18 OTHER ISSUES

18.1 INTRODUCTION

1. This Chapter of the Environmental Impact Assessment Report (EIA Report) evaluates the effects of Heathland Wind Farm (the Development) on any remaining topics that are within the scope of the Environmental Impact Assessment (EIA). The assessments were undertaken by Arcus Consultancy Services Limited (Arcus).

2. The topics included within this Chapter include:

   - Shadow Flicker;
   - Health and Safety; and
   - Waste.

3. The shadow flicker assessment includes the following elements:

   - Legislation, Policy and Guidance;
   - Assessment Methodology and Significance Criteria;
   - Baseline Conditions;
   - Assessment of Potential Effects;
   - Cumulative Effect Assessment;
   - Mitigation and Residual Effects;
   - Summary of Effects; and
   - Statement of Significance.

4. This Chapter of the EIA Report is supported by the following figures provided in Volume 2a EIA Report Figures:

   - Figure 18.1: Shadow Flicker Study Area;
   - Figure 18.2: Shadow Flicker Casting Map.

18.1.1 Introduction

5. This Section evaluates the effects of shadow flicker from the Development on nearby receptors. Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. Shadow flicker is an effect that can occur when the shadow of a blade passes over a small opening (such as window), briefly reducing the intensity of light within the room, and causing a flickering to be perceived. Shadow flicker effects only occur inside buildings where the blade casts a shadow across an entire window opening. The likelihood and duration of the effects depends on a range of factors including the direction, distance and aspect of residential dwellings in relation to the turbines, turbine height and rotor diameter, the topography between residential dwellings and turbines, the time of year and day; and the local weather conditions. Further details of contributing shadow flicker factors can be seen in Section 18.2.3.4.

6. If significant shadow flicker effects on residential dwellings are identified as part of this assessment, technical solutions to mitigate the shadow flicker will be discussed.

18.1.2 Legislation, Policy and Guidance

7. The following guidance, legislation and information sources have been considered in carrying out this assessment:

   - Scottish Government Onshore Wind Turbines: Planning Advice[1];

[1] Scottish Government (2014) Onshore Wind Turbines: Planning Advice [Online]. Available at: https://www.gov.scot/publications/onshore-wind-turbines-planning-advice/ (Accessed on 13/09/20)

- South Lanarkshire Supplementary Guidance 10 Renewable Energy[2];
- West Lothian (Draft) Interim Supplementary Guidance: Wind Energy Development[3]; and
- Review of Light and Shadow Effects from Wind Turbines in Scotland[4].

18.1.2.1 Scottish Government Onshore Wind Turbines: Planning Advice

8. Online planning guidance for onshore wind provides information for consideration surrounding shadow flicker. This is the most current guidance available in terms of Shadow Flicker; therefore, this guidance has been used to inform the assessment methodology for this assessment. It states:

> *"…where separation is provided between wind turbines and nearby dwellings (as a general rule 10 rotor diameters), "shadow flicker" should not be a problem".*

18.1.2.2 South Lanarkshire Local Development Plan (SLLDP) Supplementary Guidance 10: Renewable Energy

9. South Lanarkshire Council (SLC) have produced Supplementary Guidance for renewable energy which supports Policy 19: Renewable Energy in the SLLDP. The supplementary guidance provides more detailed policy and guidance for developers on the requirements for wind energy and other renewable energy.

10. The Supplementary Guidance acknowledges that shadow flicker can cause nuisance for neighbouring properties and refers to the Scottish Government guidance as detailed in Section 18.2.2.1.

11. SLC state:

> *"For properties within 10 rotor diameters of a turbine under the right conditions and circumstances shadow flicker could occur and as such the Council would expect an assessment to be undertake [sic] by the applicant to assess potential effects".*

18.1.2.3 West Lothian (Draft) Interim Supplementary Guidance: Wind Energy Development

12. There is little information concerning shadow flicker in the West Lothian Local Development Plan or supplementary guidance, aside from the following stated in the (Draft) Interim Supplementary Guidance: Wind Energy Development (2015). It acknowledges that wind energy development must not have a significant adverse impact on the amenity of residents nearby towns, villages and other properties by means of noise, visual dominance, shadow flicker, reflected light or other emissions. West Lothian Council (WLC) states:

> *"There is currently no standard minimum distance specified in Scottish Government guidance between residential properties and wind turbines, other than in relation to shadow flicker, where a separation distance of 10 rotor diameters is recommended."*

[2] South Lanarkshire Planning and Building Standards Services (2015) Local Development Plan Supplementary Guidance 10 Renewable Energy [Online] Available at: https://www.southlanarkshire.gov.uk/downloads/file/10365/supplementary_guidance_10_renewable_energy (Accessed 11/09/20)

[3] West Lothian Council (2015) (Draft) Interim supplementary guidance: Wind Energy Development [Online] Available at: https://www.westlothian.gov.uk/media/7077/Draft-Interim-Supplementary-Guidance-Wind-Energy-Development-April-2015/pdf/DraftINTERIM-SG_Wind_EnergyDevelopment2015-Final_version_for_web-APR_2015v2sm.pdf?m=635659015062330000 (Accessed: 11/09/20)

[4] LUC (2017) Review of Light and Shadow Effects from Wind Turbines in Scotland [Online] Available at: https://www.climatexchange.org.uk/research/projects/review-of-light-and-shadow-effects-from-wind-turbines-in-scotland/ (Accessed 13/09/20)

18.1.2.4 Review of Light and Shadow Flicker Effects from Wind Turbines in Scotland

13. A review of light and shadow effects from wind turbines was commissioned by ClimateXChange to review how light and shadow flicker effects are considered in the development planning process in Scotland.

14. This document includes a review of current UK guidance, along with a review of how the current guidance is applied through the selection and review of case studies.

15. The review provides a number of recommendations regarding the content of guidance on shadow flicker. These include:

    - Guidance should not include reference to the occurrence of shadow flicker throw 'within 130 degrees of north';
    - Guidance should exclude reference to the 10 rotor diameter distance; and
    - There is a need for guidance on the thresholds of exposure to shadow flicker in Scotland.

16. It should be noted that since the publication of this review (2017), shadow flicker guidance in Scotland has not changed, and as such, the guidance in the Scottish Government Onshore Wind Turbines: Planning Advice remains extant.

18.1.3 Assessment Methodology and Significance Criteria

18.1.3.1 Consultation

17. No consultation responses for this EIA topic were received from consultees from the December 2019 Scoping Request.

18.1.3.2 Study Area/ Survey Area

18. Based on the guidance discussed in Section 18.2.2 a distance of 10 rotor diameters has been identified around each turbine location (the Study Area) (1,330 m based on the candidate Nordex 133 for Turbines 1-3 and 1,580 m based on the candidate GE 158 for Turbines 4-14), as shown in Figure 18.1.

19. Potential sensitive receptors in the area around the Development were identified from Ordinance Survey (OS) 1:25,000 scale digital mapping and online aerial imagery. OS AddressBase data was used to confirm the locations and names of permanent dwellings in the Study Area.

20. As shown in Figure 18.1, four residential properties known as Mountainblaw Farm, Upper Haywood Farm, Sky View House and Bughtknowes Farm are located within the Study Area. An additional building located within the west of the Study Area was discounted from assessment due to being non-residential.

21. Shadow flicker is known to occur beyond 10 rotor diameters, as reflected in the Review of Light and Shadow Effects from Wind Turbines in Scotland. Although the intensity of shadows decreases as the distance to the turbines increases, several settlements are located just outside the 10 rotor diameter zone and could potentially experience shadow flicker effects. Settlements just outside the zone include the community of Wilsontown, located 1.5 km to the south of T2; several clusters of properties around Haywood, 1.6 km to the south of T4; and the village of Breich, 2 km to the north of T9.

18.1.3.3 Baseline Survey Methodology

22. The assessment of shadow flicker is a desk-based assessment, and as such, no on-site survey specific to shadow flicker has been undertaken, with the exception of more general site visits conducted by the Applicant and other Arcus technical teams verifying the location and nature of surrounding properties.

18.1.3.4 Methodology for the Assessment of Effects

23. A recognised computer software package[5] was used to calculate theoretical specific times and durations of shadow flicker effects at each property.

24. This software creates a mathematical model of the Development and its surroundings, based on:

    - Turbine locations, hub height and rotor diameter;
    - Topography (obtained from OS Land-Form Panorama elevation data on a 50 m horizontal grid); and
    - Latitude and longitude of the Site (used in calculating the position of the sun in relation to time of day and year).
    - Location of residential dwellings within 10 rotor diameters of the turbines.

25. A cut-off distance of 1,330 m from Turbines 1-3, and 1,580 m from Turbines 4-14 (i.e. 10 rotor diameters) was employed during this calculation in accordance with the guidance noted earlier.

26. It is assumed that if shadow flicker effects experienced at properties within these search areas are not significant, then effects experienced by properties further afield will be reduced and therefore also not significant.

27. Certain worst-case assumptions are made in the calculation, including:

    - Weather conditions are such that shadows are always cast during each day of the year, i.e. bright sunshine every day;
    - The turbine rotor will always be facing directly towards the property and that the property has a window directly facing the turbines, maximising the size of the shadow and hence the frequency and duration of the effect;
    - The turbines will always be rotating; and
    - There will not be intervening structures or vegetation (other than topography) that may restrict the visibility of a turbine, preventing or reducing the effect.

28. The following assumptions have been made for all potential receptors in order to identify all potential effects as a worst case:

    - All windows have been assumed to measure 1 m by 1 m (for larger windows the intensity of the effect would be reduced), to be situated at a height of 3 m above ground level, to the window's centre (representing an average of ground and first floor levels that may be typically 1.5 m and 4.5 m, respectively);
    - Each property is located at the grid reference given in Table 18.1 (as per details from OS AddressBase data); and
    - Windows facing towards each of the cardinal compass point directions (North, South, East and West) have been modelled in order to identify effects from all possible directions. In practice, not all of these directions face the Development, and the buildings may not have windows on each facade.

29. The above calculations are intended to investigate a worst-case scenario by indicating a theoretical maximum potential duration of effects and to provide an approximation of the times of day and year that these would occur rather than a precise prediction.

30. For much of a given year, weather conditions will be such that shadows would not be cast or would be weak and thus would not give rise to shadow flicker effects.

31. In Forth, located 1.5 km to the south west of the Site, cloud cover typically occurred for 64% of the time, resulting in bright sunshine occurring for around 36% of daylight hours

[5] Resoft WindFarm 4.2.1.7

from August 2019 to August 2020[6]. Of this time, some would be in non-windy conditions when the turbine blades would not be rotating. In windy conditions, the wind direction may not have been aligned with the direction of the sun, such that shadows were not being cast as widely as in the worst-case. In practice, other factors such as the potential for screening by vegetation or intervening structures will also reduce or prevent flicker incidence even further, as compared to the theoretical maximum period or the likely period of effect suggested by the calculations. The actual potential impact is therefore likely to be only a fraction of the theoretical maximum.

18.1.3.5 Significance Criteria

32. No formal guidance is available regarding what levels of shadow flicker may be considered acceptable in the UK. However, 'Wind Energy Development Guidelines' published by the Northern Ireland Department of the Environment, Heritage and Local Government (2006)[7] states that:

"It is recommended that shadow flicker at neighbouring offices and dwellings within 500 m should not exceed 30 hours per year or 30 minutes per day."

33. This assessment predicts the potential maximum effects that occur, and a likely maximum duration for effects once prevailing weather conditions are taken into account. The Northern Irish guidance threshold has been adopted for all residential receptors as a measure of assessing the significant of predicted shadow flicker effects.

34. Mitigation is proposed to minimise or remove predicted effects, if levels of shadow flicker are deemed to be unacceptable in practice.

18.1.3.6 Assessment Limitations

35. The assumptions made in the assessment process, outlined in Section 18.2.3.4, are considered to be conservative and likely to make the assessment results worst case.

18.1.4 Baseline Conditions

36. Four properties (potential receptor, used as assessment locations) have been identified within the Study Area. Table 18.1 details the properties within the shadow flicker Study Area, as shown in Figure 18.1.

Table 18.1: Shadow Flicker Assessment Locations

Property Name	Easting	Northing	Nearest Turbine	Distance to Nearest Turbine (metres)
Mountainblaw Farm	297470	656010	T4	1,250
Upper Haywood Farm	296673	655434	T4	1,270
Sky View House	296622	655386	T4	1,320
Bughtknowes Farm	297073	655236	T4	1,574

[6] Sunshine hours based on 64.25% cloud cover at Forth, South Lanarkshire. Available: https://www.worldweatheronline.com/forth-weather/south-lanarkshire/gb.aspx (Accessed 11/09/20).
[7] Department of the Environment, Best Practice Guidance to Planning Policy Statement 18 'Renewable Energy', 2009

18.1.5 Assessment of Potential Effects

18.1.5.1 Construction Phase

37. Shadow flicker is a phenomenon that only occurs once the turbines are installed and operational and thus no shadow flicker effects are anticipated during the construction phase of the Development.

18.1.5.2 Operational Phase

37. Table 18.2 details the theoretical maximum hours of shadow flicker per annum, based on the worst-case assumptions discussed in Section 18.2.3.4. It also shows the calculation of the predicted likely number of hours of shadow flicker per annum, assuming 36% per annum bright sunshine.

38. A conservative approach has been taken, initially, whereby the screening effects provided by trees or other buildings have not been taken into account, nor has any account been taken of which building facades actually do have windows (it has been assumed that all facades have windows). This will reduce or eliminate flicker from occurring in practice. The degree of effects will depend on the precise position of windows facing the proposed turbines and the precise location of screening, which itself may change over time as vegetation grows or is removed. In addition, the atmospheric conditions will further reduce the actual effects arising, as described in Section 18.2.3.4.

39. The theoretical maximum number of hours per annum, as shown in Table 18.2, is for all windows and accounts for any overlap where effects may be experienced at different windows or from different turbines simultaneously.

18.2: Potential Shadow Flicker Effects at Assessed Location

Name	Window Orientation	Days per year	Maximum Minutes per Day	Theoretical Maximum Hours per Annum	Likely Hours per Annum[8]
Mountainblaw Farm	North	83	34	40	14
	East	0	0	0	0
	South	0	0	0	0
	West	83	34	40	14
Upper Haywood Farm	North	0	0	0	0
	East	0	0	0	0
	South	0	0	0	0
	West	0	0	0	0
Sky View House	North	0	0	0	0
	East	0	0	0	0
	South	0	0	0	0
	West	0	0	0	0
Bughtknowes Farm	North	0	0	0	0
	East	0	0	0	0
	South	0	0	0	0
	West	0	0	0	0

[8] Assumes 36% bright sunshine.

40. It has been calculated that theoretical shadow flicker is likely to occur at one of the assessed properties (as shown in Figure 18.2). At Mountainblaw Farm shadow flicker effects are calculated as being possible for up to a theoretical maximum of 40 hours. No shadow flicker effects were found for Upper Haywood Farm, Sky View House or Bughtknowes Farm.

41. Based upon weather conditions required to facilitate shadow flicker occurring for only 36% of the time, the likely number of hours per year where shadow flicker could potentially occur is reduced to 12 minutes per day and 14 hours per annum at Mountainblaw Farm.

42. This figure is likely to comprise an over-estimate of actual effects, given the conservative aspects of this assessment as set out in the assessment methodology.

43. As Table 18.2 shows, shadow flicker effects at Mountainblaw Farm do not exceed the 30 minutes per day or 30 hours per year, as discussed in Section 18.2.3.5, and no other properties within the Study Area are predicted to experience shadow flicker effects. Shadow flicker due to the Development is therefore considered not significant in terms of the EIA Regulations. Shadow flicker effects upon settlements and isolated properties beyond the 10 rotor diameter zone are likely to be negligible.

44. It is understood that a micro-siting allowance of 100 m is being applied for with this application. In order to predict a worst-case scenario, a shadow flicker model was created with turbines moved 100 m closer to Mountainblaw Farm. Table 18.3 details the expected shadow flicker if the full micrositing allowance is implemented.

18.3: Potential Shadow Flicker Effects with Full Micrositing Allowance

Name	Window Orientation	Days per year	Maximum Minutes per Day	Theoretical Maximum Hours per Annum	Likely Hours per Annum[9]
Mountainblaw Farm	North	82	37	44	16
	East	0	0	0	0
	South	0	0	0	0
	West	82	37	44	16

45. As can be seen from Table 18.3, if turbines are fully micro-sited towards Mountainblaw Farm, it is predicted that the likely shadow flicker duration at Mountainblaw Farm will remain well below the shadow flicker threshold. Therefore, with the implementation of micro-siting, shadow flicker due to the Development is considered to remain not significant at the identified properties. Properties at a greater distance from the Development will therefore also comply with the threshold and will be not significant in terms of the EIA Regulations.

18.1.6 Cumulative Effect Assessment

46. Several operational or proposed wind farms and singular turbines are located in the immediate vicinity The nearest wind farms to the Mountainblaw residential property are the Tormywheel Wind Farm, a 15 turbine, 92.5 m rotor diameter wind energy development 2.4 km to the north west; and the Longhill Burn Wind Farm, a 7 turbine, 140 m rotor diameter wind energy development 2.5 km to the north east.

47. The nearest Tormywheel turbine to Mountainblaw Farm (the only receptor predicted to experience shadow flicker effects, as shown in Figure 18.2) is located approximately 2.4 km from the property. As this distance exceeds the 10 rotor diameter distance for likely

[9] Assumes 36% bright sunshine.

shadow flicker effects (925 m), it is considered that cumulative shadow flicker impacts with Tormywheel Wind Farm at this property are unlikely to occur in practice.

48. The nearest Longhill Burn turbine to Mountainblaw Farm is located approximately 2.5 km from the property. As this distance exceeds the 10 rotor diameter distance for likely shadow flicker effects (1,400 m), it is considered that cumulative shadow flicker impacts with Longhill Burn Wind Farm at this property are unlikely to occur in practice.

49. The closest singular turbine to the Mountainblaw Farm, is a 78.9 m rotor diameter turbine located approximately 190 m south west of the property[10]. As this distance exceeds the 10 rotor diameter distance for likely shadow flicker effects (78.9 m), it is considered that shadow flicker impacts from the turbine at the property are unlikely to occur.

50. There are two other single turbines near to the Development:

- A single, 54 m rotor diameter turbine situated 900 m south east of Mountainblaw Farm at Burnfoot Poultry Farm[11]; and
- A single, 52 m rotor diameter turbine situated at Upper Haywood, 1.2 km west of Mountainblaw Farm[12].

51. As can be seen, both distances exceed the 10 rotor diameter distance for likely shadow flicker effects (540 m and 520 m respectively) and it is considered that shadow flicker impacts from these turbines at the Mountainblaw property are unlikely to occur. Cumulative shadow flicker effects have therefore not been considered further.

18.1.7 Mitigation and Residual Effects

52. No shadow flicker effects were found for Upper Haywood Farm, Sky View House or Bughtknowes Farm, and shadow flicker effects have been assessed as being not significant at Mountainblaw Farm.

18.1.8 Summary of Effects

53. An assessment of potential shadow flicker effects associated with the Development has been carried out as per the Scottish Government and local guidance from both South Lanarkshire Council and West Lothian Council. The theoretical maximum and likely hours of shadow flicker occurrence per year have been calculated for properties located within 10 rotor diameters of the turbines.

54. During the operational phase, it has been found that one property (Mountainblaw Farm) is expected to experience shadow flicker but this should not exceed the threshold of 30 hours per annum. Therefore, the effects are considered not significant in terms of the EIA Regulations, and no mitigation is required.

55. The flicker effects are expected to be further reduced in practice due to screening and further cloud cover. The potential for shadow flicker effects at distances greater than ten rotor diameters is predicted to be minimal.

56. In practice, if residential amenity at any property is found to be unacceptably affected by shadow flicker, mitigation measures will be implemented to reduce the effects or remove flicker effects entirely.

[10] CL/12/0243. Erection of a 19.4m high wind turbine. Mountainblaw Farm Forth Lanark ML11 8ES. Available: https://publicaccess.southlanarkshire.gov.uk/online-applications/applicationDetails.do?keyVal=ZZZV4NOPJV215&activeTab=summary (Accessed 15/10/2020).
[11] CL/13/0332. Erection of 77m high wind turbine. Burnfoot Poultry Farm Forth ML11 8ES. Available: https://publicaccess.southlanarkshire.gov.uk/online-applications/applicationDetails.do?keyVal=ZZZV4ROPJV460&activeTab=summary (Accessed 15/10/2020].
[12] CL/11/0070. Erection of 66 metre high wind turbine, access track, ancillary equipment and associated works. Site Near Upper Haywood Forth. Available: https://publicaccess.southlanarkshire.gov.uk/online-applications/applicationDetails.do?keyVal=ZZZV4YOPJV460&activeTab=summary (Accessed 15/10/2020)

18.1.9 Statement of Significance

57. No shadow flicker effects will occur during construction or decommissioning.

58. The effect of shadow flicker during the operational period has been assessed using appropriate guidance and it is concluded that any shadow flicker effects caused by the Development are considered not significant in terms of the EIA Regulations.

18.2 HEALTH AND SAFETY

18.2.1 Introduction

59. This Section identifies and evaluates Health and Safety effects that are expected to arise from the Development on nearby receptors. This Section considers the following receptors:

- Personnel associated with the construction, operation and decommissioning of the Development;
- Personnel associated with other Site operations – forestry and quarrying; and
- The general public utilising the Site for recreation.

18.2.2 Baseline Conditions

18.2.2.1 Commercial activities on Site

60. Commercial forestry operations are currently active on Site, involving felling operations, and transportation of material along existing forestry access tracks.

61. There are two existing quarries on Site, located at National Grid Reference (NGR) 297030, 656421 and NRG 297411, 657449. Both quarries are operated by Forestry and Land Scotland (FLS) and although not operational at this current time, both may be utilised during the lifetime of the Development. Quarry and blast activities at both quarries typically occur as and when required. Such activities would be undertaken during daytime periods only. Both quarries are compliant with the relevant quarry regulations and health and safety legislation including Quarries Regulations 1999[13].

18.2.2.2 Public Access

62. The local area is popular amongst tourists and also local walkers. There is one Core Path route located on the Site linking Tormywheel to Wilstontown.

63. As noted in Chapter 16 - Socio-Economics, Land-Use, Tourism and Recreation, public access may not be limited to this Core Path route, and users may make use of the wider access tracks associated with the forest. These paths are recognised as being regularly used by local walkers, cyclists, runners and horse riders.

18.2.3 Embedded Mitigation

64. Health and safety is embedded into the design of the development. Turbines are designed to be safe and are built to withstand extreme wind conditions and wind turbine developments have a proven record in terms of safety and reliability.

65. Health and Safety during construction and decommissioning falls under the Construction (Design and Management) (CDM) Regulations 2015. Health and safety will be initially addressed as part of the Pre-Construction Information Pack prepared by the Applicant. The Construction Project Manager will be required to prepare a Construction Phase Plan

[13] Health and Safety Executive (2013). Health and safety at quarries. The Quarries Regulations 1999 (second edition). Approved Code of Practice. [Online] Available at: https://www.hse.gov.uk/pubns/priced/l118.pdf (Accessed 26/11/2020)

(Health and Safety Plan) and to forward information to the Applicant during the works to enable the Health and Safety File to be completed.

66. Day-to-day operational and maintenance activities will be co-ordinated with FLS operational requirements.

67. Public access to the Site will be restricted throughout the construction working area during construction for health and safety reasons and will be reinstated following cessation of construction activities.

68. An Operations and Maintenance Manual for the design life of the Development will be prepared by the Contractor and will cover all operational and decommissioning procedures.

18.2.4 Mitigation and Residual Effects

69. The embedded mitigation measures outlined will ensure Health and Safety concerns during the construction of the Development are eliminated or minimised as far as reasonably practicable. Additional measures have been identified to protect receptors during blasting associated with the Development and FLS quarrying on the Site:

18.2.4.1 Activities from Development

70. There are two borrow pit search areas proposed as part of the Development which will be borrowed to access aggregate for construction of access tracks on Site. In order to protect the general public and other receptors from blasting activities associated with proposed borrow pits, the following mitigation measures will be implemented to ensure health and safety requirements are met:

- Borrow pit areas will be temporarily fenced off during blasting;
- Fencing will be regularly checked and maintained as necessary;
- Appropriate warning signs will be placed along the fence line warning of quarry / blasting operations to raise public awareness;
- Similarly, warning signs will be placed within the blasting areas alerting site operators to the presence of potential general public access nearby;
- Health and Safety awareness and training will be delivered to employees working on site regularly; and
- All staff and workers will be provided with appropriate PPE.

18.2.4.2 Activities from Existing Quarries

71. In order to protect Development workers from quarrying and / or blasting activities from existing quarry operations on site, the following mitigation measures will be implemented to ensure health and safety requirements are met:

- Site personnel will be made aware of other quarry / blasting activities in the area during inductions / during toolbox talks. Site personnel will be updated on status of activities on days where operations from existing quarries is due to commence;
- During the operation of the Development, warning signs will be erected when blasting / quarry activities is due to commence on site at adjacent quarries;
- Health and Safety awareness and training will be delivered to employees working on site regularly; and
- All staff and workers will be provided with appropriate PPE.

18.3 WASTE

72. Exact quantities and types of waste are unknown at this stage of the Development. It is expected that they could include:

- Excavated material;
- Forestry Residues;

- Welfare facility waste;
- Packaging;
- Waste chemicals, fuels and oils;
- Waste metals;
- Waste water from dewatering;
- Waste water from cleaning activities; and
- General construction waste (paper, wood, etc.).

73. A Site Waste Management Plan (SWMP) will detail how waste streams are to be managed, following the Waste Hierarchy[14] of prevention, reuse, recycle, recover and as a last resort, disposal to landfill. The SWMP will be agreed and implemented prior to construction commencing on Site.

    Therefore, it is not considered necessary for waste to be assessed further within this EIA Report and is scoped out for further assessment.

[14] The Waste Management Licencing (Scotland) Regulations 2011 places a duty on all persons who produce, keep or manage waste to apply the 'Waste Hierarchy' in order to minimise waste production at all stages of a development.