that involved generic or publicly available information that best represents the Proposed Development and its activities.

18.8.2.8 In GHG accounting, it is common practice to consider exclusion of emissions sources that are <1% of a given emissions inventory on the basis of minimal contribution. The assessment will use an appropriate cut-off if this is the case.

18.8.2.9 The receptor's sensitivity (global climate) to rising GHG emissions is consistently considered high, as any further increase could threaten the UK's efforts to reduce emissions and meet its future five-year carbon budgets. Additionally, the critical importance of keeping global warming below 2°C this century is widely emphasised by both the International Paris Agreement²⁷³ and the climate science community.

18.8.2.10 The GHG assessment will use the most up-to-date conversion factors as detailed by the UK Government Department for Energy Security and Net Zero²⁷⁷ conversion factors for company reporting.

18.8.2.11 The scope 2 emissions for the lifecycle of the Proposed Development will be calculated using the UK average grid GHG emissions factor (generation based) taken from existing UK

Government published electricity emission factors to 2100 which are part of its Green Book appraisal guidance²⁷⁷. This value is projected to reduce over time reflecting the net zero ambitions of the UK Government and the decarbonisation of the UK electricity grid.

Assessment Criteria

- 18.8.2.12 Any GHG emissions released to the atmosphere are classified as an impact to climate change due to the importance of limiting GHG emissions to the atmosphere as set out by the Paris Agreement²⁷³ and the UK Government's net zero ambitions. There is no specific "sensitive receptor" to consider in the case of GHG emissions as the impact is considered to be global in nature.
- 18.8.2.13 The assessment will assess the predicted impacts of the Proposed Development's operation on climate change. In essence, the Proposed Development will involve sourcing a critical mineral, which is used in the manufacture of batteries and is, therefore, an enabler of renewable power storage and the transition to electric vehicles. In this regard, it is envisaged that the site will form a strategic location which will provide a significant contribution to the UK's move towards a zero-carbon economy. The impacts of the Proposed Development are however assessed on a standalone basis and not in terms of a life-cycle assessment concept, as the final use of the lithium and hence its associated impact cannot be determined at this stage and is outside the Site boundary.
- 18.8.2.14 The results of the GHG assessment and the assessment of the impact of the final product will be evaluated against the IEMA significance criteria²⁵⁴ detailed in Table 18.6 below.

TABLE 18.6: SIGNIFICANCE OF EFFECT CRITERIA FOR GHG EMISSIONS

Significance	Criteria
Major adverse	The project's GHG impacts are not mitigated or are only compliant with do-minimum standards set through regulation, and do not provide further reductions required by existing local and national policy for projects of this type. A project with major adverse effects is locking in emissions

²⁷⁷ Department for Energy Security & Net Zero (2024). Valuation of energy use and greenhouse gas (GHG) emissions Available online at: <https://assets.publishing.service.gov.uk/media/65aadd020ff90c000f955f17/valuation-of-energy-use-and-greenhouse-gas-emissions-for-appraisal.pdf>

Significance	Criteria
	and does not make a meaningful contribution to the UK's trajectory towards net zero.
Moderate adverse	The project's GHG impacts are partially mitigated and may partially meet the applicable existing and emerging policy requirements, but would not fully contribute to decarbonisation in line with local and national policy goals for projects of this type. A project with moderate adverse effects falls short of fully contributing to the UK's trajectory towards net zero.
Minor adverse	The project's GHG impacts would be fully consistent with applicable existing and emerging policy requirements and good practice design standards for projects of this type. A project with minor adverse effects is fully in line with measures necessary to achieve the UK's trajectory towards net zero.
Negligible	The project's GHG impacts would be reduced through measures that go well beyond existing and emerging policy and design standards for projects of this type, such that radical decarbonisation or net zero is achieved well before 2050. A project with negligible effects provides GHG performance that is well 'ahead of the curve' for the trajectory towards net zero and has minimal residual emissions.
Beneficial	The project's net GHG impacts are below zero and it causes a reduction in atmospheric GHG concentration, whether directly or indirectly, compared to the without-project baseline. A project with beneficial effects substantially exceeds net zero requirements with a positive climate impact.

Source: IEMA (2017)²⁵⁸

19. CUMULATIVE AND COMBINED EFFECTS

19.1 CUMULATIVE EFFECTS

19.1.1 INTRODUCTION

19.1.1.1 Cumulative effects may occur where there is potential for the likely effects associated with the Proposed Development to interact with those associated with other nearby developments, potentially resulting in a combined effect of greater significance upon a common receptor. This section of the Scoping Report sets out the proposed approach for the Cumulative Effects Assessment (CEA) to be carried out as part of the EIA process, and identifies 'other development's which may contribute to cumulative effects.

19.1.2 POLICY AND LEGISLATIVE CONTEXT

19.1.2.1 Schedule 4 paragraph 5 of the 2017 EIA Regulations sets out the information that should be included in an ES and includes: "A description of the likely significant effects of the development on the environment resulting from, inter alia:... (e) the cumulation of effects with other existing and/or approved projects, taking into account any existing environmental problems relating to areas of particular environmental importance likely to be affected or the use of natural resources...".

19.1.2.2 The need to consider cumulative effects in planning and decision making is also set out in national planning policy. The NPPF states:

- At paragraph 198: "Planning policies and decisions should also ensure that new development is appropriate for its location taking into account the likely effects (including cumulative effects) of pollution on health, living conditions and the natural environment, as well as the potential sensitivity of the site or the wider area to impacts that could arise from the development."
- At paragraph 199: "Planning policies and decisions should sustain and contribute towards compliance with relevant limit values or national objectives for pollutants, taking into account the presence of Air Quality Management Areas and Clean Air Zones, and the cumulative impacts from individual sites in local areas."
- At paragraph 224: "In considering proposals for mineral extraction, minerals planning authorities should:... b) ensure that there are no unacceptable adverse impacts on the natural and

historic environment, human health or aviation safety, and take into account the cumulative effect of multiple impacts from individual sites and/or from a number of sites in a locality.”

19.1.3 PROPOSED METHODOLOGY

19.1.3.1 The cumulative effects assessment (CEA) process for the EIA will follow a four-stage approach, as outlined in the Planning Inspectorate’s Advice Note 17²⁷⁸:

- Stage 1: identify appropriate Zones of Influence (ZoIs) and establish a long list of ‘other development’;
- Stage 2: identify a shortlist of ‘other development’ for further assessment;
- Stage 3: information gathering as required; and
- Stage 4: assessment.

Stage 1

19.1.3.2 Stage 1 of the CEA methodology involves establishing appropriate ZoIs and identifying a long list of other developments for inclusion in the assessment, which have the potential to impact the same receptors as the Proposed Development. This will include:

- development falling under the Town and Country Planning Act 1990 (consented development, development where a consent decision is pending, and pending applications (e.g. for which a screening opinion has been sought));
- DCO applications made under the Planning Act 2008;
- Applications made under the Transport and Works Act 1992; and
- local plan allocations and other relevant development plans and projects.

19.1.3.3 ZoIs will vary between different environmental topics.

19.1.3.4 The assessment will apply a proportionate approach in identifying other development that could contribute to impacts on the same receptors as the Proposed Development, considering factors such as the likely scale of the other development.

19.1.3.5 Cornwall Council will be consulted on the long list.

²⁷⁸ Planning Inspectorate (2025). Nationally Significant Infrastructure Projects: Advice on Cumulative Effects Assessment. Available online at: <https://www.gov.uk/guidance/nationally-significant-infrastructure-projects-advice-on-cumulative-effects-assessment>.

Stage 2

- 19.1.3.6 Stage 2 of the CEA involves undertaking a screening exercise, whereby threshold criteria are applied to the long list, to generate a shortlist of 'other development' to be taken forwards for more detailed, topic-specific assessment. This will ensure that the assessment is proportionate.
- 19.1.3.7 The screening criteria will address temporal scope, the scale and nature of the other development, and other factors such as the nature of the receiving environment, in line with Advice Note 17.
- 19.1.3.8 With regard to temporal scope, for example, the screening exercise will consider (based on publicly available information) whether there is potential for the construction phase of the Proposed Development to overlap with that of the 'other development' (and as such, potentially give rise to cumulative construction effects). In the absence of programme information for the 'other development', worst-case assumptions will be applied.
- 19.1.3.9 In determining which of the developments should be shortlisted, a minimum level of information is necessary for a development to be shortlisted; only developments with at least an EIA Scoping Report, Environmental Assessment Report (EAR) or ES will be considered.
- 19.1.3.10 Cornwall Council and other relevant statutory consultees will be consulted on the shortlist.

Stages 3 and 4

- 19.1.3.11 Based on the outcome of Stages 1 and 2 of the CEA, the shortlisted developments will be taken forwards for further topic-specific assessment in Stages 3 and 4 of the CEA (information gathering and assessment).
- 19.1.3.12 The number of other developments considered for each topic is likely to vary in line with the size of the topic-specific ZoIs, and the nature of the potential impacts from the other developments.
- 19.1.3.13 To the extent necessary, further information on the short-listed developments will be collected and considered in the assessments. This will include:
- proposed design and location information;

- the proposed programme of construction, operation and decommissioning; and
- relevant environmental information, such as baseline data and the assessment of effects arising from the 'other development'.

19.1.3.14 This information will be gathered from various sources, including the Cornwall Council website, the Planning Inspectorate website, and direct liaison with relevant stakeholders.

19.1.3.15 Each topic will apply its standard assessment criteria in undertaking the CEA and the mitigation measures already committed to by the Proposed Development will be inherently considered. In considering the likely effects of other developments, the CEA will assume that they would all be required to meet relevant regulatory requirements and a standard of good industry practice.

19.1.3.16 Each topic assessment will consider whether the cumulative effect of the Proposed Development combined with that of the other development would lead to a different (i.e. greater) level of significance than that for the Proposed Development alone.

19.1.3.17 The assessment will consider the duration, extent, type and frequency of potential effects, as well as the value and resilience of the receptor affected, and the likely success of mitigation measures.

19.1.4 INITIAL LIST OF DEVELOPMENTS

19.1.4.1 An initial list of developments that could potentially result in cumulative effects when considered in conjunction with the Proposed Development is outlined in Table 19.1 below. These include energy, residential and other schemes within 10 km of the Site, as well as applications awaiting a decision within the Site which relate to the existing mining operations (including the ROMPs).

TABLE 19.1: INITIAL LIST OF DEVELOPMENTS FOR CUMULATIVE EFFECTS

Planning Application Reference Number	Applicant and Address	Description of the Development	Status
PA24/06394	One Planet Associates, Fraddon Solar Farm. Burthy Row Farm Summercourt Newquay Cornwall TR8 5BP	Solar Farm and BESS facility together with all associated works.	Approved 04/11/2024
PA24/01374	Imerys British Lithium, Greenbarrow Lithium Project. Gunheath China Clay Works Carbean St Austell Cornwall PL26 8XS	Lithium quarry, processing plant and associated infrastructure and facilities.	Scoping Opinion - 24/07/24
PA25/02936	EDF Renewables, Trelion Solar Farm. Land Near Green Acres Farm Scarcewater Grampound Road Cornwall	Construction of a predominantly underground cable route connecting Trelion Solar Farm to the electricity grid at the National Grid Indian Queens substation.	Awaiting decision
PA23/01893	One Planet Associates, Fraddon Solar Farm. Burthy Row Farm Summercourt Newquay Cornwall TR8 5BP	Construction of a Solar Farm and Battery Energy Storage System (BESS) facility together with all associated works, equipment and necessary infrastructure.	Approved 19/12/2023
PA22/01511	Renewable Connections Developments Ltd. Land East Of Tregonning Farm Kestle Mill Newquay Cornwall TR8 4PR	The construction and operation of a solar photovoltaic farm with battery storage and associated infrastructure, including inverters, substations, security cameras, fencing, access tracks and landscaping.	Approved 05/12/2023
PA23/09752	Kingsley Leisure Developments Limited, Green Ridge Resort	Outline planning permission with all matters reserved for development of up to 400 holiday accommodation units, and up to 16 units of	Approved 18/03/2025

Planning Application Reference Number	Applicant and Address	Description of the Development	Status
	Land Off A392 Colan Quintrell Downs TR8 4LL	staff accommodation; ancillary facilities buildings; solar generation and battery storage facility; associated works...	
PA20/08661	Cornwall Council. Land For Nansledan Development Quintrell Road Newquay Cornwall TR7 3DZ	The Nansledan Local Development Order (2020) - Development comprising a maximum of 3,700 dwellings... in addition to GP surgery, pharmacy, church...	Approved 16/03/2021
PA15/04171	Land At Chapel Gover Newquay Growth Area Newquay	Construction of up to 800 dwellings...two local centres comprising up to 1,200 square metres net of floorspace...	Approved 11/10/2018
PA21/00704	Hautot Developments Ltd. Land South Of A392 Opposite Supermarket Trevemper Newquay Cornwall	Outline Application for up to 225 residential dwellings including access (all other matters reserved).	Approved 28/04/2022
PA20/01569	Treveth Holdings LLP. Land At Trevithick Manor Farm Trevemper Newquay Cornwall	Reserved Matters application for appearance, landscaping, layout and scale for the Construction of 349 dwellings with associated works, including access roads and drainage...	Approved 27/07/2021
PA14/03927	RJ Walker (Newquay) Ltd. Land North West Of Trevithick Manor Between A392 And Trevemper Road Trevemper Newquay Cornwall	Outline planning application for the demolition of existing structures and site development to provide up to 330 residential units, restaurant / public house, hotel...	Approved 25/01/2016 (appeal)
PA23/10134	Imerys Minerals Limited. Scarcewater Tip Melbur China Clay Works Grampound Road St Stephen Truro TR2 4EY	Variation of condition 2 (duration of permission) and condition 3 (definition of development) in respect of decision CC/R/03/00808	Approved 11/12/2024

Planning Application Reference Number	Applicant and Address	Description of the Development	Status
		(Construction of a surface tip for the disposal of china clay waste...	
PA14/12186	West Carclaze Eco-community, Eco-Bos Development Ltd. Land At West Carclaze And Baal Carluddon St Austell Cornwall	Outline application for 'West Carclaze Eco-community' comprising the demolition, site clearance and associated earthworks and the phased development of up to 1500 dwellings, a local centre, incorporating local retail, health and community facilities, a primary school...	Approved 21/09/2018
PA24/05312	EDF Renewables, Trelion Solar Farm. Land Near Green Acres Farm Scarcewater Grampound Road Cornwall	Renewable energy generating system comprising up to 49.9MWac photovoltaic (PV) solar array and associated infrastructure and works.	Awaiting decision
PA22/08840	Wessex Strategic Ltd. Land South Of St Columb Major Industrial Estate Carnanton Road St Columb Cornwall TR9 6WF	Hybrid application for a mixed use development and associated infrastructure...battery storage facility, retail convenience store... access for up to 137 dwellings, up to 28 commercial units...	Awaiting Decision
PA25/00536	Bodmin Holiday Park Lanivet Bodmin Cornwall PL30 5JJ	Planning application for the siting of 118 static and lodge caravans, together with associated infrastructure and landscaping.	Awaiting Decision
PA21/00733	Imerys. St Austell China Clay Area ROMP	EIA Scoping Opinion Request for St Austell China Clay Area ROMP.	Awaiting Decision
PA13/01142	Imerys Minerals Ltd And Goonvean Ltd. St Austell China Clay Mining Site St Austell Cornwall PL25 5AG	St Austell China Clay ROMP review.	Awaiting Decision

Planning Application Reference Number	Applicant and Address	Description of the Development	Status
NR/07/0047 4/ROMPS	Goonvean Ltd. Trelavour Downs Operational Area A4 St Dennis PL26 8DL Cornwall	Determination of new conditions on existing mineral planning permissions.	Awaiting Decision
PA24/09234	Trerice Solar Farm Ltd. Land Adjacent Trerice Manor Farm Trerice St Dennis St Austell Cornwall PL26 8EE	Construction, operation, and decommissioning of a ground mounted solar array and battery energy storage system (BESS), associated equipment...	Awaiting Decision
NR/99/0000 5/ROMPS	Goonvean Ltd. Goonvean China Clay Works Trethosa St Stephen Cornwall	Submission of Site Specific Scheme of Conditions for Operational Area 4C.	Awaiting Decision
NR/03/0040 1/MIN	Goonvean Ltd Land Adjacent Goonvean China Clay Works St Stephen Cornwall PL26 7QF	Regularisation of existing China Clay workings on land adjacent to Goonvean china clay Works.	Awaiting Decision
PA11/07697	Rostowrack Clay Works Goonamarris St Stephen Cornwall	Review of Mineral Planning Permissions (RoMPs).	Awaiting decision

19.2 COMBINED EFFECTS

- 19.2.1.1 Combined effects may occur where there is potential for individual effects associated with the Proposed Development to result in an effect of greater or lesser significance, upon a common environmental receptor, when considered collectively. For example, the visual, air quality and noise effects of a development may all affect the same residential receptors, resulting in a combined effect of greater significance than when considered individually.
- 19.2.1.2 An assessment of the potential for combined effects which may arise as a result of the Proposed Development will be included in the ES, based on the results of the relevant topic-specific assessments detailed in this Scoping Report. The study area for the assessment of combined effects will be defined by those applied for the relevant topic-specific assessments.
- 19.2.1.3 The combined effects assessment will only consider effects which have not been considered elsewhere within the ES, because of the inter-relationships described in Section 4.

20. SUMMARY AND NEXT STEPS

20.1 SUMMARY

20.1.1.1 The information included in this Scoping Report is provided to support the Applicant's request for a Scoping Opinion from the Secretary of State in relation to the Proposed Development.

20.1.1.2 The Scoping Report is intended to support engagement with the Planning Inspectorate and statutory consultees in the EIA process, inviting them to provide relevant information and to comment on the proposed approach to the EIA, to ensure that a robust and proportionate EIA is undertaken.

20.1.1.3 This Scoping Report has identified the main aspects of the environment likely to be affected by the construction, operation and decommissioning, closure and restoration of the Proposed Development. For each of these identified aspects, the Scoping Report has identified the extent of relevant environmental studies to be undertaken as part of an EIA and their proposed technical scopes and methodologies. The ES will outline the full EIA and will be submitted alongside the application for development consent.

20.1.1.4 In summary, the topics that are proposed to be assessed during the EIA process are:

- land quality and ground conditions;
- water resources and flood risk;
- noise and vibration;
- air quality;
- traffic and transport;
- ecology and nature conservation;
- landscape and visual assessment;
- historic environment;
- socio-economics and land use;
- human health and wellbeing;
- major accidents and disasters;
- waste management;
- climate change and greenhouse gas emissions; and
- cumulative and combined effects.

- 20.1.1.5 The detailed assessments for each of these topics will be undertaken in accordance with relevant guidance and best practice and reported in the ES. Where significant effects are identified, appropriate mitigation measures will be identified.
- 20.1.1.6 Sub-topics which have been scoped out of further assessment, and justification for this, are provided in Sections 6 to 19.
- 20.1.1.7 In addition to these sub-topics, it is proposed that the topic of aviation be scoped out, given that the heights of infrastructure associated with the Proposed Development are comparable to that of existing structures in the vicinity. The Civil Aviation Authority (CAA) will be consulted on the Proposed Development to review any requirements for aviation lighting and enable the Proposed Development to be charted in future. Should infrastructure or cranes be required which are taller than those currently expected, the need for an aviation assessment will be reviewed accordingly.

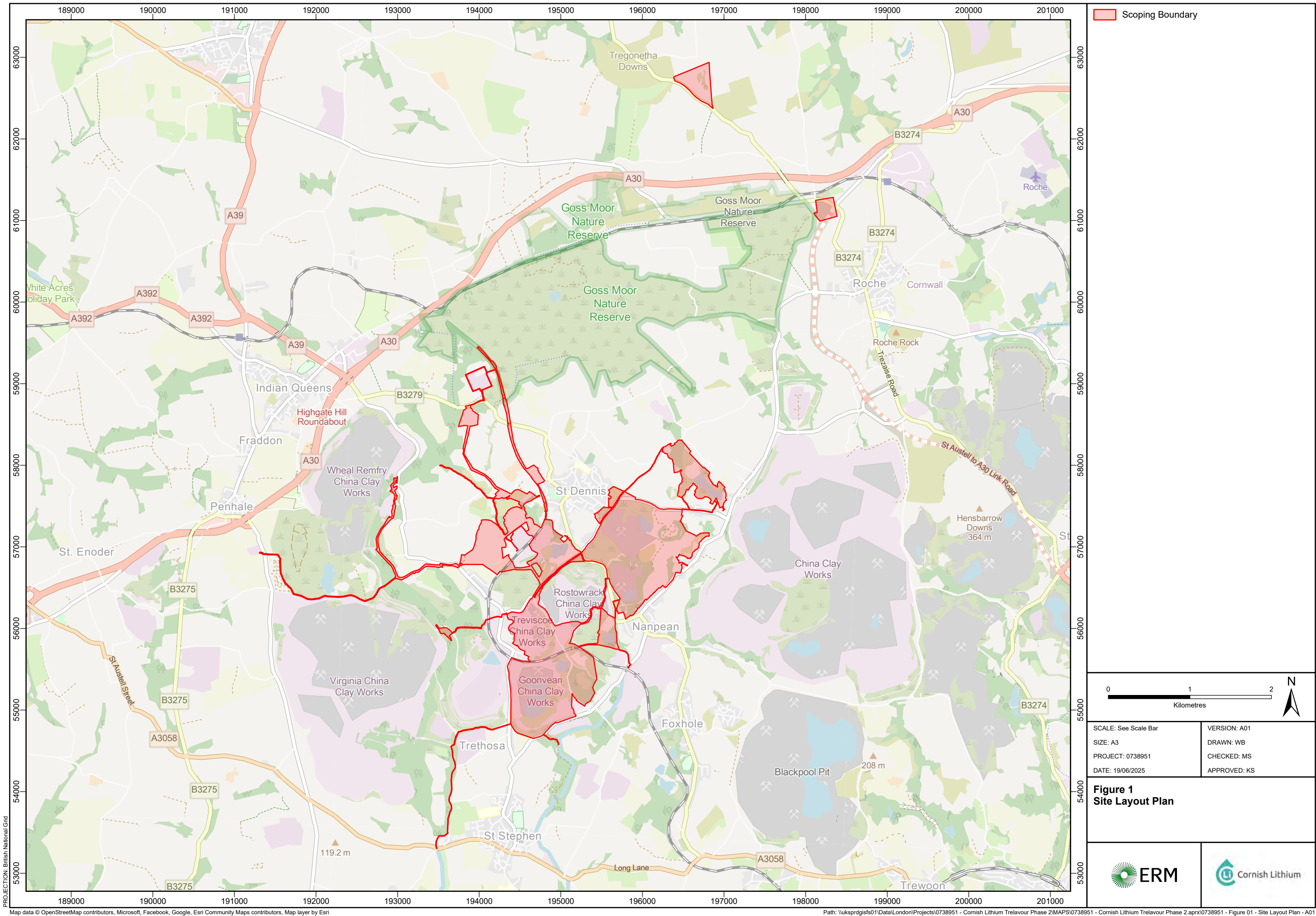
20.2 NEXT STEPS

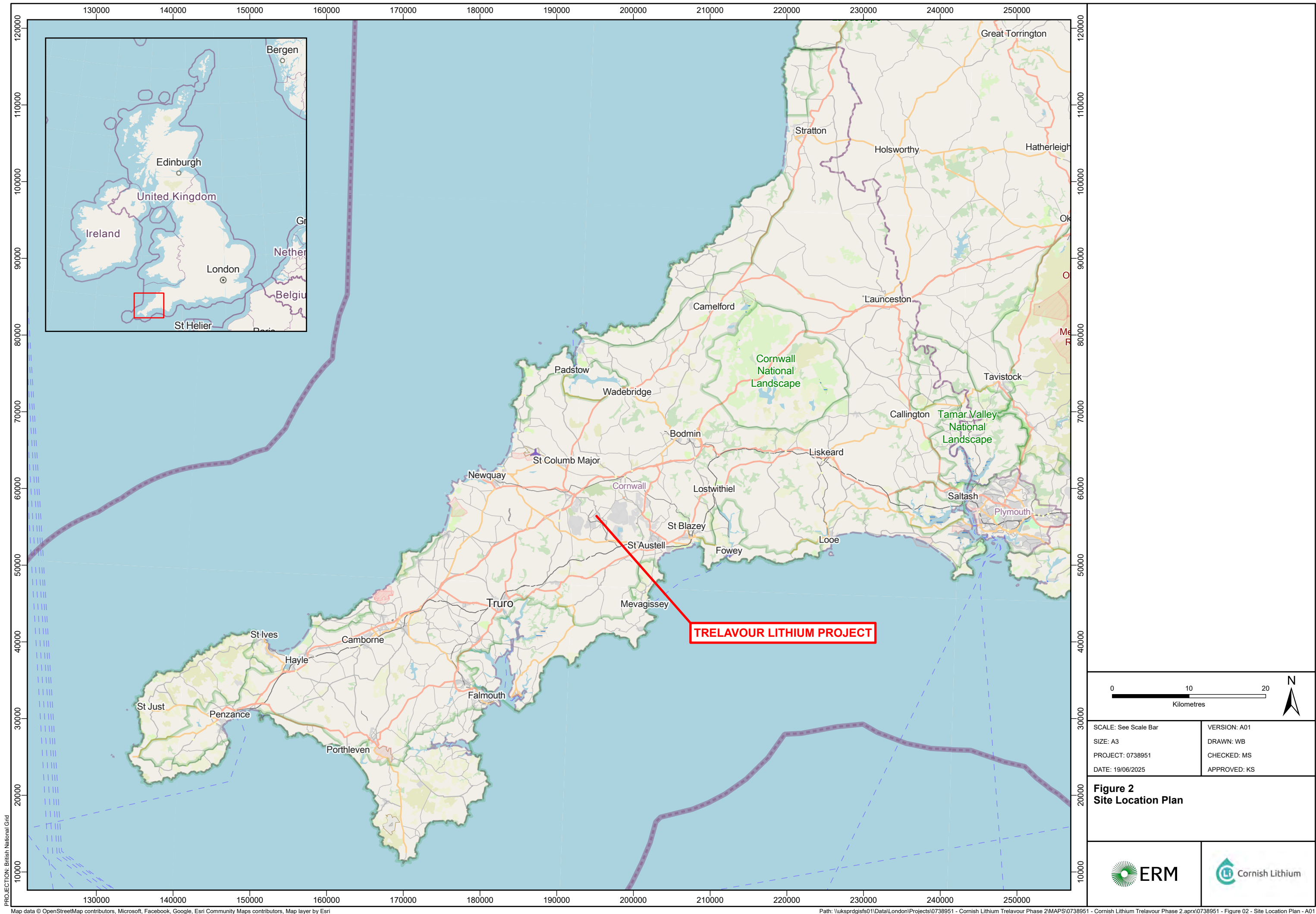
- 20.2.1.1 Before an application for a DCO is submitted to the Planning Inspectorate, extensive consultation with key stakeholders (including local authorities, statutory bodies, the local community and interest groups) will be carried out. As detailed in Section 2.6.1, the Applicant will undertake this consultation in phases. An early stage of non-statutory public consultation, including drop-in community events, will be carried out shortly after the submission of this Scoping Report, to re-introduce early-stage plans for the Proposed Development to the public and stakeholders and to provide clarity on the timeline for its evolution, and to provide an opportunity for them to provide feedback.
- 20.2.1.2 After submission of the Scoping Report, the EIA and design processes will proceed with envelope refinement, further assessment and analysis. Work on detailed topic assessments as outlined in this report will begin. Once received, the feedback provided in the Scoping Opinion will be fed into the ongoing EIA and design processes for the Proposed Development.
- 20.2.1.3 As outlined in Section 4, the final results of the EIA, including the likely significant effects and appropriate mitigation measures, will be presented in an ES, and a summary of all consultation responses

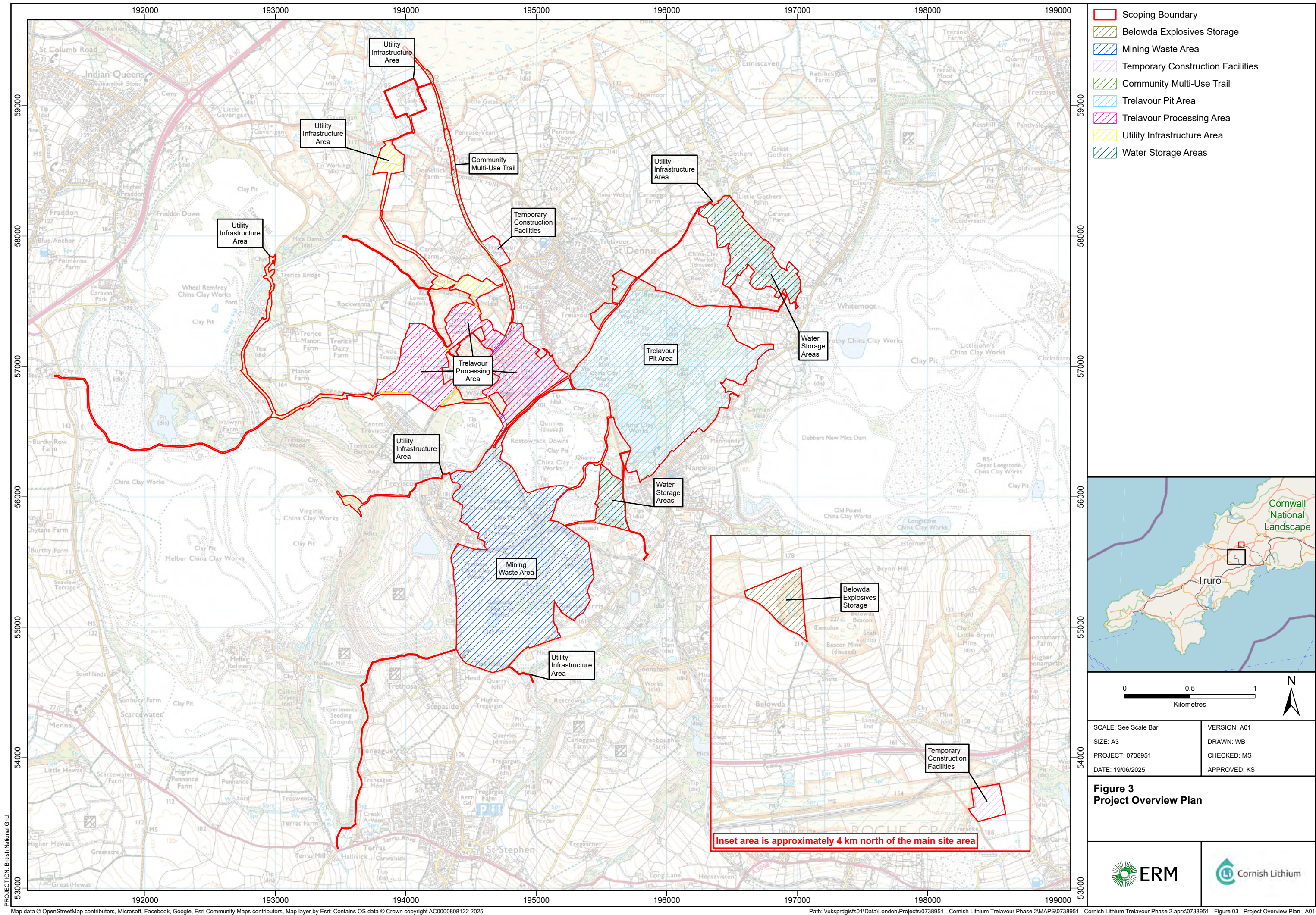
received will be presented in a Consultation Report, both of which will accompany the DCO application.

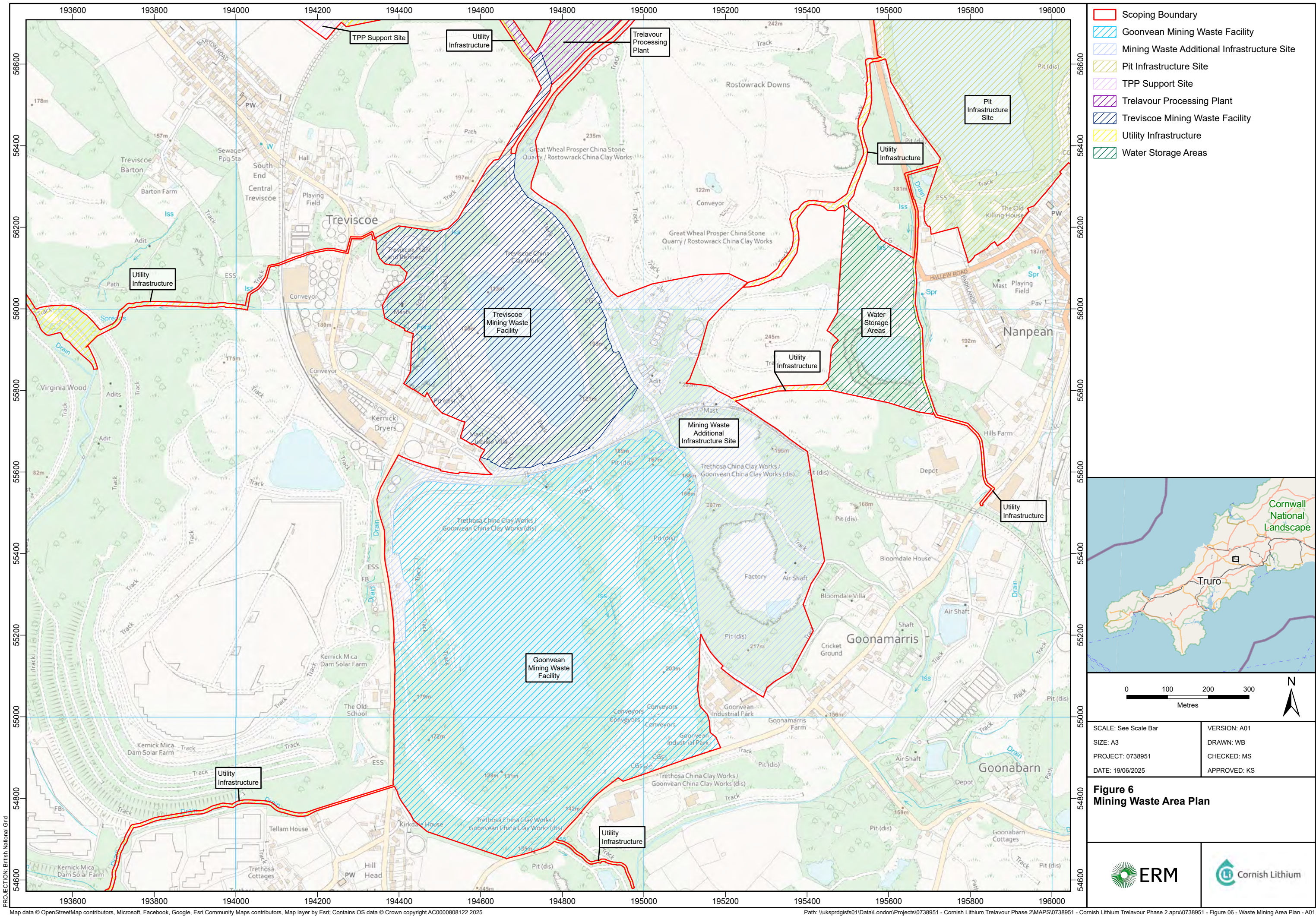


APPENDIX A FIGURES



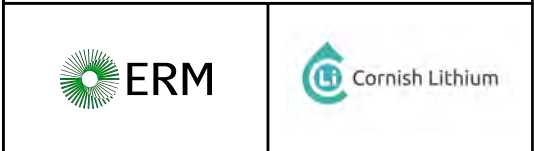


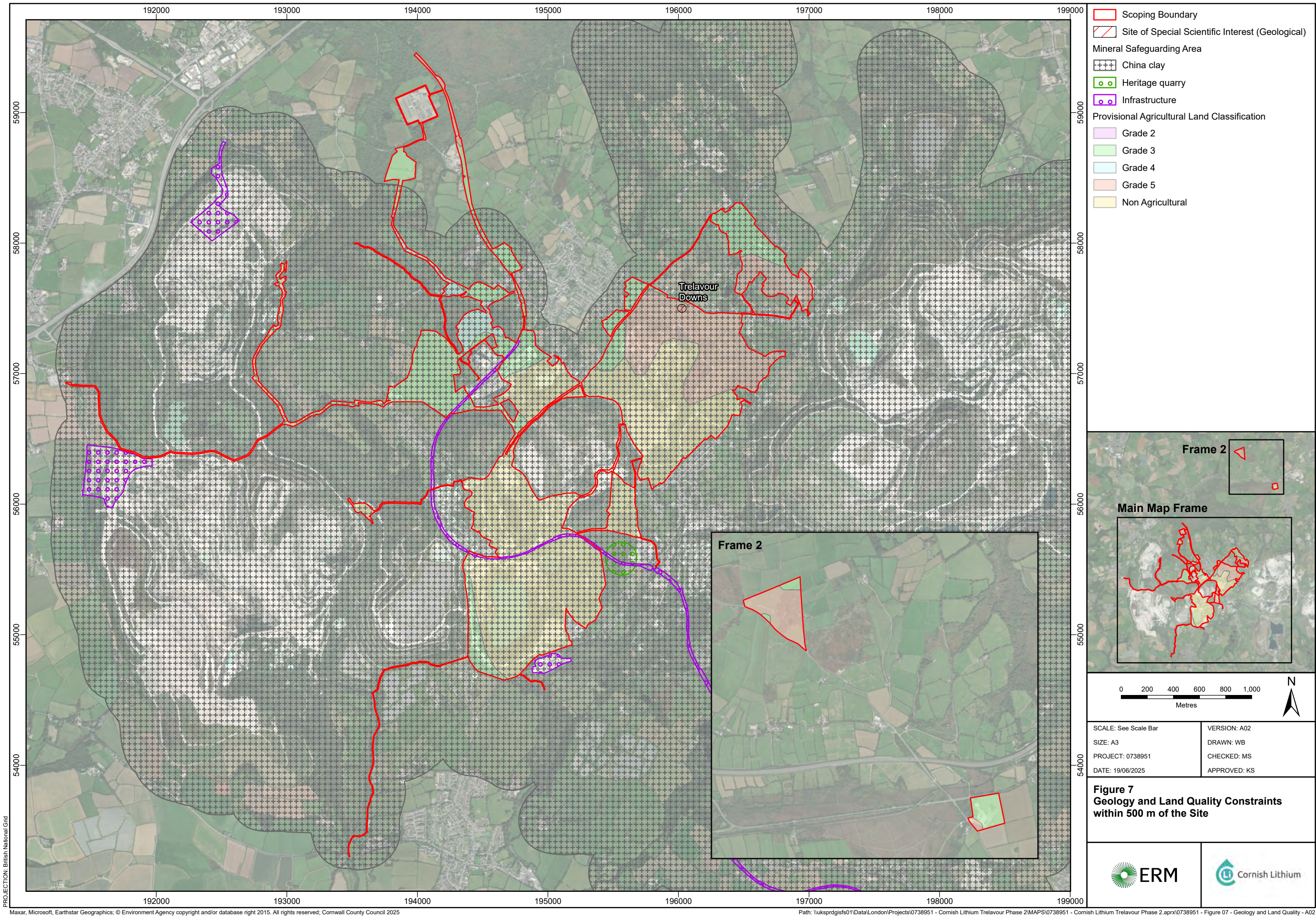


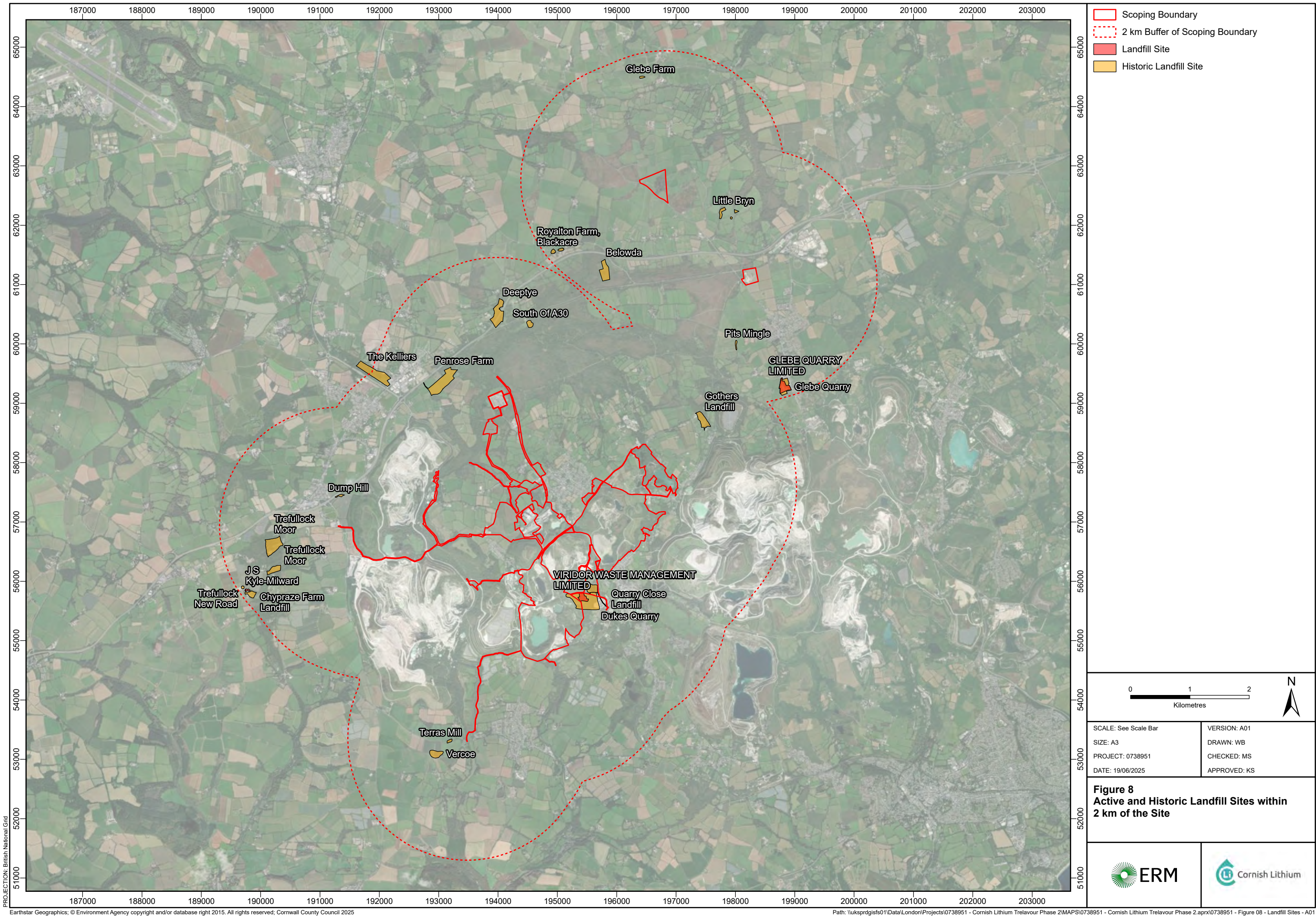


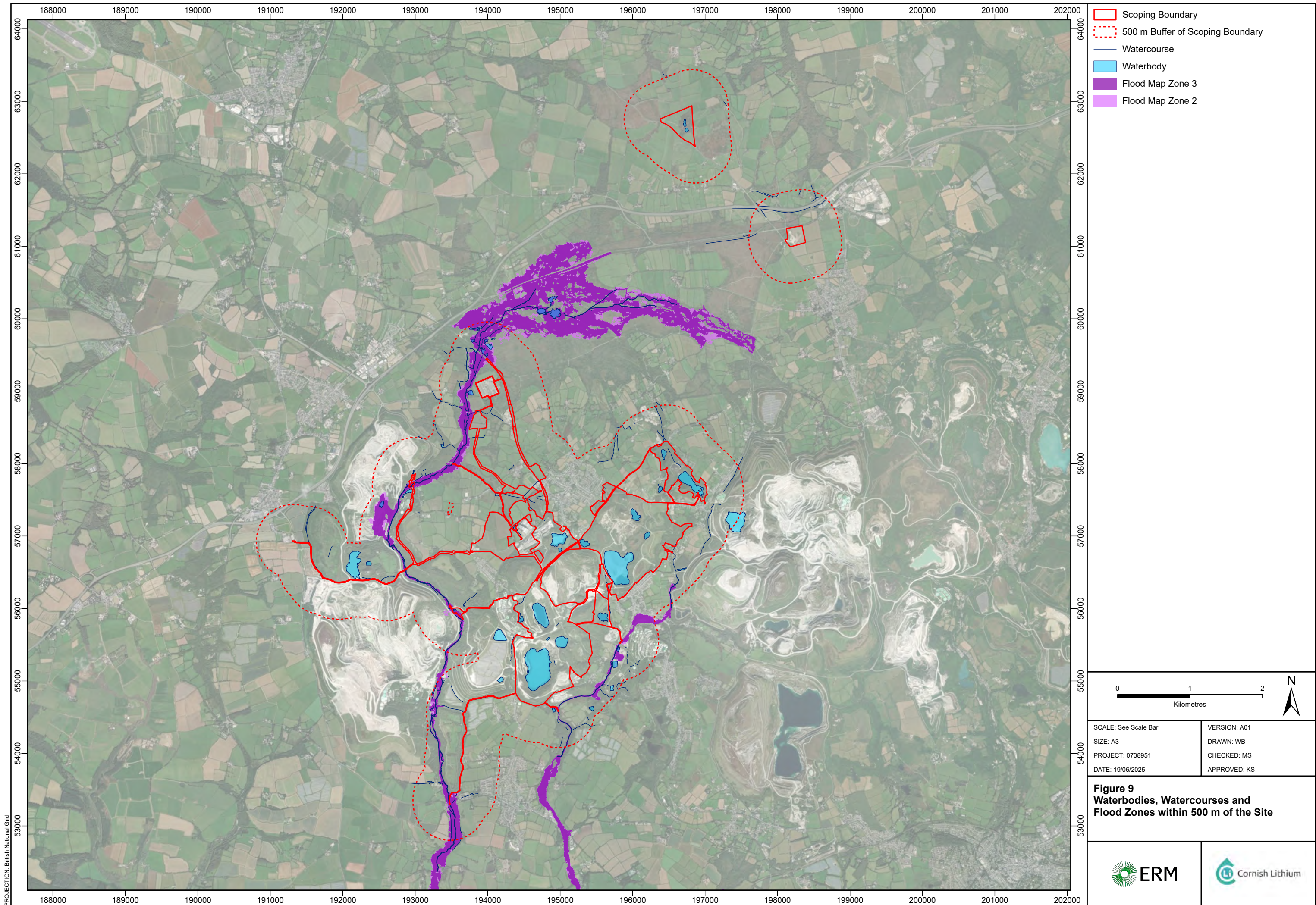
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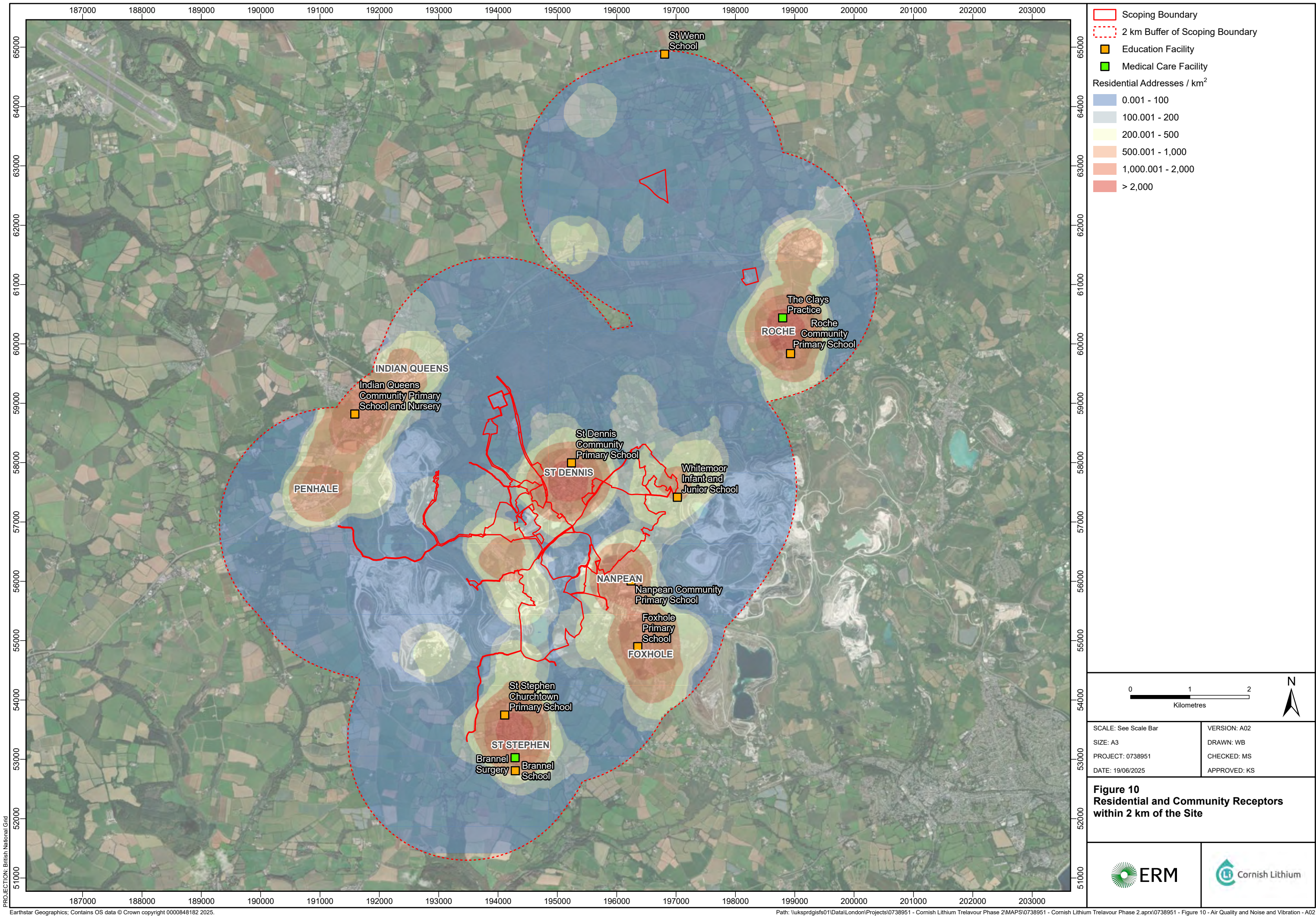
Figure 6
Mining Waste Area Plan

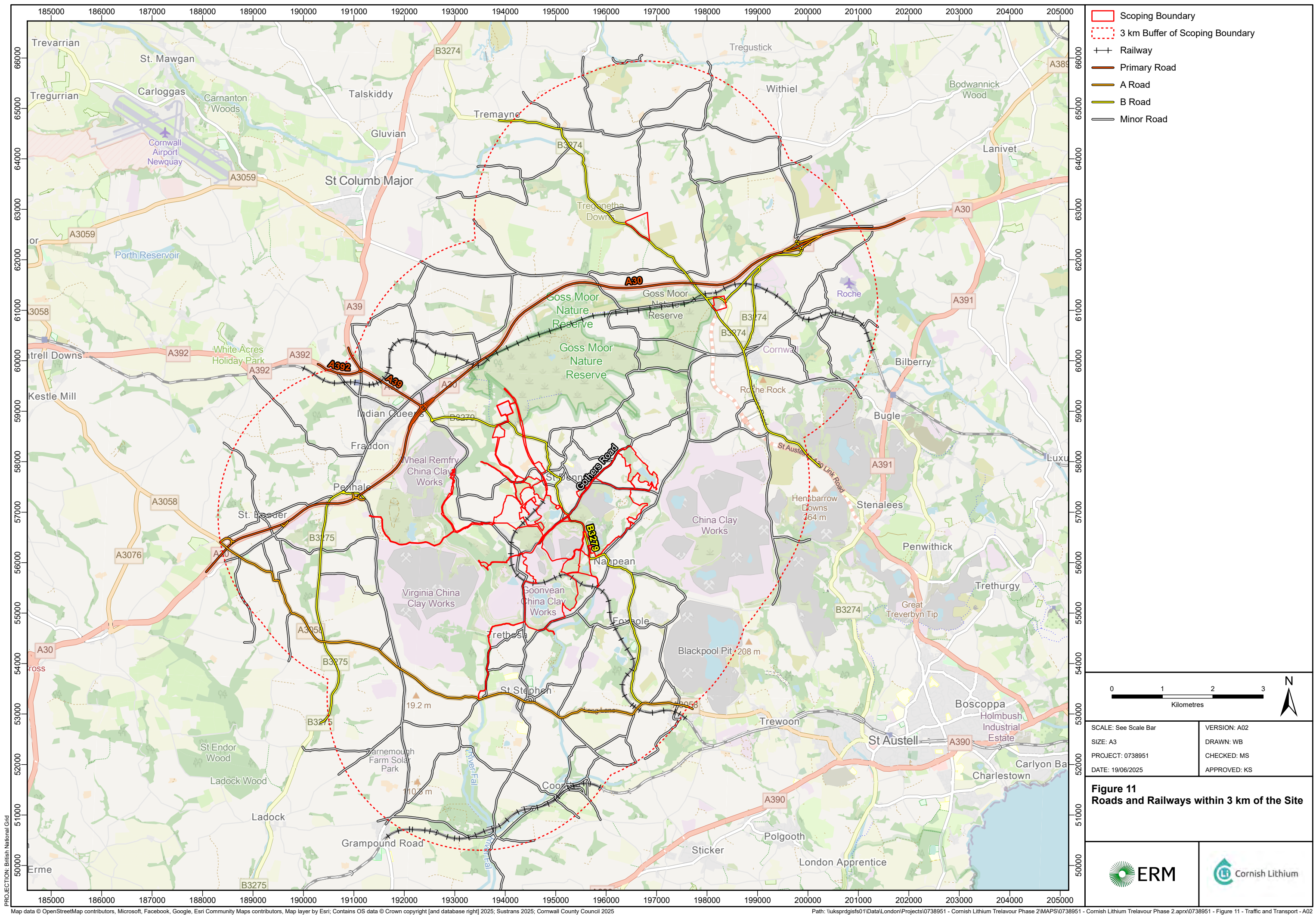


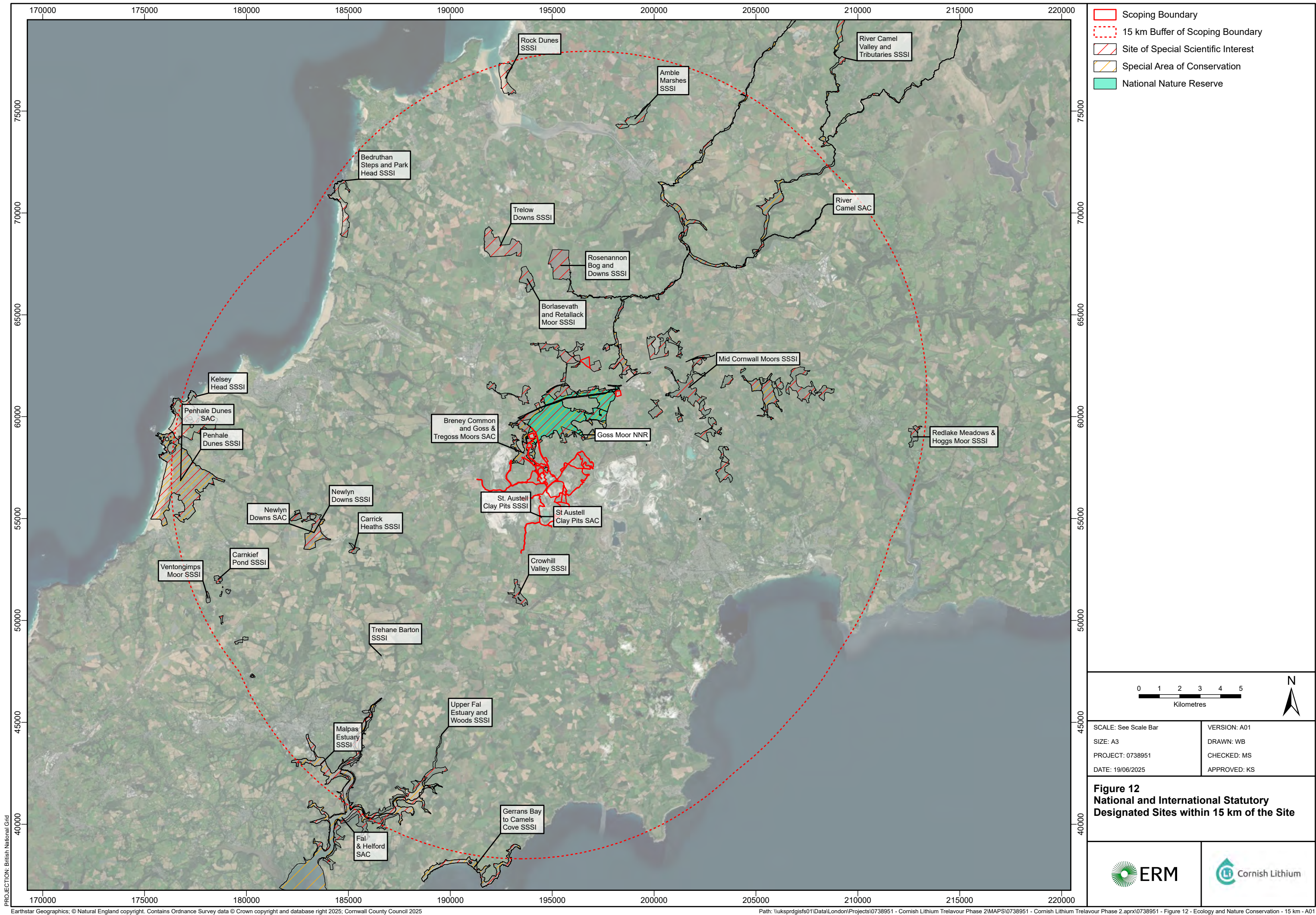


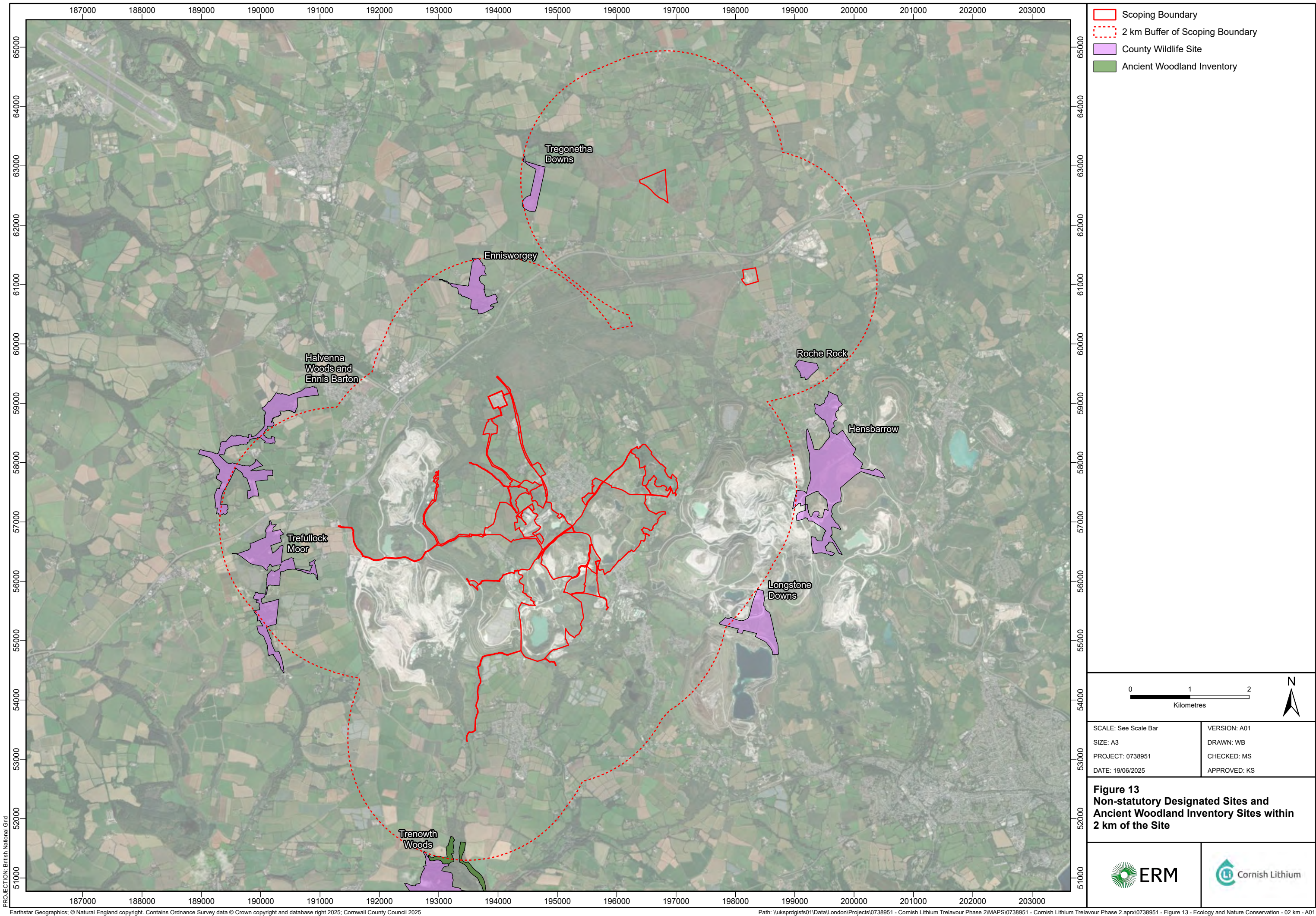


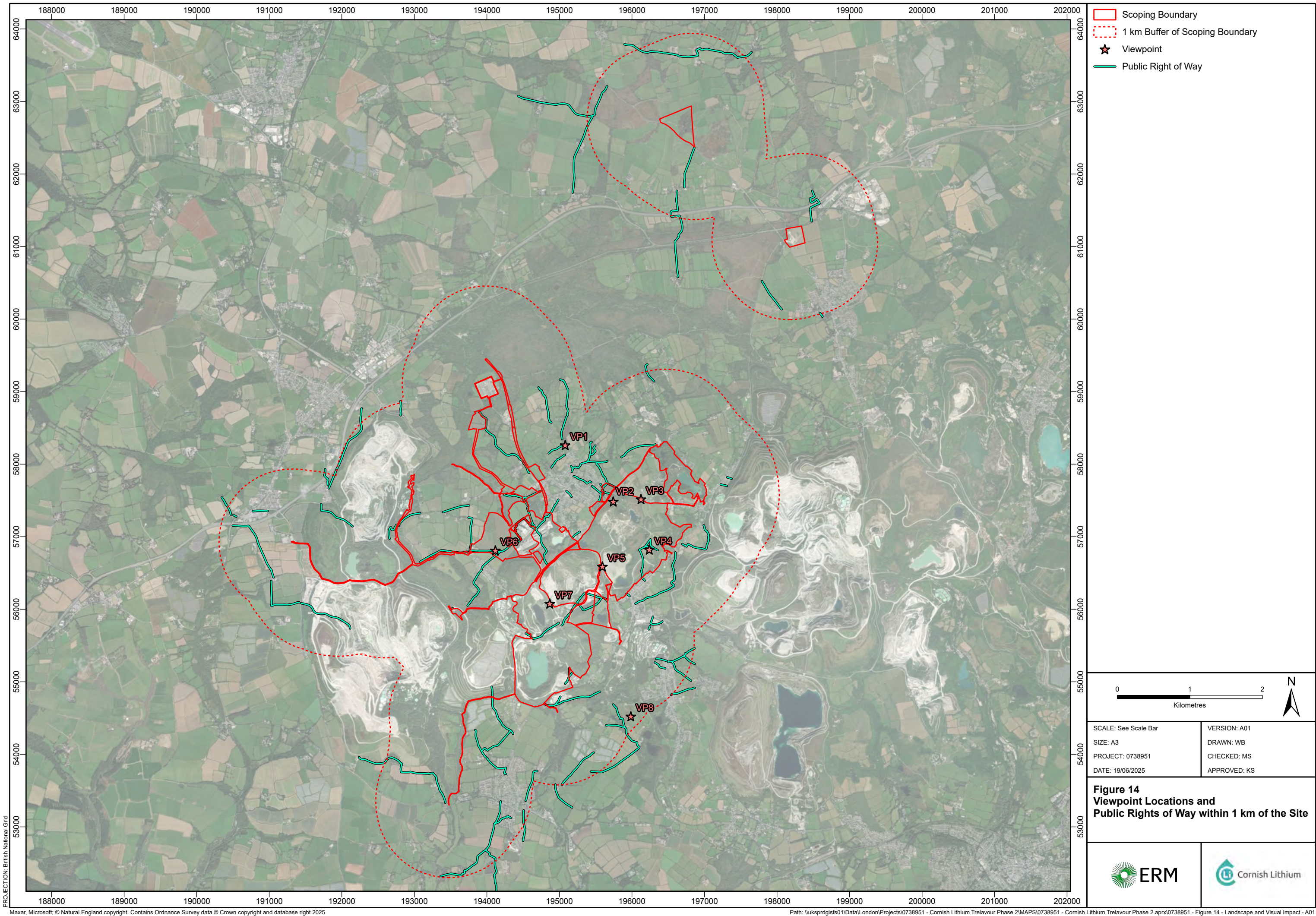


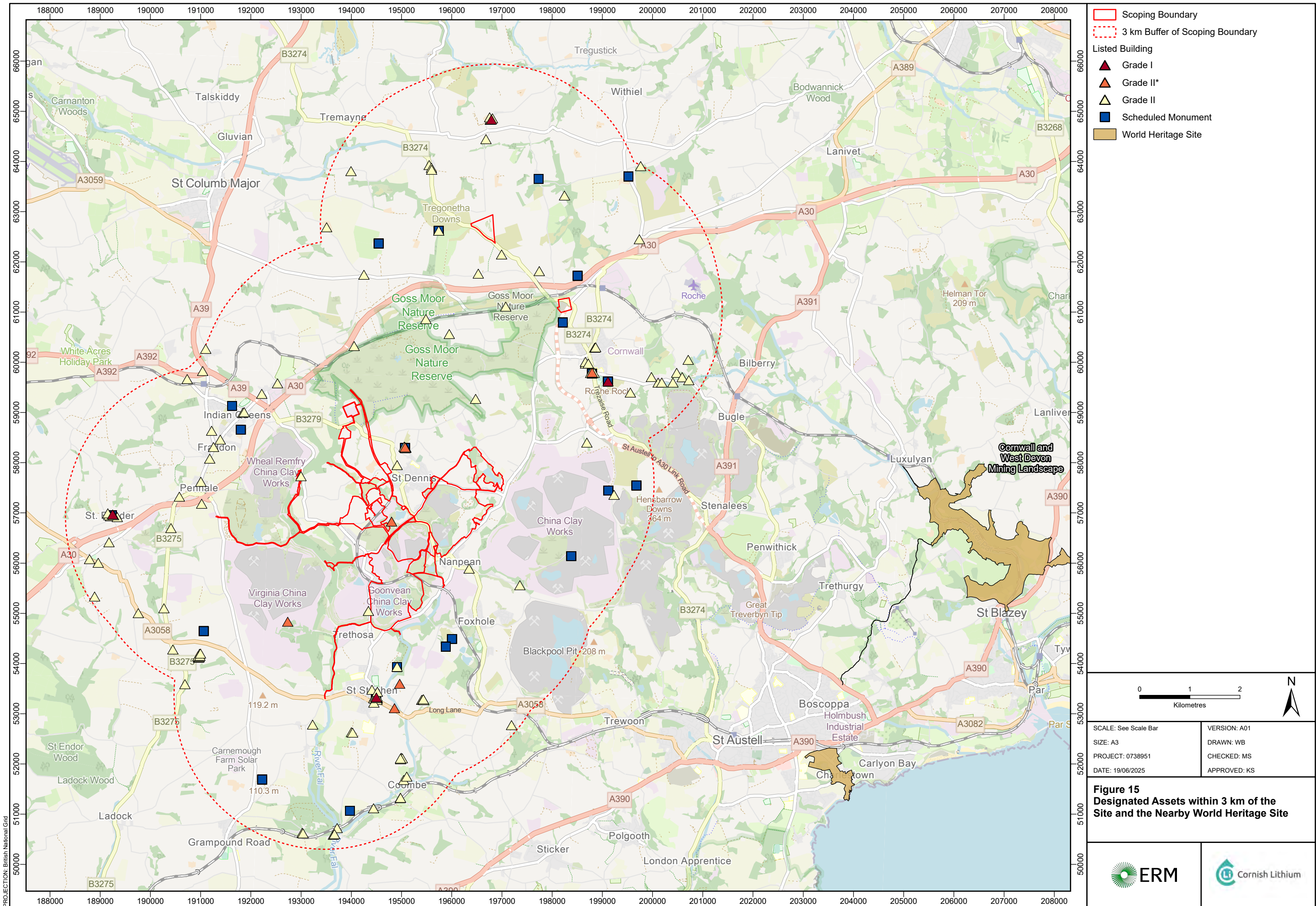


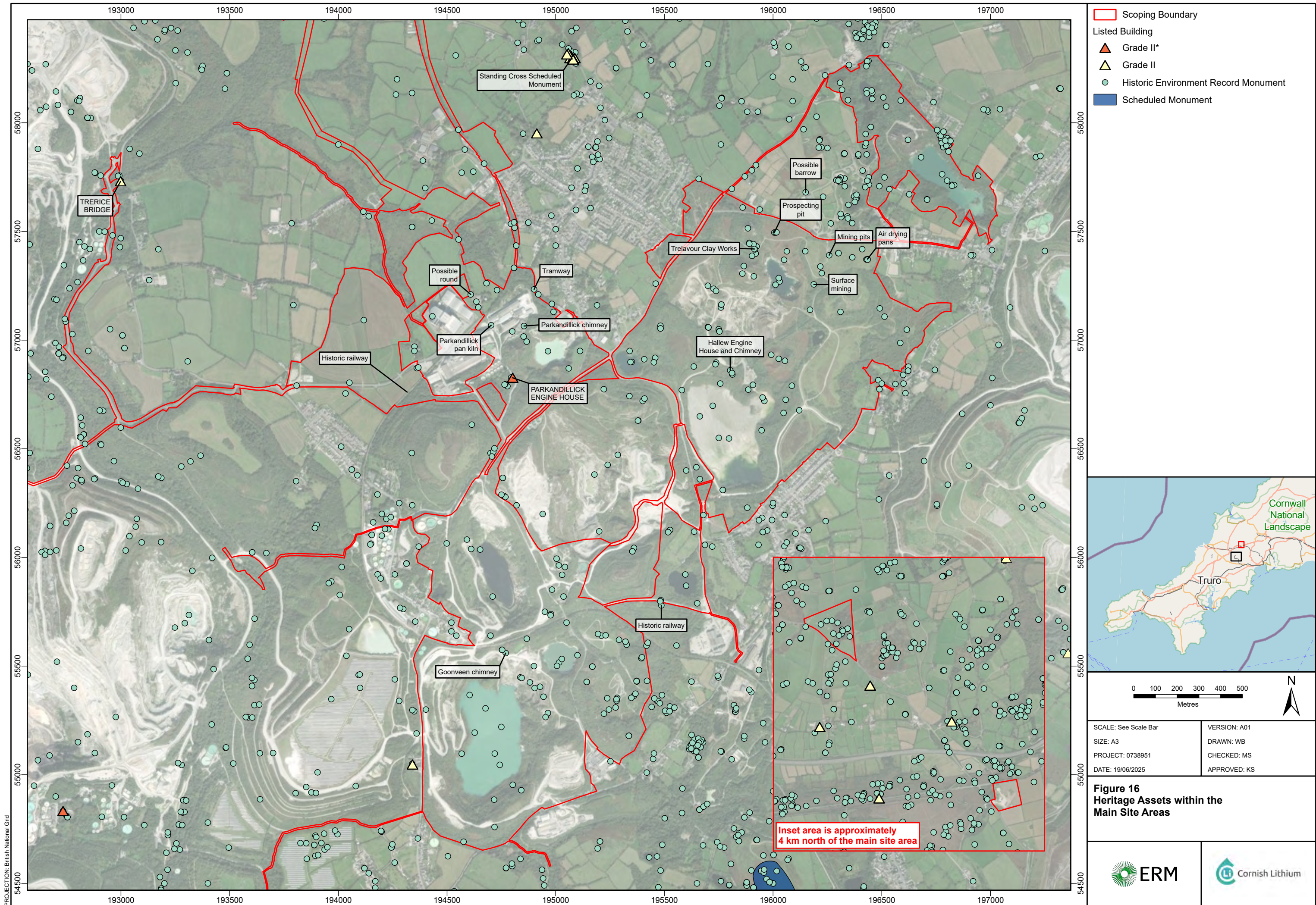












PROJECTION: British National Grid



APPENDIX B TEMPLATE COMMITMENTS REGISTER

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