RAMSEY UPWOOD AND GREAT RAVELEY INTERNAL DRAINAGE BOARD

At a Meeting of the Ramsey Upwood and Great Raveley Internal Drainage Board held at Ramsey Golf Club on Thursday the 3rd January 2019

PRESENT

A C Roberts Esq (Chairman)	S J Corney Esq
R Blackhurst Esq (Vice Chairman)	J I Edwards Esq
A Butler Esq	C W Pickard Esq
J R Clarke Esq	C P Wilkinson Esq

Mr Robert Hill (representing the Clerk to the Board) and Mr Leo Butler (District Officer) were in attendance.

The Chairman welcomed Ashley Butler and Councillor Stephen Corney who were attending their first meeting of the Board.

Apologies for absence

Apologies for absence were received from Messrs S W F and T F Bedford.

B.1113 Declarations of Interest

Mr Hill reminded Members of the importance of declaring an interest in any matter included in today's agenda that involved or was likely to affect any individual on the Board.

Councillor Corney declared an interest in agenda item 12.

B.1114 Confirmation of Minutes

Mr Wilkinson requested that his apologies be recorded. Having advised the office that he would try to attend the afternoon meeting, he had subsequently informed the Chairman prior to the Inspection that he would be unable to attend.

RESOLVED

That, subject to the amendment, the Minutes of the Meeting of the Board held on the 17th May 2018 are recorded correctly and that they be confirmed and signed.

B.1115 Land Drainage Act 1991
Board Membership – Huntingdonshire District Council

Mr Hill reported that Huntingdonshire District Council had appointed Councillors J R Clarke and S J Corney to be Members of the Board under the provisions of the Land Drainage Act 1991.

Mr Hill also reported that Councillors P L E Bucknell and R Howe were not re-appointed.

B.1116 Use of Droves Claimed by the Board

Further to minute B.1082, Mr Hill reported that no further progress had been made with Cambridgeshire Council concerning the responsibility of the maintenance of the Droves. Councillor Clarke queried the Council not having enough money to be involved, as he considered they would be obliged to carry out works if required as all roads were covered by the Highways Act.

The Chairman confirmed that the Board had now purchased a gate which was to be erected by the Middle Level Commissioners at their expense.

RESOLVED

That the position be monitored.

B.1117 Updating IDB Byelaws (including amendment to Board's Byelaws)

Further to minute B.1083, Mr Hill reported that as this matter affects all Boards, and to ensure efficiency and to minimise costs, work on revising the Byelaws has been held until all Boards administered by the Middle Level Commissioners have determined their wishes. Now that this objective has been achieved work is commencing and a bulk submission of revised Byelaws will be submitted for consideration by Defra accordingly, probably in the New Year.

B.1118 Contravention of Byelaws (29 Uggmere Court Road)

Further to minute B.1084, Mr Hill reported that the Assistant Clerk had recently been in contact with Mrs O'Donaghue who had agreed to remove the fence to comply with the 9m byelaw distance. Mrs O'Donaghue had queried the possibility of having a temporary fence within the 9m distance and had requested additional time to remove the fence. The Assistant Clerk suggested extending the period to the spring and had advised Mrs O'Donaghue that she would need to seek the instructions of the Board at their forthcoming meeting.

Members raised concerns that this matter was ongoing and had still not yet been resolved. In response to the Chairman, Mr Hill confirmed that the matter was first raised and agreement reached to remove the fence over two years ago.

RESOLVED

i) That a Notice be sent requiring the fence to be removed within 28 days, failing which the Board would commence enforcement action for its removal.

ii) That, should the fence not be removed by the occupier, the Board approve enforcement action be taken for its removal.

iii) That the Chairman and Vice Chairman be authorised to take any further action they consider necessary concerning this matter.

B.1119 Drain Adjacent to Tesco's at Point 28

Further to minute B.1085, Mr Hill reported that this matter was covered in the Consulting Engineer's report and that to date it had not been possible to confirm the size of the pump installed, although it was thought to be 20 l/s.

The Chairman reported that he had also been in discussion with the Consulting Engineer and tabled a copy of a report which showed that the run-off from the site would be attenuated to that of a green-field site at 9 l/s. Members raised concerns that if the original plans were to restrict run-off from the site at 9 l/s and the Consulting Engineer now considered it was being pumped at 20 l/s, leading to an increased flow into the Board's system at the time of pumping and as a result of these increased flows, there could therefore possibly be a contribution due to the Board.

RESOLVED

i) That the Consulting Engineers be requested to continue to investigate that the water being pumped from the Tesco site was in accordance with the approved plans.

ii) That, should the Consulting Engineers confirm that the discharge is not in accordance with the approved plans, the Clerk be requested to write a letter to Tesco's or the matter be referred to the Local Planning Authority.

B.1120 Replacement of Culvert

Further to minute B.1086, Mr Hill reported that the Assistant Clerk had recently been in contact with Minnie Smith concerning this matter. Following this, the Consulting Engineer had carried out a site visit, whereupon he met with Mr Smith making attempts to drill the concrete for the installation of the required 600mm pipe but due to the thickness of the concrete, he had been unable to properly break the concrete. Mr Hill tabled photographs of the works carried out and advised the Board that Mr Smith had informed the Consulting Engineer that he had made arrangements to hire a breaker in mid-January 2019 in order to complete the works. Members expressed satisfaction that work had commenced. In response to the Chairman, Mr Hill confirmed that at their last meeting the Board had resolved that the works should be completed by the 1st October 2018. Members suggested a further letter be sent acknowledging that works had commenced and to give a further period of time for them to be completed.

RESOLVED

i) That a letter be sent acknowledging that works had commenced; that the Board would allow a further 28 days for them to be completed, failing which the Board would commence enforcement action for the culvert's replacement.

ii) That, should the culvert not be replaced by Minnie Smith to the satisfaction of the Consulting Engineer, the Board approve enforcement action be taken for its replacement.

iii) That the Chairman and Vice Chairman be authorised to take any further action they consider necessary concerning this matter.

B.1121 Cadent Gas

Further to minute B.1060, Mr Hill reported that Cadent Gas now proposed to culvert a shorter length of drain than originally approved. The Chairman reminded Members of the original proposal which had been approved by the Board. Mr Hill informed Members that the Consulting Engineer was in contact with Cadent Gas over the matter but they had not, as yet, confirmed a date for the works to commence.

B.1122 Sale of old diesel engine

Further to minute B.1088, Councillor Corney reported that, having paid for the engine, he intended to have a meeting with the District Officer within the next two weeks to arrange its' removal.

(NB) – Councillor Corney declared an interest when this item was discussed.

B.1123 Policy Statement

Further to minute B.1097(c), the Board reviewed and approved their Policy Statement which had been updated following the publication of the National Audit Office (NAO) report on IDBs in March 2017.

RESOLVED

That the revised Policy Statement be adopted.

B.1124 Requirements for a Biosecurity Policy

Further to minute B.1100, the Board considered their Biosecurity Policy.

RESOLVED

That the Biosecurity Policy be adopted.

B.1125 Anglia Farmers

Further to minute B.1069, Mr Hill confirmed that the running of the remainder of the Anglia Farmers electricity contract has been monitored and he was pleased to report that the service provided has improved.

He added that in view of the significant increase in prices observed a utility specialist was approached and like for like prices at the time of tender, for a sample of meters, were requested in order that a comparison could be made with the prices obtained by Anglia Farmers. Although some savings may have been made, overall the prices obtained from Anglia Farmers were found to be generally competitive.

Mr Hill advised that a verbal report was presented to the Middle Level Commissioners at their recent Board meeting and, based on the results of the pricing comparison exercise and in view of the service provided by Anglia Farmers having improved, the Middle Level Commissioners resolved to remain with Anglia Farmers for a further contract period post 30th September 2019.

The Clerk had recommended that the Board also remain with Anglia Farmers. However, should the Board choose to give notice to Anglia Farmers in late January/early February 2019 to end the current contract, they would then be responsible for negotiating their own separate electricity contract thereafter.

RESOLVED

That the Board remain with Anglia Farmers for a further contract period post 30th September 2019.

B.1126 Clerk's Report

Mr Hill advised:-

i) Middle Level Commissioners and Administered Boards Chairs Meeting

That a second Chair's meeting was held on the 17th October 2018 and that discussions centred around meeting Health and Safety legislative requirements and the possible options for increased efficiency in delivery of IDB/DDC services. Outline detailed proposals on the latter are to be brought before the next Chair's meeting for consideration.

ii) Application for byelaw consent

That the following application for consent to undertake works in and around watercourses has been approved and granted since the last general meeting of the Board:-

Name of Applicant	Description of Works	Date consent granted
Robert and Julie Ayres	Lay a 125mm dia. duct + electricity cable from existing electricity pole adjacent to Upwood Common P.S. Ugg Mere Court Road.	4th May 2018

RESOLVED

That the action taken in granting consent be approved.

iii) Association of Drainage Authorities

a) Annual Conference

That the 81st Annual Conference of the Association had been held at the ICE building in Westminster on Wednesday 14th November 2018 and had been well attended with the main speakers being Sue Hayman MP, Shadow Secretary for Environment Food and Rural Affairs, Robert Hössen crisis management expert from the Netherlands, John Curtin, Executive Director of Flood and Coastal Risk Management at the Environment Agency and David Cooper Deputy, Director for Flood and Coastal Erosion Management at Defra.

Sue Hayman Affairs spoke about her first-hand experience of flooding in Cumbria, the impact of flooding on mental health, building on flood plains and river management without environmental change and funding.

Robert Hössen gave a presentation on how incident management is organised and dealt with in the Netherlands.

John Curtin gave a presentation on the effects of climate change and referred to the government's discussions regarding the likelihood, impact and severity of climate change.

David Cooper referred to the 25 year environment plan and to various Government publications made in 2018, which can be viewed online.

That the Officers had been re-elected, subscriptions would be increasing by 2% for the following year and the Conference marked the launch of the Good Governance Guide for Internal Drainage Board Members.

That the Conference also marked the first presentation of the Chairman's award which were presented to Ian Russell from the Environment Agency for his work on Public Sector Co-operation Agreements and to Cliff Carson, former Environmental Officer of the Middle Level Commissioners and the Boards, for his work which was instrumental in changing views concerning conservation.

b) Annual Conference of the River Great Ouse Branch

That the Annual Conference of the River Great Ouse branch of the Association will be held on Tuesday the 12th March 2019.

c) Subscriptions

That it was proposed by ADA to increase subscriptions by approximately 2% in 2019, viz:- from £542 to £553.

RESOLVED

That the increased ADA subscription be paid for 2019

d) Floodex 2019

That Floodex 2019 will be held at The Peterborough Arena on the 27th and 28th February 2019.

e) Good Governance Guide for Internal Drainage Board Members

That ADA had produced a Good Governance Guide for Board Members; a copy of which had been issued to each Member.

iv) Environment Agency Precept

That the RFCC have set the increase for precept payment for 2019/2020 at 5%.

iv) External Bodies Conservation Initiatives

That there are two projects which may have an impact on the Board:-

i) The New Life on the Old West project being led by Cambs ACRE which aims to improve public understanding of the unique nature of biodiversity in the Fens and to deliver improvements on community green spaces and the ditch network. At the time of report the project has received a £100k grant to develop the project to the point at which a further £3/4 million grant bid will be made to support delivery.

ii) The Cambridgeshire Fens Biosphere, Heritage Lottery have provided £10,000 of funding to research what would be necessary to bring Biosphere Reserve status to the Fens. This project is being led by the Wildlife Trust with support from Cambs ACRE. If successful, this would lead to a new UNESCO designation. This would be a non-statutory designation which records the unique nature of the area.

v) Catchment Strategy

That the EA, LLFA, IDBs and other partners are co-operating in a piece of work which is looking at the pressures on the catchment from a development and climate change perspective. The aim will be to develop proposals which will guide and inform discussion makers.

vi) Water Resources East Group Meeting

That the Middle Level Commissioners are setting up a Committee to discuss how they can work more closely with Anglian Water and other partners to ensure that the management of water and the quantity taken from the River Nene can be maximized in stressed years.

B.1127 Consulting Engineers' Report, including planning and consenting matters

The Board considered the Report and Supplementary Report of the Consulting Engineers, viz:-

Ramsey, Upwood & Great Raveley I.D.B.

Consulting Engineers Report – December 2018

Pumping Stations

Other than the matters reported at previous meetings or described below, only routine maintenance has been carried out.

New Fen Pumping Station

The Board's insurance company's loss adjuster, Crawford & Company, has contacted us regarding the subsiding outfall chamber and has made the following comments:

> "I have now received further information from Aviva concerning your claim. I also enclose a copy of the latest readings and the report from Ground Investigation and Piling (GIP) who undertook site analysis.
>
> The report from GIP has identified the ground make up and the basic construction, which simply put is that the first concrete structure was erected off a piled base in the 1940's and subsequently a further concrete structure was added in the 1960's and they have found no evidence that this was built off a piled foundation. It appears that over the years there has been ground movement and recently the 2 structures have separated, with cracks / gaps becoming visible. Forces have increased over the years (due to the differential movement) and when the loading exceeded a point the two structures separated.
>
> Aviva have given consideration to the policy coverage as the investigation phase is now concluded. They consider policy exclusions would apply to the circumstances as found, in particular those listed on page 4, subsidence section, which states:
>
> We will not provide cover for
>
> (1) Damage caused by
>
> (b) the normal settlement, shrinking and cracking of any building
> (d) defective design or inadequate construction of foundations
> (f) settlement or movement of made up ground
>
> It is considered that under the circumstances policy exclusion(s) will apply and your Insurers have declined liability in respect of your claim.
>
> If I can be of any further assistance please let me know.
>
> Kind regards
>
> Richard
>
> **Richard Popple BSc (Hons) MCMI FCA FCILA FUEDI-ELAE**
> Head of Corporate Clients · Major & Complex Loss Team Director · Global Technical Services UK
> **Crawford & Company** · Suite 3, 1st Floor, Cadbury House, Blackpole East, Worcester, WR3 8SG
> Office: +44 (0) 1905 757727 · Direct: +44 (0) 1905 757873 · Fax: +44 (0) 121 200 4012 · Mobile: +44 (0) 7802 590991
> Email: richard.popple@crawco.co.uk • Web Sites: www.crawfordandcompany.com • www.crawfordgts.com"

Please see Appendix 1 for the report from Ground Investigation and Piling Ltd.

We have been unable to locate any constructional drawings of the station and therefore cannot confirm the surge chamber foundation. The Board's instructions regarding any further investigations/remedial works is required.

Pumping Hours

Total Hours	*Dec 17 - Dec 18*	*Dec 16 - Dec 17*	*Dec 15 - Dec 16*	*Dec 14 - Dec 15*	*Dec 13 – Dec 14*
Green Dyke	**45** (5587)	**213** (5542)	**73** (5429)	**93** (5356)	**182** (5263)
New Fen	**408**	**146**	**306**	**339**	**671**
No 1	**104** (1338)	**55** (1231)	**211** (1176)	(965)	
No 2	**304** (3588)	**91** (3284)	**95** (3193)	(3098)	
Upwood Common	**152** (4056)	**50** (3904)	**83** (3854)	**105** (3771)	**130** (3666)

Planning Applications

In addition to matters concerning previous applications, the following 5 new development related matters have been received and, where appropriate, dealt with since the last meeting:

MLC Ref.	*Council Ref.*	*Applicant*	*Type of Development*	*Location*
343	H/18/00724/FUL	C & D Construction & Developments Ltd	Residential (2 plots)	Ugg Mere Court Road, Ramsey Heights*
344	Enquiry	Client of G H Bullard	Provision of information for Flood Risk	St Mary's Road/Stocking Fen Road, Ramsey
345	H/18/01064/OUT	Mr A Wiltshire	Residential (2 plots)	Ugg Mere Court Road, Ramsey Heights
346	H/18/01668/OUT	Mr Halden	Residential (3 plots)	Ugg Mere Court Road, Ramsey Heights
347	H/18/01249/FUL	Mr & Mrs Wall	Equestrian	Middle Drove, Ramsey Heights

From the information provided it is understood that the developments propose to discharge surface water to soakaways, infiltration devices and/or Sustainable Drainage Systems (SuDS). The applicants have been notified of the Board's requirements.

Erection of a food-store, petrol filling station, residential development, community facilities and associated highways and infrastructure works – Tesco Stores Ltd & Abbey Properties Cambridge Ltd (MLC Ref Nos 114, 133 & 168); *Application to replace Planning Permission 0501658OUT for erection of foodstore, petrol filling station, residential development, community facilities and associated highways and infrastructure works at land at the corner of Stocking Fen Road and Ramsey St Marys Road, Ramsey - Lord De Ramsey's 1963 Settlement* (MLC Ref No 244) *and Reserved matters application for the residential phase consisting of 108 flats and houses, means*

of access (to eastern side of high lode), appearance, landscaping, layout and scale. Application made pursuant to outline permission 0501658OUT varied by permission 0900365S73 land at The Corner Of Stocking Fen Road and St Marys Road, Ramsey - Abbey Properties (Cambs) Ltd & Lord de Ramsey (MLC Ref No 248)

A further request was made to Tesco to confirm the size of pump installed, however confirmation has not, to date, been received. The pump's capacity is thought to be 20 l/s.

A Provision of Information request was processed on behalf of G H Bullard & Associates LLP who were updating the Flood Risk Assessment (FRA) for the larger Ramsey Basin development site, dated September 2005, to bring it in to line with current flooding information. No further correspondence has subsequently been received.

Huntingdonshire District Council (HDC) Local Plan to 2036

Further to the last meeting, no additional consultation documents in respect of on-going matters have been received.

Cambridgeshire Flood Risk Management Partnership (CFRMP)

The Commissioners' Planning Engineer has represented both the Middle Level Commissioners and their associated Boards since the last Board meeting. The main matters that may be of interest to the Board are as follows:

The Future Fenland Project

The next meeting is to be held in November when a consultant for this project, which involves the Anglian Fens including Lincolnshire, will be appointed. The Commissioners' Chief Engineer sits on the stakeholder group.

Flood risk activities: environmental permits (formerly flood defence consents)

The Environment Agency's (EA) new Environmental Permitting Charging Scheme can be found at: https://www.gov.uk/government/publications/environmental-permitting-charging-scheme. Early engagement with the EA is recommended as a slight redesign of the proposal may reduce the fees required.

Riparian Responsibilities

There has been discussion about issues concerning land owner's responsibilities on riparian "private" watercourses and the amount of time and resources that are taken up by various RMAs, including the Board, in dealing with riparian issues.

It was suggested that a recommendation be made to the RFCC. The options being considered are to do nothing; seek Government Support; or undertake an awareness campaign in the Public Domain with The Law Society, Local Government members etc. It is accepted by the partner members that some initial investment in time and resources may be required to progress these items further.

Discussions included the "Owning a watercourse" webpage, which replaced the Living on the Edge booklet, this is considered to be a backward step as the information that can be presented on the .gov.uk website is very limited.

The webpage can be found at https://www.gov.uk/guidance/owning-a-watercourse.

Hedge and Ditch Rule

Following a problem in the area covered by the Ely Group of IDBs this "common law" ruling that is mainly used to determine boundaries disputes and the requirements of the Land Drainage Act, notably Section 25, is currently being discussed with various parties including the former Commissioners' and Boards' Clerk, Iain Smith.

The latest ruling which dates to 2015 can be downloaded from the Mills and Reeve website, which can be found at https://www.mills-reeve.com/boundaries-and-the-hedge-and-ditch-rule-12-07-2015/

Bank Instability - Environment Agency (EA)/IDB approach

The EA and IDBs advised on their respective position in respect of reinstating channels that have failed. These are largely the same but due to cost constraints the EA now only stabilises channels where there are raised embankments.

For Award Drains the wording of the Award needs to be considered. Some refer to the landowner and not the Authority concerned.

IDB & LLFA Planning Process

An update was given on the LLFA's discussions with North Level and District IDB, the Ely Group and the Middle Level Commissioners in order to attain a collective approach where possible.

However, it was explained that all three authorities have different approaches to some items and that any discussions with the planning authorities and agents may be iterative.

The recent inaugural LLFA/AWSL/MLC Liaison meeting was briefly discussed. The EA expressed an interest in joining this group.

Emerging Planning & Response

A draft flooding newspaper article and a flood call questions template, for completion by reception staff when receiving a flooding related call, is currently being prepared by a member of the Flood & Water team.

Skills & Apprenticeships

The Government is promoting the use of Apprenticeships and it is noted that many authorities are using these in preference to other forms of training.

It is understood that the EA, together with other partners, is developing a new Apprenticeship Standard for Water Environment Workers in England. This aims to support the training and development of workers who carry out operational activities in organisations where there is a responsibility to manage the impact of water environments, natural or manmade, on the land and surrounding businesses and homes. The water environment includes rivers, coasts (the sea), lakes, wetlands, canals and reservoirs.

IDB Good Governance Guide/East Ridings of Yorkshire Council Guide

Matters raised by the East Ridings of Yorkshire Council, who had governance concerns over IDBs within its area of jurisdiction, were briefly discussed.

It is understood that correspondence was copied to all LLFAs and that Cllr Steve Count (Leader of Cambridgeshire County Council) provided a response which advised that the County Council had good partnerships with IDBs in the County.

County Council Public Sector Services

In addition to undertaking its role the group was advised that the Flood & Water Team may be extending its service to another County Council.

Flood Risk Management Trainees

As part of closer partnership working, training has been given to junior members of Cambridgeshire County Council and Peterborough City Council staff and an undergraduate studying for a FRM degree under the EA foundation scheme. The main purpose of the training was

to give the candidates a better and broader understanding of water level and flood risk management and also how the Commissioners and IDBs operate.

Feedback from both the candidates and internally has been positive and it is hoped that this opportunity can be offered again when the occasion arises.

General Advice

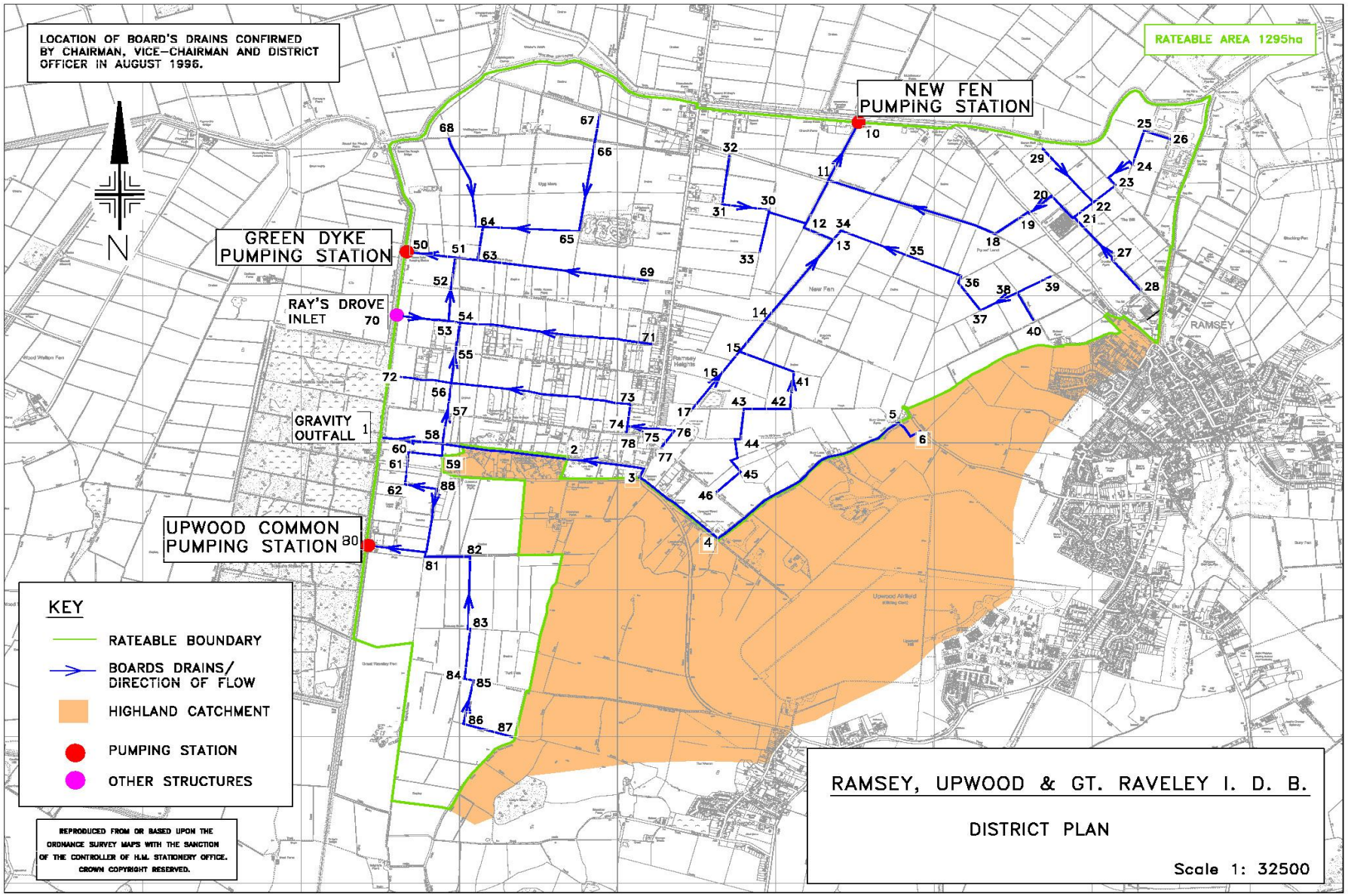
Assistance has been given, on the Board's behalf, in respect of the following:

a) Despite regular correspondence with Cadent Gas, no date has been confirmed for works to protect the high pressure gas main at the junction of Ugg Mere Court Road and Chapel Road. The latest proposal is to pipe and fill a shorter length of Board's watercourse than originally proposed using a 900mm diameter pipe.

Consulting Engineer

12 December 2018

RUGtR(328)\Reports\December 2018



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GIP Ltd.
Ground Investigation & Piling Limited

Middle Level Commissioners
C/O David Symonds Associates
3 Imperial Court
Kings Norton
Birmingham
B30 3FH

26th April 2018
ML/26621
JDS/MDH/217218

Attn Jonathan Symonds

Dear Sirs,

Ground Investigation at New Fen Pumping Station, St Mary's Road, Ramsey St Mary, Cambridgeshire

1 Introduction

1.1 Upon the instruction of David Symonds Associates (DSA) on behalf of the client, Middle Level Commissioners, an intrusive ground investigation has been carried out comprising two cable percussive boreholes and two foundation inspection pits, each with appropriate sampling and in-situ testing. Where applicable, the fieldwork was undertaken in accordance with BS 5930:2015 Code of Practice for Ground Investigation. The scope of works was devised by GIP and David Symonds Associates.

1.2 A site inspection was undertaken by DSA and recorded in a letter report dated 5th May 2017, Ref. JDS/MDH/217218, a copy of which is appended. From this report it is understood that the pumping chamber was originally constructed in the 1940s and is believed to have been founded on sheet piles. A later 1960s reinforced concrete chamber was constructed next to the original. It is not clear what foundations the 1960s construction was built on. It has been suggested by the client that they believe the 1960s structure was constructed on piles, however, they have no information to support this, alternatively it could be constructed directly onto the made ground. This 1960s chamber has now shown horizontal movement away from the original chamber by around 42mm at the top and 5mm at the lower level. The movement would appear to be ongoing.

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Managing Director: J.P. Hughes BSc, MSc, C Geol, Eur Geol, FGS, CSci
Associate Directors: C.E. Bullas BSc (Hons), C Geol, FGS. A.J. McHugh BSc (Hons), MSc, C Geol, FGS.

1.3 The purpose of the investigation was to assess the prevailing physical ground conditions around the pumping station and to attempt to identify what kind of footings the 1960s construction was built on, therefore enabling David Symonds Associated to provide some remedial options to the client.

2 The Site

2.1 The site which is known as 'New Fen Pumping Station' was accessed off St Mary's Road, which formed the northern boundary, in Ramsey St Mary, Cambridgeshire. The pumping station was used for moving water from a lower level water course up to the River Nene located to the north of the road. The approximate centre of the site is denoted by National Grid Reference 526530, 287188.

2.2 At the time of the investigation the site comprised an irregular shaped parcel of land that sloped down from St Mary's Road towards a water course to the south. The western portion of the site was unoccupied and characterised by grass, moss and shrubbery at surface. The New Fen Pumping Station was situated within the eastern portion and was enclosed by metal security fencing. A small mound of topsoil and vegetation was recorded within the southern portion of the site. Juvenile to semi-mature trees were situated around the perimeter of the site and hedgerows along the northern boundary.

3 Ground Conditions

3.1 Recorded Ground Conditions

3.1.1 The available published geological information (Sheet 172, British Geological Survey 1:50,000 Series) indicates the site to be underlain by the Oxford Clay Formation, superficial Tidal Flat Deposits are shown to overly the solid geology.

3.2 Encountered Ground Conditions

3.2.1 For full details of the strata encountered reference should be made to the appended engineer verified logs (Appendix A), however, the salient features of the engineering geology can be summarised as follows:-

3.2.2 **Made Ground** – was recorded in all positions, though the base was only proven within CP1 at 2.10m and CP2 at 4.00m below existing ground level, as granular soils onto very soft clays with occasional amorphous peat, the gravels included brick, metal and flint.

3.2.3 **Tidal Flat Deposits** – were not encountered during this investigation.

3.2.4 **Oxford Clay Formation** – were proven beneath the made ground as firm becoming stiff and very stiff clays.

3.2.5 **Groundwater** – was noted during drilling / pitting in CP2 at 3.50m rising to 3.30m and within TP1 at 1.20m. Subsequent monitoring of standpipes installed in both boreholes recorded groundwater at 1.17m and 1.14m in CP1 and within CP2 at 2.04m and 2.02m below existing ground level.

3.2.6 **Encountered Structure** – Two hand excavated pits were undertaken by GIP and viewed / recorded by David Symonds Associates. Within TP2 the base of the concrete structure was recorded at 1.50m below existing ground level upon the made ground soils. The base of the structure was not proven in TP1 due to significant groundwater ingress at 1.30m rising to 1.20m, making it not possible to progress the excavation.

4 Comments and Recommendations

4.1 From the observations made during this investigation and the walkover undertaken by DSA it would appear that there is differential movement between the 1940s and 1960s structures. If the 1960s structure has been constructed on the made ground then ongoing settlement and movement could be expected. DSA have indicated that their most likely remedial solution would be a scheme of piles tied in to the existing structure.

4.2 Piled Foundations

4.2.1 Reference should be made to the specialist piling contractors for advice on the most suitable and economic pile type for the prevailing ground conditions and within potentially difficult access constraints. The piles will need to carry their load through a combination of skin friction and end bearing wholly within a soils profile. They will need to consider the high volume change potential of the made ground soils (see 4.3 below) and negative skin friction during their design process, which could result in the requirement for a 'slip sleeve' being incorporated into the design.

4.2.2 It is essential that the assumptions made in design are achieved in practice. This could be through in-situ testing prior to casting of the piles, or by load testing at a later stage. This is particularly important as piles will be reliant upon a soils profile to carry their load.

4.2.3 Driven piles can be installed to a predetermined set, however, installation noise can be high and ground heave may be encountered. Bored cast in-situ and continuous flight augered piles can be installed with little or no vibrations or heave. Recent experiences in comparisons between bored piles using a percussive action and augered piles has shown that the depth of penetration of the latter can far exceed the former in certain ground conditions. This has led in some instances to over excavation / augering beyond that which would be required for the proposed loads in the ground conditions present. It is recommended that, if augered piles are considered, then an appropriately experienced person be in attendance to prevent any unnecessary lengthening of the piles.

4.3 **Index Property Testing** – Two samples of the made ground and one sample of the Oxford Clay Formation were tested. The results on the made ground samples have classified them as being of extremely high plasticity and high volume change potential according to the current NHBC guidelines (NHBC Standards, Chapter 4.2 (2017). Building Near Trees), this is most likely due to the amorphous peat pockets that are noted on the logs. The Oxford Clay Formation sample was recorded as low plasticity and low volume change potential.

4.4 **Concrete Classification Testing** – Three samples were tested, by Concept Life Science Ltd in accordance with those listed in BRE Special Digest 1 (Building Research Establishment, Special Digest 1 (2005). Assessing the Aggressive Chemical Environment.), two from within the made ground and one in the Oxford Clay Formation, the results are included within the Appendix. These tests determine the Class of concrete for the proposed development and in view of the presence of potentially mobile groundwater, the analyses indicate the ACEC Class of AC-5m is required for buried concrete structures within the made ground and AC-2 for those within the Oxford Clay Formation.

FOR AND ON BEHALF OF

GIP LIMITED

M. Laws B.Sc. (Hons). F.G.S.

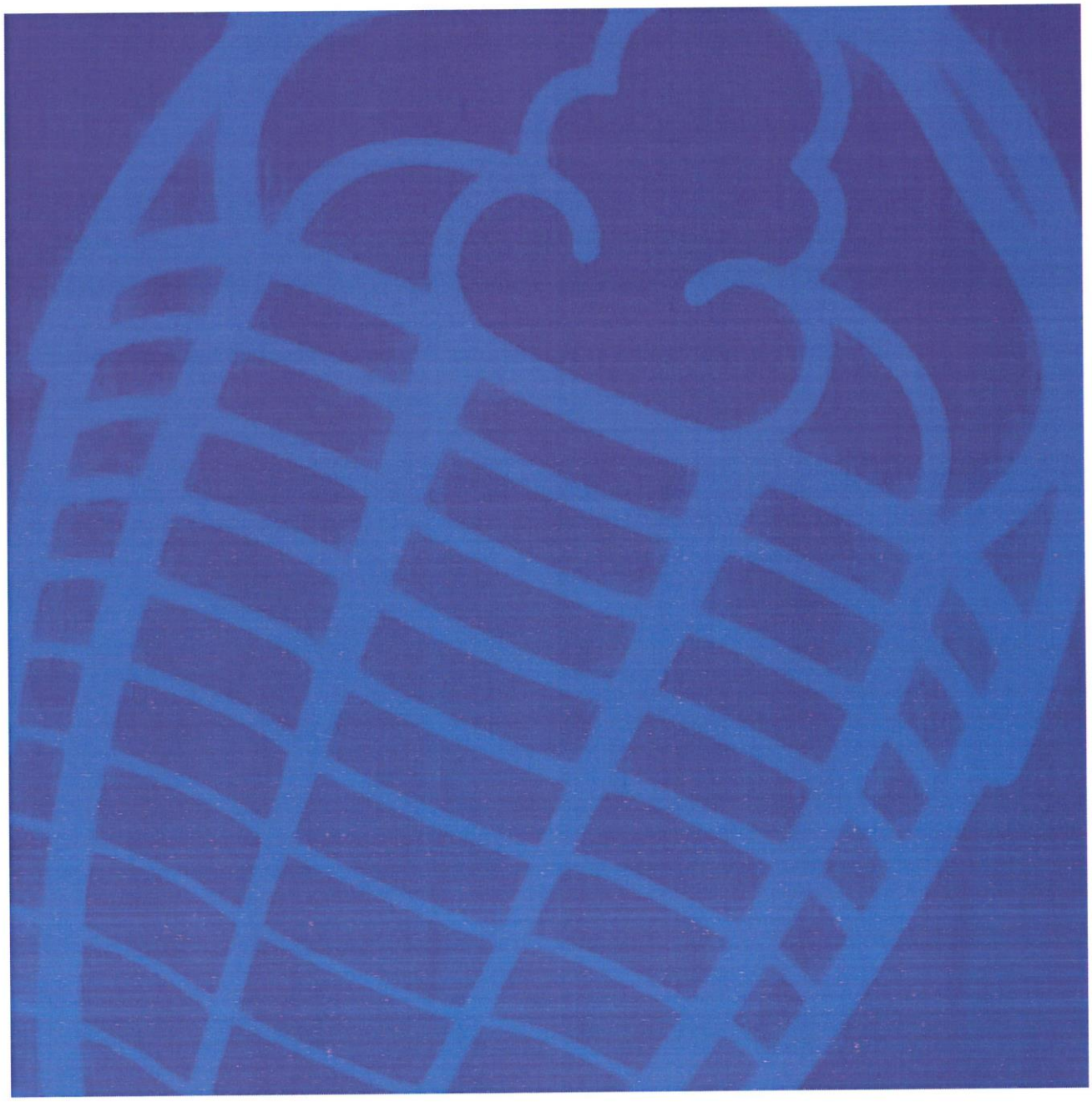
PRINCIPAL ENGINEER

Author Contact Details: email – matt.laws@gipuk.com Phone – 01902 459558

J. P. Hughes BSc, MSc, C.Geol, Eur.Geol, FGS, C.SCi

MANAGING DIRECTOR

APPENDIX A



GIP Ltd
Ground Investigation & Piling Limited
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Wolverhampton
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Tel: 01902 459558
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www.gipuk.com

Cable Percussion Borehole Log

Borehole:	CP1
Sheet 1 of 2	
Logged By:	DPS
Checked By:	ML
Drilled By:	DD

Project Number: 26621
Project Name: New Fen Pumping Station
Client:
Engineer: David Symonds Associates
Date Drilled: 18/01/2018
Diameter: 150mm
Depth Cased: 3.20m
National Grid:
Ground Level:
Final Depth: 10.35m

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Type	SPT 'N' Value [U100 Blows] Hand Vane	Installation /Backfill
MADE GROUND. Dark grey silty sandy GRAVEL. Gravel is tarmac and hardcore.		0.10			0.00	B		
MADE GROUND. Brown very sandy silty GRAVEL. Gravel is brick, concrete and quartz with occasional cobbles of brick.		0.30			0.10	B		
MADE GROUND. Dark brown and grey very sandy clayey GRAVEL, with occasional cobbles. Gravel is plastic and brick. Cobbles are brick.					0.30	B		
MADE GROUND. Very soft dark grey slightly sandy slightly gravelly CLAY, with some amorphous peat pockets. Gravel is flint with occasional quartz.		1.20			1.20	S	2 (1,0,0,1,0,1)	
					1.20	B		
					2.00	S	5 (1,0,1,1,2,1)	
Firm becoming stiff (from 3.00m) greyish brown CLAY (Oxford Clay Formation)		2.10			2.10	B		
					3.00	U	[54]	
					3.45	D		
					4.00	S	27 (3,4,6,6,7,8)	
					4.00	B		
					5.00	U	[65]	
Stiff becoming very stiff (from 9.00m) grey thinly laminated CLAY, with occasional fossil shell fragments (Oxford Clay Formation).		5.45			5.45	D		
					6.00	S	34 (5,6,7,7,9,11)	
					6.00	B		
					7.50	S	32 (4,5,6,8,8,10)	
					7.50	B		
					9.00	S	42 (5,6,8,10,11,13)	
					9.00	B		

Continued on Next Sheet

Samples/Tests
- U Undisturbed
- D Disturbed
- B Bulk
- W Water
- S/C SPT/CPT
- ES Environmental Sample
- HV Hand Shear Vane
- NR No Recovery
- Water Strike
- Water Level

Document 4.144

Other Information:
1. Hand excavated service avoidance pit to 1.20m, 1 hour.
2. No groundwater encountered.
3. Groundwater monitoring standpipe installed to 10.00m (slotted from 10.00m to 1.00m), with a gravel filter, bentonite seal from 1.00m to 0.30m with concrete to 0.00m and a lockable security cover at surface.

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Cable Percussion Borehole Log

Borehole:	CP1
Sheet 2 of 2	
Logged By:	DPS
Checked By:	ML
Drilled By:	DD

Project Number: 26621
Project Name: New Fen Pumping Station
Client:
Engineer: David Symonds Associates
Date Drilled: 18/01/2018
Diameter: 150mm
Depth Cased: 3.20m
National Grid:
Ground Level:
Final Depth: 10.35m

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Samples/Tests Type	SPT 'N' Value [U100 Blows] Hand Vane	Installation /Backfill
Stiff becoming very stiff (from 9.00m) grey thinly laminated CLAY, with occasional fossil shell fragments (Oxford Clay Formation).		10.35			10.05	S	50 for 295mm	
Borehole Complete at 10.35m								

Samples/Tests
- U Undisturbed
- D Disturbed
- B Bulk
- W Water
- S/C SPT/CPT
- ES Environmental Sample
- HV Hand Shear Vane
- NR No Recovery
- Water Strike
- Water Level

Document 4.144

Other Information:
1. Hand excavated service avoidance pit to 1.20m, 1 hour.
2. No groundwater encountered.
3. Groundwater monitoring standpipe installed to 10.00m (slotted from 10.00m to 1.00m), with a gravel filter, bentonite seal from 1.00m to 0.30m with concrete to 0.00m and a lockable security cover at surface.

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Cable Percussion Borehole Log

Borehole:	CP2
Sheet 1 of 2	
Logged By:	DPS
Checked By:	ML
Drilled By:	DD

Project Number: 26621
Project Name: New Fen Pumping Station
Client:
Engineer: David Symonds Associates
Date Drilled: 19/01/2018
Diameter: 150mm
Depth Cased: 4.50m
National Grid:
Ground Level:
Final Depth: 10.33m

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Type	SPT 'N' Value [U100 Blows] Hand Vane	Installation /Backfill
MADE GROUND. Dark grey very clayey slightly gravelly SAND, with some soft clay pockets. Gravel is brick and quartz.					0.10	B		
		0.30			0.30	B		
MADE GROUND. Very soft to occasionally soft dark grey slightly sandy slightly gravelly CLAY, with occasional amorphous peat. Gravel is quartz, flint, brick and occasional metal.					1.20	S	5 (1,1,1,1,1,2)	
					1.20	B		
					2.00	S	7 (1,0,1,2,2,2)	
					2.00	B		
MADE GROUND. Two 14cm long pieces of timber. Driller noted timber obstruction.		3.00			3.00	S	14 (1,2,2,3,4,5) No recovery	
					3.00	B		
				3.30				
				3.50				
MADE GROUND. Soft dark grey slightly sandy slightly gravelly CLAY. Gravel is quartz, flint and occasional brick.		3.70			3.70	B		
Firm becoming stiff (from 5.00m) greyish brown CLAY (Oxford Clay Formation).		4.00			4.00	S		
					4.00	B		
					5.00	U	[40]	
					5.45	D		
Stiff becoming very stiff (from 9.00m) grey thinly laminated CLAY, with occasional fossil shell fragments (Oxford Clay Formation).		6.00			6.00	S	27 (3,4,6,6,7,8)	
					6.00	B		
					7.50	S	30 (3,5,6,7,8,9)	
					7.50	B		
					9.00	S	42 (6,7,9,10,11,12)	
					9.00	B		

Continued on Next Sheet

Samples/Tests
- U Undisturbed
- D Disturbed
- B Bulk
- W Water
- S/C SPT/CPT
- ES Environmental Sample
- HV Hand Shear Vane
- NR No Recovery
- Water Strike
- Water Level

Document 4.144

Other Information:
1. Winching rig to borehole location due to soft ground, 1 hour.
2. Concrete obstruction encountered at 0.20m.
3. Rig moved 3m and setup.
4. Hand excavated service avoidance pit to 1.20m, 1 hour.
5. Groundwater encountered at 3.50m which raised to 3.30m after 20 minutes observation.
6. Groundwater monitoring standpipe installed to 10.00m (slotted from 10.00m to 1.00m), with a gravel filter, bentonite seal from 1.00m to 0.30m with concrete to 0.00m and a lockable security cover at surface.
7. Winched rig off site due to soft ground, 1 hour.

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Cable Percussion Borehole Log

Project Number:	26621
Project Name:	New Fen Pumping Station
Client:	
Engineer:	David Symonds Associates
Date Drilled:	19/01/2018
Diameter:	150mm
Depth Cased:	4.50m
National Grid:	
Ground Level:	
Final Depth:	10.33m

Borehole:	CP2
Sheet 2 of 2	
Logged By:	DPS
Checked By:	ML
Drilled By:	DD

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Samples/Tests Type	SPT 'N' Value [U100 Blows] Hand Vane	Installation /Backfill
Stiff becoming very stiff (from 9.00m) grey thinly laminated CLAY, with occasional fossil shell fragments (Oxford Clay Formation).		10.33			10.05	S	50 for 275mm	
Borehole Complete at 10.33m								

Samples/Tests
- U Undisturbed
- D Disturbed
- B Bulk
- W Water
- S/C SPT/CPT
- ES Environmental Sample
- HV Hand Shear Vane
- NR No Recovery
- Water Strike
- Water Level

Document 4.144

Other Information:
1. Winching rig to borehole location due to soft ground, 1 hour.
2. Concrete obstruction encountered at 0.20m.
3. Rig moved 3m and setup.
4. Hand excavated service avoidance pit to 1.20m, 1 hour.
5. Groundwater encountered at 3.50m which raised to 3.30m after 20 minutes observation.
6. Groundwater monitoring standpipe installed to 10.00m (slotted from 10.00m to 1.00m), with a gravel filter, bentonite seal from 1.00m to 0.30m with concrete to 0.00m and a lockable security cover at surface.
7. Winched rig off site due to soft ground, 1 hour.

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Trial Pit Log

Borehole:	TP1
Sheet 1 of 1	
Logged By:	DPS
Checked By:	ML

Project Number: 26621
Project Name: New Fen Pumping Station
Client:
Engineer: David Symonds Associates
Date Excavated: 19/01/2018
Plant Used: Hand Tools

National Grid:
Ground Level:
Final Depth: 1.30m

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Samples/Tests Type	Results
MADE GROUND. Dark brown very gravelly silty SAND. Gravel is sandstone and occasional quartz.		0.20			0.00	B	
MADE GROUND. Very soft dark grey slightly sandy slightly gravelly CLAY. Gravel is flint with occasional brick and quartz.					0.20	B	
		1.30		1.20			
				1.30			

Annotated Sketch Drawing (Not to Scale)

Samples/Tests
- U Undisturbed Sample
- D Disturbed Sample
- B Bulk Sample
- W Water Sample
- ES Environmental Sample
- HV Hand Shear Vane

Water Strike
Water Level

Other Information:
Pit Stability: Sides stable.

1. Groundwater encountered at 1.30m which raised to 1.20m after 20 minutes observation, trial pit terminated.
2. Trial pit backfilled on completion.

Trial Pit Log

Borehole:	TP2
Sheet 1 of 1	
Logged By:	DPS
Checked By:	ML

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Project Number: 26621
Project Name: New Fen Pumping Station
Client:
Engineer: David Symonds Associates
Date Excavated: 19/01/2018
Plant Used: Hand Tools

National Grid:
Ground Level:
Final Depth: 1.55m

Description of Strata	Legend	Depth (m bgl)	Level (mAD)	Water Level (m bgl)	Samples/Tests Depth (m bgl)	Samples/Tests Type	Results
MADE GROUND. Dark brown very clayey gravelly SAND with some roots and organic pockets and clay pockets. Gravel is quartz, brick, concrete and occasional metal.					0.20	B	
		1.55					

Annotated Sketch Drawing (Not to Scale)

Samples/Tests
- U Undisturbed Sample
- D Disturbed Sample
- B Bulk Sample
- W Water Sample
- ES Environmental Sample
- HV Hand Shear Vane

Water Strike
Water Level

Document 4.145

Other Information:
Pit Stability: Sides Stable
1. No groundwater encountered.
2. Trial pit backfilled on completion.

APPENDIX B

LABORATORY TEST REPORT

Contract: New Fen Pumping Station.

Customer: David Symonds Associates.

GIP Ltd Ground Investigation & Piling Limited
Devonshire House, Ettingshall Road,
Wolverhampton. WV2 2JT
Phone 01902 459558, Fax 01902 459085, Email paul.smart@gipuk.com

Job No:- 26621 | Page No:- 1 of 1

Date Received:- 07.02.18 | Date Issued:- 23.02.18

SAMPLE DETAILS			TEST DATE	CLASSIFICATION					% PASSING BS SIEVE SIZE		*DENSITIES		* TRIAXIAL STRENGTH					* HAND VANE STRENGTH		DESCRIPTION
				Index Properties																
SAMPLE No.	DEPTH m	SAMPLE TYPE		W %	W_L %	W_P %	I_P %	*WC %	2.00 mm	0.425 mm	BULK Mg/m^3	DRY Mg/m^3	TYPE QS/QM	DIA mm	σ_3 kPa	$(\sigma_1-\sigma_3)_f$ kPa	C_u kPa	Position	C_u kPa	See Exploratory Log
BH1	1.20	B	08.02.18	167	164	63	101			64										Dried at 47.5 ± 2.5°C
BH1	3.00	U	08.02.18															Top	>120	
																		Base	>120	
BH1	5.00	U	08.02.18															Top	>120	
																		Base	>120	
BH2	2.00	B	08.02.18	83	151	65	86			84										Dried at 47.5 ± 2.5°C
BH2	5.00	U	08.02.18	20	42	17	25			99								Top	>120	
																		Base	106	

Sample type		Test abbreviations		Test methods - Unless otherwise stated.	
D	Disturbed	W	Moisture Content	W%	BS1377:Part 2:1990:3.2
B	Bulk disturbed	W_L	Liquid limit	W_L	BS1377:Part 2:1990:4.4
U	Undisturbed	W_P	Plastic limit	W_P	BS1377:Part 2:1990:5.3
S	SPT split spoon	I_P	Index Property	I_P	BS1377:Part 2:1990:5.4
W	Ground water	WC	Water Content	WC	BS EN ISO 17892-1:2014
T	Tub	Q	Quick Undrained	QS/QM	BS1377:Part 7:1990:8/9
J	Jar	HV	Hand Vane	HV^1	Pilcon Hand Vane Test

Opinions and interpretations are outside the scope of UKAS accreditation

Other Abbreviations

σ_3 Cell pressure — Cu Cohesion value

$(\sigma_1-\sigma_3)_f$ Corrected maximum deviator stress — HV^1 (Average, corrected to obtain equivalent BS1377 Value)

Approved signatory:-

Paul Smart, Laboratory Manager.....

1897

Tests marked * are not UKAS accredited.

The reported results relate only to samples received.

 # = Sample mass smaller than BS1377 requirements.

APPENDIX C

Our Ref: JDS/MDH/217218
Your Ref: SU1700867

By email only
Richard.popple@crawco.co.uk

Crawford and Company
Suite 3
1st Floor
Cadbury House
Blackpole East
Worcester
WR3 8SG

For the attention of Richard Popple

5 May 2017

Dear Richard

New Fen Pumping Station, St Mary's Road, Ramsey St Mary, Cambridgeshire PE26 2SN

Thank you for asking me to provide engineering advice with regard to the movement that has occurred to the Pumping Station at the above site.

I would confirm having inspected the Pumping Station with yourself on the morning of 4 May 2017.

I attach a series of photographs to help illustrate the points made below.

The representative from Middle Level Commissioners, who we met on site, advised that the original Pumping Station dates from at least the 1940s when a static diesel pump was situated at the site to pump water from the lower level up into the River Nene.

I understand that in around the 1960s the site was modified with an electric pump being installed to replace the diesel and a new chamber being formed. A second electric pump was added in around 2003 / 2004.

The original section of the pumping chamber dating from the 1940s has steel sheet piles although the depth to which these are taken is unknown.

The more modern chamber dating from the 1960s is formed in reinforced concrete and whilst the representative from the Commissioners believed that this was on piled foundations, this has not yet been determined conclusively.

I understand that concern was raised in March 2017, when it was noticed that the mesh decking around the cast iron piped, which conveys water from the pumps to the discharge chamber, had moved.

Continued/.....

David Symonds Associates

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Eur Ing J D Symonds
BSc (Hons), CEng, MICE, FBEng, MCIHT, RMaPS, FRSA

Eur Ing S D Minchin
BEng (Hons), CEng, MICE

Our Ref: JDS/MDH/217218
Your Ref: SU1700867
5 May 2017

Observations on site, show that the more modern reinforced concrete discharge chamber, has moved away from the original chamber on sheet piles by around 42mm. The movement between the two chambers tapers from high to low level, with movement at the lower ground level of approximately 5mm.

At the junction between the two structures the unreinforced lip of concrete has sheared off and the exposed face is clean, indicating the failure is recent.

The Commissioners have installed two tell tales across the movement and I understand that at present there are no monitoring readings available.

From the reinforced concrete chamber water is discharged to the River Nene by means of a brick arch culvert. No meaningful observations of this were possible during our site visit, the limited observations would tend to indicate that the brickwork is of some age and is almost certainly part of the original construction dating from the 1940s.

It is clear from the observations on site that the reinforced concrete discharge chamber has settled and rotated away from the original pump chamber.

If as believed by the Commissioners, this section of the pump chamber is founded on piles, the movement would indicate a failure at a considerable depth.

If however, the pump chamber is in fact constructed on simple strip foundations or even a raft at relatively shallow depth, then consolidation and movement of the likely foundation strata would be anticipated.

It is suggested by the Commissioners that all the movement that is currently present, has occurred in the last two to three months, in my opinion this is unlikely and it is far more probable that there has been ongoing movement over a period of time. Although, it has to be acknowledged that there is evidence of fresh fractures within the concrete nib that projected from the reinforced concrete pumping chamber to the sheet piled structure.

However, it is possible that there is a mechanism whereby slow progressive movement occurred for many years, until the structure reached a point where the stresses within the unreinforced concrete exceeded the capacity of the concrete, resulting in the spalling and signs of movement now evident.

Continued/.....

Our Ref: JDS/MDH/217218
Your Ref: SU1700867
5 May 2017

If record drawings of the construction can be located, this would be invaluable in helping to establish the actual foundation arrangements for the two structures. I understand, that the Commissioners are undertaking further rigorous checks of their archives and hopefully this will uncover additional information.

As we discussed on site, at the present time the movement that has occurred can be accommodated within the structure, however it is clearly vital to establish whether or not there is still ongoing progressive movement. The representative of the Commissioners present on site confirmed that he would arrange further monitoring readings on the tell tales already established. I think it would be prudent to consider additional monitoring and precise levelling of the two elements of the structure so that any pattern to ongoing movement can be established.

Also, I believe it would be prudent to arrange for an inspection of the culvert to confirm it current condition. It is likely that this would necessitate a Diver accessing the culvert from the river area and traversing back to the pump chamber.

Dependent upon what record drawings can be located, it may also be prudent to consider a trial pit exercise to try and determine the foundation detail for the reinforced concrete chamber. This is likely to necessitate the use of a mini digger and removal of some of the palisade fencing whilst the excavation is undertaken.

In summary, there is clear differential movement occurring between the two sections of the pumping chamber, the critical thing to assess is whether there is any ongoing progressive movement, because if the two areas are now stable, then any repairs can be limited to cosmetic repair and resetting of the cast iron pipework.

If there is ultimately ongoing progressive movement, then any remedial works to stabilise the base are likely to necessitate the use of piles and would therefore be costly.

I have not inspected woodwork or other parts of the structure, which are covered, unexposed or inaccessible and I am therefore unable to report that any such part of the property is free from defect.

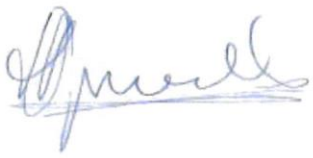
Continued/.....

Our Ref: JDS/MDH/217218
Your Ref: SU1700867
5 May 2017

I take this opportunity to enclose an invoice to cover the costs of carrying out the initial inspection. I trust you find this in order and look forward to receipt of your payment in due course.

If you have any queries regarding the above, then please do not hesitate to contact this office.

Yours sincerely
DAVID SYMONDS ASSOCIATES



J D Symonds

Encl: Photographs
Invoice 13509

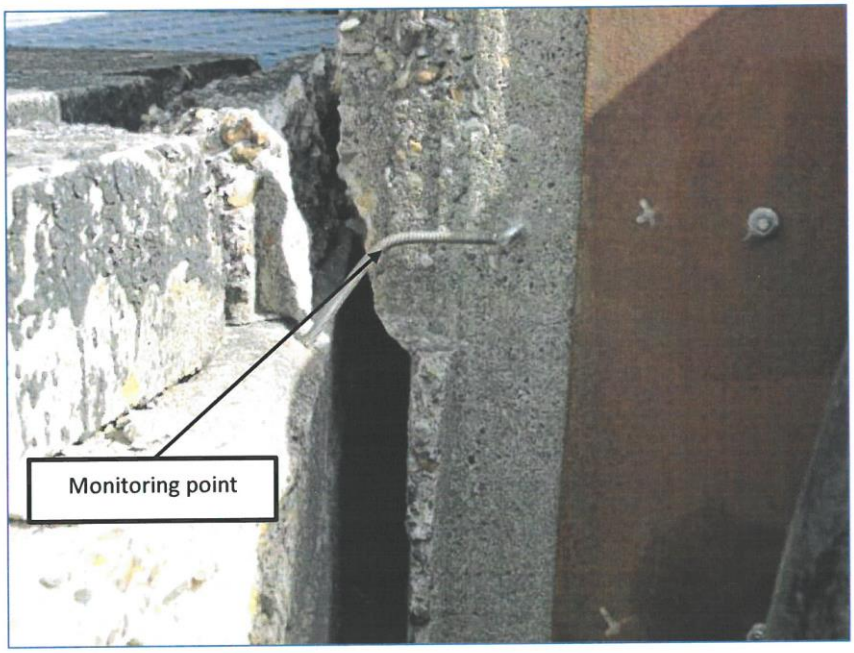
1. General view of the pumping station.

2. General view of the pumping station.

3. General view of original section to the left and newer section to the right.

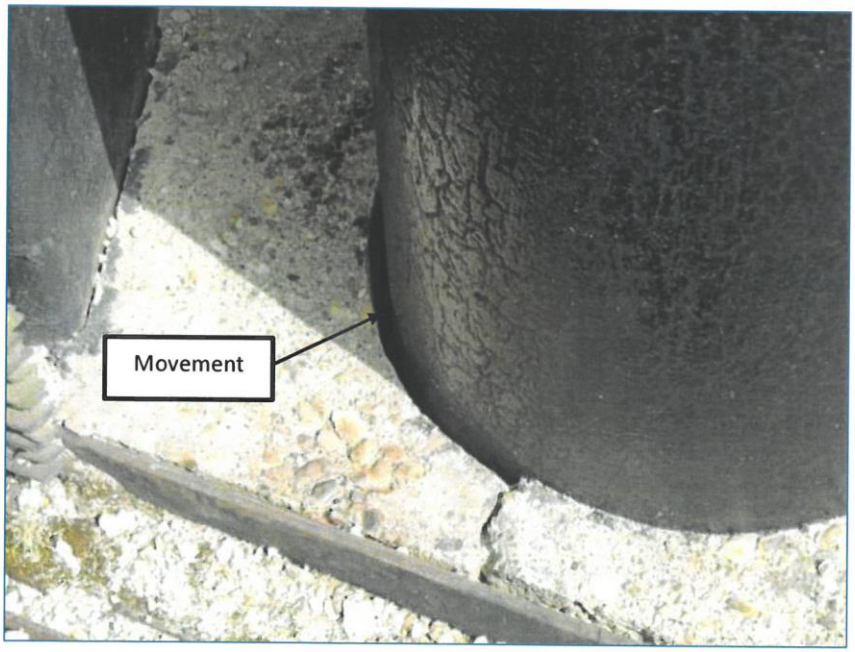
4. Shows pipework from the pumps.

5. Note separation between the original section to the left and the new section.



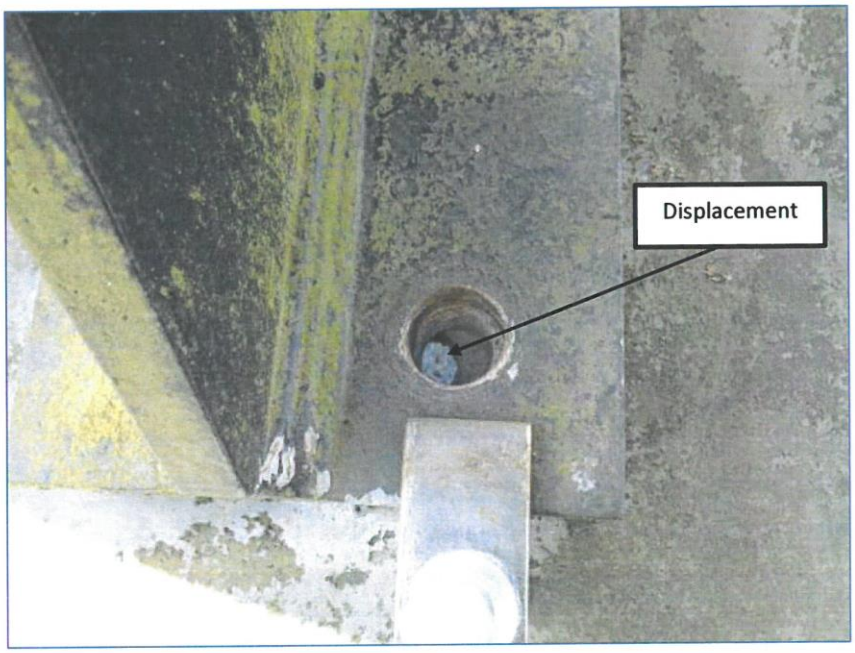
6. Detailed view of the separation showing the monitoring point established.

7. View at lower level showing movement tapers.



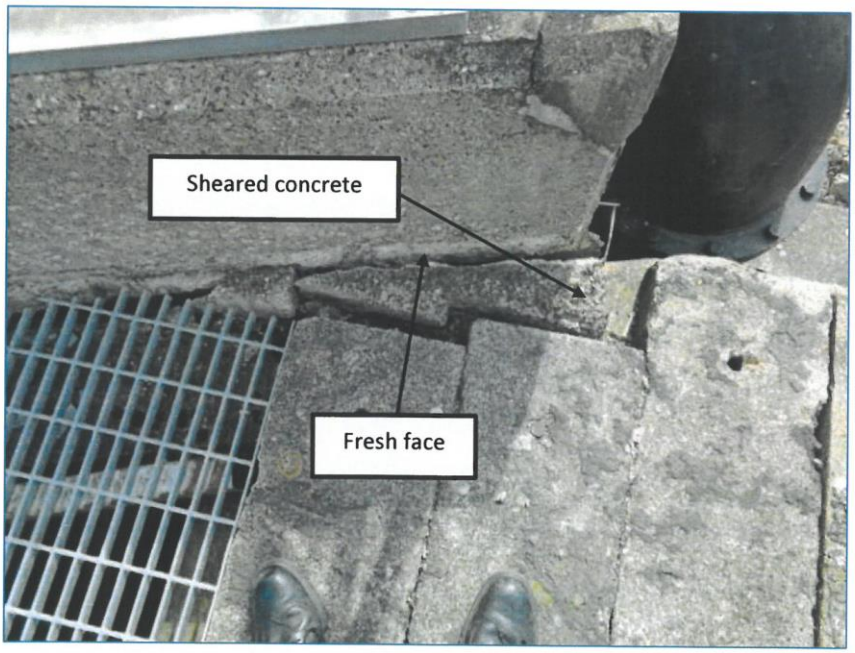
8. Shows movement of discharge pipe relative to the concrete.

9. Shows monitoring point established at the high side of the chamber.

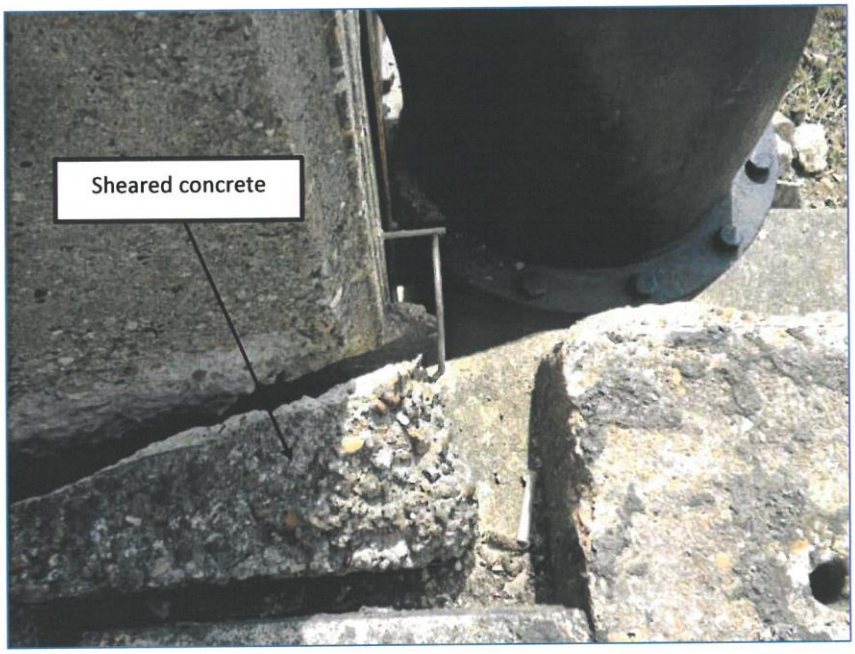


10. Note the displacement of the holes in the steelwork.

11. Shows the area of sheared concrete.



12. Shows the sheared concrete nib and the fresh face of concrete.



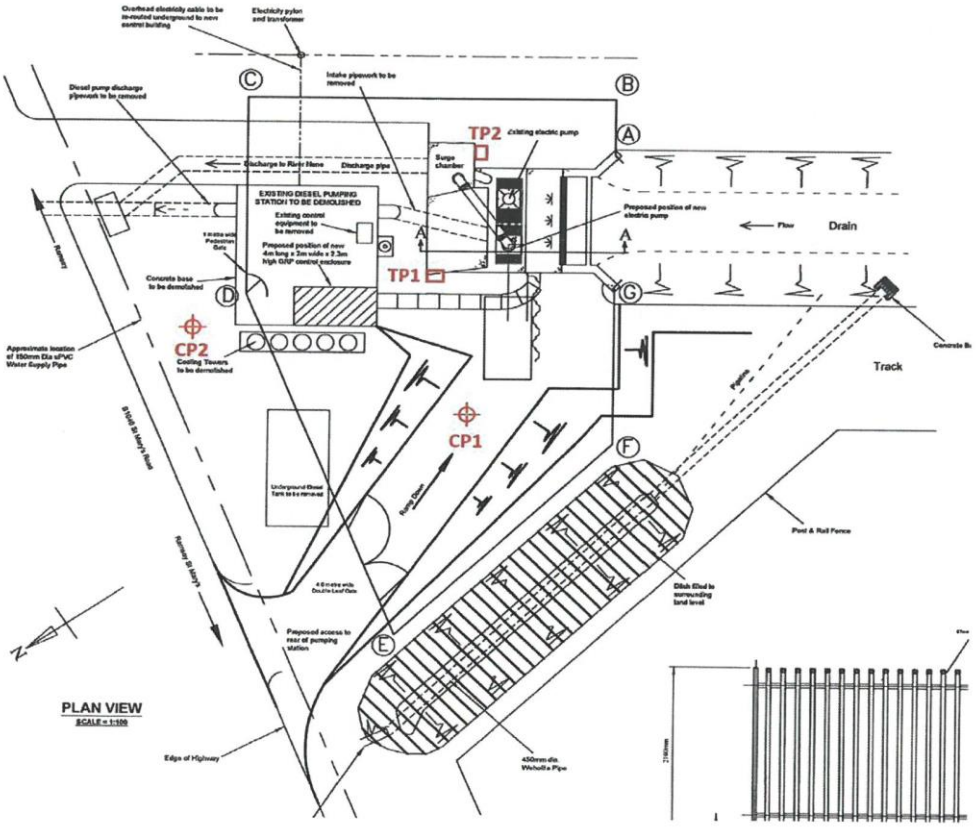
13. Detailed view of the sheared nib and fresh face of concrete.

14. Shows drainage channel from which water is pumped.

15. View of the River Nene with the headwall to the culvert.

16. View of the outfall of the culvert.

APPENDIX D


TP2
TP1
CP1
CP2
Drain
Track
EXISTING DIESEL PUMPING STATION TO BE DEMOLISHED
PLAN VIEW

APPENDIX E

General Notes

1. The copyright of this report and other plans and documents prepared by Ground Investigation and Piling Limited are owned by them. No such report plan or document may be produced, published or adapted without the written consent of Ground Investigation and Piling Limited. Copies of this report may however, be made and distributed by the Client as an expedient in dealing with matters related to its commission.

2. This report is provided for sole use by the client and is confidential to the Client and the Clients professional advisors. No responsibility whatsoever for the contents of the report will be accepted to any other person other than the client.

3. The report and/or opinion will be prepared for the specific purpose stated in the document and in relation to the nature and extent of proposals made available to us at the time of your enquiry. The recommendations should not be used for other schemes on or adjacent to the site without further reference to Ground Investigation and Piling Limited. The assessment of the factual data will be provided to assist the client and his Engineer and/or advisors in the preparation of their designs.

4. The report will be based on the ground conditions encountered in the exploratory holes together with results of field and laboratory testing in the context of the proposed development. Conditions between exploratory holes have been interpolated, however soils and rock conditions are highly variable and may differ from our interpolation There may be conditions, appertaining to the site, which may not be revealed by the investigation, and which may not be taken into account in the report.

5. Methods of construction and/or design other than those proposed by the designers or referred to in the report may require consideration during the evolution of the proposals and further assessment of the geotechnical data would be required to provide discussion and recommendation appropriate to these methods.

6. The accuracy of the results reported will depend upon the technique of measurement, investigation and test used and these values should not be regarded necessarily as characteristic of the strata as a whole. Where such measurements are critical, the technique of the investigation will need to be reviewed and supplementary investigation undertaken in accordance with the advice of the company where necessary.

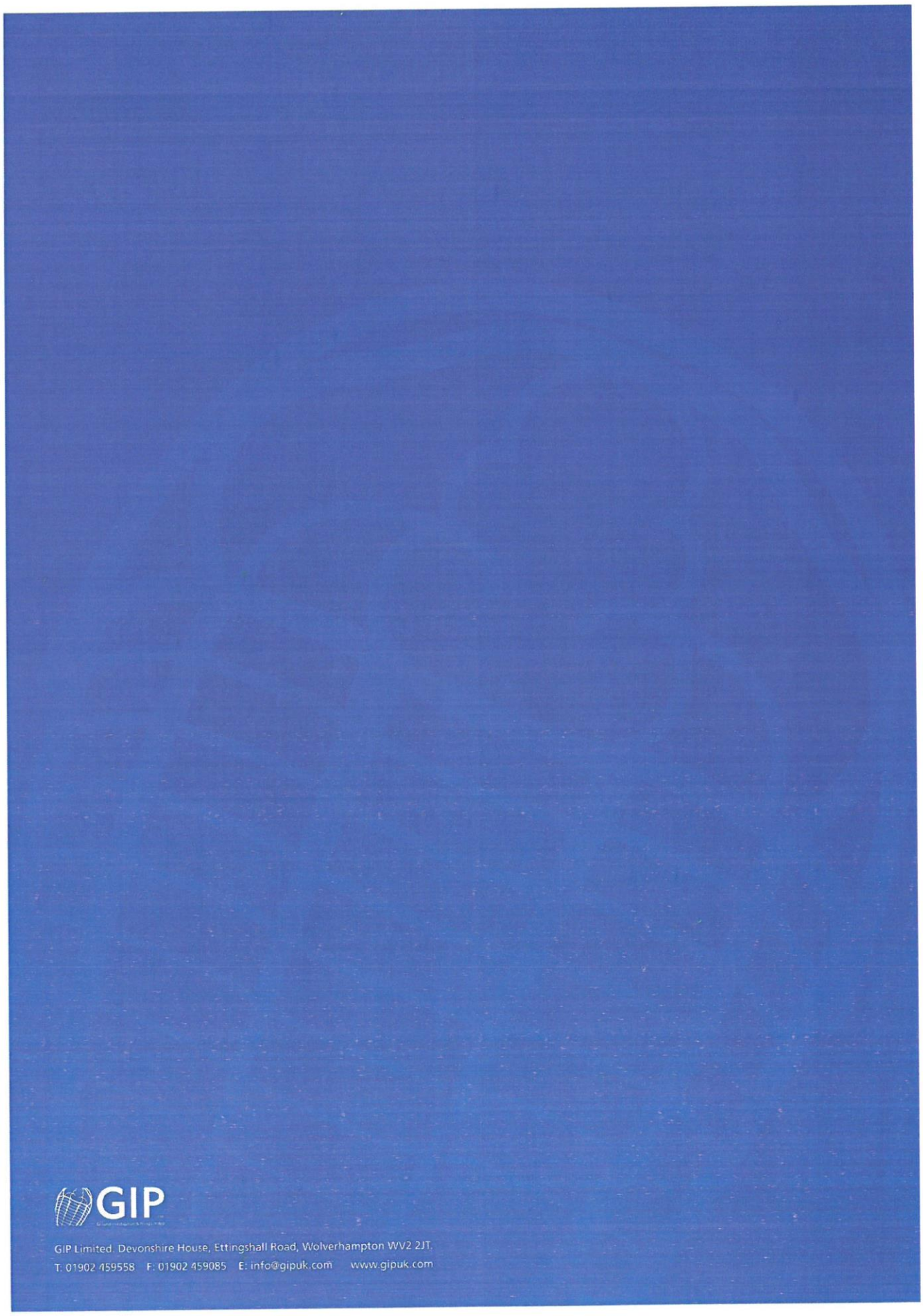
7. Whilst the report may express an opinion on possible configurations of strata between or beyond exploratory holes, or on possible presence of a feature based on either visual, verbal, written, cartographical, photographic or published evidence, this will be for guidance only and no liability can be accepted for its accuracy.

8. Ground conditions should be monitored during the construction of the works and the recommendations of the report re-evaluated on the light of these data by the supervising geotechnical engineers.

9. Any comments on groundwater conditions will be based on observations made at the time of the investigation, unless specifically stated otherwise. It should be noted, however, that the observations are subject to the method and speed of the boring, drilling or excavation and that groundwater levels will vary due to seasonal or other effects.

10. Unless specifically stated, the investigation will not take into account possible effects of mineral extraction.

11. The economic viability of the proposals referred to in the report, or of the solutions put forward to any problems encountered, will depend on very many factors in addition to geotechnical considerations hence its evaluation will be outside the scope of the report.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Ramsey Upwood & Great Raveley Internal Drainage Board

Supplementary Report – December 2018

Flood Risk Management (FRM) for the Fens Technical Group

Further to the entry on the Future Fenland Project in the Main Report the Environment Agency (EA) has recently commenced the FRM for the Fens Project to determine the best way of managing future flood risk.

As a result a technical group has been formed, including representation from the Middle Level Commissioners.

The project was discussed at the EAs Large Projects Review Group (LPRG) meeting in November. The LPRG stated that all partners who seek future Flood Risk Management but do not share its data for the Baseline Report are likely to be denied, or capped to 45% funding, as they will not be able to demonstrate a strategic approach.

The project is currently at the data collection stage and details of the Board's system and any hydraulic models are being collated to inform the successful consultant, who will be appointed in February, to progress Phase 1 of the project.

In order to provide some background to the project a copy of the "elevator pitch" used by the EA follows overleaf. Please note that the extent of the geographical area shown has recently been amended.

Consulting Engineer

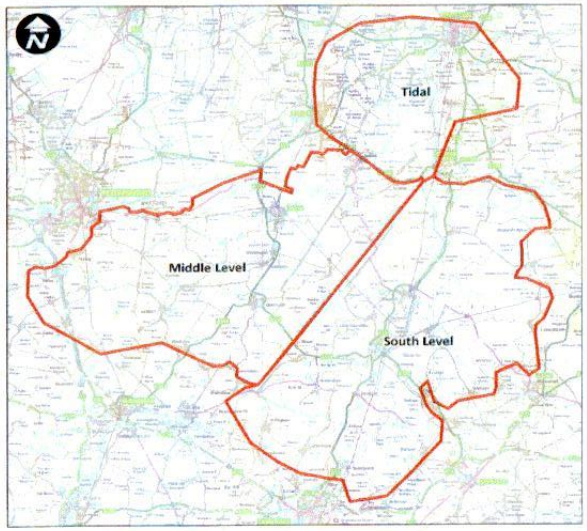
20 December 2018

RUGR (328)\Supplementary Report

Flood risk management for the Fens – planning together for a sustainable flood risk future

'Flood risk management for the Fens' is a project that has been set up to plan the best way of managing future flood risk in the Great Ouse Fen Area. We are currently in the **first phase** of this project which is developing a shared understanding of the situation and challenges for managing flood risk (from all sources) in the Fens.

A Technical Group (TG) has been formed of organisations (see below) who have **flood risk assets**, or represent those with assets, in the geographical area that has been defined as the Great Ouse Fens.



We are **working together** to set out all the data about flood risk in the area outlined – defining who is managing flood risk, asset maintenance costs and potential available Flood Risk Management Grant in Aid (Government funding). This will identify any difference in **investment needs versus available funding**.

The most important outcome for the first phase of work is for the TG to have a **shared understanding** of the issues and challenges for managing flood risk in the Fens, and to have a **shared ownership** for taking action to overcome these issues.

Pressures on the Fens will come from many sources including, for example, climate change causing sea level rise affecting the Tidal River and the systems discharging into it, and catchment pressures from housing and infrastructure growth.

Following this initial data gathering phase, which we hope to complete in the next 18-24 months, we will produce a **joint project plan** for the next phase of work. The outcome of Phase 2 will be to produce a jointly owned strategic plan reviewing all options that could manage flood risk in the Fens, taking in to account climate change and sea level rise and recommending actions that will be the best/ most appropriate way of managing flood risk in the Fens over the next 50-100 years.

The TG will work closely with the Environment Agency's Lincolnshire and Northamptonshire Partnerships and Strategic Overview Team who are progressing a similar project for the Lincolnshire Fens, but at different timescales.

The TG understands that there are **many different areas of interest** within the Fens, and a lot of groups and individuals will be interested in the work of the project.

At this stage in the project, there is a very **strong focus on the flood risk management challenges** – specifically focusing on current flood risk management assets. We will keep interested stakeholders updated with the progress of this stage of the project and **our work will be overseen by the Anglian Central Regional Flood and Coastal Committee**.

The TG is aware of the importance of linking Phase 1 outputs to other projects shaping the future of the Fens landscape.

Ely Group of Internal Drainage Boards · love every drop anglian water · Water Management Alliance · Cambridgeshire County Council · middle level commissioners · Environment Agency · Norfolk County Council · NFU

Councillor Clarke queried the development of the railway site at Ramsey in relation to the application by Seagate Properties for 63 dwellings. Councillor Corney confirmed that the application had been approved before Christmas and that the approved plans showed a balancing attenuation pond. The Chairman expressed concern that he was unaware of this proposed development as it was likely to have an impact on the Board's system.

With regards to the subsidence at New Fen pumping station, Councillor Clarke queried the time it was first noticed. The District Officer considered it was over two years ago.

The Chairman expressed disappointment at the position taken by the Board's insurers and reported that the Consulting Engineer was currently drafting a counter claim to present to the insurers explaining why the Board considered the subsidence should be covered by them.

He confirmed that the site was being monitored but as he had not seen these readings he was unable to ascertain the rate of movement.

The District Officer reported that it appeared the control cabinet concrete base was also moving, although there did appear to be evidence of rabbits close by.

In response to the Chairman, Mr Hill reported on the grant-in-aid position with regards to the replacement of Green Dyke pumping station. He reported that at a recent Local Choices meeting of the Environment Agency's Regional Flood and Coastal Committee, the EA had confirmed that a number of schemes had been deferred from the final two years of the grant allocation cycle as they had identified schemes that they considered could be delivered within the remaining timescale. Mr Hill confirmed that the replacement of Green Dyke pumping station was not currently included for funding for the remaining two years of the cycle. In response to Councillor Clarke, the Chairman estimated that when the matter was first raised it was considered the pumping station would be required to be replaced within three years. The Vice Chairman considered that the Board would need accurate costings as to the replacement costs as it may be likely that the works would need to be commenced without the availability of grant-in-aid.

RESOLVED

i) That the Report and the actions referred to therein be approved.

ii) That the Consulting Engineers update the Chairman on the proposed application for the development of the railway site at Ramsey and that the Chairman be authorised to take any further action he considers appropriate.

iii) That the Consulting Engineers ensure that the subsidence to the outfall chamber at New Fen pumping station continues to be monitored, together with the potential subsidence of the control cabinet.

iv) That the readings from the monitoring to date be provided to the Chairman and fully reported to the Board at their next meeting.

v) Green Dyke pumping station

That the Consulting Engineers continue with the proposals for the replacement of Green Dyke pumping station to allow this to be used as a potential future grant-in-aid application and for the Board to be able to also use this to enable them to tender for the works, should grant-in- aid not be available, and for a full update on this to be reported to the Board at their next meeting.

B.1128 District Officer's Report

The District Officer reported that the drainworks went well and with Mr Pickard's assistance he had resolved the problem in relation to the trees on Mr Boyden's property. He confirmed that the dam at Point 61 had now been refurbished to operate the same as others within the District and gave a brief explanation as to how it was utilised to control water levels between the Upwood Common and Green Dyke systems. He referred to an issue concerning a fence opposite Michael Fryer's land which necessitated having the machine stand on Mr Fryer's land to carry out works on the opposite side of the drain and, although completed, the fence remained and would continue to be a problem for future maintenance works. The Chairman considered this to be an outstanding issue, which had previously been left for the occupier to move the fence outside the 9 metre byelaw distance when it was due to be replaced. Mr A Butler considered the Board needed to be consistent in its approach to unconsented fences.

The District Officer referred to the outstanding repair works at Upwood Common pumping station to which Mr Hill confirmed that an allowance of £2,000 had been made in the current year's budget for repairs to the roof, railings and cover plate at the station.

RESOLVED

i) That the Report and the actions referred to therein be approved and that the Officer be thanked for his services.

ii) That the Clerk identify the owner of the unconsented fence close to Point 76 on the District map and a letter be sent requiring the fence to be moved within 28 days and that the Chairman and Vice Chairman be authorised to take any further action concerning this as they consider necessary.

iii) That the Middle Level Commissioners be requested to provide a quotation for the repair works at Upwood Common pumping station and, on receipt of the quotation, the Chairman and Vice Chairman be authorised to take any further action they consider appropriate.

B.1129 Conservation Officer's Newsletter

Mr Hill referred to the Conservation Officer's Newsletter, dated December 2018, which had previously been circulated to members.

B.1130 Claims for Highland Water Contributions – Section 57 Land Drainage Act 1991

Mr Hill reported that the sum of £311.12 (£2,988.97 less £2,677.85 paid on account) (inclusive of supervision) had been received from the Environment Agency based on the Board's actual expenditure on maintenance work for the financial year 2017/2018 together with the sum of £6,257.66 in respect of 80% of the Board's estimated expenditure for the financial year 2018/2019.

B.1131 Health and Safety Report

Further to minute B.1098, the Chairman reported that he had not yet received a report following the Health and Safety inspection by Croner Consulting but he had received details of "do & don'ts" which had been displayed in the Board's pumping station. He further reported that he

was still awaiting details of possible dates for a health and safety meeting with Jonathon Fenn, from the Middle Level Commissioners.

Mr Hill reported that, following the Chairman's meeting, the Middle Level Commissioners' Executive Committee had asked for costings in relation to the employment by the Commissioners of a Health and Safety Officer in comparison to the use of consultants and that, if viable, a service for health and safety could be offered to the administered Boards similar to that already provided with regards to conservation.

B.1132 Damage to security fencing at New Fen pumping station

The Chairman reported on the events leading to the damage to the fencing and that Cambridge Water had recently contacted him to confirm that they would be looking to replace the fencing when ground conditions had stabilised.

B.1133 Completion of the Annual Accounts and Annual Return of the Board – 2017/2018

a) The Board considered and approved the comments of the Auditors on the Annual Return for the year ended on the 31st March 2018.

b) The Board considered and approved the Audit Report of the Internal Auditor for the year ended on the 31st March 2018.

B.1134 Defra IDB1 Returns

Mr Hill referred to the completed IDB1 form for 2017/2018, which the Board noted and approved.

B.1135 Financial Position

a) The Board considered the Estimate Update for 2018/2019.

RESOLVED

That the update be approved.

b) Mr Hill reported that the Board's cash balance on the 30th November 2018 was:-

Clients Premium Account - £191,480.98

B.1136 Date of next Meeting

Mr Hill reminded Members that the next meeting of the Board will be held on Thursday the 16th May 2019, prior to which the District Inspection will be held.