

To: All Members of the Planning Committee

Dear Councillor,

PLANNING COMMITTEE - THURSDAY, 9TH NOVEMBER, 2023 , Council Chamber - Epsom Town Hall, <https://www.youtube.com/@epsomandewellBC/playlists>

Please find attached the following document(s) for the meeting of the Planning Committee to be held on Thursday, 9th November, 2023.

4. **FORMER POLICE STATION, UPDATE REPORT** (Pages 3 - 22)

- Report Corrections and Updates
- Technical assessment of the hydrogeological setting of the site and assessment of the impact of the proposed basement structure on the existing hydrogeology.
- Additional Information not included in SLR's Flood Risk and Surface Water Management Statement Version 2 dated May 2022
- Letter addressed to the Chair and Vice Chair of the Planning Committee and to Town Ward Councillors, from the Chair of the Epsom Civic Society Committee

For further information, please contact democraticservices@epsom-ewell.gov.uk or tel: 01372 732000

Yours sincerely



Chief Executive

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PLANNING COMMITTEE UPDATE REPORT

9 November 2023

App Number	22/00923/FUL
Item Number	4
Address	Former Police Station, Church Road, Epsom, KT17 4PS
Proposal	Demolition of the existing police station (Use Class E) and ambulance station (Sui Generis) and erection of a new residential, nursing and dementia care home for the frail elderly (Use Class C2) comprising ancillary communal facilities and dementia care, basement parking, reconfigured vehicular access onto Church Street, landscaping and all other associated works
Author	Simon Taylor

CORRECTIONS AND UPDATES

1. Groundwater

- 1.1. The applicant, neighbour objector and Epsom Civic Society have responded to the comments in the officer report relating to groundwater issues (contained at para 17.9-17.16 of the officer report).

Applicant

- 1.2. The applicant has drawn attention to an additional screening assessment (attached at Appendix 1). It uses nearby borehole measurements to conclude a water table averaging at 35 AOD, range of 10m and high fluctuation in 2013/2014 (the same as the subject site. Climate change allowances have been included. The Basement Impact Assessment notes:

*“However, during occasional short periods during unseasonably wet winters, it is possible that groundwater levels within the Chalk will rise close to ground level and over top the contact with the overlying Thanet Sands Formation and flood the overlying RTDs. This groundwater will normally distribute throughout the RTDs, given the significant storage capacity of these deposits. However, if the high Chalk groundwater levels are sustained over an extended time period (c. several weeks) it is possible that occasionally groundwater levels could rise within the RTDs to elevations above the base of the proposed basement. Under this scenario, the basement structure would therefore reduce the cross-sectional area of RTDs through which the groundwater could flow and disperse, which could result in a rise in the groundwater level on the upgradient side of the structure.
3.”*

- 1.3. It continues by suggesting that:

*“the potential rise in groundwater level in the RTDs on the upgradient side of the basement during a short duration groundwater flooding event, has been calculated to be **6.7cm**. This is a conservative assessment assuming groundwater will rise to the top of the RTDs.*

When considering the distance between this location and the location of “No. 50 The Parade” (25m), it is assessed that the ensuing effect on groundwater levels beneath “No. 50 The Parade” will be negligible, and not contribute to any additional risk of flooding.”

Objector

- 1.4. The objector has emailed Councillors on 8 November 2023, the contents of which are summarised here and contained at Appendix 2. These include:
- The appendices from EEBC's Strategic Flood Risk Assessment (SFRA) in Jacob's 2018 report were not included in the developer's (SLR's) Flood Risk and Surface Water Management Statement (Version 2 dated May 2022). These clearly show groundwater flood events in 2000, 2002 and 2014. See attached Jacob's Historic Flooding Map (Figure 104) and Groundwater Emergence Map (Figure 110). This is also contained in the EEBC's Section 19 report on the 2014 flooding event in the Borough attached in the following link: [8-Epsom-and-Ewell-Borough-S19-Report.pdf \(surreycc.gov.uk\)](https://www.surreycc.gov.uk/8-Epsom-and-Ewell-Borough-S19-Report.pdf).
 - Paragraphs 17.15 and 17.16 of the committee report stress the importance of the LLFA comment but an email from the LLFA (30th October 2023) states "we do not have the powers or the expertise to provide formal comments on groundwater". The LLFA have repeatedly stated in all their formal responses to the application that their comments refer to *surface water flooding* only.

Epsom Civic Society

- 1.5. Attached at Appendix 3 is further correspondence from Epsom Civic Society reaffirming the comments from the objector above and indicating that groundwater information is not complete and that it should be comprehensively assessed at application stage rather than subject to pre commencement condition.

2. Report corrections

- 2.1. References to 30 parking spaces in the table following paragraph 1.25 and at paragraphs 3.6 and 14.24 is incorrect. It is 31 spaces. A surface level space was included in the assessment but not correctly noted in parts of the report.
- 2.2. The site area in the table following paragraph 1.25 should read 0.4 hectares.
- 2.3. Paragraph 1.8 incorrectly paraphrases paragraph 202 of the NPPF. Rather than being a presumption against granting permission where there is less than substantial harm, it should read that the harm should be weighed against the public benefits.
- 2.4. Paragraphs 1.9 and 9.4 refer to the removal of three trees, which is an earlier proposal. The conditioned landscape plan indicates no tree loss of 31 planted trees. Tree 6 also no longer exists.
- 2.5. Section 7 deals with affordable housing. For the avoidance of doubt, the Council's planning officer is concluding that having regard to the scheme being for a care home

rather than for residential units, the affordable housing requirements should not be delivered. Whilst policy conflict exists, it is not unacceptable.

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To: Andrew Brett

From: Jon Parry

Company: Priory CC44 Limited

SLR Consulting Limited

cc:

Date: 2 November 2023

Project No. 402.012442.00002

RE: Church Street, Epsom, Hydrogeological Basement Impact Assessment

1.0 Background

Further to the following listed previous site assessments and correspondence relating to this issue, please find enclosed an additional technical assessment of the hydrogeological setting of the site and assessment of the impact of the proposed basement structure on the existing hydrogeology.

- SLR Consulting Ltd, Response to Groundwater Flooding Comments, letter dated 28th September 2022, ref 402.012442.00002
- Letter of Objection from Residents of 50 The Parade. Redevelopment of Former Police Station, Church Street, Epsom, dated 28th September 2022
- SLR Consulting Ltd, Preliminary Land Quality Risk Assessment, Former Police and Ambulance Station, Epsom. Report ref 402.012442.00002, dated May 2022
- Crossfield Consulting Ltd, Site Investigation Report. Former Police and Ambulance Station, Epsom dated March 2019.

The proposed development comprises construction of a basement underneath the footprint of the proposed building, which extends to a depth of 3mbgl, and equates to a basal formation elevation of 45mAOD.

2.0 Review of Site Hydrogeological Setting.

The site is located at an elevation of 48mAOD, near the town centre of Epsom, Surrey. Published mapping, previous investigations and assessments have recorded the shallow ground conditions and deeper geological sequence beneath the site to comprise:

- Made Ground: comprising granular material to approximately 1m depth;
- River Terrace Deposits (RTDs): logged as very gravelly sand to sandy fine to coarse gravel to depths of between 4.6m to 5.0m (43m to 43.5mAOD);
- Thanet Sand: logged as greyish brown silty sand or sandy silty clay to depths of 5.9m (previously described erroneously as (RTDs) in the borehole logs);
- Lewes Nodular Chalk Formation – white structureless chalk to the maximum drilled depth of 10m.

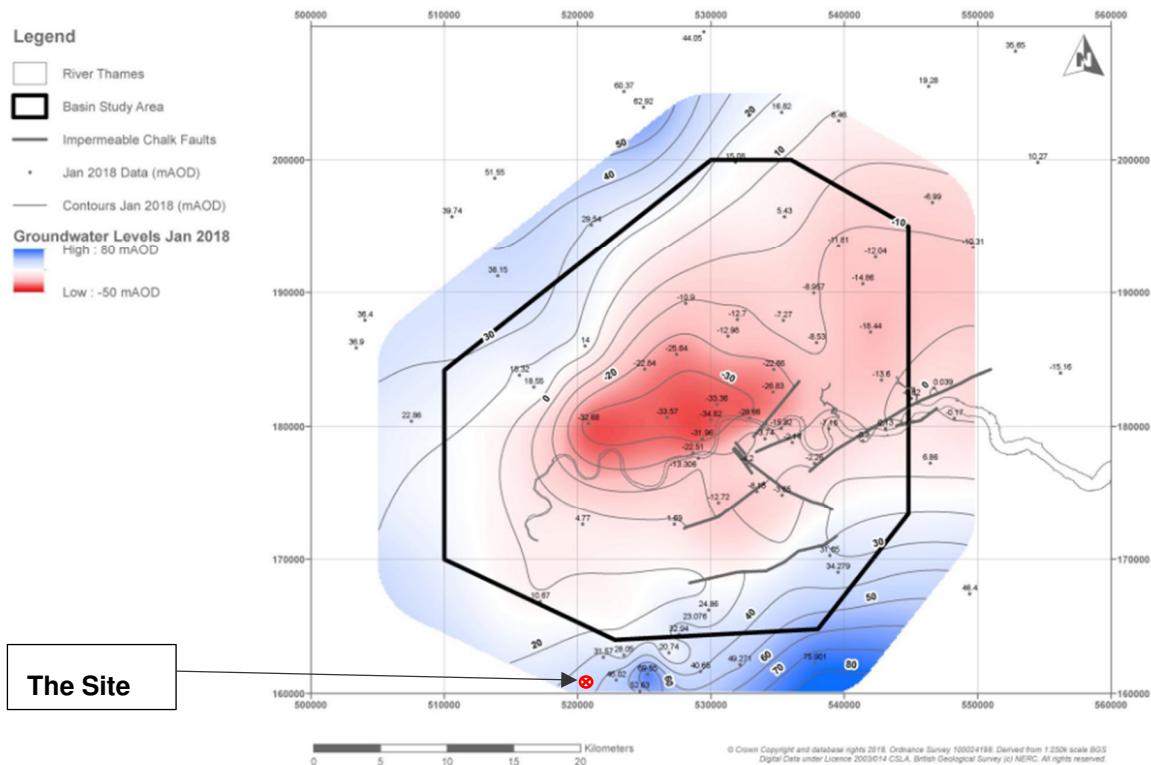
The underlying chalk is a regionally important principal aquifer and a source of public water supply, the site is located within a groundwater source protection zone 1 for an abstraction from the Chalk c. 490m to the north.

Regionally, the site is located close to the boundary of the Chalk bedrock with the overlying Thanet Sand Formation. The Chalk bedrock outcrop dominates the regional topography and landscape and rises to elevations of over 150mAOD where it forms the North Downs approximately 8km to the southeast. The high elevations of the North Downs act as the

principal recharge zone to the chalk aquifer. In proximity of the site the Chalk bedding dips to the northwest and regional groundwater flow follows this bedding dip.

This is illustrated in an extract of the groundwater levels for the regional chalk aquifer included as Figure 1.:

Figure 1: Contour plan of the Regional Chalk Aquifer January 2018 (after EA 2018¹)



Based on this regional information, the groundwater elevations for the Chalk aquifer are indicated to be present at an elevation of between 35m and 40m AOD, although a range of seasonal fluctuation will be expected to occur around these values, as is typically recorded in the Chalk.

Previous ground investigation at the site by Crossfield Consulting completed two boreholes (BH1 and BH2) as monitoring wells to depths of 10m bgl installed with response zones extending into the Chalk bedrock. These were monitored by SLR between November 2021 and March 2022. The previously reported groundwater monitoring data has been converted to elevations in metres relative to Ordnance datum (mAOD) in Table 1 below.

Table 1: Groundwater Monitoring Data

BH Ref	Ground Elevation (mAOD)	Monitoring Date	Depth to GW (mbgl)	Groundwater Elevation (mAOD)
BH1	48.1	16/11/2021	8.06	40.04
	48.1	10/12/2021	8.49	39.61
	48.1	21/01/2022	9.01	39.09
	48.1	16/02/2022	Dry at 9.3	38.8
	48.1	31/03/2022	Dry at 9.3	38.8

¹ EA 2018. Management of the London Basin Chalk Aquifer. Status Report 2018. Environment Agency.



BH Ref	Ground Elevation (mAOD)	Monitoring Date	Depth to GW (mbgl)	Groundwater Elevation (mAOD)
BH2	48.0	16/11/2021	Dry at 7.27	<40.73
	48.0	10/12/2021	Dry at 7.27	<40.73
	48.0	21/01/2022	Dry at 7.27	<40.73
	48.0	16/02/2022	Dry at 7.27	<40.73
	48.0	31/03/2022	Dry at 7.27	<40.73

The monitoring indicated a falling groundwater level encountered at elevations of between <38mAOD to 40.04mAOD within the Chalk across the monitoring period. The overlying RTDs were recorded to be dry. The recorded groundwater elevations at the site are consistent with the regionally reported elevations.

Given the sites location, and recorded groundwater elevation, it is situated at the zone of the aquifer where the groundwater within the chalk transitions from one of being unconfined to the southeast, to becoming confined to the northwest by the overlying Palaeogene deposits (Thanet Sands, Lambeth Group and London Clays).

The expected range of groundwater fluctuation of the Chalk bedrock groundwater levels beneath the site can be estimated from regional EA monitoring borehole data of the aquifer reported online². The nearest boreholes to the site are:

- Chipstead borehole (TQ 2584055280): Located approximately 7km to the southeast of the site at a ground elevation of 129m AOD, and representative of the aquifer recharge zone (interfluvial) close to the top of the catchment (The data for this borehole was cited by the objection letter of the residents from no. 50 The Parade), and
- St Philomenas borehole (TQ 2758264390): Located approximately 7km to the northeast of the site at a ground elevation of 39mAOD, and very close to the contact of the chalk outcrop and the overlying Thanet Sand.

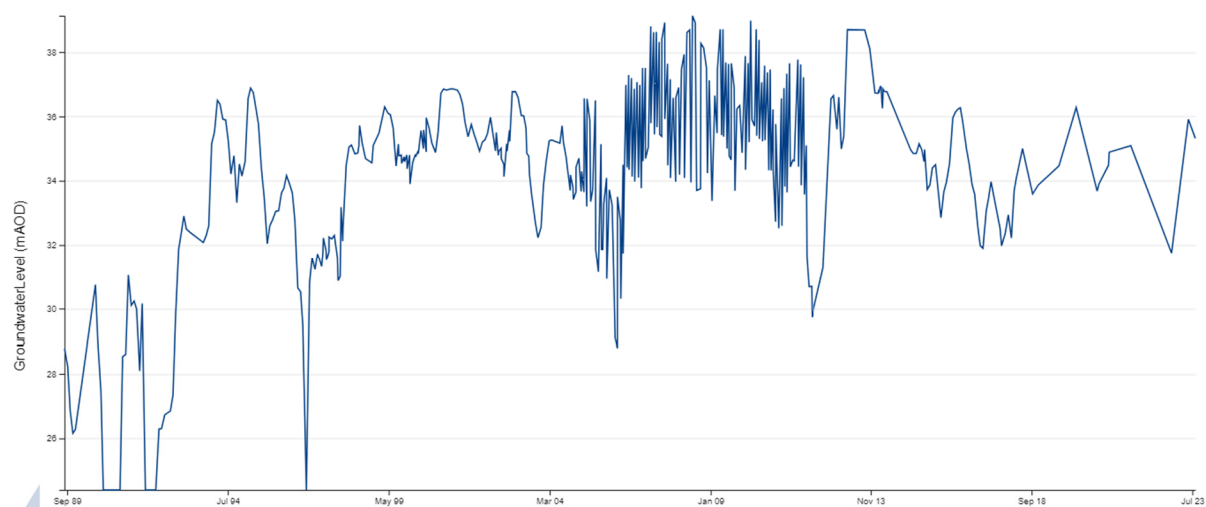
Of the above boreholes, St Philomenas borehole is considered to be a much closer analogue to the hydrogeology expected beneath the site, given its setting within the chalk catchment is conceptually very similar to the site.

The groundwater level record for this borehole extends back to 1989 and is presented in Figure 2 overleaf.

² <https://environment.data.gov.uk/hydrology/explore>



Figure 2: EA Groundwater level record for St Philomenas Borehole



This indicates that since 2000, a groundwater elevation for this location has been between 29m and 39m AOD (averaging around 35mAOD), and also indicating a groundwater fluctuation range extending over 10m. Notably, the record also shows a period of sustained high groundwater elevation of 39mAOD in the winter of 2013 / 2104 which is the same as the reported ground elevation at this location, and therefore indicates likely groundwater flooding from the Chalk aquifer. This event corresponds to the timing of the suspected groundwater flooding incident reported by the residents of No. 50 the Parade.

Review of the Jacobs Strategic Flood Risk Assessment report for Epsom and Ewell Borough Council³ also corroborates this flooding event, and reports that groundwater flooding incidents were recorded in the area of the site in 2000, 2002 and 2014. Figure 110 of this report shows that all of these incidents were located at areas associated with the contact of the Chalk bedrock with the overlying Palaeogene deposits, and also where these locations interface with the mapped RTDs.

3.0 Basement Impact Assessment

The hydrogeological assessment of the presented information indicates a conceptualisation whereby the proposed basement structure will be constructed within dry, unsaturated RTDs, which for the majority of the time will be substantially above the recorded groundwater level within the underlying Chalk aquifer and therefore provide no interference with groundwater flows.

However, during occasional short periods during unseasonably wet winters, it is possible that groundwater levels within the Chalk will rise close to ground level and over top the contact with the overlying Thanet Sands Formation and flood the overlying RTDs. This groundwater will normally distribute throughout the RTDs, given the significant storage capacity of these deposits. However, if the high Chalk groundwater levels are sustained over an extended time period (c. several weeks) it is possible that occasionally groundwater levels could rise within the RTDs to elevations above the base of the proposed basement. Under this scenario, the basement structure would therefore reduce the cross-sectional area of RTDs through which the groundwater could flow and disperse, which could result in a rise in the groundwater level on the upgradient side of the structure.



The potential impact of this groundwater level rise can be evaluated through a simplified assessment of Darcys Law. A conceptual model of this evaluation is provided as Appendix A, and a calculation sheet included as Appendix B.

Using building specific dimensions (the depth and width of the basement, perpendicular to groundwater flow, and length of the basement parallel to groundwater flow), literature referenced values for hydraulic conductivity of the RTDs⁴, and typical value of hydraulic gradient for RTD deposits (0.003 – professional judgement), the potential rise in groundwater level in the RTDs on the upgradient side of the basement during a short duration groundwater flooding event, has been calculated to be **6.7cm**. This is a conservative assessment assuming groundwater will rise to the top of the RTDs.

When considering the distance between this location and the location of “No. 50 The Parade” (25m), it is assessed that the ensuing effect on groundwater levels beneath “No. 50 The Parade” will be negligible, and not contribute to any additional risk of flooding.

3.1 Climate Change Considerations

The potential long-term impact on the Chalk Aquifer groundwater levels as a result of climate change, has been evaluated and reported by the enhanced future flows and groundwater assessment programme⁵.

This indicates that for the Aquimod borehole in the Chalk catchment nearest the site (Sweeps Lane TQ 46/23), the median groundwater levels are predicted to reduce between 0% and 2.5% of current baseline, based on the UKCP18 climate projection. This indicates the basement impact assessment is not sensitive to future climate change impacts.

4.0 Conclusion

A hydrogeological assessment of the site setting and basement impact assessment has been completed. The assessment has indicated that under normal circumstances, the proposed basement will be dry, and above the prevailing groundwater table. The site is located in an area susceptible to occasional short duration groundwater flooding from seasonal water table rises in the underlying Chalk Aquifer.

A simple quantitative assessment of the impact of the basement indicates a potential localised rise in groundwater level of 6.7cm on the upgradient side of the basement during these groundwater flooding events.

The proposed basement is therefore not considered to pose a significant risk of flooding on site or at surrounding properties.

An evaluation of impact from future climate change indicates that groundwater levels in the regional Chalk catchment are predicted to reduce between 0 and 5% based on the UKCP18 projections, which would indicate a lower overall risk of impact from the basement in the future.

⁴S. H. Bricker and J. P. Bloomfield, 2014. Controls on the basin-scale distribution of hydraulic conductivity of superficial deposits: a case study from the Thames Basin, UK. Quarterly Journal of Engineering Geology and Hydrogeology 2014, v.47; p223-236

⁵ <https://eip.ceh.ac.uk/hydrology/eflag/>



5.0 Closure

Information reported herein is based on the interpretation of public domain data collected by SLR, and/or information supplied by the Client and/or its other advisors and associates. These data have been accepted in good faith as being accurate and valid.

If further clarity is sought about the information and conclusions provided in the above document, please contact the undersigned.

Regards,

SLR Consulting Limited

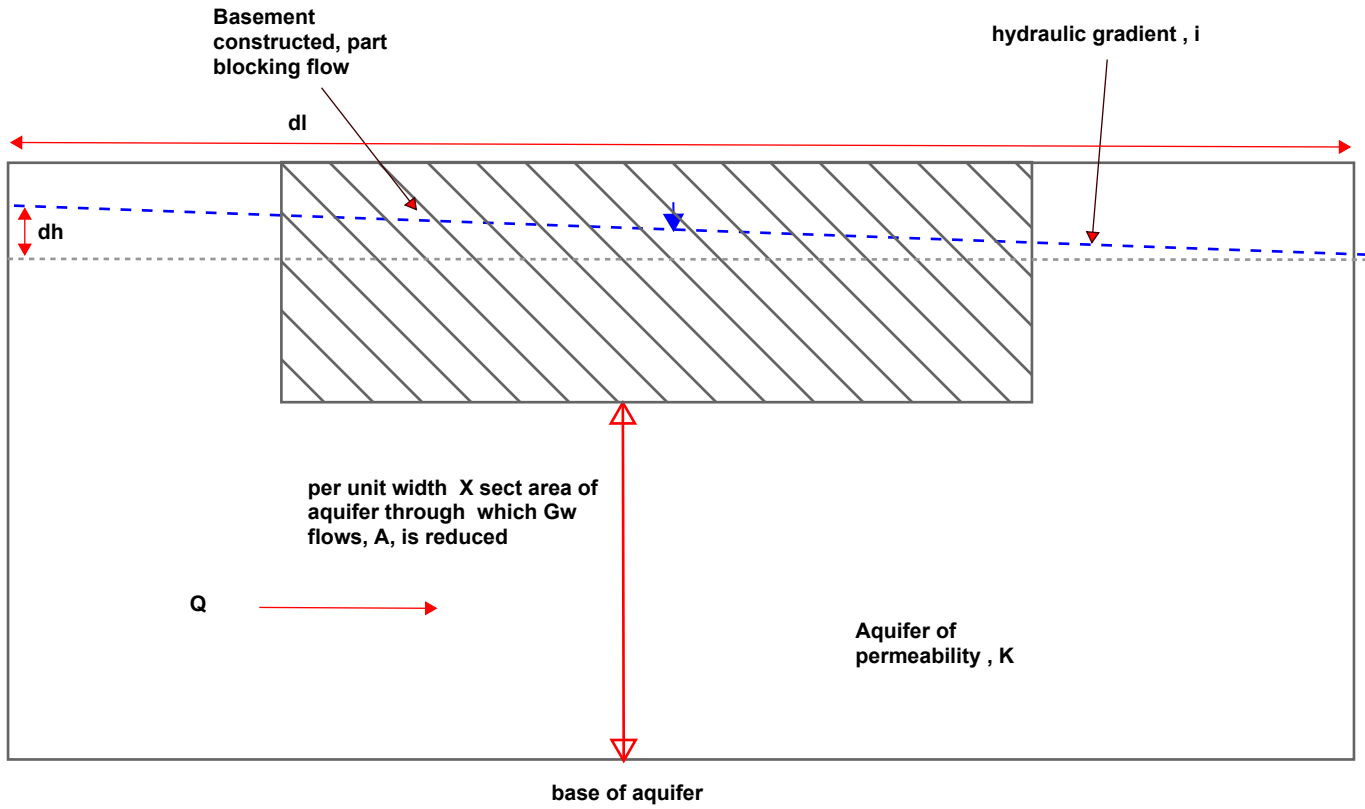
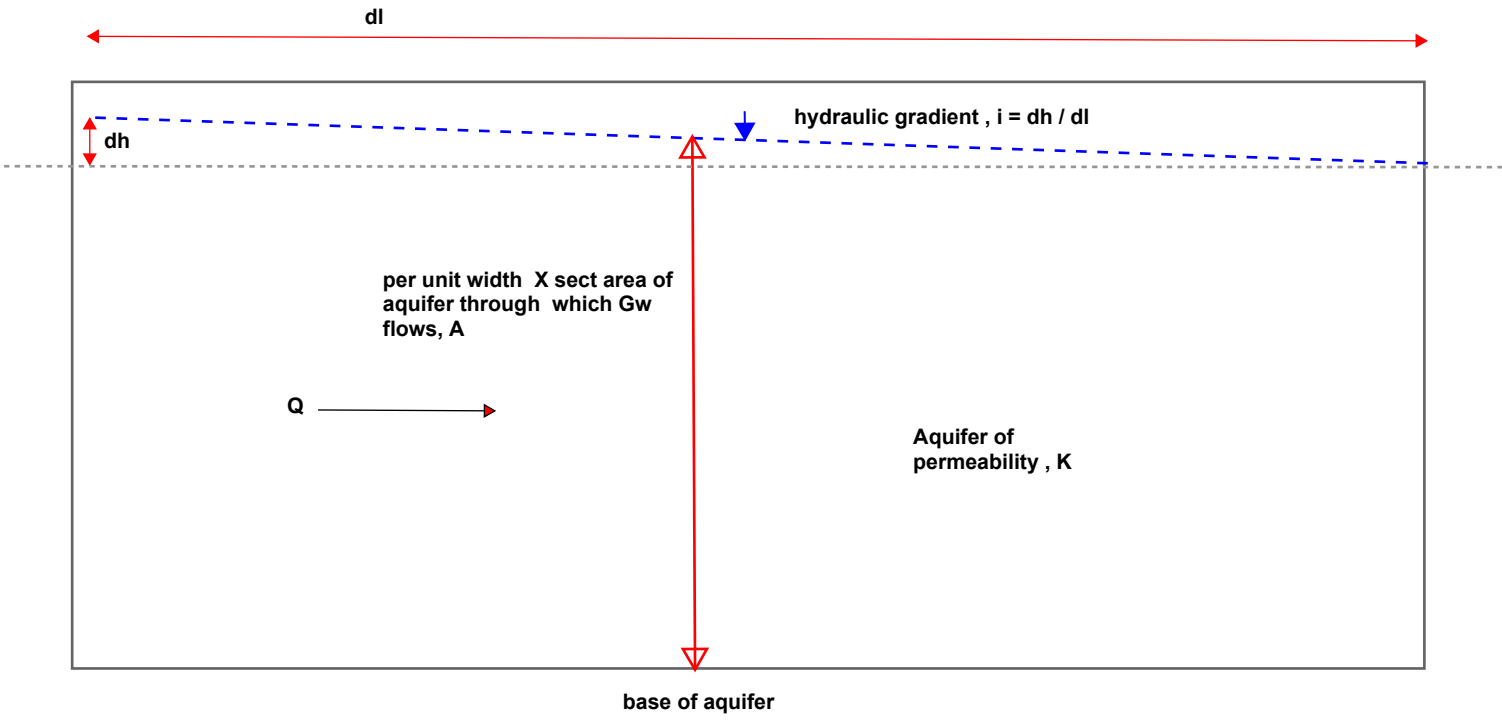


Jon Parry, BSc, MSc, CGeol, FGS
Hydrogeologist, Technical Director

Attachments Appendix A: Conceptual Model
 Appendix B: Calculation Sheet



$$Q = KA i$$



Darcys Law, $Q = KA i$, rearranging for i , therefore $Q / KA = i$

if A is reduced, and Q and K remain the same (which they should), then the gradient needs to increase to derive the same Q . Given that the lateral distance of the gradient (dl) also doesn't change, the only way the gradient can change is an increase in the groundwater level (dh) on the upgradient side of the basement, and as we would expect, a mounding or rising of the groundwater level as a direct result of the basement obstruction.

Baseline Condition

Parameter	Unit	Value	Reference source
K	m/d	17.56	Average K of River Terrace Deposits (undifferentiated) from Broomfield and Bricker
height of saturated gravels	m	3.25	base of gravels to 1.5mbgl
width of building perpendicular to groundwater flow	m	25	measured from plan
A	m ²	81.25	Calculated
I	m/m	0.003	Assumed flat gradient typical of high K gravel
Q	m ³ /d	4.28025	Calculated

After Basement Development

Parameter	Unit	Value	Reference source
K	m/d	17.56	Average K of River Terrace Deposits (undifferentiated) from Broomfield and Bricker
height of saturated gravels	m	1.25	reduced thickness of gravels below basement
width of building perpendicular to groundwater flow	m	25	measured from plan
A	m ²	31.25	Calculated
I	m/m	0.003	Assumed flat gradient typical of high K gravel
Q	m ³ /d	4.28025	Same as baseline
length of basement in line with groundwater flow	m	8.6	measured from plan
Calculated change in groundwater level on upgradient side of basement, as a result of reduced gravel thickness	m	0.067	

Conclusion

In the event that seasonal groundwater flooding should occur from the chalk aquifer, which inundates and saturates the normally unsaturated river terrace gravels, to a depth of 1.5m below ground level, the reduced cross sectional area of gravel beneath the basement through which groundwater could flow, would result in a theoretical rise in groundwater level on the immediate upgradient side of the basement of 6.7cm. In reality, this change in water level would have a negligible effect on the groundwater level of the basement of no. 50 the Parade, as its distance 25m upgradient of the proposed basement and the high permeability of the underlying terrace gravels would mitigate any potential change, by dispersing groundwater around the basement structure.

Additional Information not included in SLR's Flood Risk and Surface Water Management Statement Version 2 dated May 2022

JACOBS			
CLIENT EPSOM & EWELL BOROUGH COUNCIL			
PROJECT Epsom and Ewell SFRA			
TITLE Historic Flooding			
DRG No Figure 104			
SCALE NTS		DATE 08/05/2018	
CW DRN	MS CHK'D	MS REWD	RC APR'VD

Legend

- ▭ Epsom & Ewell Boundary
- Main Rivers
- Ordinary Watercourses
- SCC Highways Historic Flooding Incidents - indicative
- SCC Highways flood enquiries
- SCC Highways Internal Property Flooding Roads - indicative
- SCC Highways External Property Flooding Roads - indicative

EEBC 2007 Flooding

- ★ Flooding (External)
- ★ Flooding (Internal)
- ▲ Groundwater Flood Incidents 2000, 2002 & 2014

Historic TW Sewer Flooding Incidents

- 1
- 2
- 3
- 4
- 5
- 6

SCC Wetspot Published Status

- Current - wetspot is an active flooding location
- Works are scheduled or works have been carried out and require confirmation of drainage effectiveness
- Works have reduced flood risk or no significant flooding in the last 3 years

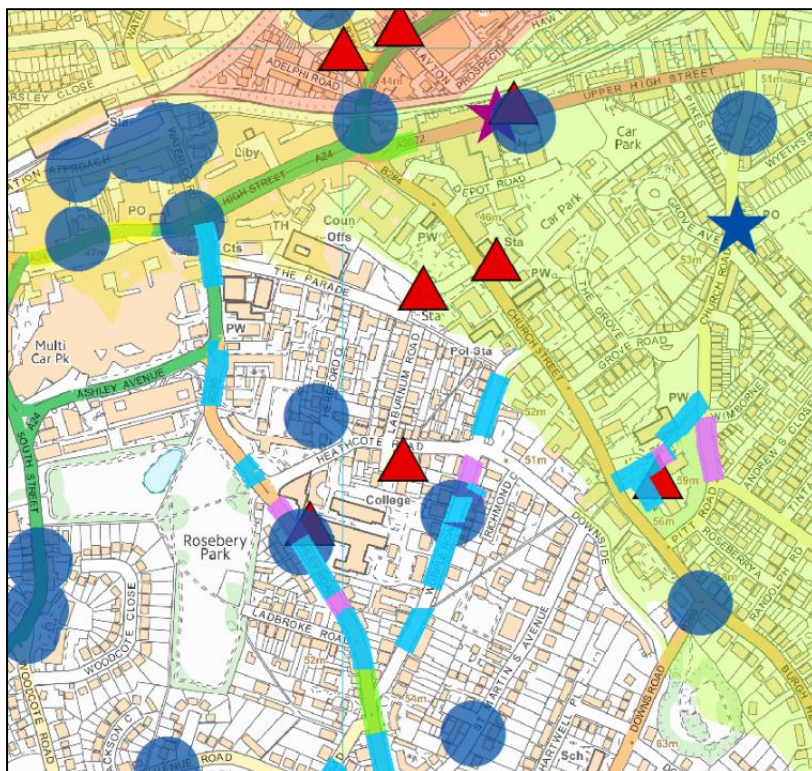
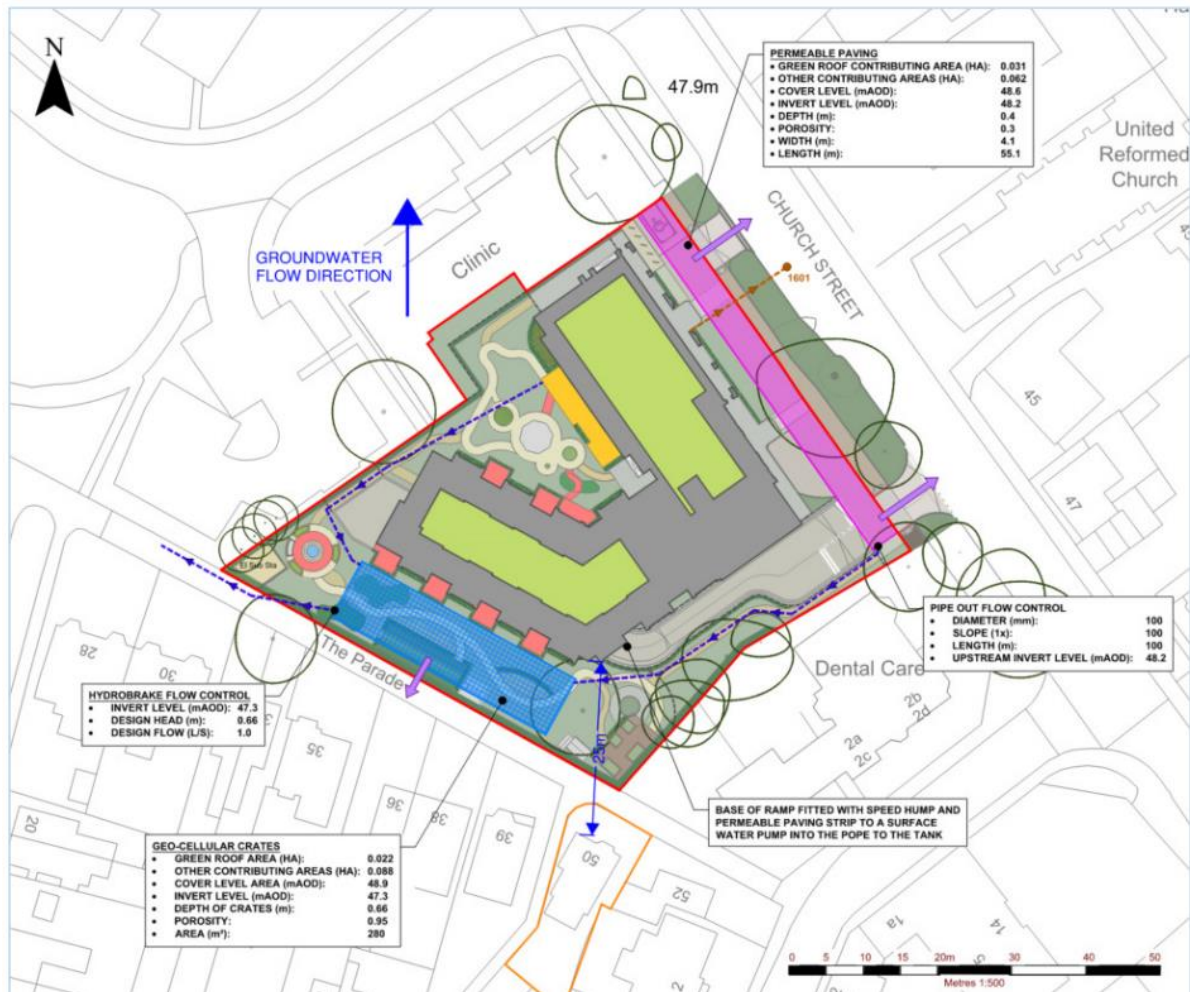


Figure 4: Site Context (Extract from Surface Water Drainage Strategy)



Care home proposal showing position of basement car park in dark grey (footprint of building) plus attenuation tank (in blue) located between the basement car park and The Parade. Also showing assumed groundwater flow direction and distance of proposed basement from our house. NB the attenuation tank is even closer than the basement car park.

Relevant Extracts from SLR's May 2022 Flood Risk Assessment Report On Groundwater Flooding that the committee report is referring to (para 17.12)

4.1.4 Flooding from Groundwater

The SFRA mapping⁸ indicates a record of groundwater flooding adjacent to the site. However, when the LLFA were contacted they outlined that they held no records of groundwater flooding in that location. No details have been identified what the event is that the SFRA refers to.

As discussed in Section 2.3, the site is underlain by permeable geology that is capable of conveying and storing significant volumes of groundwater. Winter groundwater monitoring through the winter 21/22 in two boreholes at the site (refer to Figure 4-2). In summary during the period of monitoring groundwater levels were found to be low beneath the site, with BH2 never having water of a sufficient depth to be recorded by a datalogger at 8.5m below ground level. Groundwater was encountered between 8.6 and 9.01m bgl in BH1 within the Lewes Nodular chalk formation, before

recorded as dry in the February monitoring round. We acknowledge that groundwater levels in the Chalk could conceivably rise significant during severe and prolonged wet periods. We also note that the winter of 21/22 has not experienced very high groundwater recharge with levels in the low to normal range. A data request has been placed to the Environment Agency for any long-term groundwater monitoring they may have locally, that would indicate whether the monitored winter levels represent a typical winter level or are a little lower than normal, however at time of writing no information has been provided.

Given that there is around 6m of sand and gravel (with high porosity) above the Chalk, the collected groundwater data indicates that groundwater levels would likely always remain lower than the basement. It is however not conceptually considered inconceivable that following prolonged periods of extreme high rainfall groundwater levels could reach the base of the proposed basement.

Whilst low probability, the basement would be tanked in order to prevent groundwater ingress in this scenario. The impact would result in slight increase in groundwater levels on the southern side of the building, however the chevron shape of the building would help groundwater flow around the basement to the east and west, minimise the impact of the impedence.

Given that the probability of flooding from groundwater is low the overall risk is considered low.

5.2.2 Groundwater Levels

As discussed in Section 4.1.4, groundwater levels would not prohibit near surface features.

7.1 Flood Risk Assessment

4) Groundwater level monitoring has been completed through the winter of 2021/2022 and indicates a relatively large unsaturated zone beneath the site (over 8m). However, acknowledging that the period of monitoring has not had high recharge rates, as a precautionary measure the basement will be tanked to prevent groundwater ingress.

Shaping the future, safeguarding the past

www.epsomcivicsociety.org.uk/ | email: chair@epsomcivicsociety.org.uk

Facebook: EpsomCivicSociety | X (Twitter): @EpsomCivicSoc

Councillor Humphrey Reynolds
Councillor Steven McCormick
Councillor Arthur Abdulin
Councillor Neil Dallen
Councillor Rachel King
Epsom & Ewell Borough Council
Town Hall
The Parade
Epsom
KT18 5BY

By email

9 November 2023

Dear Councillors,

Police and Ambulance Station Site Redevelopment (22/00923/FUL): groundwater flood risk

During the Civic Society's last meeting (23 October) with the Interim Head of Place Development, I mentioned that some Society members and nearby residents are extremely concerned about securing effective management and mitigation of the risk of displacement of groundwater flooding potentially affecting their properties consequent on planning permission being granted for the proposed development with its enlarged basement car park.

This is why I am writing to you, as respectively, the Chair of the Planning Committee and the Vice Chair (also in the capacity as a Surrey County Councillor) and to Town Ward Councillors **to ensure that all relevant information is available to secure an effective and comprehensive solution to deal with this risk prior to a decision being made on the planning application itself.** I have also written to the Interim Head of Place Development who will be aware that I am writing to you.

The committee report proposes that any further groundwater investigation is secured by condition and as part of this a Groundwater Screening Assessment shall be submitted to the LPA. Bearing in mind the inadequacy of the groundwater investigations so far (see below) and the potential groundwater risks this development poses, it would have been preferable for completion of this Basement Screening Assessment prior to planning committee.

On behalf of concerned residents, we are seeking assurances that responsibility for managing and mitigating the risk of displacement groundwater flooding is, so far as reasonably practicable, comprehensively addressed via the conditions and associated processes set out in the Officer Report. Our reservations about this are set out below. Where gaps remain, agreements with all relevant stakeholders acknowledging and accepting liability for any resulting flood water damage must be put in place, together with appropriate insurance, before the scheme's approval. Urgent clarification is needed from regulators (including SCC as Lead Local Flood Authority (LLFA), the Environment Agency and EEBC) as to which of them has responsibility for and expertise in groundwater flooding.

Perceived gaps are **firstly** in terms of **comprehensive deployment of relevant data and evidence**: reliance on the developer's original flood risk assessment (which had no flood data) as the defining statement of 'low risk' from groundwater flooding appears unwise, to say the least, and indicative of an initial lack of recognition of the groundwater problem on their part. SLR's Flood Risk Assessment and Drainage Strategy (May 2022) was based on limited information. Its subsequent investigations into groundwater flooding did not properly acknowledge the evidence of recent groundwater flooding in their analysis, including:

- EEBC's 2018 Strategic Flood Risk Assessment by Jacobs which clearly shows the Groundwater Emergence Map covering this part of Epsom and historic groundwater flood incidents from 2000, 2002 and 2014 around the development site.
- EEBC's 2015 Section 19 Flood Investigation Report which responded to the groundwater flooding of 2014.
- The British Geological Survey hydrographs show that groundwater in the chalk rose by 9 metres in 2000 and 10 metres above average winter levels in February 2014.
- Epsom's historic vulnerability to groundwater flood risk as it is on a spring line and had a long history of groundwater emergence before the artesian well was sunk at the East Street Water Works.
- Local experience and local knowledge.

The Society has had sight of relevant maps, data, and detailed correspondence from residents. The Society is happy to provide more information but appreciates that much of what we have seen may now be in your possession. We are also aware that some local residents affected by groundwater flooding may be reluctant to come forward.

Secondly, there is a gap regarding where regulatory responsibility for control and mitigation of groundwater flooding lies, for example, the report to committee places reliance on the LLFA's assurances that the developer has made a thorough investigation yet there is no record of the LLFA's *own acknowledgement they do not have statutory powers or expertise regarding groundwater flooding* (email 30/10/23 from suds@surrey.gov.uk to local residents, "We have made Epsom and Ewell aware of our statutory role in planning and that we do not have the powers or the expertise to provide formal comments on groundwater"). Are Grampian conditions, without more, sufficient to deal with the groundwater issue, given

additional detailed information that local residents, some with professional expertise in geology and transport planning, have provided? How feasible is it to enforce the recommended conditions, Grampian and others?

Possible mitigation measures to be secured by way of a condition (assuming the Groundwater Screening Assessment has been undertaken by a reputable person) and as yet unknown are risky. Mitigation measures may not work in a high water table situation, will only move the problem elsewhere and have an array of maintenance issues. How will these conditions be enforced in practical terms?

We are aware of informal discussions and suggestions about alternative and less risky (less uncertain) mitigation measures. The only way this development could avoid increasing flood risk to the surrounding area is by not having a basement car park and replacing the existing small basement with the SuDS attenuation tank. This would replicate the existing small basement and ensure the risk from groundwater flooding is no worse in the local area than the existing buildings on the site.

Installation and operation of pumps to manage water level may be a partial solution but we recognise that they would need active intervention, would only operate infrequently, and would probably not work when needed. Installation of such pumps would, of course, be an acknowledgement of the risk created, and failure to operate when needed would presumably invoke liability. Deployment of some 'passive' drainage system which would draw down the level might be feasible, but this may not work if this is a regional water issue. An offer to pay affected owners' property insurance is unlikely and not secure if the company goes bust.

Residents' concerns and indeed the Society's own as set out in the letter of 17 August 2023 from our Vice Chair give us cause to reflect that despite the lengthy gestation of the application, the planning committee meeting today, 9 November 2023, is a premature forum for its determination.

Sincerely,

Margaret Hollins

Chair of the Committee
Epsom Civic Society



Cc Justin Turvey

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