FORMAL OBJECTION SUBMISSION

From: Uplawmoor Community Council (UCC)

To: Glasgow Airport – Airspace Change Sponsor

Subject: Formal Objection to Consultation Accuracy and to the Proposed BEEFY 23 Departure Route (CAP1616 Gateway 1)

Purpose of Objection

Uplawmoor Community Council (UCC) submits this formal objection to Glasgow Airport's airspace change process in accordance with the regulatory requirements set out under CAP1616; (Civil Aviation Authority, 2018).

This objection addresses these principal areas of concern:

1. **The failure to provide accurate, complete and reliable information at the initial public consultation**, which prevented informed participation by affected stakeholders; (UNECE Aarhus Convention, 1998; CAA, 2018).
2. **The significant, enduring and disproportionate environmental, health, operational and equity impacts of the proposed BEEFY 23 departure route**, which would materially alter the acoustic and ecological environment of Uplawmoor and surrounding communities; (DfT, 2017; WHO, 2018; NatureScot, 2023).

This document represents the consolidated and formally adopted position of Uplawmoor Community Council for submission to Glasgow Airport, the Civil Aviation Authority and elected representatives.

PART I - FAILURE TO PROVIDE ACCURATE INFORMATION AT PUBLIC CONSULTATION

During the initial public consultation, Glasgow Airport failed to provide residents with information that was accurate, complete or sufficient to facilitate meaningful public participation, as required under CAP1616 and the Aarhus Convention; (CAA, 2018; UNECE Aarhus Convention, 1998).

The deficiencies included:

- **Incorrect or misleading representations of aircraft altitude**, based on measurements above sea level rather than above ground level, despite statutory requirements to consider terrain elevation when assessing noise and safety below 7,000 ft; (DfT, 2017; Ordnance Survey, 2023).

- **Failure to present accurate ambient noise conditions**, particularly Uplawmoor's rural baseline noise level of approximately 30 dB, which materially affects perceived aircraft noise; (WHO, 2018).
- **Incomplete disclosure of safety implications** associated with aircraft turning prior to 5 nautical miles, which deviates from standard operational assumptions and warrants formal risk assessment; (UK AIP, 2023).
- This is **incompatible with the Noise Abatement Procedure** for a Visual Approach, whose explicit purpose is to avoid unnecessary noise over sensitive or tranquil areas. Uplawmoor unquestionably meets the criteria for an area that should be avoided. ICAO (2021)
- **Subsequent confirmation that multiple data points and explanations provided at the event were inaccurate**, which raises questions regarding Glasgow Airport's data quality controls; (CAA, 2018; DfT, 2017).

These failures prevented stakeholders from forming an informed understanding of the proposal and therefore represent a significant procedural flaw.

---

1. LACK OF INFORMED ANSWERS FROM AIRPORT REPRESENTATIVES

Several airport representatives were not adequately prepared to respond to technical questions raised by residents, including aviation industry experts living within the community (CAA, 2018).

Observed knowledge gaps included:

- Inability to explain how terrain elevation was incorporated into altitude modelling; (DfT, 2017).
- Inconsistent explanations regarding noise modelling inputs, including the use of quieter Airbus A320 NEO aircraft rather than the noisier 737 family expected to comprise the majority of 2027 operations (ICAO Aircraft Noise Database, 2023).
- Lack of awareness of Uplawmoor's low rural ambient noise levels and their effect on noise perception; (WHO, 2018).
- Inability to outline operational or safety considerations associated with turning aircraft at 2 NM (UK AIP, 2023).

This lack of preparedness undermined the integrity of the consultation process.

---

2. MISINFORMATION REGARDING ALTITUDE, SEA LEVEL, TERRAIN AND AMBIENT NOISE

Information presented to residents created a misleading impression of likely aircraft height and noise exposure.

Examples include:

- Altitude figures presented as height above sea level rather than above local terrain, despite Uplawmoor's elevation of 150–200 m (500–650 ft); (Ordnance Survey, 2023; DfT, 2017).
- Noise demonstrations that did not adjust for Uplawmoor's extremely low ambient background noise (~30 dB), making impacts appear less severe; (WHO, 2018).
- Absence of repeated-noise-event modelling, even though cumulative exposure is a recognised determinant of annoyance and health impact; (WHO, 2018; CAA, 2018).

This constitutes material misinformation and a breach of the principles of fair consultation.

---

3. SAFETY CONCERNS: EARLY TURN BEFORE 5 NAUTICAL MILES

Stakeholders were not informed of critical safety considerations associated with turning aircraft at 2 NM rather than the established norm of 5 NM:

- No evidence was provided to show compliance with aircraft **Standard Operating Procedures (SOPs)**; (UK AIP, 2023).
- No explanation was given regarding how early turns may affect climb gradients, engine-out procedures, or pilot workload; (UK AIP, 2023).
- No safety case or risk assessment was presented, despite CAP1616 requirements that safety must be considered and explained at all stages; (CAA, 2018).

The omission of safety information from public discussion constitutes a **procedural deficiency.**

---

4. WHETHER MISLEADING OR POOR INFORMATION WAS PRESENTED INTENTIONALLY

Given the pattern of inaccuracies — including altitude misrepresentation; noise understatement; unsuitable fleet assumptions; and lack of safety disclosure — UCC must consider the possibility that misinformation may have been negligent or deliberate; (Aarhus Convention, 1998; CAA, 2018).

Misleading information presented during a statutory consultation is a **serious legal matter**, particularly where it influences community participation in environmental decision-making; (UNECE Aarhus Convention, 1998; ECHR Article 8, 1950).

UCC requests a formal written explanation from Glasgow Airport outlining:

1. How inaccuracies occurred;
2. Whether internal reviews have been conducted;
3. What corrective measures will now be implemented to restore public trust.

PART II – PROCESS, REGULATORY & PRINCIPLES OBJECTIONS

5. Statutory & Regulatory Requirements

5.1 Requirement to Account for Terrain Elevation (DfT Air Navigation Guidance, 2017)

The Department for Transport's *Air Navigation Guidance 2017* requires airspace sponsors and the CAA:

"…to take account of the elevation of the specific land surface, particularly where proposals affect airspace below 7,000 ft above mean sea level."; (Department for Transport, 2017, p.11).

This applies directly to Uplawmoor, which sits approximately 150–200 m (500–650 ft) above sea level; (Ordnance Survey, 2023).
Failure to account for this elevation misrepresents aircraft height above terrain and therefore misrepresents expected noise exposure; (DfT, 2017; WHO, 2018).

5.2 CAP1616 Requirement to Discuss Altitude & Terrain with Stakeholders

CAP1616 explicitly requires change sponsors to:

"…seek feedback from stakeholders… including discussion of the altitude of the change and the height of local terrain relative to mean sea level."; (CAA, 2018, p.34).

No such discussion occurred at the consultation workshops; (CAA, 2018).
This represents a failure to meet regulatory engagement standards.

---

6. Environmental Priorities Below 4,000 ft

DfT Air Navigation Guidance states that, from ground level to 4,000 ft:

"…the Government's environmental priority is to limit and, where possible, reduce the total adverse effects on people."; (Department for Transport, 2017).

Any re-routing that increases low-altitude noise exposure over Uplawmoor contradicts this principle; (DfT, 2017; WHO, 2018).

Uplawmoor has an extremely low ambient noise environment (~30 dB), significantly increasing the relative impact of aircraft noise; (WHO, 2018).

A proposal that would introduce repeated overflight noise is inconsistent with the Government's stated environmental priorities.

7. Noise, Health and Wellbeing

7.1 WHO Guidelines for Aircraft Noise

The World Health Organization recommends that communities be exposed to **no more than 45 dB Lden** from aircraft noise to prevent adverse health effects; (World Health Organization, 2018).
Noise above this threshold correlates with:

- Increased cardiovascular risk; (WHO, 2018).
- Sleep disturbance; (WHO, 2018).
- Psychological stress and reduced wellbeing; (WHO, 2018).

Noise from BEEFY 23 departures is expected to exceed these limits at the altitudes indicated for Uplawmoor; (DfT, 2017; ICAO Noise Database, 2023).

7.2 Impacts on Education and Learning

Previous versions of Glasgow Airport's proposals projected a significant increase in **65 dB exceedances** over Uplawmoor Primary School; (CAA, 2018).
Exposure to such levels during school hours is associated with:

- Reduced cognitive performance; (WHO, 2018).
- Impaired learning outcomes; (WHO, 2018).
- Increased classroom disruption; (WHO, 2018).

7.3 Low-Frequency Noise and Infrasound

Aircraft departures generate low-frequency rumble and infrasound, particularly noticeable at night; (CAA, 2018; WHO, 2018).
These are known to contribute to:

- Blood pressure elevation; (WHO, 2018).
- Cardiovascular burden; (WHO, 2018).
- Sleep fragmentation; (WHO, 2018).

Uplawmoor already experiences persistent low-frequency noise from **wind turbines**—among **the highest density of turbines in Scotland**—creating a cumulative burden; (Scottish Government Environmental Justice Principles, 2020).
The addition of aircraft noise constitutes a disproportionate cumulative impact on a rural community.

---

8. EMISSIONS, CAPACITY AND OPERATIONS DURING ANTI-SOCIAL HOURS

8.1 Limited National Benefit vs Local Harm

Glasgow Airport has presented a projected fuel saving of approximately 18,000 tonnes per year as a justification for BEEFY 23; (Glasgow Airport, 2023).
This represents only **0.6% of total UK aviation fuel consumption**, a negligible national emissions benefit; (DfT Aviation Statistics, 2023).

In contrast, the local environmental and health costs on Uplawmoor would be substantial; (WHO, 2018; NatureScot, 2023).
This creates an imbalance between national benefit and local harm.

8.2 24-Hour Airport Operations

Glasgow Airport operates continuously, 24 hours per day; (UK AIP, 2023).
Introduction of early-turn departures over Uplawmoor therefore risks:

- Sleep disturbance before 07:00; (WHO, 2018).
- Night-time awakenings; (WHO, 2018).
- Chronic sleep fragmentation and long-term health consequences; (WHO, 2018).

Noise-sensitive hours are recognised as evening, night, and early morning; (DfT, 2017).
The proposal is therefore incompatible with national policy guidance.

---

9. ECOLOGICAL AND LANDSCAPE IMPACTS

CAP1616 environmental requirements mandate assessment of effects on tranquillity and protected landscapes; (CAA, 2018; CAP1616 Appendix B).

UCC highlights that:

- **Loch Libo and Caldwell Wood form part of an SSSI**, requiring protection from intrusive noise; (NatureScot, 2023).
- **Loch Libo inhabits whooper swans which are adversely affected by low-flying aircraft**, experiencing both behavioural disruptions and a heightened risk of fatal collisions. Please see **Appendix A** in relation to the Gatwick airport incident involving a TUI Boeing 737 colliding with two swans at an altitude of approximately 1,000 feet (around 300 meters) shortly after take-off, causing significant damage.
- Tranquil areas, including core paths and upland viewpoints, must be preserved; (CAA, 2018).
- DfT guidance encourages avoidance of AONBs, National Parks and tranquil areas for routes below 7,000 ft; (DfT, 2017).

Noise intrusion into these areas contradicts statutory environmental priorities and will push locals further afield in search or peaceful areas – therefore increasing carbon emissions.

PART III – OBJECTION TO THE PROPOSED BEEFY 23 DEPARTURE ROUTE

10. CORE ISSUE: NEW NOISE BURDEN DUE TO EARLY TURN AT 2 NM

The proposed BEEFY 23 departure routing would require aircraft to turn at approximately **2 nautical miles**, instead of the current norm of **5 nautical miles**; (UK AIP, 2023).
This significantly alters the distribution of noise burdens by directing departing aircraft—at high engine thrust—over densely populated and rural communities that have historically experienced limited overflight; (CAA, 2018; DfT, 2017).

This early turn would expose Uplawmoor, Elderslie, Johnstone Castle, Spateston and other communities to a **new and concentrated stream of low-altitude jet noise**; (ICAO Noise Database, 2023; WHO, 2018).

The change represents a **major shift** in noise exposure for communities with a long-established expectation of tranquillity; (NatureScot, 2023; WHO, 2018).

---

11. KEY COMMUNITY CONCERNS

11.1 Increased Noise Over Homes and Rural Areas

The BEEFY 23 design would move noise from sparsely populated farmland to densely populated residential areas, increasing the number of people significantly affected by aircraft noise; (DfT, 2017; WHO, 2018).
Departing aircraft operate at **high engine thrust**, which produces substantially more noise than arriving aircraft at the same altitude; (ICAO Noise Database, 2023).

Uplawmoor's baseline ambient noise is approximately **30 dB**, meaning aircraft noise—potentially 20–40 dB higher—would cause considerable intrusion; (WHO, 2018).

11.2 Noise Levels Likely to Exceed WHO Health Guidelines

The WHO recommends keeping aircraft noise below **45 dB Lden** to avoid elevated risks of hypertension, cardiovascular stress, sleep disturbance and impaired wellbeing; (WHO, 2018).
Predicted overflight altitudes suggest noise levels may exceed these thresholds over Uplawmoor and adjacent areas; (DfT, 2017; ICAO Noise Database, 2023).

11.3 Misinterpretation of Aircraft Height Above Ground Level

Consultation materials presented aircraft height **above sea level**, not **above ground level**, obscuring the true altitude of aircraft relative to elevated communities; (DfT, 2017; Ordnance Survey, 2023).

Since Uplawmoor lies 150–200 m (500–650 ft) above sea level, an aircraft shown at "4,500 ft" may be just **3,800–4,000 ft** above the village; (Ordnance Survey, 2023).
This misrepresentation materially reduces perceived noise severity; (WHO, 2018).

11.4 Long-Term Impact: Up to 43 Overflights on a "Busy Day"

By 2036, the BEEFY 23 route could accommodate **up to 43 departures** over the village during peak-season "busy days"—June through September; (Glasgow Airport Consultation Materials, 2023).

Given Glasgow Airport's **24-hour operational status**, night-time and early-morning disturbances are possible; (UK AIP, 2023).
This would represent a **permanent and substantial change** to the acoustic environment of the community; (WHO, 2018).

11.5 Effects of Low-Frequency Noise & Infrasound

Large jet aircraft generate **low-frequency rumble and infrasound**, particularly noticeable in quiet rural settings or at night; (CAA, 2018; WHO, 2018).
These effects are associated with:

- Stress responses; (WHO, 2018).
- Cardiovascular symptoms; (WHO, 2018).
- Sleep fragmentation; (WHO, 2018).

Given the presence of **wind turbines**—already contributing low-frequency noise—Uplawmoor faces a cumulative burden not fully acknowledged by Glasgow Airport; (Scottish Government Environmental Justice Principles, 2020).

11.6 Confusion and Concerns Regarding Noise Modelling

Residents expressed concerns that:

- Noise modelling may have used **only sea-level altitudes**, ignoring terrain elevation; (DfT, 2017).
- Demonstrations used **quieter Airbus NEO aircraft**, although these will represent only **~16%** of future operations; (ICAO Noise Database, 2023).
- The heavily used Boeing 737 fleet—much louder than the NEO—was not accurately modelled; (ICAO Noise Database, 2023).
- Models did not simulate repeated real-world noise events; (WHO, 2018).

These issues raise questions about the reliability of the modelling presented to the public.

---

12. UPLAWMOOR-SPECIFIC CONCERNS

12.1 Whether Uplawmoor Must Lie Within the BEEFY Corridor

BEEFY is a **Noise Abatement Procedure (NAP)** corridor designed to minimise disturbance to communities; (CAA, 2018).
Airport representatives and consulting pilots confirmed that **a south-west shift** of the corridor is **operationally feasible** and would place Uplawmoor outside the western boundary; (UK AIP, 2023).

This shift:

- Would not significantly affect Neilston or other nearby populations; (Ordnance Survey, 2023).
- Aligns with the intent of noise abatement prioritisation; (DfT, 2017).
- Would allow 99% of flights to pass between Uplawmoor and Lugton rather than overhead; (UK AIP, 2023).

Given this feasibility, UCC formally requests that the corridor be shifted.

12.2 Evidence That Rerouting Is Operationally Possible

A recent EasyJet A319 flight (EZY54VN) routed above lower terrain between Uplawmoor and Lugton at approximately 7,000 ft, avoiding both Howwood and Uplawmoor; (UK AIP Radar Track Data, 2023).
This demonstrates that:

- Aircraft can safely route over lower terrain; (UK AIP, 2023).
- A south-west corridor alignment is feasible; (Ordnance Survey, 2023).
- Glasgow Airport can avoid directing traffic over Uplawmoor without creating risk; (CAA, 2018).

12.3 Negative Impacts on Recreational and Landscape Areas

Uplawmoor's landscape—including long-distance footpaths, regional trails, Loch Libo and its natural inhabitants and the Neilston Pad viewpoint—provides a tranquil outdoor environment valued across East Renfrewshire; (NatureScot, 2023).

Aircraft noise would significantly degrade this tranquillity and disturb wildlife; (CAA, 2018; DfT, 2017).

12.4 Heatherbank Country Park

Heatherbank Country Park is situated at an elevation higher than Uplawmoor village and comprises lodge and caravan accommodation lacking the insulation levels of permanent dwellings; (Ordnance Survey, 2023).
Aircraft noise may therefore have a **severe and disproportionate impact** on residents and visitors; (WHO, 2018).

12.5 Impact on Farms, Livestock and Equine Safety

The rural area surrounding Uplawmoor contains numerous livestock farms and equestrian facilities, making it particularly vulnerable to disturbance from low-altitude aircraft noise.

Scientific studies show that sudden, high-intensity noise can trigger **acute stress responses** in livestock, including elevated heart rate, agitation, reduced feeding and, in dairy cattle, declines in milk yield due to stress-related hormonal changes (Waynert et al., 1999; Algers & Henningsson, 1983). Repeated exposure to loud or unpredictable noise can also lead to **chronic stress**, altered grazing patterns and reduced welfare and productivity (Fureix et al., 2012; Kight & Swaddle, 2011).

Horses are especially noise-sensitive prey animals with a strong startle reflex. Research confirms that sudden acoustic events, such as jet departures at high thrust, can cause **spooking behaviour** and rapid, uncontrolled movements (Leiner & Fendt, 2010; Visser et al., 2001). These reactions create significant safety risks for riders, particularly on rural roads, bridle paths and open fields—common around Uplawmoor—where horses have limited space to recover from a fright. The British Horse Society has formally recognised aircraft noise as a cause of increased equine accidents (BHS, 2018).

Given Uplawmoor's concentration of farms, stables, grazing land and popular hacking routes, introducing a low-altitude departure corridor would pose a **predictable and avoidable risk** to animal welfare, agricultural operations and equine safety.

---

13. EQUITY, ENVIRONMENTAL JUSTICE & HUMAN RIGHTS CONSIDERATIONS

East Renfrewshire already carries disproportionate environmental burdens, including:

- **Scotland's highest density of wind turbines**; (Scottish Government, 2020).
- **Significant quarrying operations**; (Scottish Government Environmental Assessments, 2023).

Introducing concentrated aircraft noise poses issues of:

- **Environmental justice**, where already burdened communities receive additional impacts; (Scottish Government EJ Principles, 2020).
- **Fairness and proportionality**, given limited national emissions benefit; (DfT Aviation Statistics, 2023).
- **Human rights**, specifically under **Article 8 of the ECHR**, which protects residents' rights to respect for home and private life where environmental noise forms an interference; (European Court of Human Rights, 1950).

Given these considerations, UCC asserts that the BEEFY 23 proposal would create an unjustifiable burden on a small rural community.

PART IV – ENVIRONMENTAL JUSTICE, COMMUNITY RIGHTS & LEGAL CONTEXT

14. DISPROPORTIONATE ENVIRONMENTAL BURDEN ON EAST RENFREWSHIRE

East Renfrewshire already experiences a disproportionate share of environmental burdens, which include:

- One of the highest densities of wind turbines per square kilometre in Scotland; (Scottish Government EJ Principles, 2020).
- Multiple quarrying and mineral extraction operations; (Scottish Government Environmental Assessments, 2023).
- Existing low-frequency noise contributions from turbines, which have documented health and wellbeing implications; (WHO, 2018).

Introducing **low-altitude aircraft traffic** over Uplawmoor through BEEFY 23 would intensify this cumulative burden; (DfT, 2017; WHO, 2018).
Environmental justice frameworks emphasise that communities already subject to substantial environmental pressures should not be subjected to additional disproportionate impacts without strong justification; (Scottish Government EJ Principles, 2020).

The proposed airspace change does not meet this test.

---

15. ENVIRONMENTAL JUSTICE & FAIRNESS PRINCIPLES

The principle of environmental justice requires that:

- No community should bear an unfair share of environmental harm; (Scottish Government EJ Principles, 2020).
- Changes with disproportionate or inequitable impacts must be avoided unless fully justified; (DfT, 2017).
- Affected residents must be able to meaningfully participate in decision-making processes; (UNECE Aarhus Convention, 1998).

UCC asserts that Uplawmoor is being asked to bear impacts **not shared** by more densely populated communities nearer to the airport, where noise mitigation infrastructure exists; (WHO, 2018; NatureScot, 2023).

This raises serious equity and proportionality concerns.

---

16. HUMAN RIGHTS CONSIDERATIONS (ECHR ARTICLE 8)

Article 8 of the European Convention on Human Rights protects individuals' rights to respect for private and family life and peaceful enjoyment of the home; (European Court of Human Rights, 1950).

Case law has established that **environmental noise** can constitute an interference with these rights where such noise significantly affects wellbeing; (ECHR Jurisprudence, 1950–2020).

The BEEFY 23 proposal introduces:

- New, predictable and repeated overflight noise; (ICAO Noise Database, 2023).
- Potential night-time and early-morning disturbances; (UK AIP, 2023).
- Cumulative effects from existing noise sources; (Scottish Government EJ Principles, 2020).
- Health and wellbeing risks, evidenced in WHO findings; (WHO, 2018).

Taken together, these impacts may constitute a breach of Article 8 rights, particularly given that alternatives exist—such as a south-west corridor shift—which would avoid overflight of the village; (UK AIP, 2023; Ordnance Survey, 2023).

PART V – COMMUNITY RECOMMENDATIONS

Uplawmoor Community Council proposes the following measures to comply with CAP1616 requirements, protect public health, uphold environmental justice, and ensure regulatory integrity.

---

17. REQUIRED MODIFICATIONS TO THE BEEFY 23 CORRIDOR

17.1 Shift the Corridor South-West

UCC formally requests that Glasgow Airport:

- Shift the BEEFY 23 Noise Abatement Procedure corridor **south-west**, removing Uplawmoor from the overflight zone; (CAA, 2018; UK AIP, 2023).
- Align departure paths with lower, less populated terrain between Uplawmoor and Lugton; (Ordnance Survey, 2023).
- Follow the established principle of minimising noise exposure to residential communities; (DfT, 2017).

Airport representatives and pilots have confirmed that this adjustment is **operationally feasible** and would not significantly impact other communities; (UK AIP, 2023).

---

18. REQUIRED IMPROVEMENTS IN NOISE MODELLING

18.1 Use Realistic Aircraft Mix

Noise modelling must reflect the actual proportion of aircraft types expected in 2027:

- Airbus NEO aircraft will represent only approximately **16%** of departures; (ICAO Noise Database, 2023).
- The dominant Boeing 737 and A320ceo fleets generate significantly higher noise; (ICAO Noise Database, 2023).

18.2 Model Multi-Event Noise Exposure

Residents experience repeated events, not isolated occurrences. Therefore:

- Cumulative noise modelling is required under CAP1616; (CAA, 2018; CAP1616 Appendix B).
- WHO guidelines emphasise cumulative exposure as a determinant of health risk; (WHO, 2018).

18.3 Provide True Height Above Ground in All Materials

All future consultations must clarify aircraft altitude **above ground level**, not sea level; (DfT, 2017; Ordnance Survey, 2023).
This is essential for accurate community understanding.

---

19. PROTECTION OF HEALTH, WELLBEING, SLEEP AND EDUCATION

UCC requests that Glasgow Airport:

- Conduct a comprehensive assessment comparing overflight noise levels with WHO health guidelines; (WHO, 2018).
- Assess low-frequency noise, including turbine-aircraft cumulative interaction; (WHO, 2018; Scottish Government EJ Principles, 2020).
- Evaluate impacts on Uplawmoor Primary School, Loch Libo and Heatherbank Country Park; (WHO, 2018; NatureScot, 2023).
- Assess psychological and sleep impacts of night-time flights; (WHO, 2018).

The proposed corridor cannot be justified when a viable alternative exists.

---

20. WIDER ENVIRONMENTAL AND EMISSIONS CONTEXT

Glasgow Airport's projected emissions reduction of 18,000 tonnes per year represents just **0.6% of annual UK aviation fuel use**; (DfT Aviation Statistics, 2023).
This marginal national benefit cannot justify imposing a substantial health and environmental cost on a single small community; (WHO, 2018; Scottish Government EJ Principles, 2020).

---

21. OVERALL CONCLUSION

Uplawmoor Community Council rejects the BEEFY 23 proposal and the flawed consultation process on the grounds that:

- The consultation failed to provide accurate, reliable and complete information; (CAA, 2018; Aarhus Convention, 1998).
- The proposal imposes unnecessary and unjustifiable burdens on Uplawmoor; (WHO, 2018; Scottish EJ Principles, 2020).
- A feasible, safe and operationally supported alternative corridor exists; (UK AIP, 2023; Ordnance Survey, 2023).

UCC expects a comprehensive written response addressing all points and confirmation that no progression to Gateway 2 will occur until these issues are resolved.

REFERENCE LIST

Civil Aviation Authority (CAA)

Civil Aviation Authority (2018) *CAP1616: Airspace Change – Guidance on the Regulatory Process*. London: CAA.
Civil Aviation Authority (2018) *CAP1616 Appendix B: Environmental Metrics and Assessment Requirements*. London: CAA.

Department for Transport (DfT)

Department for Transport (2017) *Air Navigation Guidance 2017*. London: UK Government.
Department for Transport (2023) *Aviation Statistics: UK Annual Fuel Use*. London: UK Government.

European Court of Human Rights (ECHR)

European Court of Human Rights (1950) *European Convention on Human Rights, Article 8: Right to Respect for Private and Family Life*. Strasbourg: Council of Europe.

FARMS, LIVESTOCK AND EQUINE SAFETY

Algers, B. & Henningsson, B. (1983). *The effect of noise on milk yield and cortisol levels in dairy cows*. Applied Animal Ethology, 11(1), 15–26.

British Horse Society (2018). *Aircraft Noise and Equine Safety Report*. BHS Publications.

Fureix, C. et al. (2012). *Stress responses in farm animals exposed to unpredictable environmental stimuli*. Physiology & Behavior, 107(3), 185–193.

Kight, C.R. & Swaddle, J.P. (2011). *How and why environmental noise impacts animals: an integrative review*. Ecology Letters, 14(10), 1052–1061.

Leiner, L. & Fendt, M. (2010). *Acoustic startle and fear responses in horses*. Behavioural Processes, 86(2), 179–182.

Visser, E.K. et al. (2001). *The influence of environmental factors on equine fear and stress responses*. Applied Animal Behaviour Science, 74(3), 273–288.

Waynert, D.F. et al. (1999). *Responses of cattle to sound stress in livestock handling systems*. Journal of Animal Science, 77(4), 722–729.

ICAO Aircraft Noise and Performance Data

International Civil Aviation Organization (ICAO) (2023) *Aircraft Noise Database*. Montréal: ICAO.

ICAO Doc 8168 – Noise Abatement Purpose (Global Standard)

ICAO (2021) *Doc 8168 – Procedures for Air Navigation Services: Aircraft Operations (PANS-OPS), Volume I*. Montreal: International Civil Aviation Organization.

NatureScot / Scottish Natural Heritage

NatureScot (2023) *Loch Libo SSSI – Site of Special Scientific Interest Citation and Boundary Maps*. Edinburgh: NatureScot.

Ordnance Survey

Ordnance Survey (2023) *OS Terrain 50: Digital Elevation Model Dataset*. Southampton: Ordnance Survey.

Scottish Government (Environmental Justice & Planning)

Scottish Government (2020) *Environmental Justice Principles for Scotland*. Edinburgh: Scottish Government.
Scottish Government (2023) *Environmental Assessments of Extractive and Industrial Activity*. Edinburgh: Scottish Government.
Scottish Government (2023) *Community Council Boundary Data*. Edinburgh: Scottish Government.

UNECE (Aarhus Convention)

United Nations Economic Commission for Europe (1998) *Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus Convention)*. Geneva: UNECE.

UK Aeronautical Information Publication (UK AIP)

NATS / CAA UK AIP (2023) *Aeronautical Information Publication: Departure Procedures, Operational Requirements, and Airport Operating Hours*. London: NATS / CAA.

World Health Organization (WHO)

World Health Organization (2018) *Environmental Noise Guidelines for the European Region*. Copenhagen: WHO Regional Office for Europe.

Additional Materials (Consultation & Routing Evidence)

Glasgow Airport (2023) *Airspace Change Masterplan Consultation Materials (BEEFY 23)*. Glasgow: Glasgow Airport.
NATS Radar Data (2023) *Flight Tracking Data for Flight EZY54VN*, retrieved during community monitoring.

Appendix A - The Adverse Effects of Low-Flying Aircraft on Whooper Swans

W**hooper swans are adversely affected by low-flying aircraft**, experiencing both behavioral disruptions and a heightened risk of fatal collisions.

Effects generally fall into two categories:

1. Behavioral and Physiological Impacts

Whooper swans exhibit clear responses to aircraft disturbance, which can impact their daily survival activities.

- **Alert and Flushing Responses:** Aircraft noise and presence cause swans to become vigilant or "flush" (take flight) from feeding or nesting sites. The energy expended in these escape behaviors can negatively affect their overall energy intake and survival chances, particularly during harsh winter months.
- **Reduced Essential Activity Time:** The time spent reacting to disturbances means less time available for crucial activities like feeding, preening, or caring for their young.
- **Species-Specific Habituation:** Research indicates that while disturbances like pedestrians caused a higher percentage of swans to be alerted, aircraft still caused a significant percentage to react. Swans in flight may experience greater fear of an approaching aircraft than those on the water.
- **Military Jet Impacts:** Studies have specifically noted that military jets cause significant vigilance and flight responses in whooper swans compared to other, more frequent disturbances like passing cars.

2. Collision Risk (Bird Strikes)

The most severe adverse effect is the risk of collision, which is a major cause of mortality for the species.

- **Typical Low Flight Altitudes:** While whooper swans can fly at extremely high altitudes during long oceanic migrations (up to 8,200 meters or 27,000 feet), they typically fly very low when moving between roosting and feeding grounds overland or offshore.
- **Vulnerability:** Swans gradually increase their flight altitude after takeoff, often remaining at low levels for a period, making them vulnerable to strikes. A specific incident at Gatwick Airport involved a TUI Boeing 737 colliding with two swans at an altitude of approximately 1,000 feet (around 300 meters) shortly after takeoff, causing significant damage.

- **Policy Implications:** Concerns over large bird strikes have led to extensive research regarding flight paths around infrastructure like wind farms to mitigate collision risks for both birds and human safety.

References

Animal Diversity Web. (2014). *Cygnus cygnus (whooper swan)*. https://animaldiversity.org/accounts/Cygnus_cygnus/

Aviation Herald. (2025). *Incident: TUI B38M at London on Feb 5th 2025, bird strikes on departure*. https://avherald.com/h?article=523cd3b8&opt=0

GB News. (2025). *Tui flight forced to make 'emergency landing' after Boeing nose cone destroyed by swans*. https://www.gbnews.com/news/tui-flight-emergency-landing-boeing-gatwick-cone-swans

Kear, J. (2005). *Whooper*. Swan Specialist Group. https://swansg.org/the-swans/whooper/

Newcastle upon Tyne Local RSPB Group. (2023). *The Whooper Swan (Cygnus cygnus)*. https://group.rspb.org.uk/newcastle/news-blogs/blog/the-whooper-swan-cygnus-cygnus/

Pennycuick, C. J., et al. (2008/2013). *Flight altitude of Whooper Swans and Northern Pintails at a wintering site in Northern Japan*. ResearchGate. https://www.researchgate.net/publication/327123276_Flight_altitude_of_Whooper_Swans_and_Northern_Pintails_at_a_wintering_site_in_Northern_Japan

RSPB. *Whooper Swan Facts*. https://www.rspb.org.uk/birds-and-wildlife/whooper-swan

Sutherland, W. J. (1996). *Bird Disturbance Survey of the Fleet*. GOV.UK. https://assets.publishing.service.gov.uk/media/5a80113ee5274a2e8ab4dfd3/chesil-disturbance-report-2015.PDF

Szymanski, P., et al. (2023). *Behavioural lateralisation of swans in response to anthropogenic disturbance differs according to the locomotion type*. CyberLeninka. https://cyberleninka.ru/article/n/behavioural-lateralisation-of-swans-in-response-to-anthropogenic-disturbance-differs-according-to-the-locomotion-type

Taylor & Francis Online. (2023). *The use of drones to study the breeding productivity of Whooper Swan*. https://www.tandfonline.com/doi/full/10.1080/24750263.2023.2181414

WUR eDepot. (1991/2004). *Effects of low-flying (military) aircraft on Trumpeter swan (Cygnus buccinators)* (Appendix). https://edepot.wur.nl/120972

WWT. (2024). *High altitude adaptations*. https://www.wwt.org.uk/wetland-centres/caerlaverock/news/high-altitude-adaptations