BLACK SLUICE INTERNAL DRAINAGE BOARD

M I N U T E S

of the proceedings of a Meeting of the
Northern Works Committee

held at the Offices of the Board on the
12th May 2026 at 2pm

Members

Chairperson - * Mr M Rollinson

*Mr T Ashton	*Mr P Holmes
*Mr M Leggott	*Mr P Robinson
Mr R Needham	*Cllr P Bedford
*Cllr R Austin	*Cllr C Rylott
*Cllr D Scoot	Cllr S Welberry
Cllr N Drayton	*Cllr J Cantwell
*Cllr R Pryke	*Cllr S Evans
*Cllr A Hagues	*Mr D Casswell
*Mr J Pocklington	Mr R Welberry
Mr J Emerson	*Mr M Brookes
*Mr S Pugh	*Mr Joshua Casswell
Mr B Hammond	Mr C Wray
	(* Member Present)

In attendance:	Mr D Withnall	(Chief Executive)
	Mr P Nicholson	(Projects Director)
	Mr S Harrison	(Maintenance Director)
	Mrs A Chamberlain	(Finance & Admin Director)
	Mr K Casswell	(Former Chairman)

2701 Recording the Meeting - Agenda Item 1

Members were informed that the meeting would be recorded.

2702 Apologies for absence - Agenda Item 2

Apologies for absence were received from Mr C Wray, Mr J Emerson, Mr B Hammond, Mr R Welberry, Cllr S Welberry & Cllr N Drayton.
Mr R Needham only attended the tour.
Cllr D Scoot & Cllr A Hagues only attended the meeting.

2703 Declarations of Interest - Agenda Item 3

There were no declarations of interest.

2704 Minutes of the last meeting - Agenda Item 4

The Minutes of the Joint Works Committee, which was held on 7th October 2025, copies of which had been circulated, were considered. It was AGREED that the Minutes should be signed as a true record.

2705 Matters Arising - Agenda Item 5

There were no matters arising.

2706 Discuss the Operations Report and Inspection - Agenda Item 6

The committee visited the following sites, with discussion as follows.

(a) Trinity College Pumping Station

Site visit: The visit began with a guided walk around the perimeter of the site, during which it was explained that the current access arrangements, comprising temporary stone trackways, culverts, and working platforms, form part of enabling works installed to facilitate contractor access. These temporary measures will be removed upon completion of the permanent works.

Reference was made to supporting documentation illustrating historic flow paths and seepage routes around the pumping station structure. It was noted that these issues are not unique to Trinity College Pumping Station but are also present, to varying degrees, at Ewerby, South Kyme, and Damford, with South Kyme identified as the most severely affected. The principal engineering solution involves the removal of existing flood walls, which were historically constructed without adequate foundations, and their replacement with sheet piling installed to depths of approximately 6 to 6.5 metres, tied together with a reinforced concrete capping beam. This approach is intended to address long-term structural movement and significantly reduce seepage risk.

In conjunction with the piling works, ground improvement measures have been implemented through resin injection to stabilise the surrounding soils and fill subsurface voids. This technique, which is particularly effective in granular soils such as those found at the site, creates an expanded matrix within the ground that limits water migration. It was noted that piling operations disturb treated ground, and therefore a further phase of resin injection will be undertaken following pile installation to ensure continued integrity in critical areas.

Progress on one section of the site was reported to be temporarily constrained due to an existing underground electricity supply cable crossing the proposed alignment of the sheet piles. Arrangements have been made with the Distribution Network Operator to divert this cable, enabling completion of the remaining piling works. Once this activity is complete, temporary works will be removed, and the site profile restored to its final level.

Particular emphasis was placed on managing the interface between the pumping station structure and surrounding flood defence works, which is typically a key point of failure for seepage. To mitigate this, a reinforced concrete connection detail will be constructed at the junction between the piling and the existing

building. This will incorporate a hydrophilic sealing strip that expands upon contact with water to form a watertight barrier. The connection will also be structurally reinforced with dowel bars drilled into the existing structure, ensuring that the new works and the original building act as a unified system. Prior to these interventions, voids around the structure were filled with cementitious grout, with approximately 1.8 cubic metres used at Trinity College Pumping Station, compared to significantly higher volumes at South Kyme, reflecting the severity of voiding at that site.

(b) Heckington Fen Pumping Station

Site visit: The committee reviewed the mechanical and electrical components of the pumping station. Concerns were noted regarding the age and condition of certain assets, including the transformer and electrical supply infrastructure. Internally, the pump system was explained, highlighting the role of the motor, shaft, and impeller configuration. It was identified that wear within the rubber couplings connecting sections of the pump shaft has resulted in operational play, and these components are scheduled for replacement. This work is considered a relatively low-cost maintenance activity, estimated at approximately £5,000, with the majority of costs associated with labour and lifting operations.

Wider asset management strategy was also discussed, particularly in relation to planned refurbishment works at other sites. Projects at Chain Bridge and Donington are currently at tender stage, with contract awards anticipated shortly. These schemes, each valued in excess of £2 million, involve comprehensive upgrades to pumping equipment, electrical systems, and supporting infrastructure, with the objective of extending operational life by approximately 20 years. The long-term strategy is to adopt a comprehensive refurbishment approach across all stations.

Environmental compliance requirements were a significant focus of discussion. It was noted that updated regulations require the installation of “less damaging” pumps to reduce impacts on fish and eel populations. While full compliance through fish-friendly systems is not always achievable in retrofit scenarios, improvements such as variable speed drives, pump design modifications, and adjustments to siphon breakers are being implemented where feasible. Existing exemptions relating to screening requirements will continue but are expected to align with refurbishment timelines, thereby increasing delivery pressure. It was acknowledged that the cost of implementing such measures is substantial, and external funding, particularly through Flood Defence Grant-in-Aid, will be essential.

The discussion also included consideration of eel passage and ecological enhancements, which will be assessed on a site-by-site basis across the affected pumping stations, depending on catchment suitability and habitat conditions. Monitoring and research activities, including studies of fish behaviour around pumping stations, were noted as informing ongoing decision-making.

Operational considerations such as the installation and use of weed screen cleaners were also reviewed. While automated systems are desirable, factors such as accessibility, maintenance requirements, reliability, and cost mean that implementation will be prioritised and phased. It was noted that although

automation can reduce routine manual intervention, equipment failure can result in significant operational challenges, requiring manual clearance by site teams.

(c) Ewerby Pumping Station

Site Visit: The committee reviewed ongoing works and reflected on conditions observed during the previous visit to Trinity College Pumping Station. It was noted that, while Ewerby had experienced significant seepage issues, it was not considered the most severe site, with South Kyme identified as the worst affected based on visible flow paths and structural impact. However, historical observations at Ewerby highlighted serious concerns, particularly where high water levels resulted in rapid flow around the station, ultimately forcing a void beneath the existing concrete flood wall and through the embankment.

Attendees were reminded that during previous high-water events, seepage at Ewerby had manifested through multiple routes, including a notable flow path where water bubbled up through the embankment before returning to the drainage channel. These issues were attributed to weaknesses at structural interfaces and potential voids beneath concrete slabs. It was confirmed that remedial works had been undertaken, including the removal of an existing concrete slab and the application of resin injection along the affected side of the structure. On the far side of the station, away from the door, a substantial void had previously been identified and required filling with pumped grout prior to resin treatment.

It was explained that works will be completed by reinstating the slab once remaining activities on adjacent areas are finalised. The group then moved to review piling works on the opposite side of the structure, where it was demonstrated how sheet piling has been installed and prepared for a reinforced concrete capping beam. The piling operation was undertaken using a piling rig operating from a temporary piling mat, with piles vibrated into position. Approximately 43 piles have been installed at this location. Attendees observed the formwork and shuttering system, which is supported by brackets fixed to the piles, enabling the casting of the capping beam without extensive additional groundwork.

Further explanation was provided regarding the ground treatment process, including the use of cementitious grout, typically mixed at a ratio of approximately 6 to 1, which is pumped into voids with venting arrangements to confirm full fill. Following this, resin injection is applied to penetrate surrounding soils and provide additional stabilisation. It was noted that the resin expands significantly, up to 17 to 20 times its original volume, particularly when it comes into contact with moisture, forming a dense, foam-like structure within the soil matrix. This process enhances ground stability and reduces permeability, although visible expansion at the surface is more pronounced where the material is unconfined.

The construction of the concrete capping beam was described as the next key stage, with shuttering in place to encase the piles and form a continuous reinforced structure. It was confirmed that the new wall will be set at a slightly higher level than the previous structure, although this required agreement with the Environment Agency, who generally discourage raising defences due to the

risk of transferring flooding elsewhere. It was also noted that the alignment of the new wall has been adjusted slightly to ensure it is tied into the main structure of the pumping station rather than an annex, improving overall structural integrity and eliminating potential weak points where seepage could occur.

The works were described as a long-term solution, expected to significantly outperform the original construction from the late 1950s. It was noted that similar issues have arisen across multiple stations constructed during this period, including Trinity College, South Kyme, and Damford, suggesting common design or construction limitations of that era. By contrast, the current approach incorporates modern engineering practices, including deeper foundations, improved materials, and integrated structural connections, which should provide resilience for several decades.

Discussion also referenced the specific case of Damford Pumping Station, where seepage issues were confined to the embankment rather than the structure itself, allowing a more straightforward solution involving piling within the existing bank. This highlighted the need for tailored interventions depending on site conditions, despite common underlying causes.

Operational considerations were also discussed, including watercourse maintenance responsibilities, with confirmation that maintenance activities are undertaken on the main river between August and January, on behalf of the Environment Agency and include vegetation management. While environmental considerations require the retention of marginal vegetation, such as reed fringes, the main body of vegetation is removed to maintain conveyance. It was noted that these practices balance flood risk management with ecological enhancement.

The discussion also touched on historical context, noting that many of the pumping stations were designed and constructed during a period when agricultural productivity was prioritised, resulting in simpler design standards compared to modern requirements. It was acknowledged that current design approaches now require a more complex balance between flood protection, environmental regulation, and sustainability considerations.

***Discussion continued at the meeting, as follows**:*

The Projects Director opened the discussion by highlighting the value of visiting operational and construction sites, noting that while Trinity College was not fully operational during the visit, the presence of ongoing works provided useful context. He emphasised that the tour enabled members to better understand both the temporary works required to access sites and the engineering processes involved, thereby providing greater clarity on the overall costs associated with delivering such schemes. It was noted that, once completed, visible works at each site would largely comprise concrete capping beams on either side of the pumping stations, with much of the complexity arising from groundwork and access arrangements rather than the final structure.

Reference was made to documentation provided within the meeting papers, particularly pages 12 to 15, which illustrated the extent of seepage and structural

issues at Trinity College and other affected stations. The Committee discussed how visible surface flow paths represent only part of the problem, with unknown but potentially significant subsurface impacts. The Projects Director reiterated concerns observed at Ewerby and South Kyme, where high water pressure had previously forced the creation of voids beneath flood walls, resulting in holes within the embankment. It was acknowledged that once water establishes a flow path, erosion accelerates, increasing the likelihood of eventual structural failure. This risk had driven the Board's decision to intervene, recognising that failure to act could have resulted in catastrophic consequences for flood defence infrastructure.

The Committee was reminded that securing funding for the works had been a significant challenge. Initial efforts to obtain Grant-in-Aid funding were unsuccessful, however the project was ultimately made viable through the IDB Recovery Fund. It was noted that early estimates obtained through a framework contractor had indicated a cost of approximately £7.5 million across the four sites, whereas the current programme is being delivered for approximately £1.7 million. This substantial cost reduction was recognised as representing significant value for the public purse, particularly given that the funding is publicly sourced. The works are being delivered by two contractors, with Damford completed under a standalone tender and the remaining sites delivered by Jacksons.

An update on programme delivery confirmed that works remain underway, with Ewerby expected to be largely complete once capping beam concreting is finalised, after which temporary works will be removed and the site reinstated. However, concerns were raised regarding the approach to resource allocation, with one team operating sequentially across multiple sites. While this reflects a staged delivery model, the Projects Director questioned whether this approach was the most efficient, particularly in light of earlier delays caused by weather, land access issues, and coordination challenges. Members were informed that additional resource deployment had been suggested to maintain programme timelines.

Specific concern was raised regarding delays in the diversion of an electrical supply cable at Trinity College, which had been identified as a constraint as early as August of the previous year. Despite early discussions involving National Grid and the contractor, the cable had not yet been relocated, leading to programme delays. Responsibility for this issue was attributed to shortcomings in contractor liaison with National Grid, and it was confirmed that further monitoring of this risk would be required.

The Committee discussed contractual safeguards, with confirmation that the works are subject to a fit-for-purpose requirement, meaning that any failure to address seepage during future high-water events would require remedial action by the contractor. It was further clarified that works are being carried out in accordance with detailed designs prepared by engineering consultants, Stantec, who are also providing oversight through site supervision. Any proposed changes to design are subject to formal review and approval processes, ensuring quality and compliance.

Attention was also given to programme deadlines, with the target completion date confirmed as 31 March 2026. During discussion on contractual provisions, it was noted that payments are linked to completion, providing a degree of financial control over delivery. Delays were partly attributed by the contractor to issues relating to land access, however members disputed this claim, noting that appropriate engagement, by the contractor, with landowners had not taken place in some instances.

Members reflected on whether the scheme represented value for money, particularly given the relatively simple appearance of the works when viewed on site. The Chief Executive and other members clarified that, while the engineering may appear straightforward, the depth of piling, ground treatment requirements, structural integration, and access logistics contribute significant complexity and cost. The reduction from initial estimates was highlighted as a key indicator of improved value compared to earlier procurement routes.

The importance of the scheme was emphasised in the context of flood risk management, with members noting that affected stations had been close to failure during previous storm events. It was agreed that the investment was necessary to avoid far greater financial and environmental consequences, including uncontrolled flooding and inefficient pumping operations. The Chief Executive expressed confidence that the works, once complete, would provide a long-term solution, potentially extending the operational life of the assets by several decades.

Looking ahead, the Chief Executive raised concerns regarding other pumping stations constructed during the 1960s, which may share similar vulnerabilities. It was noted that approximately 20 to 25 additional stations could require future assessment and potential intervention. Members agreed that the current programme provides a useful model for addressing such risks in a proactive manner.

The discussion broadened to consider increasing environmental and operational pressures, including a notable rise in the frequency and intensity of storm events. It was reported that six emergency events had occurred within a single recent winter period, compared to fewer than ten events over the previous 16 years combined. Members attributed this change to evolving weather patterns, increased runoff from development, and saturated ground conditions, which collectively lead to faster system response and heightened flood risk.

It was further noted that modern conditions differ significantly from historical operating environments, with increased hard surfacing resulting in more rapid runoff into the drainage system. This reinforces the importance of maintaining resilient infrastructure and highlights the growing role of the Board in flood risk management. Members agreed that the value and importance of Internal Drainage Boards has increased significantly in recent years.

The Chairperson concluded the discussion by noting general confidence in the quality and robustness of the works observed during the tour, and the importance of completing the programme ahead of future flood events. Members agreed that

the site visits had provided valuable insight into both the engineering challenges and strategic importance of the works.

2481 Receive the Engineer's Report - Agenda Item 7

Capital Asset improvements

2026/27 Defra/EA Funded Flood and Coastal Erosion Risk Management (FCERM) Grant in Aid (GiA) Schemes

(i) Wyberton Chain Bridge Pumping Station Refurbishment– Estimate £2,758,848 Includes 60% OB (£802,188)

The Projects Director further updated the Committee on additional capital schemes referenced earlier in the day, specifically the refurbishment works planned at Donington Northings and Chain Bridge Pumping Stations, both located within the Southern Works area. These projects form part of the Board's wider programme of major asset improvements, with indicative scheme values outlined in the meeting papers. It was noted that all major capital schemes include a significant contingency allowance, reflecting the inherent uncertainties associated with engineering works, particularly where ground conditions, existing infrastructure, and operational constraints may present unforeseen challenges. This contingency ensures that sufficient funding is available to address issues should they arise without compromising delivery.

The Committee was informed that tendering for these refurbishment works has progressed, with submissions received and currently under evaluation. The procurement process is being managed through the SCAPE framework, with Stantec providing professional support in overseeing the tender assessment. It is anticipated that a preferred contractor will be appointed following evaluation, enabling the works to proceed in accordance with programme requirements.

Delivery of the refurbishment works is currently scheduled for summer 2027, with the timing driven by two primary considerations. Firstly, it was emphasised that decommissioning pumping assets during the winter period presents an unacceptable operational risk, given the increased likelihood of high flow and flood events. Secondly, it was highlighted that there are significant lead-in times associated with the procurement and manufacture of pump units, particularly where specification decisions must be finalised prior to order. These factors combined necessitate careful programme planning to align procurement, installation, and operational requirements.

During discussion, clarification was sought by the Chief Executive regarding the reference to "60% OB" within the project cost estimates. The Projects Director confirmed that this refers to Optimism Bias, a standard allowance applied to infrastructure projects to account for the tendency of early cost estimates to underestimate true delivery costs. It was explained that an optimism bias of approximately 60% is typically applied at early stages of project development, although this may be adjusted depending

on the complexity and level of design certainty associated with each scheme.

(ii) Cooks Lock Pumping Station Structural repairs – Estimate £215,000

Following inspections by the engineering consultants, this pumping station is undertaking structural repairs to shot blast and paint the exposed steel and replace excessively corroded stanchion supports. A new access door from the weedscreen deck has been installed by the Board.

(iii) Great Hale Fen Pumping Station Structural repairs – Estimate £432,000

Following inspections by the engineering consultants, this pumping station is undertaking structural repairs to shot blast and paint the exposed steel and replace excessively corroded stanchion supports. A new access door from the weedscreen deck has been installed by the Board

(iv) Swineshead Pumping Station replacement - £1,000,000 – Current allocation received – study £500,000

The Committee continued discussion with a focus on Swineshead Pumping Station, where concerns were raised regarding the condition of the existing structure and the anticipated timeframe for delivering a permanent solution. A member proposed that, given the likely lead-in time for a full replacement scheme, consideration should be given to appointing a structural or mechanical engineer to assess the feasibility of implementing temporary stabilisation measures, such as structural props or steel supports, to maintain the integrity of the building in the interim. It was emphasised that there is a responsibility to take reasonable preventative action to mitigate the risk of structural failure, particularly given the potential consequences for landowners and the wider catchment.

The Projects Director acknowledged these concerns and confirmed that delivering a new pumping station from initial approval through to commissioning could take approximately four years, during which time the existing asset would remain in operation. While the station is currently still functional, albeit not operating at full duty capacity, it continues to play a role during flood events. It was noted that upstream and downstream stations, including Donington Northings and Wyberton Chain Bridge, may provide some level of operational support; however, their ability to compensate is limited, particularly during peak event conditions when each station is required to operate at full capacity within its own catchment. The Projects Director agreed that exploring interim mitigation measures would be appropriate, and further discussions with the proposing member were supported.

Further discussion addressed funding arrangements associated with the Swineshead project. It was confirmed that, in the absence of confirmed Grant-in-Aid funding, initial feasibility work has been supported through the reallocation of funds originally intended for Gosberton Fen Pumping Station.

This decision was taken on the basis that progressing Swineshead was considered a higher priority due to its current condition. The reallocated funding has enabled early-stage feasibility work, including site assessments by engineering consultants and initial considerations regarding location, hydraulic requirements, and pump specification.

The Projects Director explained that the development of a new pumping station scheme requires a staged approach, beginning with feasibility analysis to determine site constraints, hydraulic head requirements, and appropriate pump selection. These factors directly influence the design, layout, and overall cost of the scheme. Based on benchmarking against comparable projects undertaken by other Internal Drainage Boards, it is currently estimated that the cost of delivering a new pumping station at Swineshead could be in the order of £10 -15 million.

The Chief Executive provided additional context, noting that the Board's Officers are in the process of finalising a comprehensive long-term investment plan covering all pumping stations within the network. This review has assessed each station based on structural condition, operational requirements, and compliance with fish and eel regulations. A prioritised programme of works has been developed, which will be presented to the Executive Committee in June, outlining proposed refurbishment and replacement strategies. It was noted that this may require reprioritisation of previously planned works, including those at Gosberton, to ensure that resources are directed to the highest-risk assets.

The Projects Director further reflected on the Board's evolving approach to capital investment, noting that historically, smaller grant-funded interventions were pursued opportunistically. However, changes in funding frameworks and operational requirements now necessitate a more strategic and comprehensive approach to asset management. This includes aligning structural refurbishment programmes with environmental compliance obligations, particularly in relation to fish and eel passage requirements, and ensuring that investments deliver long-term resilience.

It was recognised that the scale of the programme presents a significant challenge. With approximately 34 pumping stations within the Board's portfolio, and multiple sites requiring substantial intervention, a structured delivery approach is required. The Projects Director outlined a proposed delivery model whereby schemes would progress through a three-year cycle, comprising feasibility and option development, detailed design, and construction. Assuming delivery of approximately two major schemes per year, it was acknowledged that it will take a considerable number of years to address all assets across the network.

The Chairperson noted that this programme represents a continually evolving asset management challenge, given the age profile of existing infrastructure, with many stations dating back to the 1950s and 1960s. The Projects Director reinforced that, while existing infrastructure can often be refurbished to extend operational life, there are inherent limitations in

retrofitting modern standards to legacy civil structures. As such, while refurbishments can achieve significant improvements, they may not fully meet all current design and environmental requirements, particularly where full replacement is not viable.

The Committee noted the update and acknowledged the need for a balanced, long-term approach to asset investment, incorporating risk management, regulatory compliance, and financial planning to ensure the continued resilience of the Board's infrastructure..

(v) Holland Fen Pumping Station Structural Repairs – Estimate £492,000

Following structural inspections by the engineering consultants the recommendations were to shot blast and paint the exposed steel, which has been completed.

(vi) Wyberton Marsh Pumping Station Structural Repairs

Following structural inspections by the engineering consultants the recommendations were to shot blast and paint the exposed steel, which has been completed. A new access door from the weedscreen deck has been installed by the Board.

(vii) Black Sluice Catchment Strategy

The Inception Study is currently being completed.

(viii) Cooks Lock Pumping Station new transformer – Estimate £55,000

The new transformer is now part of a bigger scheme of refurbishment for this site which is in its final stages. The proposal is to replace all HV transformers that are currently owned by the Board, with new ones. This will hand over the future responsibility and maintenance to National Grid which is beneficial to them as at certain sites they will have a power supply to tap into.

IDB Recovery Fund Works

Attention was then drawn to pages 26 and 27, which outline the status of projects funded through the IDB Fund programme. It was reported that a number of schemes have now been completed, while others remain in progress across the Board's area.

Particular reference was made to the embankment improvement works across three sites, with the total value of these projects noted as being in excess of £1.5 million. The Committee was informed that completed works, including those at Damford Grounds PS, had been delivered under budget, with expenditure of approximately £72,000 against an approved allocation of £105,000. This was acknowledged as a positive outcome and reflective of effective project delivery and cost control.

The Chairperson invited any further questions from members, and with none raised, it was confirmed that the Committee was satisfied with the update provided.

2708 Report on Rainfall - Agenda Item 8

The rainfall figures at Swineshead were circulated. The Committee RESOLVED that this report be noted.

2709 Any Other Business – Agenda Item 9

Cllr S Evans highlighted this was his first inspection tour which he found very interesting and educational.

There being no further business and the meeting closed at **14:40**.