

Wyre Making Space for Water Meeting

Minutes of meeting held Thursday 25 November 2021
at Wyre Civic Centre and via Microsoft Teams.

Present

Carl Green (CG)	Wyre Council (WC) – Chair
Paul Long (PL)	Wyre Council
Graeme Kelly (GK)	Environment Agency (EA)
Mia Mullender (MM)	Environment Agency
Mark O'Donnell (MO)	Lancashire County Council (Highways)
Tom Myerscough (TM)	Wyre Rivers Trust (WRT)

Via Microsoft Teams

Christine Hamilton (CH)	Environment Agency
Elizabeth Lowe (EL)	Environment Agency
Lorah Cheyne (LC)	Lancashire County Council (Flood Risk Management)
Brian Birkett (BB)	Lancashire County Council (Flood Risk Management)
Benjamin Rogers (BR)	Lancashire County Council (Flood Risk Management)
Phil Wylie (PW)	United Utilities (UU)
Louise Ashworth (LA)	United Utilities
Chun Teh (CT)	United Utilities

Apologies

Rachel Crompton	Lancashire County Council (Flood Risk Management)
Kevin Kellett	Lancashire County Council (Flood Risk Management)
Nigel Morris	Lancashire County Council (Flood Risk Management)

1. Introductions

PL welcomed everyone to the meeting.

EL introduced herself to the meeting; she will be working as Senior Advisor in the Partnership and Strategic Overview Team for the EA. She is familiar with issues in Wyre, having previously been involved in the MSfW meetings while working for LCC, four years ago.

2. Apologies

Apologies were noted as above.

3. Minutes of Previous Meeting

The minutes of the meeting of 26 August 2021 were agreed.

Matters arising

MO confirmed that the works to clear the excess vegetation on land between the bank of Royles Brook watercourse and the highway on White Carr Lane, Thornton has been completed

PL reported that Highways England (HE) have confirmed that the culverts under the A585 Amounderness Way at White Carr Lane and New Lane, originally planned to be cleared by the end of September, are to be cleared soon; no date has yet been confirmed.

PL confirmed that no action had yet been taken regarding flooding to properties on Sefton Ave, Poulton. PL to arrange site meeting with Wainhomes to determine what actions can be taken to prevent future flooding.

Action - WC / LCC

4. Issues from Flood Forum and FLAGS

PL reported that he had recently held Teams meetings with the FLAGS from Preesall, St.Michaels, Great Eccleston, Thornton, Hambleton & Stalmine and Churchtown.

Issues raised are detailed below and have been added to the Issues and Action log where necessary.

PREESALL

Matters arising from last meeting

TM confirmed that he now has the necessary information to allow him to produce a design for the creation of a wetland area on land adjacent to Sunnyside Terrace. He confirmed that he will provide an update on his design at the Flood Forum in December.

PW confirmed that there was no further update on flooding to gardens and cross contamination issues on Coniston Ave. He reiterated that he did not consider that a resolution would be found in the near future.

The FLAG confirmed that the Acco drain and highway gullies at the junction of Sunnyside Terrace and Sandy Lane had been cleared. They thanked LCC for their speedy resolution of this issue.

PL reported that he had yet to contact Willowgrove Caravan Park re the overgrown and restricted watercourse behind Rosslyn Crescent. PL to contact the caravan site to arrange for works to be undertaken.

Action - PL

MO reported that LCC have inspected the watercourse downstream of the culvert under Burned House Lane and found it to be in good condition. He noted that there was a section of the watercourse, where it joined with Grange Pool watercourse that would benefit from work to improve the flow. GK agreed that his Ops Team would take a look at this.

Action - EA

GK reported that the discharge from the lakes on Park Lane (and whether or not they flowed to the east or west) had not yet been checked. He reiterated that he would get someone to check this, but noted that the EA does not currently undertake any maintenance on this section of the watercourse network.

New issues - meeting 15 November 2021

It was reported that resurfacing works to Lancaster Road had affected the road camber such that water is being directed towards residential properties. There are no road gullies in this area and the water is causing flooding issues to properties. Residents have previously raised the lack of road gullies with LCC but there has been no response to date. FLAG have asked that LCC investigate this further.

Action - LCC

FLAG asked if the CCTV camera on Sunnyside Terrace could be repositioned to take in more of the junction with Lancaster. PL noted that the camera was principally installed to monitor the pump (when in use) but would raise with colleagues.

Action - PL

HAMBLETON & STALMINE

Matters arising from last meeting

MO confirmed that LCC are currently working on clearing the highway drainage on Kiln Lane, including additional works to dredge the private watercourse north of the UU pumping station. Works from Kiln Lane to Queensland on Carr Lane are planned over the coming weeks.

LCC have installed signage along the A588 to advise residents that drainage works are being undertaken within the village.

PL noted that the FLAG had reiterated concerns about the highway drainage pipe in the field opposite Queensland. MO confirmed that this pipe would be included in any maintenance works.

PW asked that any updated records be forwarded to UU so that they could update their own records where applicable.

Action - LCC

The FLAG have asked for an update on discharges from Sherbourne Road pumping station and whether this is discharging sewerage from an overflow to the watercourse at Rydal Road. PW said that UU had a video from a recent inspect of the pumping station and he would look to see if any overflow existed. He noted that the installation of flowmeters next years may help identify any uncharted connections.

Action - UU

With reference to the clearing of the watercourse on Marsh Lane, close to the junction with Sandy Lane, GK confirmed that a letter had been sent to the landowner to remind him of his responsibility to maintain the watercourse. A response is awaited.

MO confirmed that works to repair a collapsed culvert at the junction of Highgate Lane and Staynall Lane (as reported by Stalmine FLAG) have been completed.

PW confirmed that UU had contacted the FLAG to confirm that details on the layout of the foul pumping station on Kiln Lane, including invert levels of discharge to Wardleys Creek, was not available. He added that a site visit to the station still remained open to the FLAG if they wished.

New issues raised - meeting 16 November 2021:

Both Hambleton and Stalmine FLAGS raised concern about the capacity of the foul and surface water systems to cope during heavy prolonged rainfall. They have requested copies of the known damage plans to help them understand how the system works.

Stalmine FLAG asked for an update on the claim that the drainage pipes on Linley Grange had been incorrectly connected resulting in sewage being discharged to the watercourse network. PL confirmed that he had undertaken a survey of all drainage in the area, including that on Linley Grange, which confirmed that all connections were correct and as approved.

Stalmine FLAG raised an issue of flooding on Smithy Lane and Occupation Lane. PL noted that the UU drainage plans for this area were incorrect and agreed to forward a correct version to the FLAG.

Action - PL

CHURCHTOWN

Matters arising from last meeting

GK confirmed that the flap valve on the outfall into the Ainspool has been checked and confirmed working.

New issues - meeting 16 November 2021

The FLAG confirmed that despite recent works by LCC (Highways), the village did suffer flooding on The Avenue, the A6 and at Ainspool Lane at the beginning of November. It was agreed that officers from Wyre and LCC would undertake an additional survey of the drainage system in the village with members from the FLAG on Wednesday 8 December.

The FLAG asked that EA remove tree trunks in River Wyre approx. 300m downstream of Kirkland Bridge.

Action - EA

TM said the he may look at additional works to hold back water in Green Wood as requested by the FLAG. He would arrange a site visit to look at the possibility of undertaking any works.

Action - TM

The FLAG noted that a significant number of road gullies on the A6 (close to the junction with The Avenue A586) were blocked and in need of clearing. They asked that LCC clean these out.

Action - LCC

THORNTON

Matters arising from last meeting

MO confirmed that works to replace the gully at the junction of Bourne Road and Fleetwood Road North are now scheduled for January 2022.

Action - MO

PL confirmed he had again contacted National Grid to check the condition of the culvert under their concrete apron in the electrical sub-station on River Road, Stanah. While an initial inspection has been undertaken, major works are still awaited.

MO agreed to have the section of watercourse downstream of the sub-station checked, and cleared as required

Action - PL, MO

MO reported that he had instructed his team to look at raising the footpath in front of the two properties on Fleetwood Road North, north of Springfield Drive, Thornton which have no freeboard on their dropped kerbs and suffer regular flooding off the highway. He was unaware whether this work had been completed, but would check and report back.

Action - MO

MO confirmed that works to works to repair the manhole at the junction of Fleetwood Road North and Bourne Road will be undertaken in January 2022.

Action - LCC

MO confirmed that works to clear the culvert under Fleetwood Rd North which feeds the tributary of Springfield Dyke south of the Iron Horse will be undertaken in January 2022.

Action - LCC

PL reported that he again contacted POS Landcare re clearing the pond and watercourses on Hawley Gardens. POS have responded (24 Nov) that an instruction has been given for the works to be undertaken by Three Shires Ltd. PL added that the damage to the fencing around the watercourse headwall would also be undertaken. .

GK reported that thWe had a meeting with Graham from the EA down at the Sandyforth Arms to look at the fitting of a camera overlooking the culvert which we use to assess the potential implications with high volumes of rainfall. Could you ask Graham for an update regarding progress please?

GK confirmed that the camera has been ordered and was expected next week. He said that this would be installed before Christmas.

Action - EA

TM confirmed that the proposal to install leaky dams on the section of Hillylaid Pool watercourse downstream of the connection with Horsebridge Dyke is still ongoing but would likely be delayed while work on the leaky dam at Stanah was completed.

Action - TM

PW confirmed that UU had no current plans to undertake any drainage works on the Marsh Road / Church Road sewers. He reiterated that UU are unaware as to where the surface water in this area discharges and confirmed that there is no connection to either Royles Brook School or the local watercourse network. UU will continue to look into this matter, but nothing is imminent.

Action - UU

GK confirmed that the culvert under Tesco car park, Marsh Mill, regularly remains free running. Any flooding to the car park is expected to be a combination of lack of capacity on the culvert and blockages within the private car park drains. No action is planned for this area.

New issues raised

There was significant flooding following heavy rainfall in late Oct / early November. While most of this was restricted to flooding of the highway and gardens, there were a small number of reports of flooding to residential properties. Residents in Thornton reported higher than expected water levels in Hillylaid Pool which they have attributed to the leaky dam constructed at Stanah as part of the new wetland scheme.

A site meeting with the FLAG and residents was undertaken on 8 November to inspect the dam. TM explained how the leaky dam operated and showed off the wetland / storage area. Most local residents blame the leaky dam for the rise in the level of Hillylaid Pool and have called for it to be removed.

While it is acknowledged that upstream levels in Hillylaid Pool do appear to be significantly higher than normal, it is noted that levels downstream are low. A check by the EA for potential blockages in the watercourse did not reveal any issues. A walkthrough of the watercourse is planned with the FLAG on 21 December.

TM said that it is intended to install number of level loggers along the full length of the watercourse – it is expected that these will provide data on the level of water in the watercourse and help to pinpoint any issues.

It was noted that as part of the current works to construct the new bypass road at Skippool roundabout, Kier has blocked the outfall from Horsebridge Dyke and using large pumps to overpump to the watercourse. It is unclear whether this is having an impact on the upper sections of Hillylaid Pool watercourse; GK to contact Kier for details of their operations.

Action - GK

ST.MICHAELS

Matters arising from last meeting

GK reported that an inspection of the north bank of the River Wyre upstream of the village had not identified the bank erosion reported by the FLAG. He asked that the FLAG provide a more accurate location. EA to investigate.

Action - EA

New issues

Following heavy rainfall in late Oct / early November, significant flooding to the highway, residential properties (including internal flooding) were reported. MO reported that a number of the surface water outlets from properties were silted up and required cleaning. He added that LCC had cleared a number of these but more is necessary to protect properties from localised flooding. It was further noted that traffic movement on the A586 was adding to flooding of properties.

LC noted that the flooding at St.Michaels had been sufficient enough to warrant the production of a Section 19 report.

PL reminded all present that the FLAG have organised a Teams meeting for 8 December and asked that representatives from all agencies attend.

GREAT ECCLESTON

Matters arising from last meeting

GK reported that the survey of Whites Bridge watercourse has been received. He added that, in the short term, sandbags have been installed on the right bank of the watercourse to reduce the impact of high water levels. It was, however, noted that, during the recent flooding events, Moss Side Lane had flooded again, threatening residential properties.

PL reported works to the watercourses on the north side of the A586 appeared to be having an effect; the FLAG reported only minor flooding of local highways and noted that water levels quickly dropped.

New issues

None raised

PILLING:

Matters arising

None raised

New issues

None raised

OUT RAWCLIFFE:

Matters arising from last meeting

None raised

New issues

None raised

5. Presentation

CG introduced Gerbren Haaksma from Andel Ltd (www.andel.co.uk) who gave a brief presentation on flood management and real time monitoring of watercourses (See Appendix)

6. Issues and actions update

The updated Issues & Actions list is attached as Appendix 1

7. New issues

PW asked that LCC look at highway drainage close to 271 Garstang Road East following a complaint of highway flooding.

Action - LCC

Flooding to highway from watercourses, Wheel Lane, Pilling. MO confirmed that LCC had written to landowners to clear watercourses for which they are responsible. PL confirmed that an official complaint had been received relating to planning permission for new property discharging to watercourses. PL/MO to undertake site inspection. MD asked GK to cha on Fluke Hall Lane.

Action - PL/MD, GK

8. Any other business

None raised

9. Next meeting

24 February 2022, 10am start – Details to follow.

WYRE COUNCIL FLOOD FORUM – ISSUES & ACTIONS LOG

New / Urgent issue

Ongoing issue

Completed issue

Updated text in bold

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
19/35	<u>Gubberford Lane, Garstang</u> Query re surface water drain connecting to septic tank	- UU to speak with customer and provide feedback	Garstang	UU	LCC		UPDATED 18/02/2021	Ongoing: - UU have visited the site and discussed with complainant. Not a public sewer so no further UU involvement. - LCC (Highways) to undertake investigation of road gullies to establish if misconnected.	A
19/21	Great Eccleston pumping station 52544 - no evidence of sewage discharge from pumping station into the Wyre even though sewage discharged from pipe on Rawcliffe Road (see 19/20)	- UU to investigate and report back to Forum	Great Eccleston	UU			UPDATED 18/02/2021	Ongoing: - Site visit undertaken July 2019. - UU continuing to look into this. - UU remodelling network, including proposed new major housing development. - The project to accommodate the Great Eccleston development has been approved, and is with UU's Engineering and Capital Delivery team who have been tasked with providing a solution to alleviate the predicted detriment to the network. This is programmed to start in April 2021. Hopefully, (and if required) site investigations will be completed through June and July 2021, to then enter the discussions and contracts with UU's Contractor Delivery Partners in September 2021.	A
21/04	Flooding to Lancaster Road / Raikes Road.	- WBC and UU to undertake inspection of watercourses opposite Raikes Road and inspection of discharge pipe to River Wyre.	Great Eccleston	WBC	UU		UPDATED 18/02/2021	- Network inspected by WBC. Riparian owner of watercourse has undertaken clearance works at WBC's request - UU have inspected the outfall from the adjacent foul pumping station. The final section of pipework and the outfall accommodates both the overflow from Great Eccleston WWNT PS and a local watercourse that takes the highway drainage serving Raikes Road. The CCTV survey found no operational issues on this section and the upstream sections of the PS overflow. However, it was not possible to camera right up to the shared outfall due to a bend in the pipe. A joint site inspection carried out by UU (PJW) and WBC (KG) found the waters in the Wyre above the outfall so it was not possible to inspect the flap valve (re-visit required). Please note that the modelling work carried out by UU indicates that flooding will occur from the manholes on the outfall and possibly the manholes on the piped watercourse (not included in the model but has very similar cover levels to that of the outfall) when the Wyre is high and the outfall closed.	A
21/07	Flooding to Moss Side Lane – road impassable due to overflowing watercourse	- EA to look at Whites watercourse which is overflowing onto land to the east. - LCC (Highways) to consider raising road levels	Great Eccleston	EA	LCC		UPDATED 23/11/2021	- Sandbags have been added as a temporary measure to White's Brook bank until full works can be completed.	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
21/12	Butts Lane; junction with Back Lane	- Highway flooding due to suspected blocked gullies.	Great Eccleston	LCC			NEW 18/05/2021	- LCC to investigate / clear gullies	A
19/06	Flooding of highway, Carr Lane, Hambleton	- Blocked gullies and/or watercourse near to Hambleton paper shop - LCC (Highways) have investigated and will undertake works to redirect highway drainage.	Hambleton	LCC	UU, WBC		UPDATED 17/05/2021	Ongoing: - LCC to undertake works to improve local highway drainage. Works to commence in New Year. New sub-group of MSfW formed. - Works to begin 2 March 2020 - See Sub-Group - UU Model shows flooding occurs from 1 in 5 year rainfall and below due to the system being overloaded by surface water during rainfall. Ongoing investigations into the catchment with a proposal to install flow monitors under the capital project Dynamic Network Management (DNM). Approval has already been obtained to mitigate a number of the properties that experience flooding and have been included in the YR22 programme. - LCC to survey drainage from Sandy Lane to culvert under Carr Lane. - WBC / LCC to liaise with resident at Queensland Country Park to look at opening up culverted watercourse.	A
19/13	Kiln Lane / Sherbourne Road, Hambleton - Local area has suffered numerous flooding incidents resulting in internal flooding to a number of properties.	- UU to consider installation of new inspection chamber on culverted watercourse for easier access	Hambleton	ALL			UPDATED 07/06/2021	Ongoing - works undertaken; inspection only Carried over from MSfW Hot Spot - UU have inspected the banks of Wardleys watercourse and not located discharge point from culverted watercourse. - Investigation works may be required to ensure that water from local area can freely discharge to watercourse. - UU have excavated in footpath but encountered high water table. Will need to find alternate access point to survey culvert. UU to dye test piped watercourse to locate outfall. - WBC to undertake investigation into repeated flooding. - LCC to use sond to locate outfall to Wardleys watercourse - LCC have located and cleared outfall from private culverted watercourse. EA to look at additional works to improve flow. - Reopened following flooding 29 Sept. New sub-group of MSfW formed. - Inspection undertaken of local surface water drainage to establish connections and condition. Gullies on Kiln lane and Sherbourne Road cleared. - Private culvert and watercourse to north of Kiln Lane cleared by LCC over Christmas 2020. - Additional survey of highway drainage has noted issues with gullies adjacent The Shovels. LCC to resolve issues	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
21/01	Pauls Lane, Sandy Lane, Stoney Lane, Market Street	- Surface water flooding during heavy rainfall - gullies surcharging onto highways	Hambleton	LCC	WBC, EA		UPDATED 07/06/2021	- LCC (Highways) to undertake CCTV of private culverted watercourse to determine whether the pipe is blocked / broken. - Survey of highway drainage along Broadpool Lane to Sandy lane has noted issues with several highway gullies. LCC to resolves these issues.	A
21/02	Bull Park Lane / Shard Lane	- Highway flooding on Bull Park Lane	Hambleton	LCC	EA		03/02/2021	- LCC (Highways) to check condition of gully on Bull Park Lane to determine whether the pipe is blocked / broken.	A
21/05	Possible blocked surface water outfall Marsh Lane (Sandy Lane) FY6 9AW	- UU to investigate for blockages and report back to Forum	Hambleton	UU			24/05/2021	- Planned site inspection by UU Wednesday 24/02/2021 - UU have cleaned surface water pipes but report that watercourse requires desilting. EA to look into.	A
21/08	Bluebrook Ave. Foul flooding during heavy rainfall events	- UU to investigate	Hambleton	UU			27/05/2021	- New issue	A
20/11	Flooding of the highway at the junction of St Johns Ave and School Lane	- LCC to investigate for blocked gullies	Pilling	LCC			UPDATED 17/02/2021	- Query - check with LCC whether cleared. No issues in January 2021	A
20/12	Flooding of highway on Smallwood Hey Road	- LCC to investigate for blocked gullies	Pilling	LCC			UPDATED 17/02/21	- Jan 2021 road still flooding along middle length of road. No complaints of residential flooding.	A
20/13	Flooding of highway on Moss House Lane. Concerns that housing development under construction adjacent to highway is exacerbating flooding	- Wyre Council Engineers and Planners to investigate	Pilling	WBC			UPDATED 17/02/21	- Site inspected by WBC Engineers. - WBC Planners have written to Developer to discuss flooding issues. - Developer is proposing changes to surface water drains to divert water away from watercourse Moss Side Lane. Details awaited. - Revised plans from developers approved	A
20/14	Highway drain on Lancaster Road (adjacent Bodkin Hall) blocked	- LCC to investigate for blocked gullies	Pilling	LCC			UPDATED 17/02/21	- Check with LCC (Highways)	A
20/15	Flooding of highway on Carr Lane - Flooding outside Melrose and Ibrox	- LCC to investigate for blocked gullies	Pilling	LCC			UPDATED 17/02/21	- Check with LCC (Highways)	A
20/16	Flooding of highway on Taylors Lane	- LCC to investigate for blocked gullies	Pilling	LCC			UPDATED 17/02/21	- Collapsed sewer near to Mill - not repaired. - Surface water flooding	A
21/13	Flooding Wheel Lane	- Investigate flooding on Wheel lane and complaint re local development	Pilling	LCC / WBC / EA			New 10/11 21		R
20/10	Flooding to properties on Snowdrop Dell, Hardhorn Road and Linderbreck Lane, Poulton 11 August 2020		Poulton	UU	LCC		UPDATED 18/02/2021	Ongoing: - UU undertaking CCTV survey of public sewers - The CCTV surveys of the public sewers and private drains immediately downstream of the property have been completed and no issue found. The property connects via gravity to the public foul sewer in Linderbreck Drive which in turn flows via gravity to public combined sewer in Hardhorn Road. UU NFA	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
								- Requested (24.08.2020) LCC check the condition of local highway drain.	
19/07	<p>Sunnyside Terrace has suffered a number of flooding events which have included internal flooding to properties – the most recent event was 22 November 2017.</p> <p>The MSfW Group is looking to undertake initial works to carry out works to Green Lane watercourse to ensure that there is a clear discharge point for excess flood water.</p> <p>LCC have obtained a grant to undertake capital works to reduce the risk of flooding.</p>	<ul style="list-style-type: none"> - LCC to cut back willow tree in Green Lane watercourse to allow free flow in the watercourse. - LCC to undertake desilting works to culvert under Cart Gate. - LCC to undertake desilting works on Green Lane watercourse, including culvert under road. WBC to inform landowners adjacent to watercourse. - LCC to consider other flood mitigation works once the discharge point is cleared. - LCC / EA to inspect full length of Green Lane watercourse to its discharge point to River Wyre. - EA to inspect and clear if necessary river outfall. - Update 21/02/19 - LCC (Highways) 	Preesall	LCC	All		UPDATED 17/05/21	<p>Ongoing:</p> <p>Carried over from MSfW Hot Spots.</p> <ul style="list-style-type: none"> - Desilting of watercourse completed by LCC – approx. 500m cleaned either side of Green Lane. - Walk through of Green Lane East watercourse undertaken (LCC/WBC). - Draft pumping plan written. - LCC to clear/desilt culvert under Cart Gate - practice trial of pumping plan undertaken - LCC to undertake road resurfacing July 2019 including additional gully and to look at road levels to reduce drainage runoff. - LCC works completed - watercourse cleaned out. - Inspection of northern part of Green Lane East watercourse to be inspected to look at clearing by EA. - New sub-group of MSfW formed to look at works on Preesall Hill.- See Sub-Group - Rivers Trust looking to introduce measures to reduce runoff from Preesall Hill towards Sunnyside Terrace. - Changes to profile of Preesall Hill presents problems with the WRT plans to reduce flows - requires meeting with landowners. - LCC to undertake topographical survey of Preesall Hill to allow revised drainage plan to be drawn up by WRT. 	A
19/08	Watercourse to rear of Meadow Ave, Preesall in urgent need of cleaning and reinstatement. Watercourse takes surface water from Pilling Lane and estate around Meadow Ave.		Preesall	WBC	LCC / EA		UPDATED 17/05/21	<p>Ongoing:</p> <ul style="list-style-type: none"> - LLFA (FRM Team) to investigate, potential enforcement action required. - Inspected LCC/WBC – WBC to look at community payback as possible option to clear on a one-off basis. - Still outstanding. Site to be inspected as part of community walkabout on 30 May and action planned. - Community Payback have confirmed that they do not wish to undertake this work. MSfW team to look to resolve. - WBC / LCC to issue letter to residents about need for works. - WBC / LCC to look at potential contributions to undertake works. - Watercourse identified as wholly being Developer responsibility. Developer to clear as part of construction works. - Developer has withdrawn current application, although second developer is showing interest. - Walkthrough arranged with FLAG for 3 June from Meadow Ave to Wheelfoot watercourse 	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
19/09	Pilling Lane, Preesall - Highway floods during heavy rainfall events. Road is only passable with care.		Preesall	WBC	LCC / EA		UPDATED 27/02/20	Carried over from MSfW Hot Spots. Ongoing: <ul style="list-style-type: none"> - LLFA (FRM Team) to investigate, potential enforcement action required - Flooding presumed to be linked to Meadows Ave watercourse and to be considered as the same issue - Still outstanding. Site to be inspected as part of community walkabout on 30 May 2018 and action planned. - LCC to investigate - see 19/08 - LCC confirm that there is no connection from Pilling Lane to Meadow Ave. 	A
19/11	Lancaster Road, Preesall - Flooding of fields and Lancaster Road. Road requires to be closed when flooded. Dykes are not draining, possibility of blockage under highway. Investigate if there is a blockage in the culvert.	<ul style="list-style-type: none"> - Undertake preliminary investigations - Undertake appraisal to identify possible actions 	Preesall	LCC	WBC / EA		UPDATED 23/11/21	Carried over from MSfW Hot Spots. Ongoing <ul style="list-style-type: none"> - LLFA (FRM Team) undertook initial site investigation and met local residents on Tuesday 15 November. - Dyke full and very limited flow. Maintenance cannot be undertaken on network of dykes until obstruction can be found and removed. - FRM have undertaken an investigation in January 2017. Culvert under highway was cleaned out and jetted to remove silt build up. Further works are required as there is a capacity issue and the embankment is slipping into the ditch. - Culvert now cleared. Works required to repair culvert end wall – LCC to undertake these summer 2017. - LCC/WBC have undertaken walk through and identified areas of work required. - LCC to undertake clearance of ordinary watercourses to improve flow to Green Lane East watercourse - works completed. - EA to look at clearing northern part of watercourse. - EA have inspected the watercourse; there is some vegetation in it, but it is flowing freely. - EA – watercourse has been maintained. 	G
20/05	Carr End Lane, Stalmine. Regular flooding of highway close to Lynwood Drive. Concerns have been raised about the proposed housing development adjacent to the site.	<ul style="list-style-type: none"> - Making Space for Water Group to hold a walkover of Stalmine issues with new FLAG. Date to be organised 	Stalmine	ALL			27/02/2020	<ul style="list-style-type: none"> - MSfW to organise walkover with FLAG 	A
17/16	Embankment issues - Split in the bank of Wyre on south side downstream from Stockenbridge Farm (email 05/04/2017)	<ul style="list-style-type: none"> - Stockenbridge update for June 17 WFF 1) A gateway on the crest has been reinstated with concrete slab to match the embankment crest level. 	St Michaels	EA		M17 & 018	UPDATED 23/11/2021	Ongoing <ul style="list-style-type: none"> - EA - works to start summer 2019 - EA confirmed that works are no longer going ahead. EA will look again to see if works can be included in financial year 20/21. 	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
		<ul style="list-style-type: none"> - 09/07/18 Works we had planned to carry out have been carried out. - No funding has been allocated for any additional works. <p>2) We've highlighted the concerns highlighted by FLAG to colleagues in Asset Performance to check that they are already aware of this issue. The relevant colleague is currently out of the office so we'll get an update when he returns. We'll also make sure he's aware of the offer for a site meeting if required.</p> <p>3) Additional location of 018 added following meeting on 16/01/18</p> <ul style="list-style-type: none"> - 2/7/18 Works we had planned to carry out have been carried out. No funding has allocated for any additional works. - 05/11/18 - Aiming to carry out our usual embankment maintenance next as published online. Challenges around funding for any 'in-year' repairs until after April 2020 at earliest. If any 'Emergency Works' are identified funding would be made available but would require sign-off from Operations Manager. - 04/02/2019 looking at repairing the slump in the embankment at Stocken bridge Farm in 19/20. EA site visit on 25 Jan 2019 to understand scope of works. Work should commence summer 2019. They will involve removal of tree, reinstatement of crest width and embankment side. - EA to speak with landowner to discuss works in more detail. 						<ul style="list-style-type: none"> - EA have undertaken investigation and confirmed embankment is not moving - works that were planned for 2020/21 have been rescheduled for 2021/22. - Works are programmed for 20/21. Work is part of the civils programme which also includes the works on Rawcliffe Road. - Work has been drawn up and contract issued but will be delivered in 21/22 due to in year budget reductions. - Awaiting update on works programme from EA - Works still planned for 21/22. Work designs have been received. 	
18/26	Rivermede embankment - ongoing monitoring of the embankment at residential property	- Resident to continue to monitor the embankment	St Michaels			R17	UPDATED 23/11/21	Ongoing. <ul style="list-style-type: none"> - Knotweed treatment has taken place on the embankment and tree removal work is being scoped. The embankment is judged to be stable and EA are liaising with the landowner. - EA to continue to monitor. - EA are planning minor tree work to lessen flows being directed onto the gabion baskets. - When river is high garden is being flooded by leakage through embankment. What are EA planning to do with gabion baskets? - Programme work for 21/22 to investigate embankment to determine depth and width of gabion baskets and also potential seepage routes. Investigation will inform potential construction work. 	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
								<ul style="list-style-type: none"> - Erosion is worsening / baskets are falling apart – Can EA confirm that investigation has been completed – what were findings? - Investigations funded for this year- to determine depth and width of gabion baskets and also potential seepage routes. Investigation will inform potential construction work. - Design 2021/22; Construction 2022/23 	
18/41	Low spots - photos 6-8	<ul style="list-style-type: none"> - 09/07/18 - Not in the bid for next year's repair but will considered for future capital scheme - 05/11/18 - Needs to link to UMW Project PB to update 	St Michaels	EA		V17	UPDATED 23/11/2021	<ul style="list-style-type: none"> - Maintenance planned for 20/21 to fill in low spots and vermin holes on Old House Embankment. See 18/32 - Update required from EA as to when works planned for. - EA to advise if completed - Work to low spots completed 	G
18/42	Poaching - photos 12-13	<ul style="list-style-type: none"> - 12/7/18 EA aware and will carry out appropriate landowner engagement - 05/11/18 - EA had recent publicity campaign with NFU / Local Media etc. to landowners. Monitoring over coming months to ensure compliance of landowners - Update 28/02/19 - EA are aware of this. Landowners / tenants need to take appropriate measures to fence off cattle /livestock from embankments. 	St Michaels	EA		V17, T17, Z11, AC18, AD20	UPDATED 23/11/2021	<ul style="list-style-type: none"> - WRT may be able to help with fencing works. - We are gathering information on all areas that require fencing and the Environmental Management team is contacting landowners. - Update required from EA as to when works planned for. - EA to advise if completed. - Engagement with landowner continuing. Several stock fences have been put up in several areas. 	A
18/43	Coir roll - no vegetation photo 18	<ul style="list-style-type: none"> - Revetment not vegetated. On 15/5/18 and it was agreed that this would be monitored this year to ensure it takes - 05/11/18 - Update required from project manager 	St Michaels	EA		EA repair sites - T17, V17, X17	UPDATED 23/11/2021	<ul style="list-style-type: none"> - Please can FLAG re confirm location. - Update from EA required - EA will look to re seed when returning to seed recent embankment work at Old House. - EA to advise if completed - Old House embankment work completed. Please can FLAG reconfirm locations of others sites? 	A
18/57	Consult FLAG re Upper Mid Wyre Project.	<ul style="list-style-type: none"> - 05/11/18 EA to provide details of how this can be actioned. - 08/11/18 - Extract from email sent from EA to FLAG 08/11/18, "EA will seek to invite comments from the relevant communities/flood action groups. This will be carried out once an initial assessment has been made and report is still in draft. Please note that we are expecting to be able to consult the Flood Action Groups either at the end of 2018 or start of 2019 and due to contractual obligations will only be able to have a consultation period of up to 10 working days. - 06/02/19 - EA to meet St Michaels FLAG to discuss further on the 15 Feb 2019 	St Michaels				UPDATED 08/06/2021	<p>Project Ongoing.</p> <ul style="list-style-type: none"> - EA to provide update in Pre Flood Forum report. - next update March 2020 - EA to provide update on Project and copy of report - EA to provide an update - In January 2020 EA announced that the project was unlikely to commence to the next appraisal stage (Outline Business Case) due to constraints in available capital funding, as a result of the project's low Partnership Funding score. We are continuing to investigate the funding opportunities available to progress this project. However, progression of the project continues to be dependent on the project's Partnership Funding score improving. EA to continue to provide updates in Pre Flood Forum report. 	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
19/20	Rawcliffe Road, St.Michaels - sewer pipe opposite Catterall Farm is surcharging and discharge into watercourse	- UU to investigate and report back to Forum	St Michaels	UU	EA		UPDATED 17/05/2021	<ul style="list-style-type: none"> - UU are actively investigating. - Agreed that this is not an issue for MSfW but is for UU to resolve. - FLAG asked that this item remain on list as it leads to flooding of highway. - A full survey of the rising main has been completed and the preliminary findings appear to show the rising main to be in good condition. The possibility of taking another sample of the rising main at a location closer to the station is being considered. However, UU are still waiting for the full report before any decision can be made with regard to increasing the pass forward flow (PFF). In the meantime the existing pumps and air valves will be refurbished/serviced to ensure they are ready and capable of delivering the increase in the PFF, should the rising main be structurally sound enough to take the increase in pressure. The ongoing issues at Rawcliffe Road will form part in the solution development, but implementing the solution will stand alone and require additional investment and approvals. Please see 19/21 - UU to provide update. EA to confirm details of licence / warnings and enforcement. 	A
20/03	White's Bridge on A586 - bridge structure leaking and water flowing onto highway, causing flooding	- LCC to investigate	St Michaels	LCC	EA	I22	UPDATED 17/05/2021	<ul style="list-style-type: none"> - LCC Highway bridge inspector due to inspect. As part of the inspection they will identify any joints on the bridge structure which are allowing ingress. - EA/LCC undertaking surveys re access to properties on Moss Side Lane and flooding of A586 	A
20/19	Road Flooding opposite the junction of Rawcliffe Road on the A586 - Mark O'Donnell mentioned that he had a project for this at the March 2019 Flood Forum but not further information has been received following FLAG request		St Michaels	EA / UU		S16	UPDATED 17/05/2021	<ul style="list-style-type: none"> - Completed? Check with LCC (Highways) 	A
20/20	Non-functioning flaps/cloughs 1. north bank of Wyre upstream of bridge 2. south bank of Wyre downstream of bridge		St Michaels	EA and UU		1.T17 2.S18	UPDATED 17/05/2021	<ul style="list-style-type: none"> - Flap Valve No.2 south bank of Wyre and downstream of the bridge is the only ancillary that appears to relate to a UU asset. - Initial inspection required as previous visits have not be able to locate the flap valve due to water levels and vegetation. - EA to arrange site visit with residents to discuss clearing of watercourse by valve 1. - UU to confirm location of valve 2 – check it is working OK 	A

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
20/21	North bank of River Wyre just west of bridge - erosion/slump of lower river bank		St Michaels	EA		S18	UPDATED 07/06/2021	<ul style="list-style-type: none"> - This seems to have been caused by cattle poaching. - EA will work with landowner to reinstate fence. - EA will monitor the erosion and bid for fund to repair if it continues to worsen. - Erosion worsening. Livestock getting to river. EA to reinspect. - Erosion still limited to berm rather than embankment. EA contacting landowner. 	A
20/22	Leaking and overtopping of Wyre bank between Turnover Hall and Ratten Row - completely flooding and blocking Rawcliffe Road for several days in early Nov 2020 (has occurred before on a number of occasions)		St Michaels	EA and LCC		M17 to A16	UPDATED 23/11/2021	<ul style="list-style-type: none"> - EA - The embankment is piled in this location. Damage was caused during Storm Ciara which we have carried out a temporary repair on. Further work is programmed to be completed by March 2021 to repair and reinforce the crest. As part of the same work we are also reconnecting a field drain that runs under the embankment. - LCC/EA working on – further update required. - Overtopping point and damaged wall section have both been repaired. - Work completed 	G
20/24	Frequent highway flooding of A586 between St Michaels Garage and Compton House		St Michaels	UU		Q16	UPDATED 17/05/2021	<ul style="list-style-type: none"> - LCC to confirm whether works completed. 	A
20/25	Bank slump/erosion confluence of New Draught and Old Draught or New Draught and Brock (not sure reported by a bank maintenance person when mowing in late Sept 2010 - not viewed by FLAG)		St Michaels	EA		AC22 or Z/AA 18	UPDATED 07/06/2021	<ul style="list-style-type: none"> - EA will continue to monitor and bid for funds to repair. Current erosion not yet affecting the raised embankment. - Confirm that it is being monitored. - Being monitored through maintenance programme and asset inspections 	A
21/09	Flooding to Allotment Lane	<ul style="list-style-type: none"> - Flooding of highway, and sewage flooding to gardens. 	St Michaels	LCC	UU		NEW 17/05/2021		A
21/10	Lower Wild Boar, Rawcliffe Road	<ul style="list-style-type: none"> - River bank is leaking – trees growing in embankment 	St Michaels	EA		J18	UPDATED 23/11/2021	<ul style="list-style-type: none"> - Tree cut down. Root ball yet to be removed. - Temporary repair in place; awaiting full works. 	A
21/11	Humblescough Brook watercourse	<ul style="list-style-type: none"> - Someone has put in a clough under bridge on road leading to quarry. 	St Michaels	EA			UPDATED 21/11/2021	<ul style="list-style-type: none"> - EA investigating 	A
18/04	What is the current status of the report into the study on Royles Brook / Hillylaid Pool and when will we receive this information? Has the Hillylaid Pool been desilted? Are there any issues which have been flagged up in the report to date?	<ul style="list-style-type: none"> - Royles Brook Geological Improvements report available for circulation as provided by Jonathan Croft on 18 Jan 2018. Stored in Thornton folder on Preston Drive - Update 21/02/19 - Awaiting response to report from EA. 	Thornton	EA			UPDATED 27/02/20	<p>Ongoing.</p> <ul style="list-style-type: none"> - Silt survey to be undertaken on Hillylaid Pool 2020/21 - results to be shared with FLAG. - EA to provide copy of the Modelling Report to the FLAG 	A
18/13	What is the current situation regarding the inspection and maintenance of the culverts / pinch points, a list of which was supplied to the Forum, by Thornton Flag?	<ul style="list-style-type: none"> - EA to provide written response for May 2018 WFF - Long section to be produced - WBC producing culvert list to include maintenance schedules 	Thornton	WBC	EA		UPDATED 27/02/20	<p>Ongoing</p> <ul style="list-style-type: none"> - Maintenance works ongoing. List yet to be updated and made available to Forum. 	A

								- Awaiting details on HE culvert under A585 at White Carr Lane, and Red Marsh Industrial Estate.	
18/15	The Thornton FLAG has asked the EA if they can de-silt sections of the Hillylaid Pool system (assets 347659 and 375191). We had a reply from Paul Bond stating that they hoped to survey the area this summer. Does this mean that they agree with us that the weed cutting isn't sufficient so this will not now be done? Is the survey work to enable them to get the information they require so that they can decide what equipment and manpower will be required to do the de-silting?	<ul style="list-style-type: none"> - Nothing planned in this year's programme. Community Group can go ahead if they start from upstream end and need to apply for Permit. - Response provided ahead of May 18 WFF 	Thornton	EA			UPDATED 23/11/2021	<p>Ongoing See 18/04</p> <ul style="list-style-type: none"> - Silt survey to be undertaken on Hillylaid Pool 2020/21 - results to be shared with FLAG. - Routine maintenance will continue as normal. - Survey has been completed and although silt accumulations are present, variations in the hard bed mean that desilting is unlikely to increase flows. - Copy of Hillylaid Pool silt survey sent to FLAG. 	A
19/14	<p>School Road, Thornton</p> <p>-Several properties on School Road flooded Nov 2017.</p> <p>Source of flooding appears to be surface water from local surface water drains, suspected blocked highway gullies and poor maintenance of watercourse behind properties</p>	<ul style="list-style-type: none"> - LCC to carry out cleaning of local highway gullies - WBC to contact Network Rail re maintenance of watercourse - Inspection of local drainage network to be undertaken to identify issues - WBC to draft flooding report from Nov 2017 to identify issues and propose resolution. 	Thornton	WBC	UU		UPDATED 18/02/21	<p>Carried over from MSfW Hot Spots</p> <p>Ongoing</p> <ul style="list-style-type: none"> - Gullies cleaned 29 May - NR have responded that they are not responsible for the watercourse – WBC to pursue this further - Inspection of watercourse and local drainage carried out by WBC/ Thornton FLAG 22 May - Flooding report in progress – to be presented to FLAG June 2018 - LCC to serve formal notice on Network Rail to undertake maintenance works - UU to look at blocking off outlet in main sewer to prevent flooding on watercourse - NR to clear watercourse - date to be agreed - UU/EA/WBC to inspect outfall to Hillylaid Pool to ensure free discharge/ - NR have completed watercourse works - Known flooding location which is predicted by the model to flood during storm events of less than 1 in 10 years. Consequently major capital investment is required in this part of the catchment to reduce the risk of flooding which is currently being investigated. The public sewers serving School Road are on the planned cleaning schedule to ensure the system operates at its maximum capacity at all times. A number of the properties on School Road have already been fitted with mitigation and UU are looking at the possibility of protecting others. 	A
19/15	<p>New Lane, Thornton</p> <p>Several properties on New Lane flooded Nov 2017.</p> <p>Source of flooding appears to be surface water from runoff from local fields,</p>	<ul style="list-style-type: none"> - WBC to contact Highways England re maintenance of culverts under A585 Amounderness Way - WBC to draft flooding report from Nov 2017 to identify issues and propose resolution. 	Thornton	WBC	All		UPDATED 15/02/21	<p>Carried over from MSfW Hot Spots</p> <p>Ongoing:</p> <ul style="list-style-type: none"> - Culvert under A585 now cleared. - Inspection of watercourse and local drainage carried out by WBC/ Thornton FLAG 1 Feb 2018 – WBC to identify responsibility for all culverts on Royles Brook and Hillylaid Pool 	A

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	surcharged sewers and surface water drains.							<ul style="list-style-type: none"> - Flooding report in progress – to be presented to FLAG June 2018 - WBC investigation ongoing. - EA to investigate additional dredging works on Hillylaid Pool south of New Lane. - Wyre Council have updated automatic level sensors in pumping stations and replaced sensor batteries. - Sensors adjusted so that pump switches on earlier. 	
19/27	Can we have a progress report regarding the inspection and condition of the Thornton culverts? See 18/13	- WBC to provide update at March 19 WFF	Thornton	WBC	EA		UPDATED 27/02/20	<ul style="list-style-type: none"> - Inspection / cleaning works in progress. FLAG have been invited to see works. - Report to be updated and passed to FLAG. - Most inspected and found to be OK - A585, Marsh Mill and Stanah Gardens yet to be checked 	A
19/29	Springfield Drive, Thornton - are there any updates re the surface water flooding to Springfield Drive from the Poolfoot Sports facility?	- WBC to update FLAG	Thornton	WBC	UU		UPDATED 27/02/20	Ongoing. <ul style="list-style-type: none"> - No updates to report at this time. - Location to be included in Wyre investigations. 	A
19/30	Fleetwood Road North - are there any updates on investigative work regarding the section of Fleetwood Road North between West Drive and Bourne Way	- UU to update FLAG	Thornton	UU	EA / WBC		UPDATED 18/02/21	<ul style="list-style-type: none"> - Drainage to be inspected, including discharge to watercourse on Bourne Road. - LCC have cleared highway drains. NPL have agreed to clear drains on Bourne Way and clear watercourse from Fleetwood Road. - NPL still to complete clearing of watercourse on Bourne Road. - UU will look at undertaking the cleaning of the public surface water sewers on the section of Fleetwood Road North between West Drive and Bourne Way as part of the planned de-silting schedule. Dates to be confirmed 	A
20/06	Norcross Lane / White Carr Lane - concerns that highway culverts under Norcross Lane and White Carr Lane (at junction with Bescott Way) are silted up	- LCC to inspect and clear as necessary	Thornton	LCC			UPDATED 28/05/20	New from resident. <ul style="list-style-type: none"> - LCC works planned for April 2020 - Works delayed; site visit to be arranged - Works planned for week commencing 22 June 	A
20/07	Flooding to Stanah Road at junction with Cathrow Road	- Suspected blockage in culverted watercourse	Thornton	LCC	UU		UPDATED 28/05/20	New From FLAG / Resident <ul style="list-style-type: none"> - LCC / UU to inspect to determine what works required. Suspected riparian owner responsibility. - Works delayed; site visit to be arranged. - Site visit with FLAG planned for end of June. 	A
20/08	Royles Brook School, Thornton	- Suspected blockage in culverted watercourse	Thornton	LCC	UU		UPDATED 18/02/21	<ul style="list-style-type: none"> - LCC / UU to inspect to determine what works required. Suspected riparian owner responsibility. - Works delayed; site visit to be arranged - Site visit with FLAG planned for end of June. - UU have inspected drainage in the area. Inspection shows surface water drains have been 	A

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								sealed off. No clear indication as to how local surface water drain discharges. Further investigation to be undertaken on 9 Sept. <ul style="list-style-type: none"> - UU investigation has found that the section of surface water sewer serving Marsh Road was found to go to ground rather than connecting to the SW sewer coming from Linden Avenue. Due to the invert levels it is not possible to connect this section up as the sewer from Linden Avenue is higher. Consequently the preliminary investigation appears to show only 2 possible solutions. The first would involve connecting the SW sewer from Marsh Road to the pond located in the school grounds (levels permitting). The other would involve taking the sewer down Wordsworth Avenue until a suitable level could be found to enable it to be connected back into the existing SW sewer. Further work is required to progress a solution and obtain funding. In the meantime UU will look at what can be done to reduce the risk of flooding to the properties. 	
20/09	Flooding to property on Aintree Road, Thornton	- Flooding to property - UU to check whether any blockage in surface water drain on Fleetwood Road South	Thornton	UU	LCC		UPDATED 18/02/21	<ul style="list-style-type: none"> - UU undertaking CCTV survey of public surface water drain. - LCC to check highway drains on Aintree Road and Fleetwood Road South - UU have checked the public surface water sewer from Aintree Road to Fleetwood Road South to 80m but no visual as camera underwater. Require LCC/WBC to check for any possible issues with highway drain/outfall. 	A
20/17	Flooding of highway to Lawsons Road on 11 August 2020	- LCC to investigate for blocked gullies	Thornton	LCC			UPDATED 15/02/21	<ul style="list-style-type: none"> - LCC cleaned highway gullies on Lawsons Road and Briar Road. - WBC inspected culverted watercourse and installed tidal flap at discharge point to Hillylaid Pool watercourse - UU have undertaken cleaning of sewers on Lawson Road – blocked with fat from commercial properties. 	A
20/18	Flooding of highway and residential gardens from foul drainage system - Calder Ave	- UU to investigate and report back to Forum	Thornton	UU			UPDATED 18/02/21	<ul style="list-style-type: none"> - UU attended site 14.08.2020 on carried a number of external clean ups and carried out an initial investigation into the cause of the flooding. - An additional CCTV survey was completed on the 24.08.2020 and found no operational issues. - Consequently it would appear that the public sewer network was inundated with surface water as a result of a 1 in 687 storm. NFA 	A
21/06	External surface water flooding to the property Holmefield Close	- UU investigation into status of surface as it appears to be a piped watercourse not a public sewer.	Thornton	UU			UPDATED 18/02/21	<ul style="list-style-type: none"> - It is UU intention to investigate the status of the pipe and have it reclassified as a watercourse. However, due to the current review into the 	R

Incident No.	Description	Action	Location	RMA Lead	Other RMAs	A-Z ref	Date Added	Status	RAG
								procedure to change the status of a public sewer and the number of possible landowners it has been put on hold. - On hold as the process for having the status of a public sewer changed is currently being reviewed - NFA	
19/36	Church Lane, Winmarleigh at junction of Old Hall Farm Drive flooded 07/03/19 . Suspected inadequate drainage capacity		Winmarleigh	LCC			UPDATED 27/02/20	- LCC to investigate. No action to date.	A



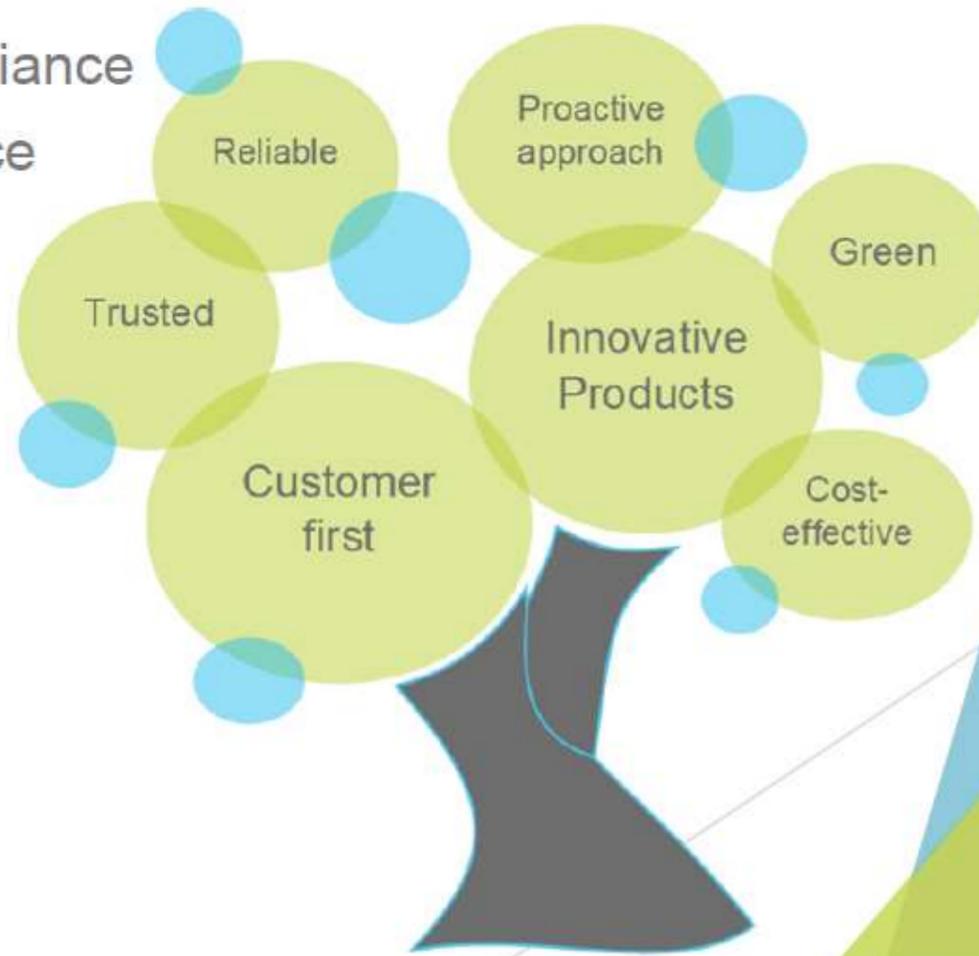
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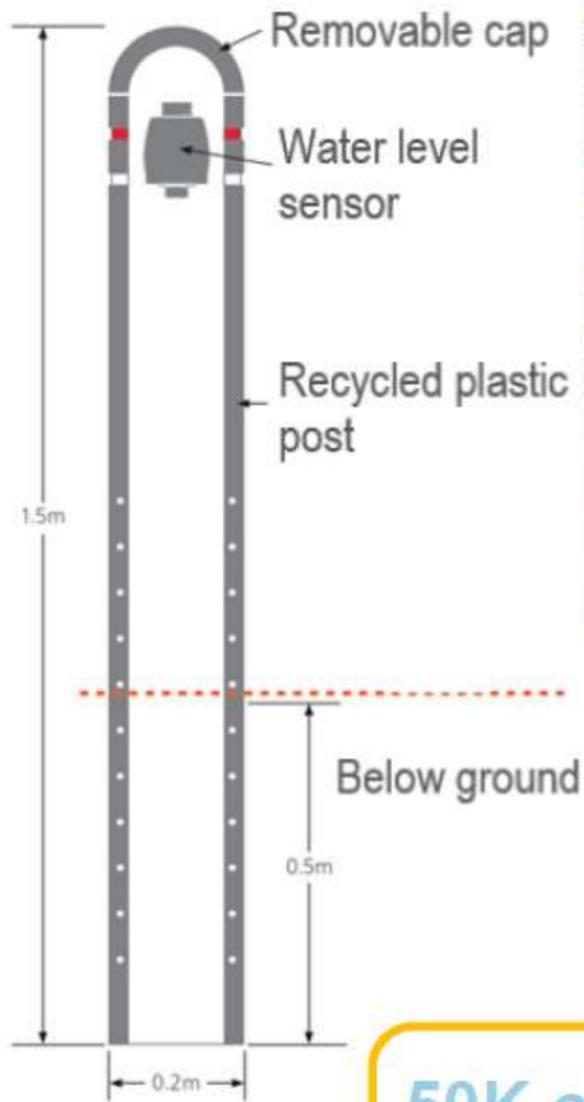


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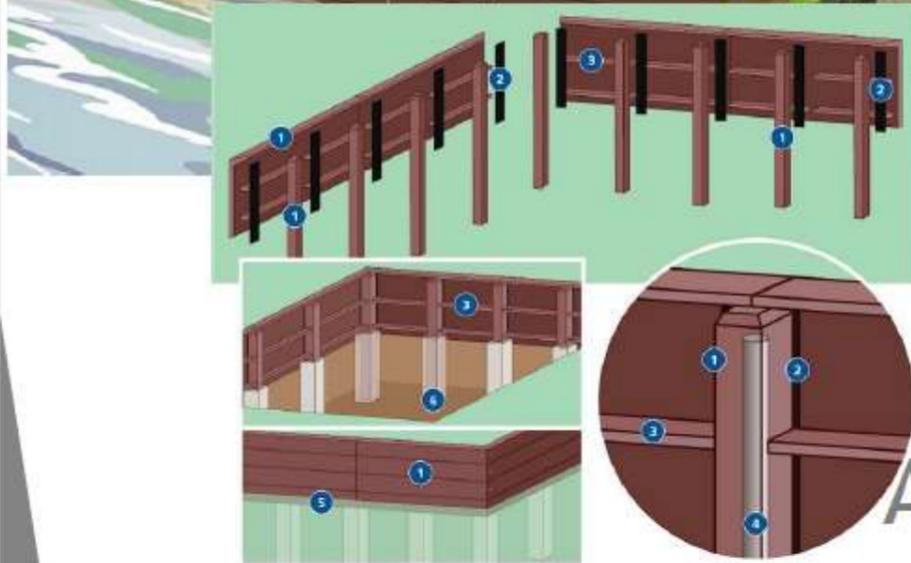
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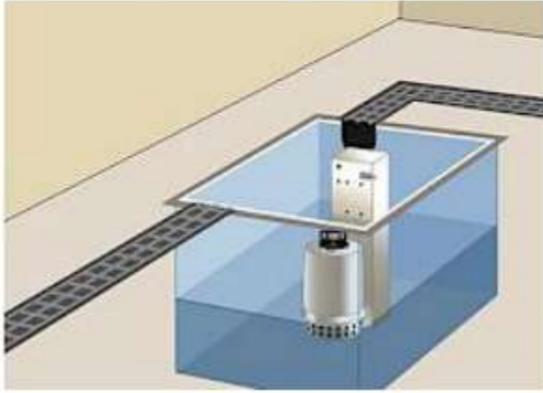
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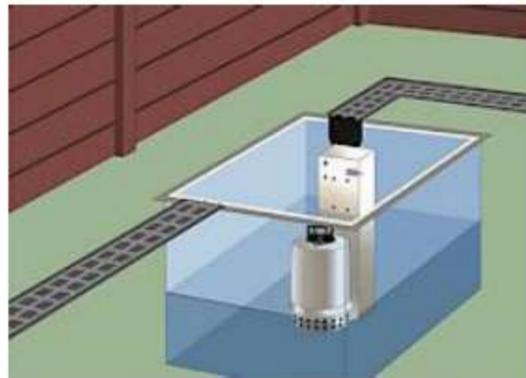


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Outside installation



An industry-unique, advanced, automatic flood pump system.

- Automatically operate up to two flood pumps.
- Send text alarm notifications and updates to mobile devices.
- Send alarm notifications and updates to a building management system (BMS).
- Control other flood defense closure equipment such as flood gates, flood doors and drain flaps.



When the rising flood water level reaches the **Start Pump Probe**, the control unit recognises conductivity between **three probes**.



The primary flood pump is activated automatically.



When the rising flood water level reaches the **High Water Alarm Probe**, the control unit recognises conductivity between **four probes**.



Alarm notifications are sent via SMS to mobile devices and alarm notifications are sent via Modbus to BMS.

A second flood pump is activated automatically.

Flood defences such as flood gates, flood doors and drain flap closure devices are automatically activated.



When the receding flood water level falls below the **Stop Pump Probe**, the control unit recognises that there is no conductivity between probes.



The pump or pumps are switched off automatically.

Closure devices remain closed until manually opened to avoid any external flood water re-entering the protected area.

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- Reducing the flow of the water during heavy rain in different ways.
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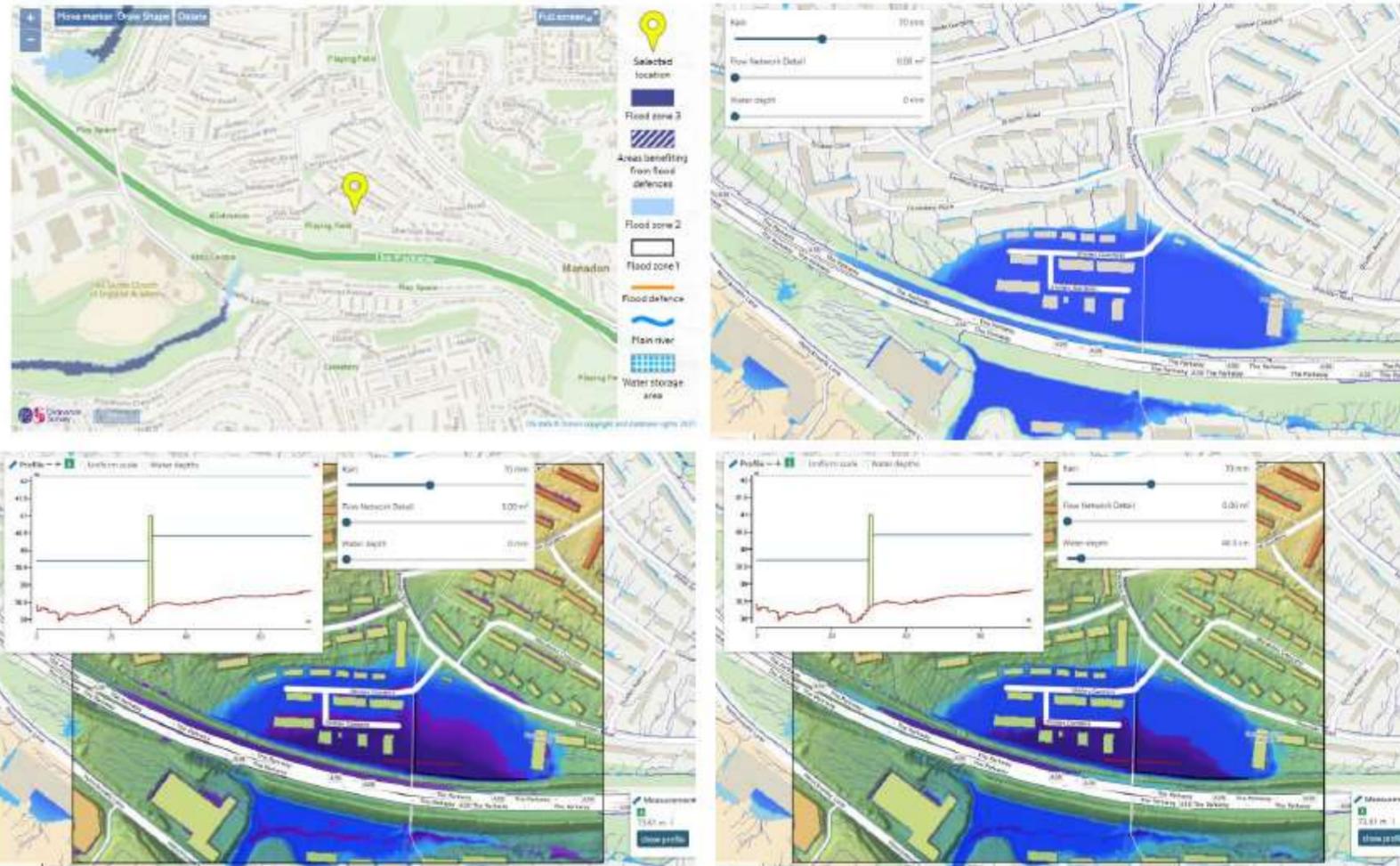
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- Installation is done by our in-house engineers.
- Our team of customer-service advisers are available 24/7 for immediate support.



These images show the flooding situation before (in blue) and after (in purple) installing the Andel FloodWall.



ANDEL

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