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W24084-PER-40-XX-LT-C-00001 P01
W24084

18 September 2026

perega.co.uk

Dear Scott

Re: Response to LLFA Objection – APP/26/00453 – Plot 600, Dunsbury Park, Fitzwygram Way, Havan, PO9 4EE.

Thank you for your letter dated 04/08/2026 (ref: "SWM/2026/0511") which details your objections to the proposed surface water drainage strategy for the Plot 600 & 601 development site. Please see below the table summarising your objections and our responses to those objections.

Please also find the attached copy of the previously approved site-wide drainage strategy report (by Peter Brett Associates) as requested to accommodate your objection comments.

Structural Engineering
Civil Engineering
Glass & Façade Engineering
Building Surveying
BIM & Information Management
Embodied Carbon Analysis
Expert Witness

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Table 1 - LLFA Objection Summary Table

Item	LLFA Objection	Perega Response	Status
1	Hampshire County Council as Lead Local Flood Authority has provided comments in relation to the above application in our role as statutory consultee on surface water drainage for major developments. This response does not reflect the position of Hampshire County Council as the Highway Authority. If there is a potential for the drainage features to be offered for adoption, this will need to be discussed separately with Highways development planning as they might not be considered acceptable by the Highway Authority. In order to assist applicants in providing the correct information to their Local Planning Authority for planning permission, Hampshire County Council has set out the information it requires to provide a substantive response at https://www.hants.gov.uk/landplanningandenvironment/environment/flooding/planning The County Council has reviewed the following documents relating to the above application: • Flood Risk Assessment & Drainage Strategy W24084-PER-60-XX-RP-C00001 Rev P4 Perega 05/06/26 HCC LLFA were engaged through our pre-app service and provided advice on the emerging drainage strategy in our report dated 19 September 2025. Following review of the above document HCC as LLFA has the following comments:	Letter introduction. No other response from Perega	
1.1	**Approved site wide drainage strategy.** We have referred to what we believe is the approved sitewide drainage strategy for the Dunsbury Hill Farm Development: • Surface water Drainage and SuDS Strategy 30142/2001 R001 Rev 0 Peter Brett 15.05.15	**Approved site wide drainage strategy.** The drainage strategy for Plot 600 has been developed in accordance with the approved site-wide drainage strategy, 'Dunsbury Hill Farm – Surface Water Drainage and SuDS Strategy 30142/2001 R001 Rev 0', prepared by Peter Brett in May 2015. A full copy of the 2015 drainage strategy, including Appendices A–C, is enclosed. Appendix D containing the original site-wide	Ongoing

Item	LLFA Objection	Perega Response	Status
	This document is confirmed as the approved drainage strategy in the above document paragraph 9.7. We recommend the LPA confirms that this document is the approved drainage strategy for the wider site. Although we have a copy of this report, we have been unable to locate the report appendices which contain information required to fully understand the design of the strategic drainage infrastructure constructed to serve the site. We believe Plot 6 was originally intended to drain via the strategy drainage network for the development. The proposed drainage system for Plot 6 is now shown as independent of the strategic drainage network. If plot 6 is to have it's own outfall, then the final discharge from the strategic drainage network serving the rest of the development to the South must be reduced to match the greenfield runoff estimate for the network catchment excluding plot 6. The LLFA request a full copy of the 2015 drainage strategy report including its appendices. We require this document to complete our review. We requested that this information was submitted for all future reserved matters applications in our pre-application report 19.09.25.	MicroDrainage calculations could not be located within our records, nor on the planning portal. As plot 6 is now proposed to discharge to the Park Lane Stream, which currently does not form part of the sitewide drainage strategy, the existing discharge rate for the discharge from the existing attenuation pond, to the south of the site into the Hermitage Stream, can be reduced to accommodate this change. This design is proposed to be accommodated at the detail design stage.	
1.2	**Surface Water Discharge Location** The proposed discharge location is to the East into the watercourse referred to as "Park Lane Stream". The site of plot 6 currently drains to the South and forms part of the Hermitage Stream catchment. This is not in accordance with the approved drainage strategy or current standards. As the proposed strategy is now to discharge surface water into an different catchment, the LLFA must object on the grounds of increased flood risk downstream of the proposed discharge point. We raised this concern in our pre-app report 19.09.25.	**Surface Water Discharge Location** We understand that separate planning applications have been submitted for individual plots, which collectively form part of the combine scheme and continue to discharge through the existing drainage network. We note that the LLFA's objection regarding the proposed discharge to Park Lane Stream, given that Plot 600/601 is approved as discharging in into the Heritage Stream as part of the approved site-wide drainage strategy. However, due to distances from Plot 600 & 601 and the southern site drainage network, a gravity connection to the Hermitage Stream is not considered practicable. The revised drainage proposal therefore discharges to the Park Lane Stream, with the discharge restricted to the existing greenfield Qbar rate for the drained area.	Ongoing
1.3	**Surface Water Discharge Rate** The proposed discharge rate from the site exceeds the estimated mean annual flood (Qbar) for the existing greenfield site. This is not in accordance with current standards or best practice guidance. We raised this concern in our pre-app report 19.09.25. We are unable to support proposals with discharge rates above Qbar.	**Surface Water Discharge Rate** The approved Peter Brett strategy establishes the greenfield Qbar rate for the site as 3.4 l/s/ha. As the revised Plots 600 and 601 will discharge directly to the Park Lane Stream rather than into the approved strategic drainage, the discharge rate as per Peter Brett's approved drainage strategy is;	Ongoing

Item	LLFA Objection	Perega Response	Status
		3.4 l/s x 5.1332 ha = 17.5 l/s (outfall from the attenuation pond) However, understanding that as the approved drainage strategy is based on catchment/drained area into the Heritage Stream, the derived calculation may not be applied in this case. We note that the proposed discharge rate from the site should not exceed the estimated mean annual flood (Qbar) for the existing greenfield rate therefore the discharge rate from Plot 600/601 is to be restricted to 14.3 l/s (Qbar). The approved Peter Brett strategy also establishes that individual plots within the strategic drainage is discharged at controlled rate based on; *'2. Allowable discharge rate for each plot = 5 x 3.4 l/s/ha x Impermeable Area'* Taken into the Peter Brett's approved drainage strategy, the allowable discharge rate for each plot is determined; For Plot 600; 5 x 3.4 l/s/ha x 0.614 ha = 10.4 l/s For Plot 601; 5 x 3.4 l/s/ha x 1.851 ha = 31.5 l/s These restricted plot discharge rates will be achieved through on-side attenuation before the flows are discharged to the attenuation pond. The pond will the provide further attenuation, with the final discharge to Park Lane Stream restricted to 14.3 l/s (Qbar). This approach provides a controlled discharge layout in which the individual plot runoff is attenuated before entering the watercourse downstream, while the final outfall remains restricted to the calculated greenfield Qbar rate. This helps to minimise the potential impact of the revised discharge on downstream flood risk. Therefore, attenuation re-vised as:	

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		• **Plot 600:** A 360 m^2 attenuation tank, 1.2 m deep, will provide approximately 432 m^3 of storage. A Hydro-Brake will restrict discharge from the tank to the attenuation pond to 10.4 l/s. • **Plot 601:** A 1,100 m^2 attenuation tank, 1.2 m deep, will provide approximately 1,320 m^3 of storage. A Hydro-Brake will restrict discharge from the tank to the attenuation pond to 31.5 l/s. • **Attenuation pond:** The proposed pond will have a total area of 1,773m^2, with a base area of approximately 780 m^2, providing approximately 1,980 m^3 and side slopes of 1:4. The attenuation pond will discharge to Park Lane Stream at a restricted rate of 14.3 l/s, corresponding to the Qbar rate for Plots 600 and 601. Attenuation tank storage has currently been calculated separately for each plot. Permeable paving requirements will be confirmed during the detailed design stage. Please see attached our updated storage calcs for the proposed development at plot 600 and plot 601.	
1.4	**Strategic Drainage Network** As the development plots have been changed following approval of the site wide drainage strategy, and plot 6 no longer is proposed to drain via the strategic drainage network, the LLFA believe the strategic drainage design should be reviewed and updated as required. An updated strategic drainage model should be submitted for approval. Off site works to amend the strategic network may be required. The LLFA are unable to provide a substantive response as insufficient information has been submitted to demonstrate accordance with the approved drainage strategy. We have not carried out a full review of the drainage design as it has not been demonstrated that the proposed drainage strategy is appropriate. We may have additional comments at a later date. The site is on the border of two catchment priority areas Lavant West and Lavant Waterlooville. The LLFA require further information to demonstrate that surface water discharge will be restricted in accordance with the approved drainage strategy for the site to	**Strategic Drainage Network** Plots 600 and 601 will no longer discharge to the approved strategic drainage into the Hermitage Stream. Instead, the revised drainage will discharge directly to the Park Lane Stream, with the final outfall restricted to the combined greenfield Qbar rate of 14.3 l/s. On site attenuation and flow controls will ensure that the runoff from the revised plot areas is managed before discharge, with the final outfall restricted to the calculated greenfield rate. This provides a controlled discharge and ensure that the revised Plot 600 and 601 drainage strategy does not increase the greenfield runoff rate to the downstream watercourse.	Ongoing

Item	LLFA Objection	Perega Response	Status
	be satisfied that downstream flood risk will not be increased as a result of this development. Of particular concern is the proposed discharge into a different catchment than the site currently drains. Due to the increased risk of flooding downstream, the LLFA can not support the proposals and must maintain and objection. We require this further information before we can make a decision on whether to recommend to the Local Planning Authority that planning permission is granted.		

Regards

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Incl.

- Peter Brett & Associates Sitewide Drainage Strategy (Report & Appendix)
- Updated Attenuation Storage Calcs for Plot 600 and 601

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	5	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.300	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	x
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
00	0.619	5.00	37.400	1500	470193.280	109386.899	2.200
10	1.851	5.00	38.800	2100	470214.067	109416.420	2.200
4 Pond		5.00	33.500		470287.760	109347.650	2.000
5 FCC			33.600	2100	470292.220	109345.830	2.150
6 Brake			31.900	1200	470295.970	109335.880	0.650
20	0.150	5.00	37.000	1500	470205.870	109392.420	2.275
21			35.750		470247.480	109365.999	4.217

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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
2.000	00	20	13.747	0.600	35.200	35.025	0.175	78.6	450	5.10	50.0
3.000	4 Pond	5 FCC	5.000	0.600	31.500	31.450	0.050	100.0	300	5.05	50.0
3.001	5 FCC	6 Brake	10.000	0.600	31.450	31.250	0.200	50.0	300	5.13	50.0
1.001	20	21	49.290	0.600	34.725	33.100	1.625	30.3	600	5.29	50.0
1.000	10	20	25.361	0.600	36.600	34.875	1.725	14.7	450	5.08	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
2.000	2.295	365.0	111.9	1.750	1.525	0.619	0.0	170	2.027
3.000	1.572	111.1	0.0	1.700	1.850	0.000	0.0	0	0.000
3.001	2.228	157.5	0.0	1.850	0.350	0.000	0.0	0	0.000
1.001	4.432	1253.0	473.4	1.675	2.050	2.620	0.0	255	4.138
1.000	5.322	846.5	334.5	1.750	1.675	1.851	0.0	196	5.026

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
2.000	13.747	78.6	450	Circular	37.400	35.200	1.750	37.000	35.025	1.525
3.000	5.000	100.0	300	Circular	33.500	31.500	1.700	33.600	31.450	1.850
3.001	10.000	50.0	300	Circular	33.600	31.450	1.850	31.900	31.250	0.350

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.000	00	1500	Manhole	Adoptable	20	1500	Manhole	Adoptable
3.000	4 Pond		Junction		5 FCC	2100	Manhole	Adoptable
3.001	5 FCC	2100	Manhole	Adoptable	6 Brake	1200	Manhole	Adoptable

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Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.001	49.290	30.3	600	Circular	37.000	34.725	1.675	35.750	33.100	2.050
1.000	25.361	14.7	450	Circular	38.800	36.600	1.750	37.000	34.875	1.675

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.001	20	1500	Manhole	Adoptable	21		Junction	
1.000	10	2100	Manhole	Adoptable	20	1500	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
00	470193.280	109386.899	37.400	2.200	1500	0	2.000	35.200	450
10	470214.067	109416.420	38.800	2.200	2100	0	1.000	36.600	450
4 Pond	470287.760	109347.650	33.500	2.000		0	3.000	31.500	300
5 FCC	470292.220	109345.830	33.600	2.150	2100	1	3.000	31.450	300
						0	3.001	31.450	300
6 Brake	470295.970	109335.880	31.900	0.650	1200	1	3.001	31.250	300

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Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
20	470205.870	109392.420	37.000	2.275	1500	1	2.000	35.025	450
						2	1.000	34.875	450
						0	1.001	34.725	600
21	470247.480	109365.999	35.750	4.217		1	1.001	33.100	600

Simulation Settings

Rainfall Methodology	FEH-22	Winter CV	1.000	Drain Down Time (mins)	2880	Check Discharge Rate(s)	x
Rainfall Events	Singular	Analysis Speed	Detailed	Additional Storage (m³/ha)	0.0	Check Discharge Volume	x
Summer CV	1.000	Skip Steady State	✓	Starting Level (m)			

Storm Durations

60	120	240	360	480	720	960	1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
100	45	0	0

Node 5 FCC Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	✓	Sump Available	✓
Invert Level (m)	31.450	Product Number	CTL-SHE-0158-1430-1885-1430
Design Depth (m)	1.885	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	14.3	Min Node Diameter (mm)	1800

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Node 00 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	35.200	Product Number	CTL-SHE-0145-1040-1200-1040
Design Depth (m)	1.200	Min Outlet Diameter (m)	0.225
Design Flow (l/s)	10.4	Min Node Diameter (mm)	1500

Node 10 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	36.600	Product Number	CTL-SHE-0239-3150-1200-3150
Design Depth (m)	1.200	Min Outlet Diameter (m)	0.300
Design Flow (l/s)	31.5	Min Node Diameter (mm)	2100

Node 4 Pond Pond Storage Structure

Invert Level (m)	31.500	Analyse flow through structure	✓	Main Channel Slope (1:X)	150.0
Time to half empty (mins)	1560	Main Channel Length (m)	5.000	Main Channel n	0.025

Inlets

21

Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)	Depth (m)	Area (m²)
0.000	780.0	0.500	990.6	1.000	1226.3	1.500	1487.1	1.750	1627.0
0.250	882.1	0.750	1105.3	1.250	1353.6	1.700	1598.5	2.000	1773.1

Node 00 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	35.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	356

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Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	360.0	0.0	1.200	360.0	0.0	1.201	0.0	0.0

Node 10 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	36.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	344

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1100.0	0.0	1.200	1100.0	0.0	1.201	0.0	0.0

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Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.98%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	00	236	36.373	1.173	88.9	403.2214	0.0000	SURCHARGED
240 minute winter	10	236	37.764	1.164	265.9	1219.9750	0.0000	SURCHARGED
1440 minute winter	4 Pond	1650	33.206	1.706	32.8	1965.5370	0.0000	FLOOD RISK
1440 minute winter	5 FCC	1650	33.205	1.755	34.6	6.0780	0.0000	SURCHARGED
60 minute summer	6 Brake	1	31.250	0.000	14.3	0.0000	0.0000	OK
60 minute summer	20	33	34.855	0.130	128.6	0.2293	0.0000	OK
1440 minute winter	21	1650	33.206	1.673	47.1	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	00	2.000	20	10.4	1.005	0.028	0.1422	
240 minute winter	10	1.000	20	31.4	2.547	0.037	0.3128	
1440 minute winter	4 Pond	3.000	5 FCC	34.6	0.653	0.312	0.3521	
1440 minute winter	5 FCC	Hydro-Brake®	6 Brake	14.3				3159.0
60 minute summer	20	1.001	21	128.6	2.913	0.103	2.1756	
1440 minute winter	21	Pond	4 Pond	32.8	0.002	0.000		

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