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17. SCHEDULE OF ENVIRONMENTAL MITIGATION

17.1 Introduction

17.1.1 The purpose of this chapter is to provide a summary of the mitigation measures proposed throughout this Environmental Impact Assessment (EIA) Report, to minimise or offset the potential effects of the Proposed Development on the receiving environment.

17.1.2 **Table 17-1** provides a summary of those mitigation measures identified throughout the EIA Report.

17.1.3 The following mitigation codes are used in this section:

- GE – General Mitigation
- LV – Landscape and Visual Impact
- EC – Ecology, Nature Conservation and Ornithology
- CH – Cultural Heritage
- TT – Traffic and Transport
- HG – Hydrology, Hydrogeology, Geology and Soils
- NV – Noise and Vibration
- LUA – Land Use and Agriculture

Table 17-1 Schedule of Mitigation

ID	Title	Description
General Mitigation Measures		
GE1	Construction and Employment and Hours of Work	Construction working is likely to be during daytime periods only. Working hours are anticipated seven days a week between approximately 07.00 to 19.00 March to September and 07.30 to 17.00 (or within daylight hours) October to February. Any out of hours working would be agreed in advance with Aberdeenshire Council.
GE2	Best Practice Construction Measures, GEMPs and SPPs	All works would be carried out in accordance with industry best practice construction measures, guidance, and legislation, together with General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs) that have been developed by the Applicant (the GEMPs and SPPs relevant to the Proposed Development are provided in Volume 4, Technical Appendix 3.2: General Environmental Management Plans (GEMPs) and Species Protection Plans (SPPs)).
GE3	Construction Environmental Management Plan (CEMP)	A contractual management requirement of the Principal Contractor would be the development and implementation of a Construction Environmental Management Plan (CEMP). This document would detail how the Principal Contractor would manage the Site in accordance with all commitments and mitigation detailed in the EIA Report, statutory consents and authorisations, and industry best practise and guidance. The CEMP would also include the following specific measures: <ul style="list-style-type: none"> • Erection of tree protection fencing around retained trees at the Site in accordance with BS5837:2012²⁰⁷. • Any excavations to be back-filled or covered overnight, or a 45-degree ramp will be left to allow wildlife to escape should they fall in and become trapped.

²⁰⁷ British Standards Institution (2012) BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations. British Standards Institution, London.

ID	Title	Description
		<ul style="list-style-type: none"> Storage of materials, waste, plant, and vehicles to be a minimum of 30 m from the Burns of Faichfield and Ludquharn. Dampening down of potential sources of dust. Pollution prevention measures which align to best practice e.g., Guidance for Pollution Prevention documents²⁰⁸ including specific protocols for construction of the outfalls (e.g., enhanced silt protection). General compliance measures for working in adverse weather conditions – particularly for works associated with the surface water outfalls. Working hours to be restricted to daylight as far as reasonably possible. Specific roles, responsibilities, and reporting requirements. The materials and waste associated with construction activities will be captured and managed through a Materials Management Plan and Site Waste Management Plan. They will detail the material, efficient use of material to minimise waste, and other waste management measures.
GE4	Restoration and Reinstatement	All temporary work areas would be reinstated to an agreed standard with landowners for future use. Reinstatement would form part of the contract obligations for the Principal Contractor and include the removal of all temporary works areas. Some temporary areas of hardstanding would be required, reinstatement would involve topsoil re-spread and the areas sown with suitable wildflower grass meadow with shrub and tree planting, where applicable.
GE5	Environmental Manager	An Environmental Manager would be appointed by the Principal Contractor for the duration of the construction phase. Their role would include coordinating input from specialists, reviewing incoming information from additional surveys, and coordinating any subsequent recommendations of mitigation measures and licensing requirements. The Environmental Manager would be responsible for continued review of incoming information and coordinating any additional specialist input to meet the Proposed Development's environmental obligations.
GE6	Environmental Clerk of Works (EnvCoW)	Environmental Clerk of Works (EnvCoW) will be appointed by the Principal Contractor to monitor, report and advise on the environmental compliance of the construction works. The EnvCoW will report to the Environmental Manager and Applicant. The EnvCoW will be competent, demonstrated by relevant experience and accreditations.
GE7	Outdoor Access Plan	Where there may be interactions with recreational users during the construction of the Proposed Development, an Outdoor Access Plan will be prepared as part of the Principal Contractor's CEMP (see ID: GE3), and signage would be erected at suitable locations to warn of construction traffic.

²⁰⁸ NetRegs. Guidance for Pollution Prevention (GPP) documents. [Online] Available at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> (Accessed: August 2024).

ID	Title	Description
Topic Specific Mitigation Measures		
Mitigation for Landscape and Visual Impact (see Volume 2, Chapter 8)		
LV1	Site Platform Levels	The site platform levels will be set below existing ground level (each individual development platform below the mean level of the platform area) at levels that between them generate sufficient fill to allow the creation of landforms that screen on average at least 60% of the tallest proposed buildings on each platform in at least 60% of the views from the A950 between St John's Church, Longside and the access to Longleys on the A950.
LV2	Landforms	Landforms will be created in the area between the development platforms and the A950 that will meet the screening requirements of LV1 and, in conjunction with further screen landforms along the eastern side of the Site, allow a balance of cut and fill to minimise requirements for materials import or export.
LV3	Landforms – Construction Period	As far as possible, landforms will be created early in the construction period, and construction activities will be concentrated in the area screened by the new landforms.
LV4	Main Site Drainage	The main site drainage (excluding drainage of the operational site platforms) will primarily be a series of open swales, designed with suitable longitudinal grade and cross-section profile, mimicking that of a natural burn. Detention basins are proposed at the site perimeter within each catchment to attenuate surface water runoff before entering natural watercourses present to the north and west of the Site.
LV5	Landform Profiles and Gradients	New landforms will be rounded off both top and bottom to the largest radius practical and generally shaped to create a naturalistic landform. The landforms will have gradual slopes to the outward (public facing) side and an irregular rounded profile mimicking the local landform albeit slightly steeper. Publicly visible slopes would average a maximum of 16% slope (1:6) with locally steeper areas up to a maximum 33% (1:3). Inward facing slopes (sides towards the development platforms) may be steeper and more regular.
LV6	Tapered Landforms	The ends of new landforms will be tapered out at a gradient of not more than 15% to avoid sharp and un-natural transitions between landforms, except at locations where this is required for specific habitat creation purposes (e.g. creation of steep sandy bank as sand martin nesting habitat).
LV7	Underground Cable Easements	Land over underground cable easements will be graded to no more than 1 in 10 slopes due to technical restrictions on cable alignment.
LV8	Vegetation Retention	Existing vegetation of native hedgerow, hedgerow trees, tree groups and belts will be retained wherever possible to maximise retained biodiversity.
LV9	Landform Shape – Landscape Architect	The final shape of the new landforms will be determined on Site, by eye, by a landscape architect employed directly by the Principal Contractor to ensure that the finished form meets the descriptions given above. The

ID	Title	Description
		degree of subtlety cannot be easily translated into 3D setting-out coordinates.
LV10	Amendment to Platform Levels	If circumstances arise during the construction works that require amendment to the platform levels, any design development shall consider the relationship between landform height and site platform level, so that the screening effect described in this assessment and provided on the application drawings is not reduced.
LV11	Native Species Planting	All native species planting will be carried out using plant material of local provenance (the closest provenance that is available in commercial quantities) to ensure maximum benefit for local biodiversity.
LV12	Colour Strategy Design Code	An Environmental Colour Assessment has been undertaken, and a colour strategy design code produced to be followed for the detailed design of the different elements of the Netherton Hub to ensure a coordinated approach. The detailed design of the individual elements will be required to follow the guidance set out in colour strategy design code to seek to reduce their visual impact, with Aberdeenshire Council acting as final arbiter regarding the acceptability of the colours proposed.
LV13	Landscape and Habitat Management Plan	A Landscape and Habitat Management Plan will be prepared at the detailed design stage to ensure the long term aims and objectives of the landscape and visual impact mitigation and Biodiversity Net Gain (BNG) are met. Also see ID: EC2.
Mitigation for Ecology, Nature Conservation and Ornithology (see Volume 2, Chapter 9)		
EC1	Biodiversity Net Gain (BNG)	The Applicant is committed to delivering 10 % net gain in Biodiversity Units and Linear Units at the Site via the Proposed Development. An updated BNG assessment will be completed prior to construction against the detailed design. This will update the BNG assessment presented within this EIA Report (Volume 4, Technical Appendix 9.4: Biodiversity Net Gain Assessment). The BNG assessment will follow prevailing best practice guidance.
EC2	Landscape and Habitat Management Plan (LHMP)	A Landscape and Habitat Management Plan (LHMP) will be prepared to set out management arrangements for long term retention and monitoring to ensure the success of the habitat creation to be tracked against the predicted BNG values. Also see ID: LV13.
EC3	Construction and Operation Lighting	During construction, any lighting required to support construction tasks would be turned off once a shift is finished at each platform construction area. During construction, only the building platforms and temporary construction compound perimeter fencing, walkways and access routes would be illuminated overnight (and access routes between these areas). During normal operation, security lighting would be sensor activated and access roads would not be lit.
EC4	Mitigation for bats	To avoid and reduce impacts on bats, as well as to comply with legal obligations associated with works affecting bats. <ul style="list-style-type: none"> • Additional baseline bat surveys: <ul style="list-style-type: none"> – Bat activity surveys of buildings at Netherton Farm (B-1, B-2, B-3, B-4, B-5, B-6) and Inverveddie Farm (F-1, F-2, F-3; G-1, G-2, G-3) which are located within the Site would be undertaken during the season for detecting maternity roosts. This would be undertaken before any works affecting the buildings. – Inspections of potential roost feature (PRFs) within trees that would be removed or located within 30 m of construction works

ID	Title	Description
		<p>would be undertaken during the season for detecting maternity roosts.</p> <ul style="list-style-type: none"> • Avoidance: <ul style="list-style-type: none"> – At the detailed design stage, the potential to retain buildings and trees would be further considered. If a roost is present (identified through additional baseline surveys), it would be necessary to demonstrate the consideration of possible alternatives to obtain a licence for works affecting bats (alongside other licence tests). – Trees, scrub, and hedgerows would be retained as far as reasonably possible as foraging resources for bats and for connectivity across the landscape. • Sensitive timings of works: <ul style="list-style-type: none"> – Preference would be given to demolition/ felling during the transitional roosting period for bats – April, September, and October – because bats are likely to be more resilient/ less vulnerable (than during maternity and hibernation periods) and are likely to make use of a network of roosts. – If a maternity roost is identified through additional surveys, demolition/ felling of the roost building/ tree would be timed to avoid the maternity period (May to August). If the additional surveys are undertaken during the optimal season without substantial limitations on the detectability of maternity roosts and there is no evidence of maternity roosts, demolition/ felling may be timed during this period. Pre-works surveys would apply. – If a hibernation roost is identified from buildings at Netherton with moderate suitability (B-1, B-2, B-3, B-4) following additional surveys, demolition would be timed to avoid the hibernation period (mid-November to end-March). If the additional surveys are undertaken during the optimal season without substantial limitations on the detectability of hibernation roosts and there is no evidence of hibernation roosts, demolition of these buildings may be timed during this period. Pre-works surveys would apply. • Sensitive lighting: <ul style="list-style-type: none"> – Artificial lighting should not spill over to vegetation (lines of trees, hedgerows, scrub, etc.) and riparian corridors (e.g. Burn of Ludquharn and Burn of Faichfield) that would be retained around the periphery of the Site. – The specifications of artificial lighting should consider use of LED luminaires with peak wavelengths higher than 550 nm to avoid the component of light most disturbing to bats, and a warm white spectrum (ideally less than 2700 Kelvin) to reduce blue light component. Prevailing guidance from BCT and ILP²⁰⁹ should be followed. – The use of background lighting overnight would be minimised as far as reasonably possible whilst still fulfilling safety and security requirements.

²⁰⁹ BCT and ILP (2023). Guidance Note 08/23: Bats and artificial lighting at night.

ID	Title	Description
		<ul style="list-style-type: none"> • Pre- and during works: <ul style="list-style-type: none"> – All building demolition and tree felling would be preceded by a survey for roosting bats, regardless of the known presence of a roost. This would ensure the baseline information remains valid. – A bat licensed surveyor would oversee building demolition and tree felling, regardless of the known presence of a roost or time of year. – In the unlikely event that a bat is encountered during demolition/ felling, the works would cease (if safe to do so). The bat licensed surveyor should try to collect any exposed bats by gloved hand and move them to a nearby bat box (see below). NatureScot would be consulted for a licence before continuing works. • Compensation: <ul style="list-style-type: none"> – The requirement for compensation for the loss of confirmed bat roosts would be identified following additional surveys and secured through the licensing process prior to commencement of works affecting bats. A species protection plan would detail any specific roost exclusion requirements, timing restrictions, and additional mitigation and compensation measures, depending on the type and structure of the roost. – A combination of the following would be provided to compensate for loss of confirmed roosts (if any) prior to removal: fix artificial bat boxes on trees retained within/on the periphery of the Site, install bat rockets within the Site, and translocate reclaimed roost features from trees to be felled onto existing trees retained within/on the periphery of the Site. The loss of confirmed roosts would be compensated for at a 1:1 ratio. The compensation would mimic the type of roosting location to be lost, be suitable for use by the affected species, and support the same function of the roost to be lost (e.g., maternity, hibernation, or other purpose). – Bat boxes and reclaimed tree roost features would be installed between 3-4 m above ground, at a variety of aspects and away from artificial lighting. The location of bat rockets must be carefully considered to ensure they would be sheltered and connected to natural habitat and away from artificial lighting. The approximate locations would be identified at detailed design stage, then further advice on Site should be sought from the Project Ecologist/ Ecological Clerk of Works on the positioning. A competent arborist should be appointed to remove and reclaim the tree roost features wherever possible without compromising the structure of the feature and health of any retained tree to which it would be fixed. – Where compensatory roost features are provided, as a minimum, a single inspection of each would be undertaken by a licensed bat surveyor, between 2-5 years after the removal of the original roost resource (regardless of the potentially ongoing construction phase). If any boxes/ features are found to be defective during this inspection, the boxes would be replaced.

ID	Title	Description
EC5	Mitigation for badgers	<p>Mitigation measures to ensure the protection of badgers are identified in Volume 5, Technical Appendix 9.5, Confidential Badger Impact Assessment. Due to the on-going persecution of badgers, information relating to this species is considered sensitive and has not been disclosed within this Chapter 17: Schedule of Environmental Mitigation. Notwithstanding, all mitigation measures set out in Volume 5, Technical Appendix 9.5, Confidential Badger Impact Assessment must be carried forward to subsequent stages and implemented.</p>
EC6	Mitigation for otters	<p>Measures are outlined below to ensure a safe passage for otter during construction works, enhance the potential for otters to use new resources within the Site, and comply with legal obligations.</p> <ul style="list-style-type: none"> • Sensitive timings of works: <ul style="list-style-type: none"> – Construction works along the Burns of Ludquharn and Faichfield would be restricted to hours of daylight; works would commence from two hours after sunrise and cease two hours before sunset. During winter when daylight is limited, allowances may be agreed to work from one hour after sunrise/ before sunset, at the discretion of the Environmental Manager. • Sensitive lighting: <ul style="list-style-type: none"> – Artificial lighting should not spill over to the Burns of Ludquharn and Faichfield, diverted/ naturalised watercourse within the central part of the Site, or other small watercourses and ditches around the periphery of the Site. These should remain unlit corridors at night. • Pre- and during construction works: <ul style="list-style-type: none"> – A survey to search for otter resting sites would be undertaken along the Burns of Ludquharn and Faichfield, covering banksides up to 200 m up- and downstream of the outfalls and adjacent terrestrial habitat; as well as other ditches and small watercourses within 200 m of the Site. – The EnvCoW (ID:GE6) would closely monitor the outfall construction works at the Burns of Ludquharn and Faichfield. • Licensing: <ul style="list-style-type: none"> – Based on current data, a licence for works affecting otters would not be required. This would be reviewed by the Environmental Manager (ID:GE5) after pre-construction surveys in case any resting sites become established in the vicinity of works. • Fencing: <ul style="list-style-type: none"> – Safe passage for otter along watercourses and ditches to/ from the Site should be maintained. If the perimeter deer fencing requires to have a grid wire configuration, the grid wire would be spaced a minimum 100 mm by 100 m and would not have wire/ chicken mesh²¹⁰ when in proximity to watercourses and ditches. The specifications would be finalised at detailed design stage.

²¹⁰ UK Wild Otter Trust (online). Otter-proof fencing advice. Available at: <https://ukwildottertrust.org/wp-content/uploads/2022/10/OTTER-PROOF-FENCING-ADVICE-OCTOBER-2022.pdf>

ID	Title	Description
EC7	Fish	<p>The following measures have been identified to inform sensitive detailed design of the outfalls, to ensure a safe passage for fish remains available during construction works, and to comply with legal obligations.</p> <ul style="list-style-type: none"> • Additional baseline surveys: <ul style="list-style-type: none"> – Electrofishing surveys would be undertaken to determine the species and their population class sizes using the Burns of Ludquharn and Faichfield. Concurrently, an assessment to identify suitable salmonid spawning habitat would be undertaken up- and downstream. Surveys would be timed between 1 July and 30 September, before the detailed design of the outfalls is finalised. • Avoidance: <ul style="list-style-type: none"> – The final location of the outfalls would seek to avoid suitable salmonid spawning habitat, if identified following the additional baseline surveys. – Removal of bankside vegetation for the construction of outfalls would be minimised as far as reasonably possible; priority would be given to avoid tree felling. • Sensitive timings of works: <ul style="list-style-type: none"> – If salmonid populations and/ or suitable spawning habitat is identified during the additional baseline surveys, the following would apply. – There would be no in-channel works within Burns of Ludquharn and Faichfield between 30 September and 1 June to protect spawning migratory salmonids, their spawn, and migrating ‘smolts’. – Construction works along the Burns of Ludquharn and Faichfield would be restricted to hours of daylight; works would commence from two hours after sunrise and cease two hours before sunset. During winter when daylight is limited, allowances may be agreed to work from one hour after sunrise/ before sunset, at the discretion of the Environmental Manager (ID:GE5). • Sensitive lighting: <ul style="list-style-type: none"> – Artificial lighting should not spill over to the Burns of Ludquharn and Faichfield or other small watercourses and ditches around the periphery of the Site. These should remain unlit corridors at night. • Licensing: <ul style="list-style-type: none"> – It is anticipated that Controlled Activities Regulations (CAR) would apply. It is possible that the works may progress under the General Binding Rules, but if a CAR licence is required then this would be obtained prior to construction works. • Pre- and during works: <ul style="list-style-type: none"> – If salmonid populations and/or suitable spawning habitat is identified during the additional baseline surveys, the following would apply. – For outfall construction, the in-channel works area at the Burns of Ludquharn and Faichfield would be isolated by means of a sealed wall of gravel filled ‘dumpy bags’ (or other suitable

ID	Title	Description
		<p>means). The isolated works area would cover the minimum area of channel possible such that free passage of fish in an up- and downstream direction should be provided for the duration of in-channel works at outfalls. A fish rescue would be undertaken, whereby fish would be removed from within the works area using electrofishing equipment and released back to the burns up- or downstream. Further rescues would be required if the wall is overtopped (e.g., during a high-water event).</p> <ul style="list-style-type: none"> – Fish rescues would be undertaken by competent and experienced aquatic ecologists, with the relevant certifications and permits. – A report on the implementation of construction mitigation/ fish rescues would be prepared by the aquatic ecologist and submitted to the Environmental Manager afterwards. – The EnvCoW (ID:GE6) would closely monitor the outfall construction works and ditch diversion. <ul style="list-style-type: none"> • Monitoring: <ul style="list-style-type: none"> – An electrofishing survey would be undertaken post-construction of the outfalls at Burns of Ludquharn and Faichfield, during the next seasonal window following construction of the outfalls (between 1 July and 30 September).
EC8	Barn owl	<p>The following measures have been identified to protect barn owls:</p> <ul style="list-style-type: none"> • A pre-construction barn owl survey and monitoring during construction to be undertaken to establish barn owl presence and type of use: <ul style="list-style-type: none"> – The barn owl survey would comprise an internal inspection of buildings where safe to do so, by the Project Ecologist/ Ecological Clerk of Works (ECoW) under Schedule 1 licence. If health and safety concerns remain then Vantage Point surveys overlooking the buildings during the dusk period would be undertaken to record evidence of barn owl leaving/entering the buildings. – Prior to demolition of buildings/structures, a pre-demolition survey will be undertaken. This is to establish if any roosting, non-breeding barn owls are using the buildings/structures. – Assuming that any barn owl present is not breeding then that barn owl can be disturbed from its roosting place providing it is not harmed. If safe to enter, on the day of demolition the Project Ecologist/ ECoW will check the building and disturb any barn owl present so that the barn owl exits the building. If not safe to enter a slow, methodical demolition process would be undertaken, supervised, and directed by the Project Ecologist/ ECoW. – During construction, if any temporary roosting is identified, the Project Ecologist/ ECoW would monitor and advise on a suitable course of action. Construction personnel will be required to report any instances of barn owl roosting within the Site. • Compensation: <ul style="list-style-type: none"> – A minimum of two barn owl nest boxes will be placed on trees within the Site or along the boundary of the Site. They would be

ID	Title	Description
		<p>placed a minimum of 200 m from active construction works. Suitable placement of the nest boxes will be overseen by the Project Ecologist/ ECoW using guidance from the Barn Owl Trust²¹¹ and in consultation with the Northeast Scotland Raptor Study Group. Nest box site selection and placement will take place pre-construction.</p> <ul style="list-style-type: none"> • Monitoring: <ul style="list-style-type: none"> – Across the construction programme, barn owl boxes will be inspected by a suitably qualified and licensed ecologist on an annual basis to check if the boxes are in use by barn owls. In addition, monitoring of barn owls is proposed extending to 1 km beyond the Site to provide context to the use of the compensatory barn owl boxes erected near the Site. Monitoring will be informed by consultation with the Northeast Scotland Raptor Study Group.
Mitigation for Cultural Heritage (see Volume 2, Chapter 10)		
CH1	Historic Building Recording	The non-designated heritage assets Tiffery Farmstead (HA20), Netherton Farmstead (HA22), two dry-stone walls (HA32 and HA33), a hydraulic ram (HA34), two structures (HA35), and Redlums Cottage (HA36) may be demolished prior to the construction of the Proposed Development. A programme of Historic Building Recording works would be required prior to any construction works, where the heritage assets would be demolished by the works. These works would be conducted in order to record the buildings in their current state. The methodology of the works would be set out within a Project Design, to be agreed with Aberdeenshire Council Archaeology Service (ACAS). The works would be carried out to standards set by the Chartered Institute for Archaeologists (CifA), and would constitute Level 2 Building Recordings for the two upstanding farmsteads (HA20 and HA22) including photographic recording, detailed recording of elevations to be impacted, and recording of any internal elements, and a Level 1 Building Recording for the two dry-stone walls (HA32 and HA33), hydraulic ram (HA34), two structures (HA35), and Redlums cottages (HA36) including photographic recording, sketch drawings if circumstances allow, and a written account.
CH2	Archaeological Evaluation	The Aberdeenshire Council Archaeology Service requested that an archaeological trial trenching evaluation of the total Site be carried out in advance of construction, undertaken by a suitable archaeological contractor. The methodology for the works is set out within a Written Scheme of Investigation that is approved by ACAS (Volume 4, Technical Appendix 10.3: Netherton Hub Programme of Archaeological Work).
Mitigation for Traffic and Transport (see Volume 2, Chapter 11)		
TT1	Site Access	Formation of a new access on the A950 with visibility provided in accordance with standards.
TT2	Route Signage	Temporary construction Site signage will be erected on the A950 in the vicinity of the proposed Site access, and at other locations as considered necessary, to warn people of construction activities and associated construction vehicles. The purpose of such signage is to provide driver information and to maintain road safety along the construction vehicle

211 Barn Owl Trust (online). Owl boxes for trees. Available at: <https://www.barnowltrust.org.uk/barn-owl-nestbox/owl-boxes-for-trees/>.

ID	Title	Description
		route. The exact nature and location of the signage would be agreed with Aberdeenshire Council prior to construction activity on Site.
TT3	Construction Traffic Management Plan (CTMP)	Prior to the commencement of any onsite activities, a detailed Construction Traffic Management Plan (CTMP) would be prepared and agreed with Aberdeenshire Council. The CTMP would include a number of measures to reduce the effects of the construction of the Proposed Development on local receptors and communities. The Outline CTMP (Volume 4, Technical Appendix 11.1) details the outline mitigation measures, which would be updated as and when additional information becomes available.
Mitigation for Hydrology, Hydrogeology, Geology and Soils (see Volume 2, Chapter 12)		
HG1	Watercourse Realignment	The identified unnamed tributary (drainage ditch) flowing from south to north in the centre of the Proposed Development is to be realigned during construction and maintained as an open channel. Requirements for authorisation under the Controlled Activities Regulations (CAR) will be secured by the appointed Principal Contractor.
HG2	Sustainable Drainage Systems (SuDS)	It is proposed to adopt Sustainable Drainage Systems (SuDS) as part of the Proposed Development. SuDS mimic natural drainage processes to reduce the effect on the quality and quantity of runoff from developments and provide benefit to amenity and biodiversity. The SuDS have been integrated within the landscape proposals to enhance amenity, biodiversity, and habitat, whilst protecting and/or enhancing water quality.
HG3	Flood Risk	The final drainage strategy for the Proposed Development will be designed in accordance with current best practice to provide adequate capacity to not allow flooding out of the network for the 1 in 30 year storm event and flood water generated up to the critical 1 in 200 year, plus 37% climate change storm event shall be constrained within the areas on site as not to cause damage to buildings, essential services, adjoining developments and services.
HG4	Domestic foul flows	Domestic foul flows will be conveyed across site in a below ground pipe network to a package treatment plant before combining with surface water flows to a suitable surface water discharge point.
HG5	Construction Environmental Management Plan (CEMP)	The CEMP (ID: GE3) will include the following measures and would ensure the works are undertaken in accordance with good practice guidance ²¹² : <ul style="list-style-type: none"> during construction there would be heavy plant and machinery required and as a result it is appropriate to adopt best working practices and measures to protect the water environment, including those set out in any Guidance for Pollution Prevention (GPP 1); in accordance with GPP 2 any above ground on-site fuel and chemical storage would be bunded; emergency spill response kits would be maintained during the construction works (GPP 21);

²¹² NetRegs. Guidance for Pollution Prevention (GPP) documents [Online]. Available at: <https://www.netregs.org.uk/environmental-topics/guidance-for-pollution-prevention-gpp-documents/> Guidance for Pollution Prevention (GPP) documents | NetRegs | Environmental guidance for your business in Northern Ireland & Scotland.

ID	Title	Description
		<ul style="list-style-type: none"> • a vehicle management system would be put in place wherever possible to reduce the potential conflicts between vehicles and thereby reduce the risk of collision (GPP21); • suitable access routes would be chosen which minimise the potential requirement for either new temporary access tracks or for tracking across open land which could contribute to the generation of suspended solids; • a speed limit would be used to reduce the likelihood and significance of any collisions; • plant nappies would be placed under stationary vehicles which could potentially leak fuel/oils; • any temporary construction/storage compounds required would be located remote from any sensitive surface water receptors and will be constructed to manage surface water run-off in accordance with best practice; • any water contaminated with silt or chemicals would not be discharged directly or indirectly to a watercourse without prior treatment; • water for temporary site welfare facilities would either be brought to Site or a local surface water or groundwater abstraction would be identified. Any water abstraction would be made in accordance General Binding Rule or an authorisation would be obtained from SEPA in accordance with the Controlled Activity Regulations (CAR); and • foul water would either be collected in a tank and collected for offsite disposal at an appropriately licensed facility or discharged to a septic tank or soakaway in accordance with the CAR.
HG6	Environmental Clerk of Works (EnvCoW)	The implementation of the CEMP would be managed on site by a suitably qualified and experienced Environmental Clerk of Works (EnvCoW), with support from other environmental professionals as required (ID: GE6). The EnvCoW would have authority to stop any works that are or have potential to impair soils, geology, or the water environment. Additional surface water quality and groundwater monitoring strategies for the pre-construction, construction and post-construction phases should also be established.
HG7	Construction Site Licence	It is anticipated that the Proposed Development would be subject to a Construction Site Licence under Controlled Activity Regulations (CAR) and, as such, the detailed design of proposed drainage works would be subject to licensing requirements and compliance with regulations. Specific requirements would be agreed in consultation through the Principal Contractor and SEPA and set out in the Construction Site License application.
HG8	Private Water Supply Management Plan (PWSMP)	<p>A Private Water Supply Management Plan (PWSMP) will be prepared (prior to construction) and will detail all relevant mitigation, pre-construction measures, management measures, monitoring requirements and contingency plans relevant to Private Water Supplies (PWS).</p> <p>The PWSMP will be provided to the PWS user, prior to construction and will contain contact information for the Construction Site Manager (or similar). PWS Users will be informed in advance of any planned works that may affect their supply.</p>

ID	Title	Description
HG9	Alternative Water Supplies	Prior to the commencement of construction, PWS at Parkhill and Cairngall Farm properties would be provided with a suitable option to connect to an alternative potable water source e.g. the Scottish Water mains supply. This should be agreed with owner/occupier and SEPA prior to works commencing. The Applicant will cover the costs of providing alternative supplies.
HG10	PWS Investigation	<p>The Principal Contractor and Applicant will ensure that further investigation into relevant PWS takes place prior to construction activities commencing. Non-intrusive means of investigation would be prioritised including the use of cable avoidance technology (CAT) scanners (if metallic), ground penetrating radar (GPR) or other geophysical survey methods. Intrusive methods such as a systematic trial pit survey would be done by-hand.</p> <p>This includes known PWS and their networks at Salish Lodge PWS and Hillhead Cairngall PWS.</p>
HG11	PWS Suitable Engineering Solutions	<p>Following further PWS investigation (ID: HG10), if it is confirmed that PWS infrastructure may be impacted by construction works, an assigned contractor will prepare specific construction or working methods to ensure the continuity of the PWS. These methods may include refining the engineering design. With such solutions applicable to known PWS at Monyruy, Hillhead Cairngall and Salish Lodge. Other PWS measures include:</p> <ul style="list-style-type: none"> • The Principal Contractor will be responsible for establishing a dialogue with PWS users to ensure the appropriate communication of construction programmes. • Engineering solutions will be discussed with Aberdeenshire Council and SEPA post-consent. • PWS abstraction locations and associated infrastructure shall be communicated to construction personnel via the provision of detailed mapping and/or toolbox talks conducted by the Principal Contractor.
HG12	PWS Safeguarding	<p>Following the completion of further investigation (HG10), it may be necessary to implement additional measures to safeguard PWS quality and quantity. These include;</p> <ul style="list-style-type: none"> • demarcation, or fencing off the PWS intake and/or storage tank to avoid accidental damage; • demarcation of the supply distribution route on the ground using wooden pegs (or similar) to avoid accidental damage; and • making site operatives aware of PWS and the sensitivity of the catchment through toolbox talks and site induction.
HG13	Water Level and Quality Monitoring	<p>A water level and quality monitoring programme will be undertaken prior to any construction and during construction. The PWSMP (ID: HG8) will include water quality sampling methods and shall specify abstraction points. Post-construction monitoring will also be completed to ensure there is no long-term impact on water quality or quantity, due to the Proposed Development.</p> <p>The PWS water monitoring programme will be aligned with the CEMP (ID: GE3).</p> <p>The monitoring arrangements would be discussed and agreed with Aberdeenshire Council and SEPA post-consent.</p>

ID	Title	Description
HG14	Contingency Arrangements	<p>The PWSMP (ID: HG8) will include a pollution response plan and contingency measures, detailing responsibilities, and lines of communication between the Principal Contractor, PWS users, and stakeholders. Contact details (land and mobile numbers/email addresses) for PWS users would be maintained by the Principal Contractor at all times.</p> <p>In the event of an unforeseen impact on the existing PWS arising from the construction and operational impact of the Proposed Development, contingency measures will be implemented. These will include provisions to provide alternative water supplies on a temporary and permanent basis, including:</p> <ul style="list-style-type: none"> • provision of bottled potable water in the event of a short or transient derogation of a water supply (bottled water would be retained on site ready for quick dispatch to any affected property); • provision of mobile potable water bowser or tanker water deliveries to an existing storage vessel, for short-medium term contingency, whilst engineering activities are occurring locally and increasing risk to supply (or if an event has occurred which has adversely affected the PWS); and • provision of an alternative PWS source (e.g. spring, borehole, alternative surface water abstraction location) or public water supply connection in the event of a permanent derogation of a water supply. <p>In the event of an alternative water source being implemented, SEPA and Aberdeenshire Council would be advised as soon as practicable</p>
Mitigation for Noise and Vibration (see Volume 2, Chapter 13)		
NV1	Construction Noise Management Plan (CNMP)	<p>It is best practice that construction noise should continue to be controlled by a Construction Noise Management Plan (CNMP), in accordance with the guidance and procedures outlined in BS 5228-1. The CNMP is expected to be embedded within the Construction Environmental Management Plan (CEMP). Procedures will include:</p> <ul style="list-style-type: none"> • minimising the noise as much as is reasonably practicable at source; • attenuation of noise propagation; • carrying out identified high noise level activities at a time when they are least likely to cause a nuisance to residents; and • providing advance notice of unavoidable periods of high noise levels to residents.
NV2	Attenuation of construction noise at source	<p>In order to maintain low impact on the noise environment, consideration will be given to attenuation of construction noise at source by means of the following:</p> <ul style="list-style-type: none"> • giving due consideration to the effect of noise, in selection of construction methods; • avoidance of vehicles waiting or queuing, particularly on public highways or in residential areas with their engines running; • scheduling of deliveries to arrive during daytime hours only. Care should be taken to minimise noise while unloading delivery vehicles. Delivery vehicles should follow routes that minimise use of residential roads;

ID	Title	Description
		<ul style="list-style-type: none"> ensure plant and equipment are regularly and properly maintained. All plant should be situated to sufficiently minimise noise impact at nearby properties; fit and maintain silencers to plant, machinery, and vehicles where appropriate and necessary; operate plant and equipment in modes of operation that minimise noise, and power down plant when not in use; use electrically powered plant rather than diesel or petrol driven, where this is practicable; and work typically not to take place outside of hours defined in the construction schedule.
NV3	Attenuation of construction noise in the transmission path	<p>Consideration will be given to the attenuation of construction noise in the transmission path by means of the following:</p> <ul style="list-style-type: none"> locate plant and equipment liable to create noise as far from noise sensitive receptors as is reasonably practicable or use natural land topography to reduce line of sight noise transmission; noise screens, hoardings and barriers should be erected where appropriate and necessary to shield high-noise level activities; and provide lined acoustic enclosures for equipment such as static generators and when applicable portable generators, compressors and pumps.
NV4	Operation - Acoustically optimised design	<p>An acoustically optimised design will be progressed during the detailed design phase of the project. There are various engineering solutions and potential mitigation strategies that could be implemented to reduce noise levels from valve coolers, some specific HVAC units and other cooling systems. Options could include:</p> <ul style="list-style-type: none"> specification of low noise units; use of an active fan system with variable speed drive; use of liquid to liquid cooling; housing the equipment indoors; a system with a larger number of fans operating at lower duty; and/or noise barriers to target propagation from specific noise sources.
Mitigation for Land Use and Agriculture (see Volume 2, Chapter 14)		
LUA1	Engagement with Landowners	Ongoing engagement with affected landowners will inform the evolution of the detailed design and construction of the Proposed Development.
LUA2	Temporary Land Reinstatement and Restoration	<p>Following construction, agricultural land not required through the operational phase (particularly the areas used temporarily for drainage works) will be reinstated to ensure it can return to existing agricultural use. Reinstatement shall be completed as soon as practically possible in order to prevent environmental disturbance.</p> <p>SSEN Transmission GEMPs will be in effect and will be used to safeguard temporary soil movements, specifically, Soil Management Plan (Document reference: TG-NET-ENV-511) and Restoration Plan (TG-NET-ENV-522), which include broad principles to be followed for the handling and storage of agricultural soils to ensure impacts on the soil resource are minimised during construction and reinstatement.</p>
LUA3	Soil Retention	Land not required for built development will retain soils to ensure it is suitable to meet the various habitats proposed within the Site, such as

ID	Title	Description
		mixed and broadleaved woodland planting, wet woodland, and acidic and marshy grassland.
LUA4	Soil Management and Protection of Agricultural Land	<p>SSEN GEMPs will be in effect and used as a measure to safeguard all soils that will need to be disturbed. Specifically, Soil Management Plan (Document reference: TG-NET-ENV-511). Other plans that are relevant to mitigating effects on agricultural land are the Dust Management Plan (TG-NET-ENV-520) to control dust arisings on adjacent crops; and the Biosecurity Plan (TG- NET-ENV-521) to control the spread of plant and animal diseases, parasites and non-native species.</p> <p>Other good practice measures will be put in place to mitigate adverse effects on landowners and farmers during construction. These measures will include:</p> <ul style="list-style-type: none"> • maintaining details of the owners, occupiers and agents for land adjacent to the Site Boundary; • maintaining details of the husbandry associated with the areas of land adjacent to the Site Boundary; • agreeing access arrangements with landowners and tenants prior to the commencement of construction and maintaining access to all agricultural land holdings outwith/adjacent to the Site Boundary during construction; • identifying field drainage layouts and outfalls into watercourses or ditches and ensuring these are not severed by construction works; • identifying and maintaining fixed water supplies for livestock on land adjacent to the Site Boundary; • providing and maintaining appropriate stock-proof fencing where adjacent land to the Site Boundary is in use for grazing livestock; • reinstating any agricultural land which is used temporarily during construction; and • providing a method statement for stripping, handling, storage and replacement of soils to reduce risks associated with soil degradation on areas of land to be returned to agriculture following construction.