Entrance Surface and Root Protection Area Statement

This statement has been prepared in support of the proposed access arrangements for the Queensbridge Farm Glamping Development, Wrexham (Planning Ref: P/2025/0854).

The purpose of this document is to outline the proposed use of the Total Traffic Exopave™ permeable paving system across the first 10 metres of the site entrance for the full width of the access, and to explain the environmental, arboricultural and engineering benefits of the system.

The proposed approach has been specifically selected due to the sensitive woodland edge setting and the requirement to minimise impacts within Root Protection Areas (RPAs) associated with nearby mature and veteran trees.

PROPOSED SURFACE TREATMENT

The first 10 metres of the access road from the highway boundary, across the entire width of the entrance, is proposed to be constructed using the Geosynthetics Total Traffic Exopave™ heavy duty permeable paving system.

The system comprises an interlocking recycled HDPE cellular paving grid designed for heavy vehicle use and capable of accommodating significant loading requirements whilst remaining permeable and sympathetic to the surrounding environment.

In accordance with recommendations received from Geosynthetics, the first 10 metres of the access will utilise the block infill option within the Total Traffic Exopave™ system in order to provide additional surface stability and reinforcement at the highway interface and within the highest trafficking area of the access.

This approach allows the surface to retain the operational and structural characteristics associated with a bound surface solution whilst maintaining permeability and a visually sympathetic appearance appropriate to the rural setting.

BOUND MATERIAL CLASSIFICATION

Whilst the proposed system maintains a permeable and visually softer finish, the Total Traffic Exopave™ system functions as a bound surface solution due to the interlocking nature of the cellular confinement structure and the stabilisation it provides to the aggregate and block infill.

Unlike loose gravel surfaces, the infill materials are confined within the interconnected HDPE cellular structure, significantly reducing movement, rutting, migration and displacement under vehicle loading. This creates a consolidated and stabilised surface capable of accommodating turning, braking and accelerating forces in a manner more consistent with bound surfacing systems.

The product is specifically engineered for heavy vehicle applications and achieves high shear strength through the cellular interlock system. As a result, the surface provides the operational and structural benefits associated with bound materials whilst still retaining permeability and reduced visual impact.

This approach is particularly beneficial within sensitive rural and arboricultural settings where a fully impermeable urban-style tarmac finish would be less appropriate visually and environmentally.

WHY THIS SYSTEM HAS BEEN SELECTED

The proposed entrance sits within a highly sensitive landscape and arboricultural setting where it is important that construction techniques minimise excavation, reduce soil compaction and maintain natural drainage characteristics.

Traditional impermeable surfacing methods such as fully bound tarmac or concrete construction would create greater levels of excavation and compaction within the Root Protection Area. By contrast, the Total Traffic Exopave™ system allows for a more sympathetic form of construction whilst still providing a robust vehicular surface appropriate for the proposed development.

The system has therefore been selected due to its combination of:
- Permeability and SuDS compliance;
- Reduced excavation requirements compared to traditional construction methods;
- Reduced soil compaction potential;
- Compatibility with tree protection objectives;
- High load-bearing capability;
- Natural appearance appropriate to the rural setting;
- Ability to distribute vehicle loading more evenly across the surface.

BENEFITS WITHIN THE ROOT PROTECTION AREA (RPA)

The proposed access passes in proximity to mature trees and associated Root Protection Areas. The use of a permeable cellular confinement system provides several significant arboricultural benefits when compared to conventional road construction.

The system assists in:
• Reducing excavation depth requirements, thereby helping retain existing soil structure and roots;
• Distributing wheel loads over a wider surface area, reducing localised compaction pressure;
• Allowing oxygen and water movement through the surface into underlying soils;
• Maintaining natural hydrological processes around tree root systems;
• Providing a no-dig or reduced-dig style solution commonly associated with sensitive tree protection approaches.

The proposed approach aligns with the wider arboricultural strategy for the site, which seeks to protect existing mature trees whilst allowing carefully managed access improvements.

ENVIRONMENTAL AND VISUAL BENEFITS

In addition to the engineering and arboricultural benefits, the proposed system offers wider environmental and visual advantages that are considered highly appropriate within this rural woodland edge location.

These include:
• A permeable surface assisting with sustainable drainage and reducing surface water runoff;
• A softer and more visually sympathetic appearance than conventional urban-style surfacing;
• The use of recycled HDPE materials;
• Reduced visual impact at the entrance to the site;
• Improved integration with the surrounding rural landscape.

The proposed finish will help ensure the entrance retains a rural character whilst still providing a durable and safe vehicular access arrangement.

MANUFACTURER INFORMATION

The Total Traffic Exopave™ system is specifically designed for heavy duty applications including rural roads, private roads, service areas and access routes.

According to the manufacturer's technical information:
• The system is suitable for vehicles up to 60 tonnes gross weight;
• The product has high compressive and shear strength characteristics;
• The system is designed to withstand braking, turning and accelerating forces;
• The surface is highly permeable and SuDS compliant;

• The product is manufactured from recycled HDPE materials.

The manufacturer also identifies the product as being suitable for farm and rural roads together with access routes where reduced visual impact and permeability are required.

CONCLUSION

The proposed use of the Total Traffic Exopave™ permeable paving system across the first 10 metres of the site entrance represents an appropriate and environmentally sensitive construction solution for this location.

The system has been selected specifically due to its compatibility with:
• The adjacent Root Protection Areas;
• The woodland edge setting;
• The wider arboricultural mitigation strategy;
• The requirement for a durable vehicular access;
• The need to minimise excavation and compaction impacts;
• The desire to maintain a rural and low-impact appearance.

Overall, the proposed construction methodology provides a balanced solution that combines engineering performance, tree protection considerations and environmental sensitivity.