

# Washingborough Parish Council

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01522 790109

17<sup>th</sup> November 2023

Internal Drainage Board.

Dear Sir/Madam,

Recent and Future Flooding

Following a recent meeting between Washingborough Parish Council, residents and local land owners, a number of serious concerns for future bad weather have been raised.

We believe that the Pump at Washingborough Fen is running outside of its remit and is not fit for purpose.

Flooding has occurred in Washingborough in 2007, 2019 and 2023.

A number of issues were raised at this meeting and we would appreciate if you could answer the questions below.

Storm Babet:

- Heighington Fen – has there been any calculate as to how much water was overflowing at the back of Moor Farm for 9 days from the storm Babet See image 1.
- Has there been a calculation of the volume of water flowing over Sandhill Beck for 8 days and 8 nights, following storm Babet. See image 2.
- Has any land been contaminated by possible sewage and has this been checked by the IDB?

Sandhill Beck Pump:

- Sandhill Beck Pump – when was the pump installed?
- Why is it a single pump and not double?
- What capacity is the pump (litres per second/minute)?
- In a flood situation is the capacity diminished?
- How many times has the pump been upgraded?
- What are the summer and winter water levels set at?
- When is the pump active and how is it activated?
- Does the pump have an emergency cut in if necessary?
- How much water has been pumped since 2007 to date on an annual basis (litres of water or hours in operation)?
- Marjorie Close – is water controlled and allowed for in the pump's capacity as this is a modern development?
- The Parish Council would like to see the maintenance record for this pump.

Ferry Lane Sluice Gates:

- When was the sluice gate on Ferry Lane installed?
- What size is it?
- We presume the site was surveyed prior to installation.
- When the gate is down the water overtops Ferry Lane, was this included in the calculations for the Sandhill Beck pump capacity?
- Are we correct in thinking that the shutting of this gate would not affect the railway bridge i.e the enforced road closure due to water levels?
- Why was the sluice gate on Ferry Lane not closed sooner during storm Babet

General Information:

- With regard to Sandhill Beck Spillway – when was this installed? The Parish Council would like to see the IDB agreement with the EA.
- How much water did the IDB accept from the Keeble Drive/Malvern Flood Alleviation Scheme?
- How much seepage is estimated to come through the main riverbank when in flood/high levels?
- How much water was projected to come from Ally's Way?
- Did the landowners receive any form of compensation, when the sluice gate was installed, for making the fields to the West of Ferry Lane a flood storage area?
- How much water have the IDB accepted from the By-Pass, since opening? And was this within the Sandhill Beck pump's capacity?
- Are alerts sent to local landowners who have livestock grazing in the areas when flooding is likely?
- How much water can you estimate came over the top in Canwick Fen? When did it start in this area, following storm Babet?
- Why was the Parish Council not kept up to date with the flooding situation?

We look forward to your responses.

Yours sincerely

Karen Broddle

Clerk to Washingborough Parish Council

# WITHAM FIRST DISTRICT INTERNAL DRAINAGE BOARD



WITHAM HOUSE  
MEADOW LANE  
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LN6 9GJ

Tel: (01522) 697123

07<sup>th</sup> December 2023

Karen Broddle,  
Washingborough Parish Council,  
Civic Office,  
Fen Road,  
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Lincoln,  
LN4 1AB.

Dear Karen,

I am writing to you in response to the letter from the Parish Council dated 17<sup>th</sup> November 2023, which was delivered by hand to the Witham First District Internal Drainage Board meeting on Wednesday, 22<sup>nd</sup> November 2023. Since then, the Board's Director of Engineering, Martin Shilling, has attended a meeting of the Parish Council held on Tuesday, 28<sup>th</sup> November where I believe further information has been provided on issues raised in the meeting. Based on the 29 questions raised in your letter, please see below my response, with input from Martin Shilling, as follows:

## Storm Babet

1. No. Washingborough Roadside North is classified as main river, and as such is maintained and operated by the Environment Agency. To calculate this information the exact timing of the start and stop of the overtopping would need to be known along with the width of the overtopping reach and the velocity of the water passing over the bank top. The Board does not hold this information.
2. No. Sandhill Beck is main river and as such is maintained and operated by the Environment Agency. To calculate this information the exact timing of the start and stop of the overtopping would need to be known, along with the width of the overtopping reach and the velocity of the water passing over the bank top. The Board does not hold all this information.
3. Not known. The Internal Drainage Board is not responsible for matters of water quality within its district. Matters of water quality should be directed to the either Environment Agency, the Environmental Health Department of the relevant District Council or the water company which operates the site.

## Sandhill Pumping Station

4. Pump installed in 1972.
5. It is not unusual for pumping stations to have been designed to have a single pump of sufficient capacity to deal with the calculated design flows and provide an appropriate standard of service. It will be less expensive to house, maintain and operate a single pump rather than a multiple. The Boards have several such single pump pumping stations.
6. Water evacuation capacity is 850 litres per second.
7. All pumps of this type are designed to provide a capacity against a certain head of water. If a 'flood situation' means that a pump is operating with different levels at the intake and discharge then its flow rate will be different to its design capacity.
8. The pump at this station has not been upgraded since it was commissioned to design standard.
9. The operating levels for the station are Start level = +0.3m, Stop level = -0.3m. These will be subject to change and amendment at the request of local land occupiers, catchment conditions and other operational needs.
10. Water levels within the intake sump of the station are monitored by an ultrasonic device that measures the water level every 15 seconds. When a trigger level is detected [either stop or start] this sends a signal to the Motor Control Centre and the electric motor driving the pump is either stopped or started. For reasons of cost, the pump is operated to run primarily between the hours of 00:00 – 07:00, unless a 'high' water level is detected when the motor will be turned on at any time of day and will then run until such times as a 'stop' level is detected.
11. Yes. See above explanation at 10.
12. See table below for pumped hours and an approximate volume of water pumped [assumed 850 litres per second].

Year [1 April – 31 March]	Pumped Hours	Litres [approximately]
2007	730	2,233,800,000
2008	375	1,147,500,000
2009	455	1,392,300,000
2010	334	1,022,040,000
2011	239	731,340,000
2012	671	2,053,260,000
2013	333	1,018,980,000
2014	317	970,020,000
2015	286	875,160,000
2016	326	997,560,000
2017	335	1,025,100,000
2018	349	1,067,940,000
2019	954	2,919,240,000
2020	662	2,025,720,000
2021	436	1,334,160,000
2022	482	1,474,920,000
2023 to 31.10.23	483	1,477,980,000

13. The Board does not hold details of individual development sites. The local Planning Authority may hold such information. I refer you to the response 5, above, with regard for allowances for flows within the hydraulic boundary of the pumped catchment.
14. Please be more specific. Do you seek details of major repairs/refurbishment or daily operation. For what period? The general point I would make is that all 50 pumping stations within the group of 4 Witham & Humber Drainage Boards follow a regular routine maintenance programme of checks, with further periodic pump lifts and refurbishment as approved and resourced by the Board annually and refurbishments of pumping stations often at circa 20-year intervals or as Flood Defence grant in Aid Business Cases are approved for capital works.
  - a. The Motor Control Cabinet was replaced in 2003.
  - b. Records show that the pump & motor were lifted for periodic refurbishment in 2004, 2019 & 2023.

### **Ferry Lane Sluice Gates**

15. This structure was installed by the Environment Agency, and we do not hold full details of its design and installation. Assumed 2006 when the Board agreed to operate it under the direction of the Environment Agency in an agreement dated 29.12.2006.
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17. This structure was installed by the Environment Agency, and we do not hold full details of its design and installation.
18. The pumping Station was designed in 1970. The penstock was installed c2006. If flows that cause it to overflow Ferry Lane are from within the catchment, then, yes. However, in such extreme circumstances as you describe it is likely that flows have entered the catchment from outside its normal hydraulic boundary. If this is the case then no, there would be no allowance for it within the 1970 design of the station. I assume there was no allowance for uncontrolled overtopping of main river into the catchment.
19. The Board is not in possession of such survey information to enable it to compare the levels of the Longstone's Drain system and the public highway.
20. During extreme events the Board makes operational decisions that, as far as is reasonably practicable, serve the needs of the catchment. The rainfall and subsequent river levels would appear to be outside of the design parameters of the Board maintained system and Sandhill Pumping Station. There is no predetermined operation procedure for the penstock structure on the upstream side of Ferry Lane. This penstock and Sandhill Pumping Station, in combination with Sandhill Beck penstock and Heighington Fen Pumping Station, were operated so that the flood water within the fen catchment was evacuated as quickly as practicable, in the most controlled manner possible without overloading either of the permanent pumping assets available to the Board [Sandhill PS and Heighington Fen PS]. Both pumping stations were operating outside of their design parameters. The Ferry Lane penstock was first operated

around 18:30 on 24<sup>th</sup> October. Levels rose to such a level as to begin to overtop Ferry Lane. The penstock was adjusted so that it allowed as much water into Sandhill PS catchment without overtopping Ferry Lane.

## **General Information**

21. The Sandhill Beck over spill was constructed by the Environment Agency. We believe it was constructed in/around 2006. An agreement was signed between the Board and the Agency on 29<sup>th</sup> December 2009.
22. Consent was granted by the Board to Lincolnshire County Council for an "average annual spill volume calculated to be approximately 11,000m<sup>3</sup> split over the two outfalls". The system was designed such that the bulk of the flow continued to be discharged via the Washingborough Roadside South watercourse, with an overflow in to the Board's system as and when the Washingborough Roadside South channel was at capacity.
23. Not known.
24. Not known. This public highway is outside of the Board's District and the Board is not aware of a connection from it in to the Board's maintained system.
25. Not known. This structure was installed by the Environment Agency as part of resilience works following earlier flood events.
26. Not known. Water from the Lincoln Eastern Bypass is attenuated to 'green field run-off rates' and so the volume and rate of flow received from the surface water scheme is no different post construction than before. For this reason, Sandhill Pumping Station has the capacity to accommodate flows from the scheme.
27. The Board does not have, nor does it operate, a warning system. Land and property owners are strongly encouraged to sign up to the Environment Agency Flood warning service. It can be found on the Gov.uk website under Home/Environment and countryside / Flooding / Sign up for flood warnings. This system provides the most accurate alerts and warnings for those within catchments at risk of flooding.
28. Not known. The Board was made aware of the overtopping of the South Delph around 1pm on Tuesday, 24<sup>th</sup> October. This information was passed on to the Environment Agency. The Board is not aware of when the overtopping of the South Delph began.
29. The Board is not designated as an Emergency Responder public body and does not routinely provide updates to all Parish Councils within its District during high rainfall events. Where land owners/occupiers are experiencing issues, over which the Board may have some control or influence, then they frequently liaise directly with the Board's staff. Unfortunately, the Board does not have the resources to provide updates to Parish Councils or the public during an event.

I trust this is a detailed briefing for your Parish Council members on the nature of Sandhill Pumping Station and how our staff used their best endeavours to deal with the heavy rainfall consequences of Storm Babet in our drainage district. The key message to impart is that such severe rainfall would undoubtedly be a short-term challenge for our IDB systems, but what caused us particular difficulties was that the IDB systems are not designed and do not have the capacity to take high volumes of

water from EA main river bank breaches, bank overtopping and bank seepage. There was nothing the IDB could do to avoid receiving this water from EA watercourses and I support the considered response and hard work of our staff over a period of weeks to continuously balance the need for evacuation of water through our two main pumping station assets in the location, with the strategic objective of maintaining both pumping stations as operational assets whilst minimising the impact on landowners in adjacent fens, some of whom understandably wanted Ferry lane Penstock closed and some who equally wanted it opened.