

Glossary of Terms

| Terms | Meaning |
|-------------------------------|---|
| AADT | Annual Average Daily Traffic (expressed in vehicles per day) |
| AA | Appropriate Assessment An assessment carried out under Article 6(3) of the Habitats Directive of the implications of a plan or project, either individually or in combination with other plans and projects, on a European site in view of the site's conservation objectives. |
| AAPs | Areas of Archaeological Potential. |
| ABP | An Bord Pleanála. |
| ACA | Architectural Conservation Area. |
| Acquisition | Property that is to be purchased by the local authority. |
| ADMS-Roads model | The ADMS-Roads pollution model is a comprehensive tool for investigating air pollution problems due to networks of roads that may be in combination with industrial sites, for instance small towns or rural road networks. |
| ADAS | Agricultural Development and Advisory Service. |
| AEC | Atlantic Economic Corridor. |
| Alkalinity | Is a measure of the ability of a solution to neutralise acids. |
| Alluvium | Sediment deposited by flowing water. |
| Annex I habitat | Habitat types listed on Annex I of the EU Habitats Directive whose conservation requires the designation of Special Areas of Conservation. |
| Annex II species | Species listed on Annex II of the EU Habitats Directive whose conservation requires the designation of Special Areas of Conservation. |
| Annex IV species | Species listed on Annex IV of the EU Habitats Directive which are afforded strict protection under EU and national legislation. |
| AOD | Above ordnance datum. |
| Aquifer | A subsurface layer or layers of rock that store and transmit water in significant quantities. |
| Arterial Drainage | Artificial drainage work carried out to support natural drainage networks. |
| Assessment Boundary | The term Assessment Boundary refers to lands required for the construction and /or operation of the proposed N6 GCRR plus the extents of the lands included within the planning boundary for the proposed development at Galway Racecourse. |
| Attenuation pond | Water pond used for the collection and slow release of water runoff from the road. |
| At-Grade Junction | Junction where roads converge at the same level. |
| At-grade signalised junctions | Road junction, where roads converge at the same level, which is controlled by traffic signals. |

| Terms | Meaning |
|--------------------------------|---|
| AQS | Air Quality Standards |
| Baronies | The historical subdivision of a county. |
| Baseflow | The background level of flow of water in a stream or other surface water feature during dry periods (which in many cases will be due solely to groundwater discharge). |
| Base year | Year used as the beginning or the reference year for constructing a design model or equation. |
| Batholith | A very large igneous intrusion extending to an unknown depth in the earth's crust. |
| Bathymetric | Bathymetry is the measurement of the depth of water in oceans, rivers, or lakes. Bathymetric maps look a lot like topographic maps, which use lines to show the shape and elevation of land features. |
| BaU | Business-as-Usual scenario. |
| BCI | Bat Conservation Ireland. |
| BGL | Below Ground Level. |
| Benthic | Relating to the bottom of a sea or lake or to the organisms that live there. |
| BH | Built Heritage. |
| Biodegradation | Biodegradation is the decomposition of organic material by micro-organisms. |
| Biological Oxygen Demand (BOD) | A parameter used to quantify how fast biological organisms use up oxygen in a body of water. The testing for BOD is not an accurate quantitative test, although it could be considered as an indication of the quality of a water source. |
| Biotite | Biotite is a name used for a large group of black mica minerals that are commonly found in igneous and metamorphic rocks. |
| Bivalves | An aquatic mollusc which has a compressed body enclosed within a hinged shell, such as oysters, mussels, and scallops. |
| Blasting | Breaking apart or blowing up solid rock with explosives |
| Bored tunnel | The excavation of a tunnel using a machine with circular cross section through rock, i.e. the constructed using a boring machine. |
| BoCCI | Birds of Conservation Concern in Ireland. |
| BRE | Buildings Research Establishment. |
| BRT | Bus Rapid Transit. |
| BSBI | Botanical Society of Britain & Ireland. |
| Bullaun stone | Bullaun is the term used for the depression in a stone which is often water filled. A Bullaun Stone is a large rock where a basin or bullaun has been carved out. |
| BWI | BirdWatch Ireland. |
| Calcite | Calcite belongs to the calcite group of minerals, a group of related carbonates that are isomorphous with one another. They are similar in many physical properties, and may partially or fully replace one another, forming a solid solution series. |

| Terms | Meaning |
|-------------------------------|---|
| CAF | Guidelines on a Common Appraisal Framework for Transport Projects and Programme March 2016. |
| CAP24 | Climate Action Plan 2024. |
| Catchment | The entire surface area feeding water to a given surface or groundwater feature. |
| Carriageway | The particular part of the road used by vehicular traffic. |
| CBA | Cost Benefit Analysis. |
| C ₆ H ₆ | Benzene. |
| CCAC | Climate Change Advisory Council. |
| CEMP | Construction Environmental Management Plan. |
| CGS | County Geological Site. |
| Ch. | Chainage. |
| CH | Cultural Heritage. |
| CIWM | Chartered Institution of Wastes Management. |
| Cherry picker | A hydraulic crane with a railed platform at the end for raising and lowering people, for instance to work on overhead cables. |
| Chlorophyll | Chlorophyll is a green pigment found in most plants, algae, and cyanobacteria. |
| CIRIA | Construction Industry Research and Information Association. |
| CJEU | Court of Justice of the European Union. |
| CO | Carbon Monoxide. |
| CO ₂ | Carbon Dioxide. |
| Conductivity | Conductivity (or specific conductance) of a solution is a measure of its ability to conduct electricity. It is linked directly to the total dissolved solids in the solution. |
| Conservation objectives | The overall target for the species and/or habitat types for which an SAC or SPA site is designated in order for the site to contribute to maintaining or reaching favourable conservation status of those species and/or habitat types. For some SAC/SPA sites this includes a detailed set of targets and attributes against which favourable conservation status can be measured. |
| Construction stage | The stage during which the Project (the proposed N6 Galway City Ring Road and the proposed development at Galway Racecourse) will be constructed. This includes advance contracts such as fencing, archaeological testing and the diversion of utilities/services, site set up and mobilisation. |
| Conveyance | The ability of a river to carry water flow. |
| Climbing lanes | A climbing lane is an additional lane in a road carriageway that allow slower travel for large vehicles ascending a steep grade. Since climbing uphill is difficult for these vehicles, they can travel in the climbing lane without slowing traffic. |

| Terms | Meaning |
|-----------------------------------|--|
| Cofferdam | A watertight enclosure pumped dry to permit construction work below the waterline, for example foundations for a bridge structure. |
| Collection System | A system of gathering, sorting or mixing of waste for the purpose of it being transported to a waste recovery or disposal facility. |
| Conduit flow | Groundwater flow through large conduits within the rock mass typical of karstic aquifers |
| CUB | Central Utility Building. |
| Culvert | A structure that allows water to flow under an obstruction such as a road or railway. |
| Compulsory Purchase Order (CPO) | National laws which allow local authorities to compulsorily purchase land necessary for the construction or operation of the proposed N6 Galway Ring Road without the necessity of obtaining consent from the owners subject to approval by An Bord Pleanála. |
| CSO | Central Statistics Office. |
| CTMP | Construction Traffic Management Plan. |
| Cu | Copper. |
| Cumec | A cubic metre per second, as a unit of rate of flow of water. |
| Cumulative Impacts | For definition, see extract from EPA 2022 guidelines at end of this document. |
| Cut and cover tunnel | ‘Cut and cover’ is an approach used for constructing shallow tunnels in situations where all the ground above the tunnel can be cleared (cut), the structural element for the tunnel is then constructed before the top of the tunnel is covered over with earth, topsoil and grass. |
| C&D | Construction & Demolition. |
| DCHG | Department of Culture, Heritage and the Gaeltacht. |
| DAU | Development Applications Unit of the DCHG. |
| dB (decibel) | The unit of sound pressure level, calculated as a logarithm of the intensity of sound. |
| dB(A) | Unit used to measure the intensity of sound. The “A” denotes that levels were “A” weighted. |
| D&B | Design and Build. |
| Design year | The design year is the year for which future traffic demand and volume is calculated and is set at 2046 - 15 years following the year of opening of the proposed N6 Galway City Ring Road |
| Design Goal (noise and vibration) | A target limit for noise or vibration adopted during the early design stages of a project, not necessarily having a statutory basis but based on current best practice and the particular circumstances of a given project. |
| Designated sites | Sites which have special status as protected areas because of their natural and cultural importance. |
| DHPLG | Department of Housing, Planning and Local Government. |
| DEFRA | UK Department for Environment, Food and Rural Affairs. |

| Terms | Meaning |
|---|--|
| Diamond junction | A diamond junction is a common type of a grade separated road junction, used where a major road crosses a minor road. |
| Diffuse flow | Laminar groundwater flow which takes place through the aquifer matrix or grains. |
| DL | Designed Landscapes. |
| DMRB | Design Manual for Roads and Bridges, UK. |
| “Do-Nothing” Scenario | The environment as it would be in the future should the Project not be developed. |
| Do Minimum Scenario | This scenario assumes that basic maintenance of the road as well as likely and committed transportation schemes are carried out. |
| DoHLGH | Department of Housing, Local Government and Heritage. |
| DMURS | Design Manual for Urban Roads and Streets. |
| Do Something Scenario | This scenario assumes that the Project is constructed as described, and includes other committed projects and considers the environment should the Project be developed. |
| DoT | Department of Transport. |
| Dolerite | A dark, medium-grained igneous rock, typically with ophitic texture, containing plagioclase, pyroxene, and olivine. It typically occurs in dykes and sills. |
| Doline | A shallow usually funnel-shaped depression of the ground surface formed by solution in limestone regions. |
| Drawdown | A withdrawal of water from a reservoir or repository. |
| Dykes | A subvertical sheet-like intrusion of magma or sediment. |
| D2UM | Standard Dual Carriageway Urban Motorway. |
| EC | European Commission |
| EcIA | Ecological Impact Assessment |
| Effects | For definition, see extract from EPA 2022 guidelines below. The term effects and impacts are used interchangeably in this EIAR to mean the same thing. |
| Effective rainfall | That part of the total precipitation which remains after evaporation and which is available for vegetation and percolation. |
| EFG | European Federation of Geologists. |
| Electromagnetic induction (quadrature) survey | The electromagnetic (EM) induction survey is based on the measurement of the change in mutual impedance between a pair of coils on or above the earth’s surface. |
| EM | Environmental Manager. |
| EQS | Environmental Quality Standard. |
| EIA | Environmental Impact Assessment. |
| EIAR | Environmental Impact Assessment Report. An EIAR was formerly known as an EIS. |

| Terms | Meaning |
|-----------------------------------|--|
| Enabling works | Preparations to make a site ready for construction. It covers activities from site preparation, creation of access routes, and the installation of facilities like security fencing, ramps, and placing of signs. |
| EPA | Environmental Protection Agency. |
| EPA Digital Soils Data | With the assistance of Teagasc and the Geological Survey of Ireland, the EPA produced a soils map for the Republic of Ireland. This data is available in a digital format which can be used in computer mapping software. |
| Epikarst | The thin zone near the karst surface. It includes the solutionally modified (karren) bedrock surface and the overlying and included regolith. The epikarst frequently supports a perched aquifer and serves to retard and store infiltrating rainwater. It also serves as a habitat for a variety of organisms that live in the interstices. |
| EPRC | Emerging Preferred Route Corridor. |
| ERT | Electrical Resistivity Tomography. |
| ESB | Electricity Supply Board. |
| ESBI | Electricity Supply Board International. |
| Estavelles | Estavelles are orifices with a dual function. They either discharge water as a spring or allow water to sink, depending on groundwater conditions. Typically estavelles are the connection of karst lakes with the karst ground water table. |
| EU | European Union |
| European site | Collective term used in national legislation when referring to nature conservation sites protected under the Habitats or Birds Directives (i.e. SAC or SPA sites). |
| Evapotranspiration | The process by which water is transferred from the land to the atmosphere by evaporation from the soil and other surfaces and by transpiration from plants. |
| Fault | A planar fracture in rock in which the rock on one side of the fracture has moved with respect to the rock on the other side. |
| Favourable Conservation Condition | In the context of assessing effects on the QIs/SCIs of European sites and their conservation objectives, favourable conservation condition is achieved when the QI habitats have sufficient range, area and quality, and QI/SCI species have a sufficient population size range and habitat area, to ensure their survival into the medium to long term, along with favourable future prospects in the face of pressures and threats. |
| Favourable Conservation Status | In the context of assessing the conservation status of Annex I habitats and Annex II/IV species at a national level, favourable conservation status is achieved when the habitats have sufficient range, area and quality, and the species have a sufficient population size range and habitat area, to ensure their survival into the medium to long term, along with favourable future prospects in the face of pressures and threats. |
| FDI | Foreign Direct Investment (FDI). |
| Fissure | Natural crack in rock which allows rapid water movement. |
| FPO | Flora (Protection) Order, 2015. |
| FRA | Flood Risk Assessment. |
| Fracture | A discontinuity across which there has been separation. |

| Terms | Meaning |
|---------------------------|---|
| FSU | Flood Studies Update. |
| GCRR | Galway City Ring Road. |
| Geohazards | Geological conditions capable of causing damage, or loss of property and life, are called geological hazards and commonly referred to as “geohazards”. |
| Geomorphology | the study of the physical features of the surface of the earth and their relation to its geological structures. |
| Geothermal well | Geothermal wells are wells which tap into the natural geothermal energy found beneath the Earth’s crust. |
| GCC | Galway County Council. |
| GCTPS | Galway County Transport & Planning Study (GCTPS). |
| GHAs | Geological Heritage Areas. |
| GMATS | Galway Metropolitan Area Transport Strategy. |
| GPR | Groundwater Protection Response. |
| GTPS | Galway Transport Planning Study. |
| GHG | Greenhouse Gases. |
| GI | Ground Investigation. |
| GIS | Geographic Information System. |
| GMATS | Galway Metropolitan Area Transport Strategy. |
| GNI | Gas Network Ireland. |
| Glacial erratics | A boulder transported and deposited by a glacier having a lithology different than the bedrock upon which it is sitting. Erratics are useful indicators of patterns of former ice flow. |
| Gleys | A subdivision of the podzolic soil group which are characterised by a fluctuating groundwater table or by impeded drainage which causes mottling in the gleyed grey horizon that is overlain by a dark brown or black subsurface horizon. |
| Grade Separated Junction | Road junction where roads converge and at which at least one road passes over another. |
| Groundwater | That part of the subsurface water that is in the saturated zone, i.e. below the water table. |
| Groundwater vulnerability | Vulnerability is a term used to represent the intrinsic geological and hydrogeological characteristics that determine the ease with which groundwater may be contaminated by human activities. |
| Growth forecasts | The process of attempting to predict the future condition. This involves the use of statistical models utilizing variables sometimes called indicators. |
| GSI | Geological Survey of Ireland. |
| GTS | Galway Transport Strategy – an overall transport strategy for Galway City and its environs with a clear implementation framework for transportation over the next 20 years. |

| Terms | Meaning |
|-------------------------|--|
| GWB | Groundwater bodies. |
| GWDTE | Groundwater Dependent Terrestrial Ecosystems |
| Habitat | The dwelling place of a species or community which provides a particular set of environmental conditions. |
| ha | Hectare (one hectare is equal to 10,000 square meters). |
| HAWRAT | Highways Agency Water Risk Assessment Tool. |
| HCV | Heavy Commercial Vehicle. |
| HETAC | Higher Education and Training Awards Council. |
| HGV | Heavy Goods Vehicle. |
| High growth scenario | This assumes a high growth rate in the population forecasts for the region. |
| Horizontal Alignment | Direction and course of the roadway in plan. |
| Hydraulic barrier | A general term referring to modifications of a ground-water flow system to restrict or impede movement of contaminants. |
| Hydrodynamics | The branch of science concerned with forces acting on or exerted by fluids (especially liquids). |
| Hydrocarbon interceptor | Trap used to filter out hydrocarbon pollutants from rainwater runoff. It is typically used in road construction to prevent fuel contamination of streams carrying away the runoff. |
| Hydrometric Area | An area defined by the EPA covering a region of river catchments. |
| Hypertension | Abnormally high blood pressure and especially arterial blood pressure. |
| Hummocky | An elevated tract of land rising above the general level of a marshy region. |
| IAH | International Association of Hydrogeologists. |
| IAM | Impact Assessment Matrix is used to determine the significance of an effect. In basic terms, the potential significance of an effect is a function of the sensitivity of the receptor and the magnitude of the impact, as shown in the tables above. |
| ICOH | International Commission on Occupational Health. |
| IE | Industrial Emissions. |
| ILI | Irish Landscape Institute. |
| Hz | Hertz. |
| IEEM | Institute of Ecology and Environmental Management. |
| IFI | Inland Fisheries Ireland. |
| IGI | Institute of Geologists of Ireland. |
| Impact | For definition, see extract from EPA 2022 guidelines below. The term effects and impacts are used interchangeably in this EIAR to mean the same thing. |

| Terms | Meaning |
|--------------------------------|---|
| IOA | Institute of Acoustics. |
| ITS | Intelligent Transport System. |
| ITMP | Integrated Transport Management Programme. |
| In combination impacts/effects | Term for cumulative impacts used when considering impacts on European sites in the context of an NIS/AA – cumulative effects caused by a project currently under consideration together with the effects of any existing or proposed projects or plans. |
| In-situ | In its original place, for archaeology it refers to the preservation of archaeological sites/features without disturbance. |
| Intermodal (transport) | Describes the use of multiple modes of transportation (e.g. rail, ship and truck). |
| Intertidal zone | The intertidal zone, also known as the littoral zone, in marine aquatic environments is the area of the foreshore and seabed that is exposed to the air at low tide and submerged at high tide, i.e. the area between tide marks. |
| IHRB | Irish Horseracing Regulatory Board (IHRB). |
| IPCC | Intergovernmental Panel on Climate Change. |
| IPPC | Integrated Pollution Prevention and Control. |
| IRP | Incident Response Plan. |
| Karst | Terrain created by limestone solution and characterised by a virtual absence of surface drainage, a series of surface hollows, depressions and fissures, collapse structures and an extensive subterranean drainage network. |
| Karstic | Descriptor for bedrock conditions in limestone that contain solution features such as fissures and caves, and potentially, underground watercourses. |
| Karstification | Formation of the features of karst topography by the chemical, and sometimes mechanical, action of water in a region of limestone, dolomite, or gypsum bedrock. |
| KER | Key Ecological Receptors. |
| km | Kilometres. |
| Km/h | Kilometres per hour. |
| kph | Kilometres per hour. |
| kPa | Kilopascal, a unit of pressure measurement. |
| KPI | Key Performance Indicators. |
| kV | A unit of electromotive force, equal to 1000 volts. |
| LAM | Local Area Model. |
| LAP | Local Area Plan. |
| Landscape Character Area (LCA) | Distinct types of landscape which are generic in character in that they may occur in different parts of the country, but wherever they are they share broadly similar combinations of geology topography, drainage patterns, vegetation and historical land use and settlement pattern. |

| Terms | Meaning |
|----------------------|--|
| LCT | Landscape Character Types. |
| LCU | Landscape Character Unit. |
| LED | Light-emitting diode: a device that produces a light, especially on electronic equipment. |
| LLCU | Local Landscape Character Units. |
| L ₁₀ | The noise level exceeded for just 10% of a sample period. L _{10(1hour)} is therefore the noise level exceeded for 10% of the time over a period of one hour. L _{10(18hour)} is the arithmetic average of the eighteen L _{10(1hour)} values between 06:00 and 24:00hrs. |
| L ₉₀ | The noise level exceeded for 90% of a sample period; typically used as a descriptor for background noise level. |
| L _{max} | The instantaneous maximum sound level measured during a sample period. |
| L _{eq,T} | The equivalent continuous sound level - the sound level of a steady sound having the same energy as a fluctuating sound over a specified measuring period T. T may be as short as 1 second when used to describe a single event, or as long as 24 hours when used to describe the noise climate at a specified location. L _{eq,T} can be measured directly with an integrating sound level meter. |
| L _{den} | The day-evening-night composite noise indicator adopted by the EU for the purposes of assessing overall annoyance. L _{day} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the day periods of a year. L _{night} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the night periods of a year. |
| L _{evening} | The A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the evening periods of a year. |
| L _{day} | The A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the day periods of a year. |
| L _{night} | L _{night} is the A-weighted long term average sound level as defined in ISO1996-2: 1987, determined over all the night periods of a year. |
| Lithosols | A thin soil consisting mainly of partially weathered rock fragments. |
| Low growth scenario | This assumes a low growth rate in the population forecasts for the region. |
| LGV | Light Goods Vehicle. |
| LNRS | Low Noise Road Surface. |
| LNRR | Link Road North. |
| LRD | Large-scale Residential Development. |
| Luft | TA Luft Guidance Technical Instructions on Air Quality Control. |
| LV | Light Vehicles. |
| LVIA | Landscape and Visual Impact Assessment. |
| Macro-economics | Macroeconomics is a branch of the economics field that studies how the aggregate economy behaves. In macroeconomics, a variety of economy-wide phenomena is |

| Terms | Meaning |
|------------------------|--|
| | thoroughly examined such as, inflation, price levels, rate of growth, national income, gross domestic product and changes in unemployment. |
| Macro-invertebrates | Animals without backbones that are big enough to see with the naked eye. |
| Made Ground | Deposits which have accumulated through human activity and may consist of natural materials, e.g. clay and/or man made materials. |
| Magnetometer surveys | A magnetometer is an instrument that measures magnetism—either the magnetisation of a magnetic material like a ferromagnet, or the direction, strength, or relative change of a magnetic field at a particular location. |
| MASP | Metropolitan Area Strategic Plan. |
| Meander | A meander in general is a bend in a watercourse. |
| Medium growth scenario | This assumes a medium growth rate in the population forecasts for the region. |
| Mesotrophic | A lake or pond that has a moderate amount of plants. |
| MATS | Metropolitan Area Transport Strategy. |
| MCDRW | Manual of Contract Documents for Road Works. |
| MDAs | Material Deposition Area. |
| mgbl | Metres below ground level. |
| Micro-climatic | The atmospheric conditions affecting an individual or a small group of organisms, especially when they differ from the climate of the rest of the community. |
| Microelectronic | Microelectronics is a subdivision of the field of electronics that deals with very small and microscopic elements to manufacture electronic components. |
| Mode share | The share of people using a particular mode of transport (including cycling and walking) within the overall transport usage of an urban area. Modal share can be calculated for passenger and freight (logistics) transport based on different units, such as number of trips, volume, weight, passenger-km or tonne-km. |
| Morphology | Morphology is the science of the forms of natural water bodies such as rivers, lakes, estuaries, lagoons, coastal zones and seas, as well as with the processes that create and modify these forms. |
| NFGWS | National Federation of Group Water Schemes. |
| N6 GCRR | N6 Galway City Ring Road, the subject of the EIAR. |
| N6 GCTP | N6 Galway City Transport Project. |
| N6 GCOB | A previous application to ABP in 2006 for the then defined ‘N6 Galway City Outer Bypass’ (GCOB). |
| NDP | National Development Plan. |
| NHA | Natural Heritage Area. |
| NHB 5 | Natural Heritage and Biodiversity Policy. |
| NIAH | National Inventory of Architectural Heritage. |

| Terms | Meaning |
|-------------------|--|
| NIFTI | National Investment Framework for Transport in Ireland. |
| NIS | Natura Impact Statement. |
| NIR | Natura Impact Report. |
| NMS | National Monuments Service. |
| NMUS | Non-motorised users. |
| Notice to Treat | This notice requests property owners whose lands are subject to a compulsory purchase order (CPO) to submit their claim for compensation for lands being taken under the CPO. Land values etc. are assessed with reference to the date of this Notice. |
| NO ₂ | Nitrogen Dioxide. |
| NO _x | Nitrogen Oxides. |
| NPF | National Planning Framework. |
| NPWS | National Parks and Wildlife Service. |
| NPO | National Policy Objectives. |
| NRA | National Roads Authority. |
| NSO | National Strategic Objective. |
| NISMP | Non-native Invasive Species Management Plan. |
| NIEA | Northern Ireland Environment Agency. |
| NTA | National Transport Authority. |
| NTS | Non-Technical Summary. |
| NWRSES | Northern and Western Regional Spatial and Economic Strategy. |
| O ₂ | Oxygen. |
| OD | Ordnance Datum. |
| OECD | Organisation for Economic Cooperation and Development. |
| Oligotrophic | Characterized by a low accumulation of dissolved nutrient salts, supporting but a sparse growth of algae and other organisms, and having a high oxygen content owing to the low organic content. |
| Orbital route | A route that takes traffic around a city rather than through it. |
| Online/On-line | The route whereby the proposed N6 GCRR remains on the same alignment as the existing road infrastructure. |
| OPW | The Office of Public Works. |
| Operational phase | The period of time in which the proposed road is in use. |
| OS | Ordnance Survey. |

| Terms | Meaning |
|--------------------------|---|
| OSI | Ordnance Survey Ireland. |
| Outcrop | An exposure of bedrock. |
| PAH | Polycyclic Aromatic Hydrocarbons. |
| Palaeokarst | The general term for ancient karst features that have been fossilized or preserved. Most commonly these features are filled with lithified sediments. |
| Paleeolandscape | A landscape as it was in ancient times. |
| Parent material | The bedrock type from which the rock fragments within a till are derived. For instance, the parent material of a Limestone Till is Limestone. |
| Particulate Matter | Tiny particles of solid or liquid suspended in liquid or gas. |
| Pb | Lead. |
| PCU | Passenger Car Unit. |
| Permeability | A measure of the ability of a given rock to transmit water. |
| PMGs | Project Management Guidelines. |
| PM ₁₀ | Particulate matter measuring 10 micrometres (microns) in diameter or less. |
| PM _{2.5} | Particulate matter measuring 2.5 micrometres (microns) in diameter or less. |
| pNHA | proposed Natural Heritage Area. |
| Priority junctions | Priority junctions are the most common form of junction arrangement. They required one or more minor road to yield or stop for the major road traffic flow. |
| Pre-earthworks drains | Where surface water and sub-surface water from adjoining land will flow towards the road, it will generally be necessary to construct intercepting drains at the tops of cuttings and the toes of embankments. In rural areas these may be ditches rather than filter drains because of their greater capacity and comparative cheapness. |
| Priority Annex I habitat | Annex I habitat types which are in danger of disappearance, and for which the European Community has particular responsibility in view of the proportion of their natural range which falls within the territory. |
| Protected road | A protected road, as defined under Section 45 (1) of the Roads Act, means a public road or proposed public road specified to be a protected road in a protected road scheme approved by An Bord Pleanála. A protected road scheme approved by An Bord Pleanála may provide for the prohibition, closure, stopping up, removal, alteration, diversion or restriction of any specified or all means of direct access to the protected road from specified land or from specified land used for a specified purpose or to such land from the protected road. |
| Qbar | The mean annual maxima flow recorded or calculated at a location. |
| pH | pH is a measure of the acidity or basicity of a solution. |
| Pluvial flooding | This flooding occurs when surface water accumulating from the result of intense rainfall saturates the urban drainage system, and the excess water cannot be absorbed. |
| Podzols | A type of soil formed in cool, seasonally humid climatic regions where leaching (percolation of water) is a dominant process. |

| Terms | Meaning |
|----------------------------------|---|
| POWSCCAR | Place of Work, School, College or Childcare - Census of Anonymised Records. |
| PSD | Particle Size Distribution. |
| pNHA | Proposed NHAs. |
| QI | Qualifying Interest – Annex I habitat or Annex II species for which a cSAC/SAC is designated under the Habitats Directive. |
| Qmed | Annual index flood. |
| Radio-tracking | Use of radio receivers, directional antennae and radio-transmitters (attached to the target species) to monitor and record species movements and locations. |
| Receptors | Receptors are people or other organisms that may have sensitivity or exposure to contaminants by virtue of their age and health (e.g. schools, day care centres, hospitals, nursing homes), status (e.g. sensitive or endangered species), proximity to the contamination, dwelling construction (e.g. basement), or the facilities they use (e.g. water supply well). |
| Recharge | The addition of water to the zone of saturation; also, the amount of water added. |
| Regosols | A Regosol is a very weakly developed mineral soil in unconsolidated materials. Regosols are extensive in eroding lands, in particular in arid and semi-arid areas and in mountain regions. |
| Resitivity | A measure of the resisting power of a specified material to the flow of an electric current. |
| RFC | Ratio of Flow to Capacity (RFC). |
| RFI | Request for Further Information (RFI). |
| Rhizome | Underground stem of plants, laterally growing and capable of producing the root and shoot system of a new plant. |
| Riparian vegetation | Riparian vegetation is the diversity of native vegetation contained on 'land which adjoins or is influenced by a body of water. Riparian habitats have been defined as places 'where terrestrial and aquatic ecosystems meet'. |
| Rijkswaterstaat (RWS) fire curve | The RWS curve was developed by the Rijkswaterstaat, Ministry of Transport in the Netherlands. This curve is based on the assumption that in a worst case scenario, a 50 m ³ fuel, oil or petrol tanker fire with a fire load of 300MW could occur, lasting up to 120 minutes. The RWS curve was based on the results of testing carried out by TNO in the Netherlands in 1979. |
| RMP | Record of Monuments and Places. |
| RMS | Regional Modelling System. |
| Road bed | The portion of public road which is typically in private ownership over which there is over which there is a public right of way. |
| Rockhead | A raised rocky area or prominence; a summit or extremity of rock. The upper surface of bedrock. |
| Rock outcropping | The part of a rock formation that appears above the surface of the surrounding land. |
| Rkc | Regionally important karst aquifer. |

| Terms | Meaning |
|--------------------------|---|
| RPS | Record of Protected Structures. |
| RSA | Road Safety Authority. |
| RSES | Regional Spatial and Economic Strategies (RSESs). |
| Runoff | Water leaving a drainage area or water running across the land surface. |
| SATURN | Simulation Assignment of Traffic to Urban Road Networks. |
| SAC | Special Area of Conservation. |
| SAAR | Mean long term annual rainfall. |
| Saturated zone | The zone below the water table in which all pores and fissures are full of water. Also known as the phreatic zone. |
| SCI | Special Conservation Interest – Annex I bird species for which an SPA is designated under the Birds Directive. |
| SDS | Sustainable Development Strategy. |
| Section 85 Agreement | A Section 85 Agreement has been entered into under the provisions of Section 85 of the Local Government Act 2001 between Galway County Council and Galway City Council and approved by Transport Infrastructure Ireland (TII) pursuant to Section 14 of the Roads Act 1993, as amended. |
| Sensitivity | Vulnerability of a sensitive receptor to change. |
| SEPCP | Sediment, Erosion and Pollution Control Plan. |
| SEVESO | Seveso site – sites identified as containing large quantities of dangerous substances. |
| Severance | Where a portion of land is separated or isolated from the main land holding or where a portion of habitat is separated/isolated from the main habitat area. |
| SHDs | Strategic Housing Developments. |
| SI | Site Investigation. |
| S.I. | Statutory Instrument. |
| SIDs | Strategic Infrastructure Development are major infrastructure developments by local authorities and others for which applications are lodged directly with An Bord Pleanála. |
| SIFLT | Strategic Investment Framework for Land Transport. |
| Signalised junction | Road junction where roads converge and traffic flow is controlled by traffic signals. |
| Stopping sight distances | Is the minimum sight distance available on a road at any spot having sufficient length to enable the driver to stop a vehicle upon sight of a hazard while, traveling at the design speed safely without collision with any other obstruction. |
| striation | Any of a number of scratches or parallel grooves on the surface of a rock, resulting from the action of moving ice, as of a glacier. |
| SMR | Sites and Monuments Record. |
| SO ₂ | Sulphur Dioxide. |

| Terms | Meaning |
|--------------------------|--|
| SOx | Sulphur Oxides expressed as Sulphur Dioxide. |
| SPA | Special Protection Area. |
| Sub-catchment | A portion of a river catchment. |
| Subsoils | The material between the topsoil and the bedrock. |
| Subtidal zone | Subtidal zone is that portion of a tidal-flat environment which lies below the level of mean low water for spring tides. Normally it is covered by water at all states of the tide. The word is often used as a general descriptive term for a subaqueous but shallow-marine depositional environment. |
| Substructure | An underlying or supporting structure. |
| SuDS | Sustainable urban drainage systems (SuDS) are a natural approach to managing drainage in and around properties and other developments. They work by slowing and holding back the water that runs off from a site, allowing natural processes to break down pollutants. |
| Superstructure | A structure built on top of something else. |
| SUMPs | Sustainable Urban Mobility Plans. |
| SPA | Special Protection Area (for birds). Part of the Natura 2000 network of European sites, designated under the EU Birds Directive (79/409/EEC). |
| TAF | Transport Appraisal Framework. |
| TBM | Tunnel Boring Machine. |
| TEN-T | The Trans-European Transport Networks (TEN-T) are a planned set of road, rail, air and water transport networks in the European Union. The TEN-T networks are part of a wider system of Trans-European Networks (TENs), including a telecommunications network (eTEN) and a proposed energy network (TEN-E or Ten-Energy). |
| TER | Technical Equipment Room. |
| TII | Transport Infrastructure Ireland. |
| TII PAG | Transport Infrastructure Ireland (TII) Project Appraisal Guidelines. |
| TOC | Total Organic Carbon. |
| TOT | Time of Travel. |
| Traffic control measures | Are markers, signs and signal devices used to inform, guide and control traffic, including pedestrians, motor vehicle drivers and bicyclists. These devices are usually placed adjacent, over or along the highways, roads, traffic facilities and other public areas that require traffic control. |
| Trans-national network | Means the organisation mode that governs the functioning of the European projects. The network associates partners from different countries with the aim of following one or more common objectives, without any one of the partners having a higher status than the others. The network appears as the most suitable instrument to operate at the European scale and to work within the given period. |
| TSB | Tunnel Services, Monitoring and Maintenance Buildings. |

| Terms | Meaning |
|------------------------|---|
| Tufa | A porous rock composed of calcium carbonate and formed by precipitation from water, e.g. around mineral springs. |
| Turbidity | Turbidity is the measure of relative clarity of a liquid. It is an optical characteristic of water and is an expression of the amount of light that is scattered by material in the water when a light is shined through the water sample. The higher the intensity of scattered light, the higher the turbidity. |
| Turlough | Seasonal lakes found in the lowland karsts of western Ireland. |
| Scheme study area | The term “scheme study area”, when used in this EIAR, refers to the wider study area at which constraints were initially identified during the constraints and route selection studies for the proposed N6 Galway City Ring Road. |
| Secondary permeability | Permeability derived from fissures, faults and conduits in the rock rather than that provided by the rock matrix itself. |
| Seep | A diffuse discharge of groundwater. |
| Seepage | The slow escape of a liquid through porous material or small holes. |
| Seismic | Geological surveying methods involving vibrations produced artificially by explosions. |
| SFRA | Strategic Flood Risk Assessment. |
| Soil retention | Soil water retention is a major soil hydraulic property that governs soil functioning in ecosystems and greatly affects soil management. Soil moisture forms a major buffer against flooding, and water capacity in subsoil is a major steering factor for plant growth. |
| Stabilisation | The process of making something physically more secure or stable. |
| Study area | The area studied in order to inform the Environmental Impact Assessment. The study area will vary depending on the environmental factor being considered. |
| Unsaturated zone | The zone between the land surface and the water table, in which pores and fissures are only partially filled with water. Also known as the vadose zone. |
| UHG | University Hospital Galway. |
| UoG | University of Ireland, Galway. |
| UTC | Urban Traffic Control. |
| UTMC | Urban Traffic Management Centre. |
| µg/m ³ | Micrograms per metre cubed |
| Vernacular structures | Building constructed from locally available materials following traditional building practice and patterns and not architect-designed. |
| Vertical Alignment | Direction and course of the roadway in profile. |
| Viaduct | A long bridge-like structure, typically a series of arches, carrying a road or railway across a valley or other low ground. |
| Visual Amenity | The value of a particular area or view in terms of what is seen. |
| VIS | Visual Impact Schedule. |

| Terms | Meaning |
|----------------------|---|
| VOC | Volatile organic compounds (VOC). |
| Water table | The uppermost level of saturation in an aquifer at which the pressure is atmospheric. |
| WRM | Western Regional Model (WRM). |
| WFD | Water Framework Directive. |
| WHO | World Health Organization. |
| Windblow | Carried or driven by the wind. |
| Windrose | Map diagram that summarizes information about the wind at a particular location over a specified time period. |
| Windshield Survey | This is a survey carried out from the roads throughout the study area. |
| WMP | Waste Management Plan. |
| WWTP | Waste Water Treatment Plant. |
| Zone of Contribution | The groundwater catchment area that contributes water to a well. |
| ZoI | Zone of Influence. |
| %ile | Percentile. |

Extract from EPA EIAR Guidelines May 2022, page 50 - 52 Table 3.4 Description of Effects¹

| | |
|---|--|
| Quality of Effects It is important to inform the non-specialist reader whether an effect is positive, negative or neutral. | Positive Effects A change which improves the quality of the environment (for example, by increasing species diversity, or improving the reproductive capacity of an ecosystem, or by removing nuisances or improving amenities). |
| | Neutral Effects No effects or effects that are imperceptible, within normal bounds of variation or within the margin of forecasting error. |
| | Negative/Adverse Effects A change which reduces the quality of the environment (for example, lessening species diversity or diminishing the reproductive capacity of an ecosystem, or damaging health or property or by causing nuisance). |
| Describing the Significance of Effects ‘Significance’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful (also see Determining Significance). | Imperceptible An effect capable of measurement but without significant consequences. |
| | Not Significant An effect which causes noticeable changes in the character of the environment but without significant consequences. |

¹ Note: the term effects and impacts are used interchangeably in this EIAR to mean the same thing

| | |
|---|--|
| | Slight Effects An effect which causes noticeable changes in the character of the environment without affecting its sensitivities. |
| | Moderate Effects An effect that alters the character of the environment in a manner that is consistent with existing and emerging baseline trends. |
| | Significant Effects An effect which, by its character, magnitude, duration or intensity, alters a sensitive aspect of the environment. |
| | Very Significant An effect which, by its character, magnitude, duration or intensity, significantly alters most of a sensitive aspect of the environment. |
| | Profound Effects An effect which obliterates sensitive characteristics. |
| Describing the Extent and Context of Effects Context can affect the perception of significance. It is important to establish if the effect is unique or, perhaps, commonly or increasingly experienced. | Extent Describe the size of the area, the number of sites and the proportion of a population affected by an effect. |
| | Context Describe whether the extent, duration or frequency will conform or contrast with established (baseline) conditions (is it the biggest, longest effect ever?) |
| Describing the Probability of Effects Descriptions of effects should establish how likely it is that the predicted effects will occur so that the CA can take a view of the balance of risk over advantage when making a decision. | Likely Effects The effects that can reasonably be expected to occur because of the planned project if all mitigation measures are properly implemented. |
| | Unlikely Effects The effects that can reasonably be expected not to occur because of the planned project if all mitigation measures are properly implemented. |
| Describing the Duration and Frequency of Effects ‘Duration’ is a concept that can have different meanings for different topics – in the absence of specific definitions for different topics the following definitions may be useful. | Momentary Effects Effects lasting from seconds to minutes. |
| | Brief Effects Effects lasting less than a day. |
| | Temporary Effects Effects lasting less than a year. |
| | Short-term Effects Effects lasting one to seven years. |
| | Medium-term Effects Effects lasting seven to fifteen years. |
| | Long-term Effects Effects lasting fifteen to sixty years. |

| | |
|--|--|
| | Permanent Effects Effects lasting over sixty years. |
| | Reversible Effects Effects that can be undone, for example through remediation or restoration. |
| | Frequency of Effects Describe how often the effect will occur (once, rarely, occasionally, frequently, constantly – or hourly, daily, weekly, monthly, annually). |
| Describing the Types of Effects | Indirect Effects (a.k.a. Secondary or Off-site Effects) Effects on the environment, which are not a direct result of the project, often produced away from the project site or because of a complex pathway. |
| | Cumulative Effects The addition of many minor or insignificant effects, including effects of other projects, to create larger, more significant effects. |
| | ‘Do-nothing Effects’ The environment as it would be in the future should the subject project not be carried out. |
| | ‘Worst-case’ Effects The effects arising from a project in the case where mitigation measures substantially fail. |
| | Indeterminable Effects When the full consequences of a change in the environment cannot be described. |
| | Irreversible Effects When the character, distinctiveness, diversity or reproductive capacity of an environment is permanently lost. |
| | Residual Effects The degree of environmental change that will occur after the proposed mitigation measures have taken effect. |
| | Synergistic Effects Where the resultant effect is of greater significance than the sum of its constituents (e.g. combination of SO _x and NO _x to produce smog). |