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**Sent:** 05 November 2021 12:47

**To:** Michael Sexton <[Michael.Sexton@greatercambridgeplanning.org](mailto:Michael.Sexton@greatercambridgeplanning.org)>

**Subject:** 21/02265/FUL

Dear Michael

Following the meeting of the Caldecote Parish Council 4<sup>th</sup> November, we discussed the above application, our comments are attached.

I tried to upload these to the comment section of the planning portal!

Members also made the following comments:

- Recommend for refusal.
- Based on flood risk assessment
- Please ensure that CPC is kept informed of developments.
- No decision notice of approval until this has been resolved.
- Planning drainage for Phase 1 still not complete and adhered to.
- Phase 2 further development will be to the detriment to Phase 1.
- Concerns that run offs will affect Highfields Road.

Yours sincerely

Alan Melton  
Clerk to the Council

### Timetable of works:

Condition 1 - We want the drainage ditch along the Clare Drive/Damms Pastures boundary to be in place before any more soil is stripped.

When water runs-off the site that ditch must be in place to catch it.

Condition 2 - For Phase 2, we want the council to monitor this, and approve it before any other work starts.

The timetabling condition was in place for Phase 1 but was ignored until enforcement action was taken.

### Clare Drive/Damms Pastures Boundary treatment:

**Condition 3 - We want confirmation that no clearance will take place until the position of the boundary has been confirmed with adjacent landowners**

The position of the boundary is not clear, the original fence position is buried deep within the hedge – the position doesn't appear to match the plans we see.

**Clarification - We want confirmation of exactly what is planned, and how screening along the boundary is to be maintained during development**

The arboricultural impact assessment shows that this boundary is to be cleared,

([https://applications.greatercambridgeplanning.org/online-applications/files/42C7FA0FFE3DB40B53FF2312AE7E2B5E/pdf/21\\_02265\\_FUL-ARBORICULTURAL\\_IMPACT\\_ASSESSMENT\\_\\_METHOD\\_STATEMENT-5812944.pdf](https://applications.greatercambridgeplanning.org/online-applications/files/42C7FA0FFE3DB40B53FF2312AE7E2B5E/pdf/21_02265_FUL-ARBORICULTURAL_IMPACT_ASSESSMENT__METHOD_STATEMENT-5812944.pdf))

'3.7.3. G15 [the Clare Drive/Damms Pastures boundary] which is made up of the remnants of a delipidated hedgerow will need to be removed where stems exist within the development boundary, to allow for the construction of the drainage ditch around the site's perimeter; all stems originating outside of the boundary will be retained to maintain an element of screening.'

The soft landscape proposals show new hedge plantation

This contradicts many other documents and drawings (eg

[https://applications.greatercambridgeplanning.org/online-applications/files/37F21E3963065BF073A00C014AE86C36/pdf/21\\_02265\\_FUL-TREE\\_PROTECTION\\_PLAN-5812939.pdf](https://applications.greatercambridgeplanning.org/online-applications/files/37F21E3963065BF073A00C014AE86C36/pdf/21_02265_FUL-TREE_PROTECTION_PLAN-5812939.pdf)) which show that they will retain the landscape buffer

In this context, it is not clear what is meant by 'retain landscape buffer'

### Drainage ditches and position:

Condition 4 - We need enough separation between the new drainage ditch on the southern side of the site and the Clare Drive ditch to avoid water flowing into the Clare Drive ditch.

The new drainage ditch runs very close to the Clare Drive/Damms Pastures boundary. This gives the probability of water crossing over into the Clare Drive ditch, allowing water to flow back into the Highfields Road ditch, risking flooding further down.

This risk is high, as this section of the site has held standing water for much of the last winter (low rainfall year) and drainage nodes along this section of the boundary show FLOOD RISK.

**Streetlighting:**

Condition 5 - Specification of the Phase2 street lighting should be inserted, meeting Linden's own ecological mitigation recommendation.

Linden's ECOLOGICAL\_IMPACT\_ASSESSMENT\_UPDATED\_SEPT\_21\_PAGE\_1-50-5812946 specifies the lighting that should be used near hedgerows, to allow bats to commute and forage.

Any development should implement this low spread lighting, angled to avoid overspill onto the hedge, on lamp posts no more than 8m high. Design documents only show (Design and Access statement section 5) that lighting will be to an adoptable standard.

Condition 6 - Also, houses along the hedgerow boundaries should have covenants prohibiting high power security lighting, again as in their own ecological mitigation recommendation.

# Objection to 21/02265/FUL – Linden Phase 2 – 20 October 2021

## Summary

- The drainage designs provided by Linden to SCDC in October 2021 show that over 45% of the nodes/manholes of the combined phase 1/phase 2 drainage system, and the attenuation pond, are at risk of flooding in the 1:100 year storm.
- This presents a significant direct risk to the residents of phases 1 and 2, and to the rest of the village from the flooding runoff from the site.
  - The addition of phase 2 introduces new flood risks into phase 1.
- Additionally, other previously submitted objections (noted below) have not been addressed in the most recent submission from Linden.
- Further consideration of this application must be halted until a satisfactory drainage plan is submitted.
- An urgent electronic meeting is requested with the planning officer and the LLFA so that these issues can be considered and discussed.
- Finally, a series of conditions are listed below that must be attached to any future planning consent once a future acceptable drainage plan is submitted.

## Details

The updated drainage plan published on the SCDC planning site provided by Linden shows that in the 1:100 year storm event there is extensive risk of flooding across the entire site of both the phase 1 and phase 2 developments.

These risks are documented in "Highfields Road Caldecote Phase 2 Drainage Strategy & SUDS Report, cover date July 2020" as amended and uploaded to SCDC in October 2021, specifically Appendix 4 file name: DRAINAGE\_STRATEGY\_\_SUDS\_REPORT\_APPENDIX\_4-5812745.pdf.

Referring to the last 3 pages of Appendix 4 (extracted to end of this document) where Linden provide computer simulations shows that there are 26 nodes (aka manholes) at risk of flooding in both development phases. This represents over 45% of the nodes on the network at risk of flooding. Note that many of the nodes in the system are at risk of flooding after an event of only '15 min winter'.

The nodes at risk are shown on the diagram at the end of this document, which shows a marked-up plan of the network drawn over Lindens own drainage plans. (As background the previously submitted phase 2 plan that contained previously notified errors only had 2 nodes with flood risk.)

Appendix 4 totally demonstrates the invalidity of the claim in the body of the Drainage Strategy that there is no risk of flooding in the proposed strategy (see section 2.4, the

invalidated claim being quote: "These confirm that the system will not flood for the 1 in 100year event plus 40% climate change and including for 10% urban creep").

Additionally, the simulation shows that the attenuation pond, and associated upstream and downstream connections to the attenuation pond are also at risk of flooding. This demonstrates that the attenuation pond cannot handle the flow of both phases. Note that effective attenuation is essential as a proportion of the discharge from the site discharges into a site of scientific interest SSSI at Hardwick wood listed in the Ecological impact statement as of national importance

With reference to the enclosed marked up plan there are a number of areas of very significant concern to the whole of the village:

- Nodes 28/29/30. Any flooding from nodes 28/29/30 (identified as at risk in the simulation) will run into Highfields Road in the exact location where houses on Highfields Road have been flooded and made uninhabitable.
  - This risk has already been demonstrated as a reality this autumn.
  - As reported to the Parish council at the October 2021 meeting (at which district Cllr Tumi Hawkins was also present) significant heavy runoff this autumn has already been observed from Phase 1 though the northern entrance onto Highfield Road and then crossing Highfields Road onto the properties on the West side of Highfields Road.
- Nodes 43/44/45/46. With reference to the topographic site survey (Appendix 3) any runoff from this area will flow to the southwest towards the junction of Clare Drive and Highfields Road spilling off the road to the west around node 44.
  - The risk of flooding in this area is well known.
  - The original Gladman survey identified standing water in this part of the site
  - This area of the phase 2 land has been used as a building yard for the phase 1 development over the winter, and standing water was observed continuously for over 4 months.

We believe that any satisfactory resolution will require not only revised plans but significant enlargement (replacement) of pipework in the ground and enlargement of the attenuation pond that must be undertaken before phase 2 commences. Specifically:

- No allowance was made in the phase 1 only drainage design (as previously submitted to SCDC) for any anticipated future phase 2 generated flows.
  - The pipe (nodes 20/21/22/...25 in Appendix 4) from the site to the attenuation pond that drains the whole site was specified in the approved phase 1 only plans as a 600mm diameter pipe based on phase 1 flows alone.
- In phase 1 alone parts of the system including the 600mm inflow and outflow of the attenuation pond were stressed (surcharged) with the flows from phase 1's 66 houses (as documented in the Linden provided calculations) before any flows from phase 2 were added.
  - This makes the safe addition of the flows from the 74 houses of phase 2 unlikely using the common 600mm pipe to the attenuation pond.
- In the phase 2 design, the same 600mm pipe (nodes 20/21/22/...25 in Appendix 4 of the previous reference) is specified as carrying flows from phases 1 and 2 with the Linden documented flooding risk to the inflow and outflow to the attenuation pond.

- With the addition of phase 2 flows the attenuation pond (not pipework) moved in the respective Linden phase 1 and 2 calculations from surcharged to flood risk.
  - The attenuation pond cannot be made deeper as in winter the water table is at the surface in this area (indeed this area historically has flooding, questioning the viability of an attenuation pond in this area).
    - An upgraded attenuation pond without flooding risk will probably require additional land.

Finally, we note that the LLFA objected to the Linden phase two development as there was no detailed satisfactory surface water drainage plan (letter from Hilary Ellis on 08/06/21). We feel that the most recent update makes the drainage plan even more unsatisfactory.

### Objections Carried Forward from Previous Submissions

- Ditch bottom elevation, position and sizings still required.**
  - We want the plans to include ditch sizes and critically the elevation of the ditch bottom.
    - This is of concern as the southern ditch adjacent to Clare Drive runs to the south east against the fall of the land.
    - Indeed where the ditches join on the south east corner of the site is a local high point on the site. Water can not be allowed to flow West back towards the village.
    - This sizing has not yet been provided for review.
  - We want to ensure there is no breakthrough between the new southern Linden ditch adjacent to Clare Drive boundary to the existing ditch on the Clare Drive properties that flows back to Highfield Road
    - The new southern ditch must me a be a minimum distance from the site boundary.

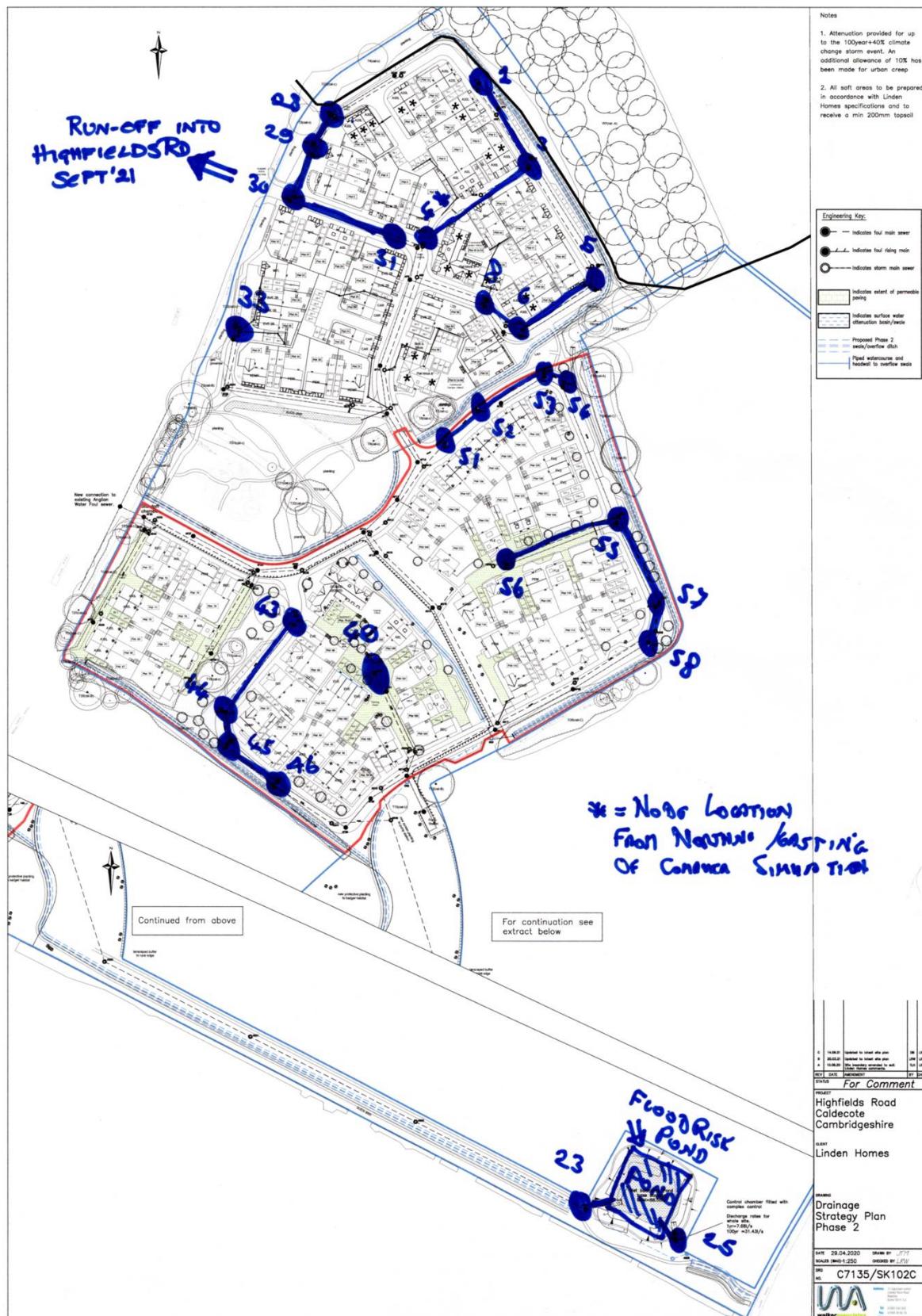
### Planning Conditions Required

- Policed Timetable.** We want a firm timetable (that is policed) to ensure that (uprated) surface water drainage pipework, and ditch system is installed in final location before phase 2 ground clearance commences.
  - When last checked the ditch towards the attenuation pond and the attenuation pond for phase 1 have not been completed failing to meet the existing drainage timetable conditions for phase 1.
- Physical Pipe Size Verification.** Clearly there is the possibility that a future drainage design may require existing pipes in the ground to be upgraded. We want photographic verification of these pipe upgrades.

### Replacement

This objection revises objections previously submitted around 20 September 2021 that contained 6 areas of concern namely: 1. **Calculations match plans**, 2. **No flood risk**, 3. **Pipe to attenuation pond sufficient**, 4. **Attenuation pond size**, 5. **Ditch bottom elevation and sizings**, 6. **Timetable**.

## Flood Risks Directly From Appendix 4 Marked Onto Appendix 1 Plans



## Extract Of Appendix 4 Showing Whole System At Flood Risk Or Surcharged

### Results for 100 year +40% CC +10% A Critical Storm Duration. Lowest mass balance: 91.99%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	1	26	71.314	0.999	35.9	2.7984	0.0000	FLOOD RISK
30 minute winter	2	26	71.309	1.074	90.2	39.7908	0.0000	SURCHARGED
15 minute winter	3	11	71.506	1.429	58.0	3.1385	0.0000	FLOOD RISK
15 minute winter	4	11	71.727	1.961	69.2	5.1288	0.0000	FLOOD RISK
15 minute winter	5	13	71.767	1.367	98.8	3.5770	0.0000	FLOOD RISK
15 minute winter	6	13	71.757	1.757	104.8	3.1594	0.0000	FLOOD RISK
15 minute winter	8	13	71.747	1.947	141.2	18.4549	0.0000	FLOOD RISK
30 minute winter	27	26	71.491	0.779	74.7	31.2125	0.0000	SURCHARGED
15 minute winter	28	11	71.942	1.570	60.7	2.2591	0.0000	FLOOD RISK
15 minute winter	29	11	72.115	1.861	46.5	2.8850	0.0000	FLOOD RISK
15 minute winter	30	11	72.146	2.086	48.7	3.1492	0.0000	FLOOD RISK
15 minute winter	31	11	72.121	2.381	92.8	5.1033	0.0000	FLOOD RISK
15 minute winter	9	12	71.690	2.244	180.6	3.6357	0.0000	SURCHARGED
15 minute winter	10	12	71.421	2.142	224.4	4.3051	0.0000	SURCHARGED
15 minute winter	33	12	71.719	1.035	34.6	1.9687	0.0000	FLOOD RISK
15 minute winter	34	12	71.650	1.222	39.7	1.5705	0.0000	SURCHARGED
15 minute winter	35	12	71.447	1.565	61.5	2.5174	0.0000	SURCHARGED
15 minute winter	11	12	71.216	2.065	280.5	3.9229	0.0000	SURCHARGED
15 minute winter	12	12	70.978	1.904	338.3	3.2180	0.0000	SURCHARGED
15 minute winter	13	13	70.584	1.583	358.9	2.7892	0.0000	SURCHARGED
30 minute winter	36	25	70.448	1.148	59.1	2.0601	0.0000	SURCHARGED
30 minute winter	37	25	70.448	1.448	127.9	2.4597	0.0000	SURCHARGED
30 minute winter	38	25	70.443	1.643	295.9	121.3061	0.0000	SURCHARGED
30 minute winter	14	24	70.418	1.851	354.8	3.7787	0.0000	SURCHARGED
30 minute winter	15	24	70.370	1.824	354.5	3.2227	0.0000	SURCHARGED
30 minute winter	16	24	70.283	1.793	357.3	4.0151	0.0000	SURCHARGED
15 minute winter	17	12	70.195	1.803	437.7	4.1443	0.0000	SURCHARGED
15 minute winter	18	12	70.049	1.735	460.3	3.7354	0.0000	SURCHARGED
15 minute winter	19	12	69.925	1.635	462.3	2.8892	0.0000	SURCHARGED
15 minute winter	20	13	69.125	0.988	600.0	1.7460	0.0000	SURCHARGED
30 minute winter	21	23	68.394	0.381	585.5	0.6728	0.0000	OK
120 minute winter	22	84	67.877	1.546	449.3	2.7310	0.0000	SURCHARGED
360 minute winter	23	352	67.757	1.747	229.7	3.0876	0.0000	FLOOD RISK
360 minute winter	Pond	352	67.755	2.270	229.4	1463.4170	0.0000	FLOOD RISK
360 minute winter	25	352	67.755	2.731	32.8	6.9504	0.0000	FLOOD RISK
15 minute summer	26	1	64.974	0.000	10.7	0.0000	0.0000	OK
30 minute winter	39	24	70.465	0.665	23.0	1.1720	0.0000	SURCHARGED
30 minute winter	40	25	70.455	0.905	41.7	1.4123	0.0000	SURCHARGED
30 minute winter	41	24	70.471	0.471	13.4	0.7485	0.0000	SURCHARGED
30 minute winter	42	24	70.467	0.967	69.6	2.4205	0.0000	SURCHARGED
15 minute winter	43	12	71.106	1.406	46.3	2.9731	0.0000	FLOOD RISK
15 minute winter	44	12	71.049	1.849	97.1	3.8805	0.0000	FLOOD RISK
15 minute winter	45	12	70.939	1.839	77.6	2.0794	0.0000	FLOOD RISK
15 minute winter	46	12	70.772	1.822	109.0	3.1976	0.0000	FLOOD RISK
15 minute winter	47	12	70.411	1.587	151.5	3.0532	0.0000	SURCHARGED
15 minute winter	48	12	69.794	1.531	600.9	2.7055	0.0000	SURCHARGED
15 minute winter	49	12	70.916	1.416	24.2	2.2432	0.0000	FLOOD RISK
15 minute winter	50	12	70.451	1.626	98.7	3.7355	0.0000	SURCHARGED
15 minute winter	51	13	71.194	1.251	53.0	1.6140	0.0000	FLOOD RISK
15 minute winter	52	13	71.407	1.343	52.6	2.4610	0.0000	FLOOD RISK
15 minute winter	53	13	71.504	1.239	37.3	2.3926	0.0000	FLOOD RISK
15 minute winter	54	13	71.506	1.181	7.5	1.3351	0.0000	FLOOD RISK
15 minute winter	55	14	71.419	2.044	148.1	24.7599	0.0000	FLOOD RISK
15 minute winter	56	14	71.462	1.662	36.5	1.8795	0.0000	FLOOD RISK
15 minute winter	57	12	71.329	2.126	95.0	3.7359	0.0000	FLOOD RISK
15 minute winter	58	12	71.253	2.101	133.5	4.0879	0.0000	FLOOD RISK
15 minute winter	59	12	70.700	1.722	125.0	1.9474	0.0000	SURCHARGED