Neutral Citation Number: [2017] EWHC 62 (TCC)

Case No: HT-2015-000042

IN THE HIGH COURT OF JUSTICE
QUEEN'S BENCH DIVISION
TECHNOLOGY AND CONSTRUCTION COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 23/01/2017

Before :

HIS HONOUR JUDGE MCKENNA
(Sitting as a Deputy High Court Judge)

- -

Between :

Lee Dennis Oldcorn **Judith Audrey Oldcorn**	**Claimants**
- and -	
Southern Water Services Limited	**Defendants**

- -
- -

Mr Neil Moody QC (instructed by **Kennedys**) for the **Claimants**
Mr Clifford Darton and Mr Paul Powlesland (instructed by **Mayo Wynne Baxter Solicitors**) for the **Defendants**

Hearing dates: 2, 3, 7, 8, 9 and 30 November 2016

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Approved Judgment

I direct that pursuant to CPR PD 39A para 6.1 no official shorthand note shall be taken of this Judgment and that copies of this version as handed down may be treated as authentic.

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HIS HONOUR JUDGE MCKENNA

His Honour Judge McKenna :

INTRODUCTION

1. The Claimants, Lee Dennis Oldcorn and Judith Audrey Oldcorn, are the free-hold owners of a property known as 1 Davenport Road, Felpham, West Sussex ("the Property") which forms part of a housing development known as the Beach Road Estate ("the Estate") which was the subject of surface water flooding on the 11th June 2012.

2. The Defendants, Southern Water Services Limited, are the local statutory sewerage undertakers and in this action the Claimants seek damages against the Defendants on the basis that they say that the flood damage they suffered at the Property was caused by negligence and / or nuisance on the part of the Defendants.

3. In summary what is said on behalf of the Claimants is that the flood was caused by the Defendants negligently inserting a tideflex valve into one of its own pipes, the effect of which was significantly to reduce flow through the pipe, which in turn led to water backing up behind the tideflex valve and, assert the Claimants, causing flooding of the Property. A pleaded claim under the rule in Rylands v Fletcher is however no longer pursued.

4. The claim is defended in respect of liability, causation and quantum save that, subject to liability, the parties have agreed a diminution in value claim in the sum of £50,000.

BACKGROUND

5. Felpham is on the coast. The Estate sits behind a sea wall and the Property is about 75 metres from that sea wall and has an AOD ("Above Ordnance Datum"), that is to say the height above mean sea level, of just 2.979 metres and is one of the closest houses to the sea.

6. The Property is at risk of flooding from both sea water and rain water owing to its low lying location and the nature and extent of the drainage installed on the Estate.

7. A ditch ("the Ditch") runs along the western boundary of the Property. It is one of a number of ditches which are located throughout the Estate. It is common ground that most of the Estate's roads simply drain into shallow ditches and grass verges that run alongside the highways and, of the road gullies that do exist, only four are connected to an underground pipe ("the Pipe") which is vested in the Defendants and which receives surface water from the road gullies and similar apparatus within its catchment, including the four road gullies to which I have already referred. Manholes or inspection chambers protrude into the Ditch with grilles that allow for surface water in the Ditch to drain down into the Pipe and water in the Pipe to percolate up, depending on the hydraulics of the situation at any given time.

8. The Pipe in turn drains into a concrete chamber ("the Bunker") owned by the Defendants which at the material time was divided into two chambers, number 3451 on the landward side and number 3452 on the seaward side. These chambers were connected by a 450mm diameter pipe which ran between them. Another 450 mm pipe

then ran from the seaward chamber to an outfall on the beach. This system of pipes and chambers has been referred to in the pleadings as the "Storm Water System".

9. At high tide the outfall would be under water. Whenever the height of the tide was above the water level in the Storm Water System, then surface water flows would be prevented form discharging at the outfall. This is referred to as "Tide Lock".

10. It would appear that when originally constructed, there was what has been described as an elephant's trunk at the end of the outfall. That is a term used to describe the end of the pipe that is turned down at 90 degrees so as to face the beach. In more recent times the outfall has been fitted with a flap ("the Outfall Flap") which is intended to stop shingle and debris travelling up toward the Bunker.

11. In addition, within the Bunker, a tidal flap was located on the seaward side of the 450mmm diameter pipe between the two chambers ("the Chamber Tidal Flap"). This was intended to open to allow flows out from the Ditch and close so as to prevent sea water backing up into the system and flooding properties from the Ditch.

12. A penstock or gate valve was also fitted on the landward side of the 450mm diameter pipe, which was apparently intended to be operated manually. It is not entirely clear what the intended purpose of the penstock was but it is common ground that it had fallen into disuse long before the flood, the subject matter of this action. It might be that its purpose had been to provide a second line of defence against tidal ingress, or perhaps to enable operatives to seal off one from the other, the two chambers within the Bunker for maintenance and / or inspection purposes.

13. In summary, the purpose of the Storm Water System was effectively two-fold: to enable surface water flows to be discharged out to sea via the outfall and to ensure that seawater was prevented from flowing into the system. The Ditch and the over-size pipe below the Ditch were intended to provide storage when flows couldn't be discharged via the outfall, that is to say at times of Tide Lock.

THE 2009 FLOOD

14. On the 9th and 10th of February 2009, the Property flooded during heavy rain (a 1 in 4 event) and a high tide. The flood waters consisted mainly of sea water caused by tidal ingress into the Storm Water System.

15. The Claimants contend that the 2009 flood occurred as a result of a failure of the Chamber Tidal Flap in the Bunker or of the Outfall Flap and sued the Defendants in negligence and nuisance. The claim was included in these proceedings but was settled prior to trial.

16. It was following the 2009 flood that the Defendants took the decision to install a tideflex valve into the Bunker. The particular tideflex valve chosen by the Defendants was a series 37G tideflex ("the Tideflex"). It is made of rubber and is in the shape of a duckbill. There is an issue between the parties as to when exactly the Tideflex was installed. It is the Defendants' case that it was fitted in February 2010. Be that as it may, it is common ground that it had to be refitted on or about the 25th November 2010 after it was found to have been dislodged from its fittings. The Tideflex was in place when the Property flooded in 2012 and it is also common ground that the

presence of the Tideflex caused some head loss, although there is disagreement between parties as to the extent of that head loss.

THE 2012 FLOOD

17. At about 1am on the 11th June 2012, the Property began to flood. The Claimants' then-expert, (instructed in connection with the 2009 flood) Mr Cowan (who has since retired) attended the same day and took a series of photographs and measurements. He found that the flood waters had reached an AOD of 3.6 metres within the locality of the Property.

18. The flood occurred during what the meteorological society has described as 1 in 215 year rainfall event or a 1 in 944 year event if both the 10th and 11th June 2012 were considered together. There was extensive flooding over a large part of the South Coast.

19. As a result of the heavy rain, surface water collected around the Property, it being one of the lowest points in the Estate and eventually flooded the Property.

20. It is the Claimants' case that but for the installation of the Tideflex, more rain water would have drained into the Pipe and the flood waters would have peaked just below the threshold of 2.976 AOD, at which the Property floods. The Defendant's case by contrast, is that the rainfall was so heavy that flooding would have occurred in any event.

21. It is common ground that the most appropriate method by which to establish causation is through expert hydraulic modelling. In this regard the Claimants rely on the evidence of Mr Richard Allitt, one of the foremost hydraulic modellers in the country, whilst the Defendants rely on the evidence of Mr Andrew Drinkwater, a civil engineer who has not in fact built his own model but relied on a model developed by the Defendants and its consultants.

EVENTS FOLLOWING THE 2012 FLOOD

22. Following the 2012 flood, the Tideflex was inspected on the 22 June 2012 and in December 2012, a quotation obtained

> *"... for knocking a hole in the dividing wall bigger than the incoming pipe diameter, so there is no flow restriction and also putting in a new Tideflex valve on the incoming pipe in the corner"*

23. Thereafter the existing flap valve on the 450mm diameter pipe, i.e. the Chamber Tidal Flap and the Tideflex were removed and a 1.5m x 1.5m hole cut in the dividing wall and a new flap valve installed on the incoming over-size pipe.

THE ISSUES

24. The following issues fall to be determined:

    i) The relevant legal framework to be applied including the extent, if any, of the Defendants' common law duty to prevent the Property from flooding; whether

the Property enjoyed a right of drainage into the Pipe and, if so, the extent of that right and if not, the consequences for the Claimants' claim and whether the Defendants are entitled to take advantage of the so-called common enemy defence.

ii) The extent of the flooding at the Property.

iii) Whether the installation of the Tideflex was negligent.

iv) Whether the Property would have avoided flooding "but for" the presence of the Tideflex.

v) Quantum.

OVERVIEW OF THE EVIDENCE

25. The Court has heard evidence from Mr and Mrs Oldcorn as to the history of flooding in the vicinity of the Property, the 2012 Flood itself and its consequences in terms of reinstatement of the Property, that is to say quantum issues and from Terry Diamond, a loss adjuster instructed by the Claimants' insurers whose evidence principally related to issues of quantum although he did give some important evidence, heavily relied on by the Defendants, as to the height to which the Property was flooded.

26. The Defendants, for their part, relied on four witnesses of fact as follows:

i) Mr Andrew Adams – the Defendants' Network Infrastructure Manager Wastewater, who provided a brief description of the Defendants' network, the regulatory code in which the Defendants operate and how the Property came to be placed on the Defendants' DG5 register and how a hydraulic model was provided by a company called Atkins in December 2011 and was, as it were, in the queue for verification by outside contractors, Mott MacDonald when the 2012 flood occurred.

ii) Mr John Challoner – the Defendants' County Sewerage Engineer (West Sussex) at the time of the 2009 flood. His evidence primarily related to the system of drainage for the Estate, the reliability of the Chamber Flap, the instructions he gave to the Defendants' sub-contractor Clancy Docwra, to install the Tideflex and his reasoning for that installation and how he requested a hydraulic investigation in January 2011 and how he gave instructions for an over-pumping point to be installed.

iii) Mr Martin Jones – who became the County Sewerage Engineer in November 2012. His evidence largely addressed the Defendants' maintenance of the Storm Water System, complaints received by the Defendants as to flooding and the current status of the Pipe and the Bunker and the extent of the 2012 flooding.

iv) Mr Trevor Webb worked for Clancy Docwra at the time that the Tideflex was ordered and he gave some explanation as to how the Tideflex came to be installed.

27. Both parties rely on engineering experts, Mr Allitt for the Claimants and Mr Drinkwater for the Defendants who addressed the issues of whether the Defendants were negligent to have installed the Tideflex and / or to have left it installed by the time of the 2012 flood and whether "but for" the Tideflex, the Property would have avoided flooding. The extent of the Expert's agreement and the areas of their disagreements are recorded in two joint statements dated 26th July 2016 in respect of the first issue and 14 September 2016 in respect of the second issue.

28. Finally in terms of evidence, the parties also rely on expert Quantity Surveying evidence from Mr Large for the Claimants and Mr Odgers for the Defendants. Again they have set out the extent of their agreement and disagreement in a joint statement dated 22 September 2016.

DUTY

29. The Claimants bring their claim in nuisance and negligence on the basis that the Defendants by their positive act in the installation of the Tideflex, created the risk of damage which in fact occurred as a result of the 2012 flooding. They concede that in order to succeed they must show negligence on the part of the Defendants; specifically that the Defendants did not exercise reasonable skill and care in installing the Tideflex and that it was reasonably foreseeable that its installation would cause damage to the Property such that there is no meaningful distinction between the two causes of action. As the editors of Clerk and Lindsall put it at paragraph 20-40 (21st edition):

> *"If the defendant knew or ought to have known that in consequence of his conduct, harm to his neighbour was reasonably foreseeable, he is under a duty of care to prevent such consequences as are reasonably foreseeable. In such case the defendant is liable because he is considered negligent in relation to his neighbour, and here nuisance and negligence coincide. Whether his liability is described as falling under one legal rubric or the other would seem to be only a difference of words."*

30. However, the Defendants are a statutory sewerage undertaker and, as such, operate under statutory powers and subject to statutory duties under the Water Industry Act 1991 ("the 1991 Act") and they submit that a duty in negligence cannot arise out of the performance of their statutory functions relying on the cases of Marcic v Thames Water Utilities Limited (2003) UKHL 66, Barratt Homes Ltd v Dwr Cymru Cyfyngedig No 2 [2013] EWCA Civ 233 and Nicholson v Thames Water [2014] EWHC 4249.

31. Thus in Marcic the claimant brought an action in common law nuisance arising from repeated flooding of his house from the public foul sewers, operated and maintained by the defendant water company as a result of the over-loading of a section of the system. His claim was, in essence, that the defendant should build more sewers. The claim was dismissed on the basis that it was in effect a claim intended to enforce Thames Water's statutory duty under section 94 of the 1991 Act which was something which Parliament had provided for under section 18, by way of a complaint to the industry regulator (OFWAT). The regulator could take into account

complaints of flooding across the relevant area, the efficacy and expense of constructing new sewers and the resources of the utility concerned, and these were matters that the Court were not suited to determine.

32. Lord Nicholls explained the position in this way:

> "*34. In my view the cause of action in nuisance asserted by Mr Marcic is inconsistent with the statutory scheme. Mr Marcic's claim is expressed in various ways but in practical terms it always comes down to this: Thames Water ought to build more sewers. This is the only way Thames Water can prevent sewer flooding of Mr Marcic's property. This is the only way because it is not suggested that Thames Water failed to operate its existing sewage system properly by not cleaning or maintaining it. Nor can Thames Water control the volume of water entering the sewers under Old Church Lane. Every new house built has an absolute right to connect. Thames Water is obliged to accept these connections: section 106 of the 1991 Act. A sewage undertaker is unable to prevent connections being made to the existing system, and the ingress of water through these connections, even if this risks overloading the existing sewers. But, so Mr Marcic's claim runs, although Thames Water was operating its existing system properly, and although Thames Water had no control over the volume of water entering the system, it was within Thames Water's power to build more sewers, as the company now has done, to cope with the increased volume of water entering the system. Mr Marcic, it is said, has a cause of action at law in respect of Thames Water's failure to construct more sewers before it eventually did in June 2003.*
>
> *35. The difficulty I have with this line of argument is that it ignores the statutory limitations on the enforcement of sewerage undertakers' drainage obligations. Since sewerage undertakers have no control over the volume of water entering their sewage systems it would be surprising if Parliament intended that whenever sewer flooding occurs, every householder whose property has been affected can sue the appointed sewerage undertaker for an order that the company build more sewers or pay damages. On the contrary, it is abundantly clear that one important purpose of the enforcement scheme in the 1991 Act is that individual householders should not be able to launch proceedings in respect of failure to build sufficient sewers. When flooding occurs the first enforcement step under the statute is that the Director, as the regulator of the industry, will consider whether to make an enforcement order. He will look at the position of an individual householder but in the context of the wider considerations spelled out in the statute. Individual householders may bring proceedings in respect of inadequate*

> *drainage only when the undertaker has failed to comply with an enforcement order made by the Secretary of State or the Director. The existence of a parallel common law right, whereby individual householders who suffer sewer flooding may themselves bring court proceedings when no enforcement order has been made, would set at nought the statutory scheme. It would effectively supplant the regulatory role the Director was intended to discharge when questions of sewer flooding arise."*

33. Lord Hoffmann addressed the position as follows in his speech:

> *"61. Why should sewers be different? If the Sedleigh-Denfield case [1940] AC 880 lays down a general principle that an owner of land has a duty to take reasonable steps to prevent a nuisance arising from a known source of hazard, even though he did not himself create it, why should that not require him to construct new sewers if the court thinks it would have been reasonable to do so?*
>
> 62. *The difference in my opinion is that the Sedleigh-Denfield, Goldman and Leakey cases were dealing with disputes between neighbouring land owners simply in their capacity as individual land owners. In such cases it is fair and efficient to impose reciprocal duties upon each landowner to take whatever steps are reasonable to prevent his land becoming a source of injury to his neighbour. Even then, the question of what measures should reasonably have been taken may not be uncomplicated. As Lord Wilberforce said in Goldman's case [1967] 1 AC 645, 663, the court must (unusually) have regard to the individual circumstances of the defendant. In Leakey's case [1980] QB 485, 526 Megaw LJ recoiled from the prospect of a detailed examination of the defendant's financial resources and said it should be done on a broad basis*."

34. The boundaries of the decision in Marcic were considered by Ramsey J in Hanifa Dobson v Thames Water Utilities Limited [2007] EWHC 2021 (TCC). In that case, the claimants lived in the vicinity of a sewage treatment works and brought claims in nuisance and negligence in respect of odours and mosquitoes emanating from those treatment works. Having concluded that the claimants were seeking to enforce duties which arose under section 94(1)(b), Ramsey J went on to consider whether they were precluded by Marcic's case from bringing a claim in nuisance involving allegations of negligence. He considered that a cause of action in nuisance, in the absence of negligence, would be inconsistent with the scheme of the 1991 Act (at paragraphs 86-88) but in the case of nuisance involving negligence he came to the opposite conclusion. At paragraph 140 he said as follows:

> "*140. I consider that there is, in principle, a boundary to be drawn between matters which would fall within the duties under s. 94(1) and are actionable solely under s. 18 and*

> *matters which are actionable apart from the existence of any statutory duty. That boundary may be difficult to draw and may depend on such uncertain phrases as matters or decisions relating to "policy" or "capital expenditure" matters or decisions as contrasted with "operational" or "current expenditure" matters or decisions. In Marcic the boundary fell between building new sewers and cleaning and maintaining the existing sewers.*
>
> *...*
>
> *143. There are, in my judgment, two aspects to the reasoning. First, there is the emphasis on absence of fault. Secondly, there is the concept of an inconsistent court process which conflicts with the statutory scheme. If there is fault in the form of negligence and if there is a different cause of action which is not inconsistent and does not conflict then I consider there is nothing to preclude a claim being made on that basis. Policy matters are likely to lead to such inconsistency and conflict whilst operational matters are less likely to do so. It must be a question of fact and degree. Where an allegation is tantamount to requiring major plant renewal that will fall on one side of the line whilst an allegation that a filter should be cleaned will lie on the other side. The mere fact that the effect of the cause of action is to enforce the duty in s. 94(1) does not in itself preclude the cause of action."*

35. He concluded as follows at paragraph 148:

> *"Whilst the principle in Marcic precludes the Claimants from bringing claims which require the court to embark on a process which is inconsistent and conflicts with the statutory process under the WIA, it does not preclude the Claimants from bringing a claim in nuisance involving allegations of negligence where, as a matter of fact and degree, the exercise of adjudicating on that cause of action is not inconsistent and does not involve conflicts with the statutory process under the WIA"*

36. The Hanifa Dobson decision was recently followed in Bell v Northumbria Water Ltd [2016] EWHC 133.

37. In Barratt, the developer wanted to connect its drains to a public sewer at a particular point and gave the requisite notice under section 106(3) of the 1991 Act. The defendant sewerage undertaker refused to permit connection at the developer's preferred point and required any connection to be undertaken at a different point. When the developer laid pipes intending to connect at its chosen point, the defendant blocked the pipes with concrete. The developer claimed damages for breach of statutory duty, nuisance, and trespass to its pipes and negligence. The Court of Appeal concluded that it was neither the policy nor the proper construction of the 1991 Act that a sewerage undertaker's failure to satisfy a private sewer owner's rights under

section 106 to have his drain or sewer communicate with the public sewer should give rise to a private right to claim damages, nor could such a breach of duty provide the essential basis for a cause of action in nuisance, trespass to goods or negligence. Lloyd-Jones LJ explained the position as follows:

> "*31. However, to my mind there is an important distinction between the present case and **Lingke**. For the moment, I set to one side the claims based on the blocking of the pipe and I limit my consideration to the claim based on the refusal to permit connection. In **Lingke** the alternative cause of action referred to was a free-standing cause of action in nuisance which was in no sense dependent on any provision of the statute. By contrast, in the present case the essence of this limb of the proposed cause of action in nuisance is that DCC should have permitted connection and received sewage from Barratt's land into its sewer. That obligation cannot be derived from DCC's use or occupation of its sewers alone but is dependent on the duty under section 106 to permit connection. There is no free-standing cause of action in nuisance, independent of section 106. Section 106 is the basis for the contention that DCC's refusal is an unlawful interference with Barratt's enjoyment of its land.*
>
> *32. The present case differs from **Marcic** and **Dobson** in the same respect. While it is correct that in **Dobson** Ramsey J. held that the claimants were seeking to enforce duties arising under 94(1)(b) (at paras. 42-84), the causes of action relied on by the claimants were not dependent on obligations imposed by the 1991 Act. Thus Ramsey J. observed (at para. 81):*
>
> > *"In **Marcic**'s case the claim was not phrased as a claim under s 94(1)(a) anymore than the claimants here seek to rely on s 94(1)(b)"*
>
> ...
>
> *38. The present question for consideration is whether the right conferred by section 106 can be invoked by Barratt as the basis of a cause of action in nuisance. I have come to the conclusion that it cannot. I have explained earlier in this judgment (at paras. 31 and 32) why I consider that there is no cause of action in nuisance in respect of the failure to permit connection, independent of the duty under section 106. Here, section 106 is the basis for the contention that DCC's refusal is an unlawful interference with Barratt's enjoyment of its land. To my mind, the unchallenged conclusions in relation to the policy of the statute apply with equal force to the proposed cause of action in nuisance in respect of the failure to permit*

> *connection. The policy of the statute is clear: section 106 is not intended to confer a right to compensation for breach. If failure to perform a statutory duty does not give rise to a private right to sue for damages for breach it is difficult to see how it can provide the essential basis for a cause of action for damages in nuisance.*
>
> *39. A further consideration in relation to this limb of Barratt's claim in nuisance is that if Barratt is correct and section 106 may found a claim for damages in nuisance, this cause of action would be available in every case in which an undertaker was in breach of its obligation to permit connection. While not conclusive, this does provide further support for the view that it cannot have been the intention of Parliament that section 106 might be used in this way."*

38. A similar conclusion was reached in Nicolson v Thames Utilities in relation to a claim for negligence arising out of the defendants' reactive policy of clearing tree roots from its sewers. In that case, Mr Justice Knowles expressed the position as follows:

> *"20 Ms Nicholson's claim includes a claim in negligence at common law. Marcic showed why and where no claim in nuisance could exist at common law in light of the statutory scheme. On the face of it, the reasoning leading to that conclusion would argue powerfully for the same conclusion in relation to a claim in negligence.*
>
> *21 Apparently recognising this, Counsel for Ms Nicholson, Mr Tim Found, said in his closing submissions that allegations concerning the care with which the sewer was maintained were not allegations on which Ms Nicholson could succeed. Instead he focussed on the clean-up after the escape and what was described as "advice" tendered in the course of that process.*
>
> *22 Mr Found argued that in the present case Thames Water did a number of things that led to its assuming responsibility as a foundation of a claim in negligence. Nothing in the 1991 Act, said Mr Found, prevents Thames Water assuming responsibility in a particular case and the potential for liability in negligence in consequence.*
>
> *23 He emphasised what Lord Hoffmann had emphasised in Gorringe v Calderdale Metropolitan Borough Council [2004] UKHL 15; [2004] 1 WLR 1057 at [38], namely that there are "cases in which public authorities have actually done acts or entered into relationships or undertaken responsibilities which give rise to a common law duty of care" and in such cases "the fact that the public authority acted pursuant to a statutory power or*

> *public duty does not necessarily negate the existence of a duty." The room for a claim in negligence against a sewerage undertaker "where, as a matter of fact and degree, the exercise of adjudicating on the cause of action is not inconsistent and does not involve conflicts with the statutory process under the 1991 Act" was specifically identified by Ramsey J (in a finding not challenged on the later appeal from the decision) in Dobson and others v Thames Water Utilities Limited (Water Services Regulation Authority (Ofwat) intervening [2007] EWHC 2021 (TCC); [2008] 2 All ER 362 at [262]*
>
> 24 *Mr Found pointed first to the following: (a) a Thames Water guideline leaflet entitled "Household Customer Wastewater Flooding Guidelines", (b) the fact that Thames Water attended the scene after the escape, (c) the preparedness of Thames Water to pay for external cleaning, (d) the provision by Thames Water of a telephone number, for use where there was an escape, staffed by Thames Water and (e) the engagement by Thames Water of another contractor (MTS) to attend and assist and the use of "dual branding" (ie MTS and Thames Water branding) by MTS in carrying out the engagement.*
>
> 25 *These matters in my judgment do not begin to make out an assumption of responsibility capable of grounding a claim in negligence. They are consistent with the statutory scheme under the 1991 Act and the service described by Lord Nicholls. I add that in her own case in opening it was stated that Ms Nicholson did not accept she was given a copy of or referred to the guideline leaflet and I find that she was not."*

39. Moreover, because the remedies for breach of such functions are contained in the 1991 Act, it is said on behalf of the Defendants that the Claimants cannot have any cause of action against the Defendants in nuisance unless there has been some unlawful interference with their private law rights in respect of the Property and, in this case, it was submitted that as the Claimants did not enjoy any right of drainage into the Storm Water System they could not bring an action based on an interference with that right, the only pleaded claim being a right to drain between higher and lower land owners which did not give a right to drain any particular volume of water (see Palmer v Bowman [2000] 1WLR 842 at page 856).

40. The Defendants also place reliance on the Court of Appeal decision in The Duke of Westminster v Guild [1985] QB 688. In that case the tenant possessed a right to drain onto the landlord's land but there was no contractual obligation to repair and so he could not be rendered liable for any disrepair. Slade LJ explained the position as follows:

"Mr Lewison forcefully submitted that in the present case the plaintiffs have retained in their possession and control something ancillary to the demised premises, that is the landlords' part of the green drain, the maintenance of which in proper repair is necessary for the proper protection of the demised premises and the safe enjoyment of them by the defendant. Accordingly, he submitted, the plaintiffs are under a duty to take reasonable care that the landlords' part of the green drain is not in such a condition as to cause damage to the demised premises. It matters not, in his submission, whether the duty is properly to be considered as arising at common law, having regard to the principles governing the torts of nuisance or negligence, or in contract, having regard to the duty of the landlords not to derogate from their grant or to interfere with the tenant's quiet enjoyment of his premises (as to which see clause 5 of the lease). Whichever be the right way of looking at the matter, in his submission the duty exists, as a legal consequence of the relationship between the plaintiffs and the defendant, quite irrespective of clause 2(IV) of the lease. True it is that a servient owner is normally under no liability to repair the subject-matter of the easement. However, Mr Lewison contended, the position is different where a landlord and tenant relationship subsists. He referred by way of analogy to the decision of this court in Hilton v James Smith & Sons (Norwood) Ltd (1979) 251 E. G. 1063 as illustrating that landlords may be under a positive duty to their tenants to prevent obstruction of a right of way.

Mr Lewison's argument was very well presented and we found it an attractive one. Nevertheless, we are not persuaded by it. To explain our reasons, we begin by emphasising that this is not a case such as Hargroves, Arinson & Co v Hartopp [1905] 1KB 472 or Cockburn v Smith [1924] 2KB 119 (and a number of others in the same line of authority) where there has been an escape of some dangerous, noxious or unwelcome substance from the landlords' premises to the demised premises. The situation in the present case is quite different. Here the essence of the defendant's complaint is that because of the lack of repair of the green drain, he has been prevented from discharging noxious water from his own premises on to the landlords' premises through the green drain. It is the water from the tenant's own premises which has caused the demised premises damage.

However, in the absence of a specific right enjoyed by his neighbour, there is no general duty on a landowner to receive noxious water flowing from his neighbour's land. In the present case, it is the tenant's easement of drainage which alone entitles him to discharge noxious water into the plaintiffs' land through the landlords' part of the green drain.

> *In these circumstances, the obstacles in the way of the tenant in seeking to establish liability on the part of the landlords to repair the landlords' part of the green drain, on the basis of cases such as Hargroves, Arinson & Co v Hartopp [1905] 1KB 472, are in our judgment insuperable. To establish such a liability, he has to establish the requisite duty on the part of the landlords to repair the drain. In the absence of any express or implied covenant in the lease, however, this he cannot do. The general law of easements applies and, as we have already pointed out, clearly imposes no such obligation on the landlord."*

41. The Defendants also submit that in any event they have the right to interfere with the Claimants' drainage in the pursuit of protecting their apparatus from the sea; the so-called common enemy defence, relying on the decision of the Court of Appeal in Arscott & Others v Coal Authority & Another [2004] EWCA Civ 892 where Laws LJ expressed the principles as follows:

> "*32. So far as can be discerned from the books the rule was first recognised in the Court of Session in 1741 in Farquharson v Farquharson. The report – it is only a note – states:*
>
> > *"It was found lawful for one to build a fence upon his own ground, by the side of a river, to prevent damage to his ground by the overflow of the river, though thereby a damage should happen to his neighbour by throwing the whole overflow in time of flood upon his ground. But it was found not lawful to use any operation in the alveus."*
>
> *I shall come back to the alveus. It means an established watercourse (even if dry for part of the year or from time to time) as opposed to a flood plain, which is an area of land liable to flooding not contained in a specific watercourse or alveus. In the course of argument Lord Thomas made it clear, notwithstanding assertions in his skeleton argument to the contrary, that he accepted that Grove Fields was a flood plain, and so was not (nor did it comprise) an alveus.*
>
> *33. The common enemy rule has consistently been accepted in the English cases. I will not cite all the learning. The first case in the books is R v The Commissioners of Sewers for the Levels of Pagham. There, the common enemy was not a river's overflow, but the inroads of the sea. The Commissioners erected groynes and other works to defend the stretch of coast for which they were responsible against the sea's encroachment. But the consequence was that the sea flowed with greater force upon adjoining land, whose owner brought proceedings. Lord Tenterden CJ said at 361:*

> *"I am… of opinion that the only safe rule to lay down is this, thateach land-owner for himself, or the commissioners acting for several land-owners, may erect such defences for the land under their care as the necessity of the case requires, leaving it to others, in like manner, to protect themselves against the common enemy."*

42. Thus it is said that when a party acts pursuant to this rule, or even partly pursuant to this rule, his actions cannot be made the subject of any common law duty of care. Laws LJ explained the position further at paragraph 49 as follows:

> "*A rule which required the court to measure, in a case like the present, the level of importance subjectively attached by the decision-maker to the goal of flood prevention in comparison with other possible benefits would be obviously unworkable and therefore disreputable. It is enough that flood prevention be a perceived and actual benefit. I do not find it necessary to discuss the possible but eccentric case where flood prevention was neither perceived nor intended as a consequence of the proposed works, but in fact eventuated from their execution*."

43. It is submitted on behalf of the Defendants that there is a clear tension between the decision in Dobson on the one hand and the decisions in Barratt and Nicholson on the other and that if it were to be necessary to go that far, the Dobson decision is wrongly decided but in any event in Dobson the claimants were able to rely on the emission of smells and of mosquitoes to found their claim in nuisance and it can therefore be rationalised as a neighbouring land situation as described by Lord Hoffmann at paragraph 62 of his speech in Marcic, whereas the Claimants' case here is not an emissions case and if the law of nuisance were applicable in the circumstances alleged by the Claimants then it would always apply to sewers and the principle set out in Barratt and adopted by Knowles J in Nicholson would be defeated and water companies would always owe a duty of care – a flood gate argument it could be said.

44. I do not accept these submissions. As it seems to me, Dobson has been cited without any disapproval in a number of subsequently decided cases whilst Barratt was decided on a very different point as is made clear by Lloyd-Jones LJ at paragraph 32, as set out above. As for Nicholson, no duty was found on the facts of that case because the claimant there was seeking to impose a proactive system of maintenance on the defendant and that is why it was caught by Marcic. By contrast what is submitted on behalf of the Claimants, and which I accept, is that their claims do not involve any changes to the Defendants' practice so far as maintenance and inspection are concerned. At its heart the claim is that the Defendants simply should not have inserted the Tideflex in the circumstances of this case.

45. As for the neighbouring land owners point, it is of course right to note that the Defendants did in fact own the Bunker in which the Tideflex was located and they owned, operated and maintained the Pipe so it is difficult to see how that argument avails the Defendants.

46. Crucially, in Ward v Coope [2015] 1 WLR 4081 the Court of Appeal considered the relationship between the law of easements and the law of nuisance and negligence in

the context of a claim between neighbours, where it was alleged that soil from one party's land fell on to the land of another party. It was argued that as no easement of support existed between the two parties, no question of a duty of care in nuisance or negligence between the neighbours could arise. That argument was roundly rejected by the Court of Appeal.

47. In the course of his judgment Christopher Clark LJ referred to the Duke of Westminster case at paragraph 25 as follows:-

> *"The case was dete*rmined by reference to the law of easements (*"The general law of easements applies and ... clearly imposes no such obligation" to repair: at page 703A). Ms Jessica Brooke for the Coopes contends that, if there was no duty of care even when there was an easement, the Wards, who lack any easement, can obtain no greater right than the beneficiary of an easement would have enjoyed. Goldman was not cited in this case, nor was this case cited in the cases to which I am about to refer."*

48. Having completed his review of the authorities Christopher Clark LJ continued as follows:-

> *"36. Munby J, with whom Chadwick LJ agreed, was at pains to observe that Abbahall's claim would at one time have been thought unmaintainable because of the observations of Sir Wilfred Greene MR in Bond v Nottingham Corp and Lord Denning MR in Phipps v Pears [1965] 1 QB 76 but held that matters had been "transformed" by the developments in the law of nuisance and negligence heralded in Goldman and developed in Leakey , Holbeck Hall and Bybrook Barn Centre Ltd v Kent County Council [2001] LGR 239 and Rees v Skerrett [2001] 1 WLR 1541 . The two cases first mentioned remained good authority on the law of easements but, as he put it, "they tell us nothing about the proper content of the modern law of nuisance and negligence".*
>
> *37. In those circumstances I decline to regard the Duke of Westminster case as precluding the existence of any duty of care relating to lack of support. The argument that, since there can be no duty if there was no easement of support, there can be no duty if any easement has been extinguished, does not, therefore, arise. (If valid it would appear to mean that, no measured duty of care could arise in circumstances where an easement of support might have arisen but had not). Whether or not such a duty of care exists is to be determined by the law of negligence, not the law of property, and it is plain that such a duty can exist where no question of easement arises e.g. Goldman. The fact that tortious principles lead to a liability when principles of property law would not does not render the law incoherent, as was suggested.*

> *38. The circumstances of the Duke of Westminster case [1985] QB 688 were also markedly different. There was a contractual relationship between the parties the effect of which might be said to limit the existence of a duty of care or what could reasonably be required of the lessor. Secondly the tenant had the right to drain on to the landlord's premises and the blockage in the drain was on those premises. Ms Stevens-Hoare submitted that the only thing that created any hazard was the exercise by the tenant of the easement whereby effluent drained into the Duke's land. It could not, therefore, be said that there was any hazard on that land, which might give rise to duty of care. Ms Brooke submits that the hazard was the drain through which water could not flow. It may be that the case is distinguishable on either of these grounds (on which I express no view); but, whether it is or not, the case cannot, in the light of the development of the law of nuisance and negligence in the authorities to which I have referred, stand in the way of the existence of a measured duty of care if the circumstances contemplated by those cases are applicable."*

49. For my part, I simply do not accept the submission made on the Defendants' behalf that this case cannot be relied on by the Claimants because it is confined to duties of care relating to a lack of support. On the contrary what is being asserted is that whether or not a duty of care exists is to be determined by the law of negligence not the law of property and Christopher Clarke LJ expressly makes the point that whether or not it is distinguishable, it cannot, in the light of the development of the law of nuisance and negligence in the authorities to which he had referred, stand in the way of a measured duty of care if the circumstances contemplated by these cases are applicable.

50. Nor am I persuaded by the so called common enemy principle, accepting as I do, the Claimants' submissions that by installing the Tideflex the Defendants were not erecting a defence for the protection of their own land but rather were installing it for the protection of the Claimants' land and the Claimants' complaint is not that in protecting their own land the Defendants have caused flooding to the Property but rather that the installation of the Tideflex was undertaken negligently. Moreover, the common enemy principle is subject to the long-established rule that the ordinary course of water cannot be lawfully changed or obstructed for the benefit of one class of persons to the injury of another.

51. A further issue between the parties is whether any duty of care owed by the Defendants is, as the Claimants contend, the objective standard or as the Defendants contend (assuming contrary to their primary case that a duty of care is held to be owed) the so-called measured duty of care which takes account of the specific subject circumstances of a defendant.

52. The measured duty of care first arose to prominence in Sedleigh Denfield v O'Callaghan [1940] A.C. 880 and Goldman v Hargrave [1967] 1 A.C. 645. In the first of those two cases a land owner was found liable for continuing a nuisance following flooding from a land drainage pipe which it had not laid on its land but of the existence of which it was aware. It was held that the defendant could have prevented

the escape by taking the simple step of placing grating a little distance inside rather than at the top of the pipe.

53. In Goldman, it was held that an occupier of land was under a duty of care to abate hazards occurring on his land, in that case to extinguish a fire in a red gum tree begun by a lightning strike, but that any such duty was dependant upon the occupier's knowledge of the hazard, the ability to foresee the consequences of not checking or removing it and his ability to abate it.

54. In Leakey v The National Trust [1980] QB 485, the National Trust was held liable for soil and rubble falling from its land on to the claimant's property. McGaw LJ in his judgment discussed the scope of the defendant's duties as follows:-

> *"So here. The defendant's duty is to do that which it is reasonable for him to do. The criteria of reasonableness include, in respect of a duty of this nature, the factor of what the particular man - not the average man - can be expected to do, having regard, amongst other things, where a serious expenditure of money is required to eliminate or reduce the danger, to his means. Just as, where physical effort is required to avert an immediate danger, the defendant's age and physical condition may be relevant in deciding what is reasonable, so also logic and good sense require that, where the expenditure of money is required, the defendant's capacity to find the money is relevant. But this can only be in the way of a broad, and not a detailed, assessment; and, in arriving at a judgment on reasonableness, a similar broad assessment may be relevant in some cases as to the neighbour's capacity to protect himself from damage, whether by way of some form of barrier on his own land or by way of providing funds for expenditure on agreed works on the land of the defendant."*

55. The authorities concerning the extent of a landowner's liability for natural nuisance, that is to say that caused by the operation of nature rather than any act of the land owner, were reviewed by Jackson LJ in Vernon Knight Associates v Cornwall Council [2013] EWCA Civ 950. At paragraph 38 he said as follows:-

> *"Society has changed over the last century and the common law, as always, has adapted to those changes. There is now liability on landowners for non-feasance in respect of natural nuisances. Nevertheless the common law rules imposing such liability still bear the imprint of an earlier age. The landowner's liability is described as a "measured duty" and it is subject to qualifications not usually found in the law of tort."*

56. In paragraph 49 he summarised the position succinctly as follows:-

> *"Where then does the law now stand in relation to the liability of land owners for non-feasance in respect of natural nuisance? I would not presume to paraphrase the vast body of learning which has accumulated on this topic. Nevertheless I*

> *extract from the authorities discussed above the following principles which are relevant to the determination of this appeal:*
>
> *(i) A landowner owes a measured duty in both negligence and nuisance to take reasonable steps to prevent natural occurrences on his land from causing damage to neighbouring properties.*
>
> *(ii) In determining the content of the measured duty, the court must consider what is fair, just and reasonable as between the two neighbouring landowners. It must have regard to all the circumstances, including the extent of the foreseeable risk, the available preventive measures, the costs of such measures and the resources of both parties.*
>
> *(iii) Where the defendant is a public authority with substantial resources, the court must take into account the competing demands on those resources and the public purposes for which they are held. It may not be fair, just or reasonable to require a public authority to expend those resources on infrastructure works in order to protect a few individuals against a modest risk of property damage."*

57. The important point to note is that the measured duty of care referred to applies only to a failure to abate in respect of a natural nuisance. The circumstances of the Claimants' claim can be contrasted since their claim is not in respect of natural nuisance nor is it one of non-feasance. The allegations made by the Claimants against the Defendants are of mis-feasance, namely a positive act of fitting the Tideflex. In those circumstances it seems to me that the duty of care is not subject to the qualification of the measured duty; rather the Defendants are to be held to the standard of the reasonable water authority.

58. To summarise therefore, in my judgment, the Defendants did owe the Claimants a duty of care in nuisance and negligence, the standard of care is that of the reasonable water authority and this is not a case where the Defendants can rely on the common enemy rule.

THE EXTENT OF THE FLOODING OF THE PROPERTY

59. It is fair to record that the 2012 storm resulted in widespread flooding in and around Felpham and Bognor and only a small part of the area that flooded was served by the Storm Water System, the subject matter of this action. The height reached by the flood waters in the Property is a critical issue since it impacts directly on the parties' respective hydraulic modelling and thus the issue of causation. It provides a measurement against which the modelling can be judged.

60. There is an issue between the parties as to the height. At paragraph 41 of the Amended Particulars of Claim the following is pleaded:

> *"The flood water entered the interior of the Property at approximately 01:00 hours on the 11 June. The flood water continued to rise and the claimants had to be rescued by boat by the fire service. The Property was flooded to an approximate depth of 620mm".*

61. However at paragraph 62 the following is pleaded:

> *"The entire ground floor was flooded to a depth of about a metre. The floors, skirting and plaster had to be stripped out again. The Property had to be cleaned and dried before reinstatement works could commence."*

62. Mr Diamond in a report to insurers dated 19 June 2012 wrote the following:

> *"Storm – exceptional rain fall resulted in the drainage system being unable to cope and backing up and flood water surrounding the entire property which was submerged internally to a depth of approximately 1m."*

63. When cross examined about that entry Mr Diamond referred to his handwritten site notes where the words "*1 metre deep*" appear and suggested that he had measured the height using one of two tape measures which he carried around with him. In re-examination he indicated that he recalled measuring accurately but "*that was just a note when I was going round"* and that if he had time to look he would probably find, he seemed to recall, a record of a measurement of 960mm or something like that but he couldn't find it whilst in the witness box. He was adamant that he would have measured because he liked measuring and his recollection was that his measuring took place in the lounge of the Property.

64. If the height of the flood water in the lounge of the Property did in fact reach one metre then when that one metre is added to the Property's AOD of 2.979, it can be demonstrated that the flood water reached a much higher level 3.97 AOD than was predicted in Mr Allitt's model and therefore the Claimants' case on causation would be fundamentally undermined. Moreover the Defendants also relied on a submission that Mr Diamond's evidence was not contradicted by the evidence of Mrs Oldcorn nor indeed the report of Mr Cowan since, when he left site at 6.49pm on the 11 June, he noted that the flood waters were still rising and therefore his measurement of 3.60 AOD could not, it was said, represent the measurement at the height of the flood.

65. Mrs Oldcorn, when she was cross-examined about the content of Mr Diamond's hand written note, was adamant that the depth of the water in the lounge did not reach one metre although she conceded that she had never herself measured the actual depth. She was, however, familiar with measurements from her involvement in business and was adamant that the flood level did not reach one metre internally.

66. I turn now to Mr Cowan's report. At paragraph 4.1.1 in his opinion section under the heading "*Extent of Flooding*" he records as follows :

> *"The flood waters were at their deepest during the evening of Monday 11 June 2012. I was on site early that evening and*

> *recorded the extent of the flooding in my photographs, some of which have been included in Appendix D. Appendix K contains a copy of our drawing 12169/01 which shows the appropriate area of Felpham and the extent of the flood based on my observations. The approximate area covered by the flood waters has been hatched in green occupying an approximate area of 80 metres by 330 metres i.e. some 26,400m² or 2.64 hectares. In addition to the area shown on this plan the flooding extended northwards to other areas including the A259. I have not included those in my calculations. I have estimated that the flood waters reached a level of 3.600m AOD which was some 450mm above the level of the flood waters on 9 February 2009. This appears to have been the worst flooding that has ever been reported in this area."*

It is to be noted that the figure quoted there is the equivalent of 620mm in the Property.

67. In his conclusion section at paragraph 5.2 he says as follows:

> *"The flood waters continued to increase in depth during that day reaching their peak during the evening. The food waters at a level of around 3.600m AOD reached a depth of around 750mm in the interior of 2 Minton Road and around 620mm in the interior of 1 Davenport Road."*

To my mind, although it is fair to say, as the Defendants submit, that at one point in his report Mr Cowan said that, when he was leaving, the flood waters were still rising, it is plain from a fair reading of his report both in his opinion and his conclusion sections, a flood level of 3.600 AOD represents his firm opinion. That opinion is of course supported by the photographs and, of course, both experts agreed that the appropriate level that should be replicated in their respective models was 620mm. In other words, the experts, having considered all the evidence, came to the view that the flooding level was about 3.6m AOD i.e. 620mm internally.

68. Finally on this issue I should make reference to a tide mark on a piece of furniture. Mr Diamond's report to insurers included a photograph of a piece of furniture on which he highlights a tide mark which he suggests represents the depth of the flood water. In a letter of 4 November 2016 Mr Allitt provided the following description:

> *"I have looked again at the photograph in Mr Diamond's evidence of the large item of furniture near the front door. I note that in this photograph the door handle of the front door is visible and it can be seen that this is above the level of the top of the item of furniture. I have measured the height of the door handle on my own front door and at other houses and these range between 1.03m and 1.07m. On this basis the height of the item of furniture can be no more than 1m high.*
>
> *The tide mark on the door of the furniture can be seen as there is a white appearance below that. I scaled the photograph as*

> *best I can and my assessment is that the "tide" mark is 60% of the way up the item of furniture. This would make the maximum internal flood depth of no more than 600mm".*

69. Whilst not definitive, to my mind this evidence is persuasive and the likely explanation for Mr Diamond's hand written note is that it was, as he in fact indicated in his evidence, an estimate and not the product of his measurement which, given his evidence, is likely, to my mind, to have been an exact figure and not an approximate figure, albeit that he could not locate it in his notes whilst giving his evidence.

70. On this issue, therefore, on the balance of probabilities, having considered the totality of the evidence, I conclude that the level reached within the Property was no more than 620mm.

WAS THE INSTALLATION OF THE TIDEFLEX NEGLIGENT MAINTENANCE?

71. Martin Jones gave evidence that he would monitor the Defendants' systems regularly to consider any reports of faults coming in and would assign work to field technicians as necessary. Prior to July 2009 the Defendants' inspections and works on the sewage system were undertaken by frontline field technicians but from July 2009 onwards the work was outsourced to Clancy Docwra but the individuals who actually undertook the work remained the same people because the field technicians were transferred across to Clancy Docwra.

72. Mr Jones explained that inspections fell in to two categories; scheduled inspections and ad hoc inspections. Maintenance scheduled tasks were scheduled inspections and it was his evidence, based on his review of the Defendants' records, that from 2005 to 2007 maintenance scheduled tasks were carried out roughly on a quarterly basis, in 2008 there were three such inspections but no routine maintenance inspections in either 2009 or 2010. Following the installation of the Tideflex there were routine maintenance inspections in March, September and November 2011 and 20 January, 16 April and 19 May 2012. On such inspections, the Pipe and the outfall would be checked as would the Bunker, albeit that such inspections would only involve the opening of the relevant hatch and looking inside because of logistical difficulties in doing anything more detailed.

73. In addition to scheduled inspections other inspections would take place on an ad-hoc basis, for instance as a result of contact from customers or other interested parties.

74. Conspicuous for his absence, without explanation, the Defendants' witness Mr Jarvis who, as I understand it, was directly and personally responsible for the maintenance of the Bunker and the outfall for many years. Given that the Claimants have placed significant reliance on what they characterise as a history of poor maintenance of the Storm Water System by the Defendants and that the Defendants clearly recognised the importance of the issue hence the evidence of Mr Jones, based on his review of the Defendants' maintenance records, it is all the more surprising that Mr Jarvis was not called and, as it seems to me, I am entitled, as invited so to do by the Claimants, to draw an adverse inference from his non appearance.

75. Although the Defendants sought to suggest that the maintenance of the Storm Water System was adequate, albeit that the issue was in their submission not relevant to the

issues raised in this litigation, it is clear from the evidence taken as a whole, that maintenance of the Storm Water System had been inadequate. This is clear from the condition of the Outfall Flap, the Chamber Tidal Flap and indeed the penstock. The relevance of the maintenance history is that it supports the submission made on the Claimants' part that the Defendants paid inadequate attention to the Storm Water System and failed to ensure that it operated in the way that it was intended and it was against this background that the decision was taken to install the Tideflex, a decision which it was submitted was not properly thought through and demonstrated again a lack of understanding of the system as a whole.

76. For my part I accept the force of the submissions made on the Claimants' behalf in this regard. Examples of poor maintenance include the fact that the elephant's trunk was not replaced and that when the Outfall Flap was replaced it was fitted poorly, as is apparent from a number of the photographs and indeed as was conceded by Mr Challoner, Mr Drinkwater and Mr Jones in the course of their evidence. The effect of the poor fitting was that it was likely to fail prematurely.

77. It is also common ground that the Chamber Tidal Flap was missing in June 2011. What is not clear is for how long it was missing. It was submitted on behalf of the Claimants that it was most probably missing at the time of the 2009 flood and might well have been missing since August 2008 when sea water flooding in the Ditch was reported, since, although a new flap was ordered in February 2009, there is no record in the Defendants' papers of it ever having been fitted and the order was marked closed, with a new order being raised in May 2011 but not apparently fulfilled until September or October 2011. Moreover there were repeated incidences of seawater flooding in the intervening period. The Defendants, for their part, refute that suggestion pointing to the suggestion that its absence would have been apparent when the Bunker was inspected and it was suggested that it is most unlikely that none of the inspections would have picked up the absence of the flap. For my part, I accept the force of the submissions made on the Claimants' behalf and conclude that the weight of the evidence suggests that that the flap was indeed missing for a prolonged period of time which itself supports the Claimants' submissions as to a history of poor maintenance.

THE INSTALLATION OF THE TIDEFLEX

78. In his evidence Mr Challoner explained that in October 2009 he visited Minton Road and found the customer at number 2 Minton Road distraught as his property was on the verge of flooding once again. The tide was high and the Ditch close to being full of water. In the event flooding didn't take place but, as a result, he instructed Clancy Docwra to arrange for a Tideflex to be installed inside the Pipe at a suitable location upstream of the existing flap.

79. Mr Challoner explained that it was not normal practice to install a Tideflex in such pipes but that in this case, due to the low-lying area and risk associated with sea-water backing up into the Pipe, he considered that it should be installed so as to reduce the risk of any further incidents due to valve failure and backing up from the sea.

80. He provided Clancy Docwra with an example photograph of a tideflex valve which had been installed by the Environment Agency in a surface-water pipe discharging into a river, which in his view was a similar situation, since when the level of the river

rose, the water would be forced up the pipe. He did not specify the particular type of tideflex, leaving such specification to Clancy Docwra, nor did he identify the exact location where it should be installed.

81. Mr Challoner explained that his reasoning for ordering the installation of the Tideflex was to increase the reliability of the system to prevent the backflow of sea water which, by reducing the storage capacity in the system, was understood to be in part the cause of the 2009 flood. The installation of the Tideflex was the best option to avoid the need to remove the existing Tidal Flap in the chamber and so to retain the additional tidal defence and therefore to increase protection. He said that he was aware of the importance of the up-stream capacity of the system to hold water during periods of Tide Lock so placing the Tideflex further upstream would not be a suitable option and would also have prevented the pumping of water from the upstream chamber in emergencies. He also did not consider that placing the Tideflex at the end of the outfall would be suitable because it would be exposed to the sea and therefore be likely to be damaged.

82. Mr Challoner indicated that he did not undertake any specific calculations relating to the Tideflex and its effect on flow rates through the system. Preventing backflow from the sea and maintaining the greatest amount of storage capacity upstream, was his priority. As he understood it, the Tideflex would not significantly reduce flow through the Pipe and any restrictions would not make a significant difference to the overall level of the water upstream (outside of Tide Lock conditions) as he said it would be very rare weather conditions which would result in more water flowing from the catchment than could be discharged through the Pipe.

83. Mr Webb gave evidence to the effect that he was asked to arrange for the correct part to be ordered and to manage and over-see the completion of the Works. He was not himself familiar with the tideflex product so he explained to the supplier what was wanted, namely a valve to fit the 450mm Pipe and the manufacturer suggested that their 37G product would be the most suitable. After some to-ing and fro-ing, an order for a 37G tideflex was placed. It had to be specifically manufactured and according to Mr Webb, was delivered in early January 2010. Mr Webb indicated that he did not undertake any calculations relating to the flow of water through the system. As the manufacturers were the experts and as he had given them a detailed description of the system, he would have expected them to raise this if they thought it would be an issue.

84. It is unclear when the Tideflex was in fact installed. It is the Defendants' case that it was installed in February 2010 but there are no documents evidencing such installation at that time. There was an urgent works order raised on 7 October 2010 and it is clear from the Defendants' records that the Tideflex needed to be repaired in November 2010 and in May and June 2011 further works orders were raised to try and locate the Tideflex.

85. The Defence implies that the installation of the Tideflex was the product of some sort of assessment. It is pleaded that the properties and advantages of the Defendants, the reduction in the risk of flooding from sea water outweighed the small additional risk that a Tideflex would cause. Furthermore, the Defendants have sought to minimise the effect of the installation of the Tideflex on the performance of the Pipe. Thus they pleaded that the Tideflex caused "a small additional head-loss" however, it is clear that the Tideflex had the effect of severely restricting the discharge of surface water

out to the sea. This is because the Tideflex was installed inside the 450mm pipe and thereby impeded flow through the Pipe. The extent of the restriction in capacity and flow rates is graphically shown in exhibit JS4 which shows, for example, that with an upstream head of water of 1 metre, the Tideflex would permit a flow of 100 l/s whereas the pre-existing 450mm pipe would have permitted a flow of 395 l/s, a reduction in capacity of nearly 75%. The Defendants criticised the use by the Claimants of this graph and suggest that it is misleading since the 75% head-loss only happened if the waters upstream were a height of one metre or less, which it is said would have been unlikely to have resulted in flooding of the Property and is based on flows in an open pipe. I accept that there is some force in this criticism but, on any view, the effect of the installation of the Tideflex created a very significant restriction on the outward flow of water.

86. It is plain from the evidence that after the 2009 flood the Defendants were under pressure from local residents who were concerned about a repetition of flooding from the sea. The risk was plainly significant and is borne out by the Claimants' own Particulars that list some 13 incidents of flooding or near flooding after February 2009. In such circumstances it was, in the words of Mr Allitt, entirely reasonable for the Defendants to want to increase the level of protection against flooding and to install a better tidal defence mechanism. That is the context for Mr Challoner's decision in respect of the installation of the Tideflex, namely to provide such additional protection. In the course of his cross-examination Mr Challoner explained that his decision was based on his own judgment and experience and he did not accept the criticism of his judgment based on the head-loss demonstrated by the graph at JS4, pointing out that the Pipe itself restricted flow, the tidal flap would restrict flow and the change in diameter from the chamber to the Pipe would restrict flow, as would the Chamber Tidal Flap and he would only concede a slight increase in risk.

87. The difficulty as it seems to me with Mr Challoner's reasoning is that the risk of flooding from the sea was plainly not the only risk. As he himself put it:

> *"...There are two circumstances under which flooding can occur: one is at high tide when there is heavy rainfall, and one is at low tide when there is heavy rainfall. Those two risks have to be balanced. The balancing of the risk in my view is to- because the risk is, how shall we say-during periods of high tide, because the risk of storm water causing flooding is greater if the system is inundated by seawater, in my view the protection of the system against the inundation of sea water is important. "*
>
> *"Historically, it was clearly the case. But there are two such scenarios. There is the scenario where you have got low tide and heavy rainfall, and I accept that the valve will slightly increase the risk under those circumstances*."

88. Given that the Defendants had been warned in 2004 about a lack of capacity in the upstream system, it is to my mind at the least surprising that the Defendants should have proceeded with the installation of the Tideflex without giving proper consideration to the consequences so far as drainage from the land is concerned.

89. The restriction in capacity caused by the Tideflex was glaringly apparent at the time of the 2012 floods. At that time the Claimants had already retained Mr Cowan in connection with the 2009 flood. He attended the scene on 12 June 2012 and took photographs. It is striking that at 12:37 hours (i.e. long after the flood had reached its peak and the rain had stopped) there was still extensive flooding around Davenport Road, yet it was then low-tide and the outfall was only running at a fraction of its capacity, as is apparent from photograph 22. The restricting effect of the Tideflex is therefore plain to see: but for the Tideflex, the outfall would have been running at full bore.

90. However when asked whether the removal of the Tideflex would have enabled the outfall to discharge at full bore, Mr Challoner at first said that it would not have made any difference before saying that he thought it would have made a marginal difference. He also expressed his surprise at the restrictions demonstrated by Mr Cowan's photographs. On the evidence I have no hesitation in concluding that Mr Challoner misunderstood the effect of the installation of the Tideflex. In so doing he was not alone among the senior management of the Defendants. For example, after the 2012 flood, Mr Purvis clearly expressed his view at a meeting with local residents that the Tideflex created no restriction in flow.

91. It is also plain that the Defendants realised fairly rapidly after the 2012 flood that the Tideflex was implicated in the flooding. That is the only sensible explanation for their subsequent actions. It was inspected on the 22 June 2012 and on the 20 December 2012, the Defendants asked for a quote for a larger hole in the dividing wall in the Bunker. Surprisingly the Defendants have adduced no witness evidence as to these changes made after the 2012 flood nor, as I understand it, has there been any real disclosure on the issues of the reasons why the Tideflex was removed and how and by whom it was decided to remove the 450mm pipe between the two chambers in the Bunker and to install a flap on the incoming 840mm pipe. In the absence of such evidence, as it seems to me, I am entitled to infer that the changes were made because the Defendants recognised, belatedly, that the installation of the Tideflex had indeed caused a significant restriction in flow.

92. What is said on behalf of the Defendants is that for breach of duty to be found the decision to install the Tideflex must fall outside the range of reasonable responses to the situation facing the Defendants after the 2009 flood, a situation described by Mr Drinkwater as being caught between a rock and a hard place, where two risks were faced and, submit the Defendants, much the greater risk was that from sea. Indeed, the Claimants' expert accepted that the Defendants were right to do something and, submit the Defendants, there was no better solution to the problem than installing the Tideflex unless the Defendants were to commit significant expenditure (the Marcic point). Faced with the competing risks Mr Challoner made his own assessment based upon his experience before deciding to install the Tideflex. Following the installation he gave an instruction for hydraulic modelling to be undertaken but that did not happen before the 2012 flooding occurred.

93. To my mind, however, the evidence does not support these submissions. Mr Challoner did not specify the particular type or model of Tideflex to be installed. He left the exact location to others and did nothing to assess what the likely effect of its installation would be and he plainly misunderstood the likely effects. Taken in the round these factors all demonstrate that the Defendants cannot show that they

properly assessed the consequence of installing the Tideflex. Plainly such an assessment ought to have been carried out but was not carried out in this case.

94. Mr Drinkwater agreed that such an assessment should have been carried out and he emphasised that the Defendants were obliged to balance the risk of sea water flooding with the risk of flooding from surface water.

95. I conclude that the Defendants should have carried out an assessment of the effect of installing the Tideflex that they failed so to do and in so doing were negligent.

96. Plainly if such an assessment had been carried out it would have demonstrated very significant restrictions to flows created by the Tideflex. Reference to the effects graphically shown in exhibit JS4 would have been sufficient to demonstrate to the Defendants that it should carry out further work or undertake proper calculations before proceeding further. In his evidence Mr Allitt opined that the extent of the restriction could have been established by a simple calculation but if necessary the Defendants could have used their pre-existing model to establish the extent of the restriction. I accept the force of that argument.

97. What of Mr Challoner's express desire to have a second line of defence. To my mind, this only goes to demonstrate the misdiagnosis of the underlying problem. He only felt that the system needed a second line of defence because he felt that the Chamber Tidal Flap and the protection of the outfall were unreliable. In my judgment they were not. There was nothing wrong with the underlying system. The reality is that it was simply not maintained adequately. What was needed was an elephant's trunk or a properly-fitted flap, perhaps with a supporting timber frame on the outfall and a properly functioning Chamber Tidal Flap. It is also to be noted that since the 2012 flood the Defendants have relied solely on one flap in any event.

98. The question is what would a reasonable statutory sewerage undertaker have done? The Claimants have suggested that there were a number of alternatives that were available to the Defendants, had a proper assessment been undertaken. They could simply have maintained the pre-existing system ensuring that the Chamber Tidal Flap was correctly positioned and the flap on the end of the outfall was correctly fitted and in good working order. Such simple steps would not have offended the Marcic principle. Alternatively a TF1 (another type of Tideflex valve) could have been installed on the down-stream end of the 450mm pipe which would not have restricted the flows at all. There is a disagreement between Mr Drinkwater and Mr Allitt on this point. At the very least the matter should have been investigated. If it were reasonable to install a second line of defence then this could have been done by the installation of a second flap on the 840mm pipe and indeed Mr Drinkwater essentially accepted that if a second line of defence was required the two flaps would be a satisfactory solution.

99. To my mind, on the totality of the evidence, a reasonable statutory sewerage undertaker in the position of the Defendants would have carried out an assessment of the risk of installing a Tideflex. Any such assessment would have established that it posed a substantial restriction to the surface water flows and should not have been installed unless and until a proper evaluation of the respective risks was undertaken and an informed judgement made. This was not done and I reject Mr Challoner's evidence to the contrary.

CAUSATION

100. As I have previously recorded, it is common ground that the issue of causation is a matter which would turn on the use of hydraulic modelling.

101. For the Claimants, Mr Allitt, who is acknowledged to be one of the foremost hydraulic modellers in the country, has built a model using the Info Works ICM v6.5 program which was intended to replicate the height that the flood waters had actually reached with the Tideflex in position and which showed that without the Tideflex in position, the Property would not have flooded.

102. The approach adopted on the Defendants' behalf is markedly different. As I understand it, initially, the Defendants' intention was simply to comment on Mr Allitt's model. Subsequently, the decision was taken to rely on their own model which was originally produced in 2012, but updated and verified by Mott MacDonald in 2014. That verification incorporated data from a short term flow survey undertaken between September 2013 and January 2014, utilising 12 flow monitors and 1 depth gauge. Thereafter the model was reviewed and modified by the Defendants using their own personnel, including in particular Mr Sam White. It was therefore not built by Mr Drinkwater. Although Mr Drinkwater had built models in the past, he had not done so for at least 10 years. However, his evidence was that he worked very closely with the Defendants' modellers, challenging them on what they had done and why and by that process he said that he had confidence in the Defendants' model. That model suggested that even without the Tideflex, the Property would have flooded.

103. The difficulty of course with the Defendants' approach is that the Court has not heard evidence directly from Mr White or his colleagues and they have not been cross-examined as to their methodology and the like and there is no report from them supported by the usual expert's declaration. Not surprisingly, therefore, the Claimants are critical of this approach and invite the Court to conclude that Mr Drinkwater's evidence cannot be relied upon.

104. The Defendants in their model added a dummy area of 25 hectares (that is to say an area which did not exist in reality) to represent the significant volumes of delayed permeable area runoff mobilised due to the unusual nature of the 2012 storm and applied the total rainfall to it, and then selected a routing factor of 50 to that theoretical catchment.

105. Mr Allitt was very critical of this approach, noting that the dummy area was nearly two-and-a-half times the area of the Estate and that the routing factor was highly unusual and applicable only to cases of very delayed runoff; criticisms, particularly the adoption of a very high routing factor, which Mr Drinkwater was not really in a position to challenge . He described the model as manipulated or force-fitted. To my mind, these criticisms have some force and when coupled with the other criticisms referred to above as to the Defendants' approach more generally lead me to conclude that I cannot rely on it for the purposes of establishing whether or not on the balance of probabilities, but for the installation of the Tide-flex, the Property would have flooded. That conclusion, however, as it seems to me, does not detract from the force of some of Mr Drinkwater's criticisms of Mr Allitt's assumptions in his modelling.

106. The focus of that criticism is threefold, namely, that he overstated the extent of the impermeable areas; that he underestimated the rainfall, and that his model showed flooding too early when compared to what actually happened on the day in question.

107. As far as the impermeable areas are concerned, it is common ground that the greater the impermeable area adopted, the quicker the flood waters would have entered the Storm Water System and the sooner the Property would have flooded. Mr Allitt in his model assessed 16.67 hectares of impermeable area drained into the Storm Water System on the 10th and 11th June 2012. In adopting that figure, Mr Allitt did not have available to him when carrying out his modelling, the surface area survey undertaken by the Defendants between 1995 and 2000, nor the Mott MacDonald flow survey, the effect of which, according to Mr Drinkwater, was that the actual area of roofs, roads, and hard surfaces that drained into the Storm Water System was 8.5 hectares and that was the figure adopted in the Defendants' modelling rather than the figure of 16.67 hectares adopted by Mr Allitt.

108. Mr Allitt also conceded that he had assumed all the driveways drained into the Storm Water System, when in fact that was not the case. As a result he also conceded that his adoption of 16.67 hectares of impermeable area overstated the impermeable area but asserted that the Defendants' model was also incorrect because it didn't allow for any driveways and so "*the reality is, probably, somewhere in-between, but neither I nor (the Defendants) know what it is"*. He went on to suggest that, even if he had overstated the extent of the impermeable areas, the consequence of that was that the permeable area had been underestimated so that the overall effect would be modest, although he was unable to calculate what that effect would have been. On any view, therefore, it is plain that Mr Allitt has conceded that at least to some extent the results of his modelling are unreliable, albeit he disputes the extent of that unreliability and with the greatest of respect to Mr Allitt, his explanation that this difference did not really make a significant difference was wholly unconvincing.

109. So far as rainfall is concerned, the two experts agreed that the most reliable measurement of rainfall on the 10th and 11th June 2012 was that from the Environment Agency's Tipping Bucket Rain gauge (TBR), located at Bognor Regis, approximately 2.1 miles west of the Felpham catchment which recorded 114.5mm of rain over a period of 40 hours and 20 minutes.

110. However, the rain gauge situated closest to the catchment was the Bognor Regis daily gauge which is only one mile west of the Felpham catchment and on the 10th and 11th of June 2012 it recorded 23.5% more rainfall than the TBR. The experts therefore agreed that the rainfall used in their respective models should be uplifted to reflect that higher rainfall, but disagreed as to the extent of the uplift.

111. For his part, Mr Allitt noted that the Meteorological Office had questioned the accuracy of the daily rain gauge on the 10th and 11th of June and he therefore limited the uplift to 10% on the basis that the rainfall that fell on the Estate, in his view, would have been less than that which fell 1 mile away. It was said on behalf of the Claimants that this was a reasonable and appropriate assessment made on the basis of Mr Allitt's expertise having regard to his review of the results of all the local rain gauges and the relevant weather radar. In fact, the Meteorological Office's only query regarding the Bognor Regis daily gauge was the time when the readings had been taken and it had resolved that issue by reapportioning the readings.

112. For my part, I can see no rational justification for reducing the uplift which both experts agree should be applied to 10% rather than say 15% or even 20% or 25% or indeed any figure in between and, as it seems to me, this casts doubt on the accuracy of Mr Allitt's model. His entirely subjective adoption of a figure of 10%, based on his subjective assessment of what the rainfall would have been has no objective justification and does not bear close scrutiny.

113. The third area of criticism of Mr Allitt's model relates to the timing of the flooding. The evidence of the Claimants in the report of Mr Cowan provided known GMT times for the height of the flood waters as follows:

> *"10:30pm 10 June 2012 flood waters reach an AOD of 2.821 and enter the Claimants' garage.*
>
> *00.00 11 June 2012 flood waters reach AOD of 2.979 and enter the Property.*
>
> *6.19pm 11 June 2012 Mr Cowan records a height of 3.6 AOD*
>
> *12.00 12 June 2012 Mr Cowan's photographs indicate a height above 3.1 AOD*"

114. It is also to be remembered that Mr Cowan recorded that the flood waters were still rising when he left site at 6:45pm on the 11th June 2012.

115. In his evidence, Mr Allitt admitted that the closer a model represented the time at which the flooding event occurred, the more accurate it was likely to be and in this case his modelling shows flooding taking place at 10:30pm. His explanation for the difference of an hour to an hour and a half was that it would inevitably take some time for the flood water to seep into the Property through the doors and/or under the floorboards. Again, this explanation is wholly subjective with no objective basis and requires the court in effect to take Mr Allitt's word for it. Moreover it was submitted that the Claimants' evidence as to timings was likely to be imprecise and in any event absolute precision as to flood predictions was unlikely to be achieved. Whilst I accept that some imprecision is inevitable, again as it seems to me, the difference in timing does tend to cast doubt on the accuracy of Mr Allitt's modelling.

116. What was said on behalf of the Claimants is that Mr Allitt, a very experienced modeller, was objective and independent and prepared to make concessions where appropriate, for example in connection with the extent of the impermeable area, and was measured in his answers. The Defendants by contrast, are very critical of Mr Allitt, describing him in their Reply to the Claimants' Closing Note as an appalling witness whose answers were almost always discursive and argumentative and seemingly designed to prevent any constructive consideration or assessment of his opinions. Whilst I would not be quite so critical of Mr Allitt, there is no getting away from the fact that many of his answers were indeed discursive and argumentative. That said, I accept that he was doing his best to assist the Court in what is plainly a difficult issue. That is the nub of the problem. The fact of the matter is that both experts were having to deal with an exceptional event and as a result were having to deal with areas such as permeable and impermeable which were going to behave differently than they would have done in a less severe storm and were doing their best

in their different ways to model flooding so that, for example, whilst Mr Allitt was critical of the Defendants' adoption of a dummy area of the size actually adopted, he did accept that modellers sometimes do adopt a dummy area as a necessary requirement. Mr Allitt had to concede that his adoption of 16.67 hectares wasn't correct and he fairly said that he couldn't say what the correct figure was, albeit that he considered that the overall effect would not have been significant, without quantifying that effect. Both experts adopted different figures for the rainfall uplift. Their respective figures were wholly subjective, and in the case of Mr Allitt were based on his belief that the rainfall on the Estate was in effect 13.5% less than that which fell on the nearest gauge to the catchment. When to that is added the absence of any evidence of surcharge of foul water which would have had the effect of reducing the maximum height of the flood waters in the model and the discrepancy in the timing of the flow. The totality of the evidence leads me to conclude that this court cannot be satisfied on the balance of probabilities that but for the installation of the Tideflex, the Property would not have flooded.

QUANTUM

117. In the light of my findings on causation there is no need for me to go on to consider the parties' respective submissions on quantum and I do not propose to do so in any detail. Suffice it to say that, had it been necessary, I would have accepted the evidence of Mr Diamond and Mrs Oldcorn to the effect that Ladbrook would not have been able to do the required works at the price quoted and the evidence of Mr and Mrs Oldcorn as to the level of expenditure incurred in works of reinstatement, notwithstanding the lack of documentary evidence in circumstances where they had accepted a lump sum settlement from their insurers, and as to the extent of the uninsured losses for which claim was made and would have made a modest award of general damages of £3500 per person.

DISPOSAL

118. It follows, in my judgment, that this claim fails and must be dismissed.

119. I trust that the parties will be able to agree the form of an order that reflects the substance of this judgment and deals with the issue of costs.

120. Finally, it just remains for me to express my gratitude to all counsel for their very considerable assistance in the presentation of this case.