Year Valley Society Data Centre Team

The Database for responding to the awaited Planning Application for a Data Centre at Keswick Triangle (near Tesco) will appear here once it is in a user-friendly form. It will remain a work in progress.

In the meantime, an excellent overview of the issues that need to be covered has been kindly provided by a supporter of the Team, Adrian Porter. It is reproduced below with only formatting changes and a minor text addition indicated by italics.

Adrian Porter, MICE, is a Principal Civil Engineer with over 35 years' experience in highways, drainage, design management and infrastructure planning. He has led major schemes for local authorities, National Highways and multi-disciplinary design teams across the UK, specialising in geometric design, technical assurance, CDM compliance and project governance. Adrian has contributed to numerous strategic transport, safety and development projects and is experienced in coordinating complex multi-discipline inputs. He supports the Yare Valley Society and brings long-standing professional insight into infrastructure, landscape interfaces and sustainable corridor planning.

Ecological and Planning Considerations for the Proposed Norwich Apex Data Centre in the Yare Valley

1. Purpose of Note

This technical note summarises key ecological, environmental, and planning considerations relevant to the proposed Norwich Apex Data Centre located within the Yare Valley Strategic Green Infrastructure Corridor. It is intended to support the Yare Valley Society's review of the proposal and assist in preparing evidence-based responses to the forthcoming planning application.

2. Strategic Context

2.1 Yare Valley as a Green Infrastructure Corridor

The Yare Valley is designated in Local Plans as a Strategic Green Infrastructure Corridor, forming a continuous ecological network linking Danby Wood, Marston Marsh, Keswick Marsh, Eaton Common, and associated riparian habitats. Its functions include:

- Wildlife movement and habitat continuity
- Floodplain storage and hydrological regulation
- Informal recreation and public access
- Biodiversity recovery and climate resilience

Any major development within or adjacent to this corridor must demonstrate that it does not fragment, degrade, or restrict these functions.

3. Material Differences from the Outline Approval

The proposed data centre differs significantly from the outline planning approval previously granted for the site:

• Scale: 150MW facility covering ~13 hectares
• Built form: Three-storey office block, large substation, extensive plant
• Employment: <150 jobs compared with >1000 originally indicated
• Operational profile: 24/7, 365-day continuous operation

These changes materially alter the environmental footprint, traffic profile, noise output, and ecological risk. The planning authority must therefore treat this as a substantially different proposal, requiring full reassessment.

4. Ecological and Environmental Considerations

4.1 Noise Emissions

Data centres generate continuous mechanical noise from:

• Cooling systems
• Air handling units
• Backup generators
• Substation transformers

Noise can propagate over several kilometres across open marshland. Sensitive species in Marston Marsh, Keswick Marsh, and Danby Wood — including swans, waterfowl, bats, and amphibians — are vulnerable to chronic noise disturbance.

Key concern:
Continuous noise may disrupt feeding, breeding, and roosting behaviour.

4.2 Light Pollution

24/7 operation requires external lighting for:

• Security
• Maintenance access
• Vehicle movements

Light spill affects nocturnal species and can alter insect behaviour, bat foraging routes, and plant photoperiod responses.

Key concern:
Artificial lighting may degrade dark-corridor conditions essential for wildlife movement.

4.3 Heat Output

Large data centres release significant thermal energy into the surrounding environment. This can create localised heat-island effects, altering:

• Marsh vegetation
• Water temperature in adjacent ditches
• Invertebrate populations
• Amphibian breeding conditions

Key concern:
Thermal emissions may shift microclimate conditions within the marsh ecosystem.

4.4 Electromagnetic Radiation

Substations and high-capacity electrical infrastructure emit electromagnetic fields. While research is ongoing, precautionary assessment is appropriate given the proximity to sensitive habitats.

Key concern:
Potential impacts on navigation, behaviour, or physiology of certain species.

4.5 Hydrology and Drainage

The Yare Valley's marshes rely on stable hydrological conditions. Large-scale development may:

• Increase impermeable area
• Alter groundwater recharge
• Change surface-water flow paths
• Increase runoff into sensitive wetland areas

Key concern:
Hydrological disruption could degrade wetland function and biodiversity.

4.6 Habitat Fragmentation

Fencing, security zones, and access roads may sever wildlife movement routes. The corridor must remain unfenced and permeable to maintain ecological continuity.

Key concern:
Fragmentation undermines the corridor's strategic purpose.

5. Biodiversity Net Gain (BNG) Compliance

Under statutory BNG requirements, major developments must deliver a minimum 10% net gain in biodiversity. Given the scale of the proposal and the sensitivity of the location, achieving genuine net gain may be:

• Technically challenging
• Spatially constrained
• Ecologically risky

BNG must be scrutinised carefully to ensure it is not achieved through accounting artefacts but through real, measurable ecological improvement.

6. Nature-Based Mitigation Requirements

If the proposal proceeds, mitigation should include:

• Wetland buffer zones
• Native woodland screening
• Dark-corridor protection
• Noise-attenuating *landscaping and* vegetation
• Hydrological safeguards
• Habitat restoration within the wider valley

These must be designed, costed, and enforceable.

7. Recommendations for Yare Valley Society

• Request full ecological impact assessment including noise, heat, light, hydrology, and EM radiation.
• Challenge the material deviation from outline approval based on scale and employment changes.
• Scrutinise Biodiversity Net Gain claims for realism and enforceability.
• Demand corridor permeability — no fencing or exclusion zones.
• Request hydrological modelling to protect marshland function.
• Seek nature-based mitigation commitments aligned with best practice.

8. Conclusion

The proposed Norwich Apex Data Centre presents significant ecological, environmental, and planning risks due to its scale, operational profile, and location within a strategic green corridor. A robust, evidence-based challenge is justified to ensure the Yare Valley's ecological integrity is not compromised.