FLOOD RISK ASSESSMENT-

FOR NIGEL DURDY NINEVAH FARM, IDLE BANK, EPWORTH. DN9 1LG

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Written by:

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[redacted]

This flood risk assessment is in respect of the proposal to construct a dwelling at Nineveh Farm, Idle Bank, Epworth.

The proposal is for an agricultural dwelling in conjunction with the agricultural business carried out on the site. There is one other modern property in the immediate vicinity which is not connected with the agricultural business. There is no history of flooding in this area, and the flood risk is very low because of the drainage network which is in place in this location.

The site is in an area showing as a flood plain which could be affected by fluvial flooding if there were no flood defences. There is a suggested potential flood risk from the River Trent which is some 9.3 kilometres east of the site. Currently flood protection, recently upgraded, is in place protecting the whole of Epworth from any flooding. There are no plans to reduce this level of protection.

The Environment Agency operates a flood warning service for this area, and the applicant will be alerted by this.

The site lies within an area of Epworth which is drained through a series of gravity and pumped dykes, which are maintained by the South Axholme Internal Drainage Board and local farmers/landowners. There is no history of flooding from these systems.

The Environment Agency indicates that possibility of flooding in this area from a river is a 1% chance, and from the sea is a 0.5% chance. This is categorized by the Environment Agency as MEDIUM.

The planning application is for a permanent dwelling as the business has operated profitably for many years.

Sources of potential flooding In the area of the application site, the potential sources of flooding are: The River Trent, the River Idle, the River Torne, and the internal drainage system.

The proposed dwelling will be built with no living accommodation on the ground floor, which will be used for agricultural purposes. These areas will have suspended concrete floors, and be constructed using water proof construction methods. All services will be placed at a high level with electrical sockets placed above the highest projected flood level.

The site area is classified as Flood Zone 2/3A Fluvial and as such, a Sequential Test has been completed. The suggested location is 0.78 metres AOD, and the living accommodation will be at first floor level at 4.1m AOD which is 600mm above the 3.5 metres AOD minimum requirement (ie 4.1m AOD).

Information has been requested from the Environment Agency with regard to known or modelled 1 in 200 year (0.5% annual probability) river flood level from the River Trent relative to the proposed site levels. This information is not available as no such modelling exists, and no relevant historical events have taken place within living memory. It is accepted that there are records of historic flood events back to the 18th century, but this was long before much of the current developed area of Epworth was developed. Despite this, the nearest available Ordnance Survey measured point is 120 metres west from that bench mark with an approximate level of 1.4 metres AOD. The ground rises to the suggested site for the proposed dwelling. The proposal is to build a two-storey dwelling with two bedrooms in the roof space and a third bedroom above the attached garage, offering additional security in the event of a flood.

There is no history of flooding from the local drainage system. The area drainage system was designed for and is used as a means to drain the surrounding land, and by a system of pumped drains, feed any surplus water eventually into the River Trent at Keadby, and via the River Torne, South Engine and Folly Drains which lead to the discharge point at Keadby into the River Trent. The new dwelling will have ground floor levels finished at 1.15 AOD and first floor at 4.1m AOD.

Foul drainage

This will be a suitable scheme subject to prior submission to and approval from Severn Trent Water Authority.

Sequential test.

The NPPF requires Local Authorities to apply the sequential approach to all planning applications for developments within a designated flood plain area. The Sequential Test requires that alternative locations for the development be considered before granting permission for development in the location under consideration. The alternative sites should represent reduced risk of flooding. If none are available, then a site with a greater risk will be considered. In this case, the application is to erect a dwelling house in connection with agriculture, with specific reference to the agricultural unit on land off Idle

Bank, Epworth. There are no other appropriate sites with a lower flood risk, and none that would satisfy the needs of the agricultural business with which the application is inextricably linked.

The area of land contained within the site at the highest level above Ordnance Datum has been selected. There are some points on the farm that are slightly higher but inappropriate positions for a farmhouse serving the practical needs of the business.

There are no other sites in the post code area that are sequentially better than the site detailed in this application. There are also no other dwellings currently available for sale or rent that would be appropriate for the business needs.

Exception Test

Para 157 of the NPPF requires that an Exception Test be carried out to ensure that "the most vulnerable development is located in areas of lowest flood risk". These are defined in the 2022 Strategic Flood Risk Assessment North and North East Lincolnshire June 2022 as follows:

From PPS 25 Table D.2 Flood Risk Vulnerability Classification [Revised version]

- Essential infrastructure
- Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk.
- Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.
- . Wind turbines.
- Highly vulnerable
- Police stations, Ambulance stations and Fire stations and Command Centres and telecommunications installations required to be operational during flooding.
- Emergency dispersal points.
- Basement dwellings.
- Caravans, mobile homes and park homes intended for permanent residential use.

• Installations require hazardous substances consent.

• 1 (Where there is demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as 'Essential Infrastructure'

• 2). More vulnerable

• Hospitals.

• Residential institutions such as residential care homes, children's homes, social services homes, prisons and hostels.

• Buildings used for: dwelling houses; student halls of residence; drinking establishments; nightclubs; and hotels.

• Non-residential uses for health services, nurseries and educational establishments.

• Landfill and sites used for waste management facilities for hazardous waste.

3 • Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less vulnerable

• Police, ambulance and fire stations which are not required to be operational during flooding

• Buildings used for: shops; financial, professional and other services; restaurants and cafes; hot food takeaways; offices; general industry; storage and distribution; non-residential institutions not included in 'more vulnerable'; and assembly and leisure.

• Land and buildings used for agriculture and forestry.

• Waste treatment (except landfill and hazardous waste facilities).

• Minerals working and processing (except for sand and gravel working).

• Water treatment plants which do not need to remain operational during times of flood.
• Sewage treatment plants (if adequate measures to control pollution and manage sewage during flood events are in place).

• A farmhouse sited in connection with a livestock enterprise will be “Essential” to that business and the welfare of the animals.

Care has been taken to ensure that persons and domestic property are placed at levels above the likely flood levels. The site is also within 50 metres of land at and over 4.0m AOD, which would enable animals to be driven to safety. Model Data for the River Trent Attached at Appendix B is information provided by the Environment Agency in respect of model data. The suitable AOD levels have been supplied by the Environment Agency, and take reference from the 2011 Strategic Flood Risk Assessment North and North East Lincolnshire November 2011 Appendix D. Other flood sources It is considered that the measures proposed in this application will also cover any potential flood risk from the River Torne, and surface water. Environmental Agency data reference Mitigation In recognition that the site location is within Flood Zone 2/3A (“medium probability”), the applicant proposes: Finished floor levels of 4.15m AOD.

Registration with the Environment Agency’s free Floodline Warning Direct