

Our Ref: 17446/JAE/KL

27th November 2024

Mr Dermot McCarthy
16 Hampden
Kimpton
Hitchin
SG4 8QH

Dear Mr McCarthy

**Kimpton Players Playhouse by the Memorial Hall, Hall Lane, Kimpton, CG4 8RD -
Trial Hole Investigation**

I refer to your instructions that we carry out a trial hole investigation to expose the foundations to the existing prefabricated building at the rear of the Memorial Hall. You require advice as to whether the ground is shrinkable and likely to have any adverse effects from the nearby trees.

You also would like advice as to whether the existing foundations could be reused for the new building proposed for the site.

I visited the property on 10th October 2024 to carry out the trial hole inspection and give a brief summary of my observations and opinion as follows:

General Conditions:

1. This letter of opinion is based on a visual inspection of a single trial hole at the rear of the building and is accordingly limited in scope.
2. The presence or possible consequences of any site contamination, asbestos products or invasive plants are not researched or covered by this report.
3. This report is for the sole use of the Client relating to the property and is limited to the current brief. No responsibility is accepted by David French Partnership LLP if used outside these terms.

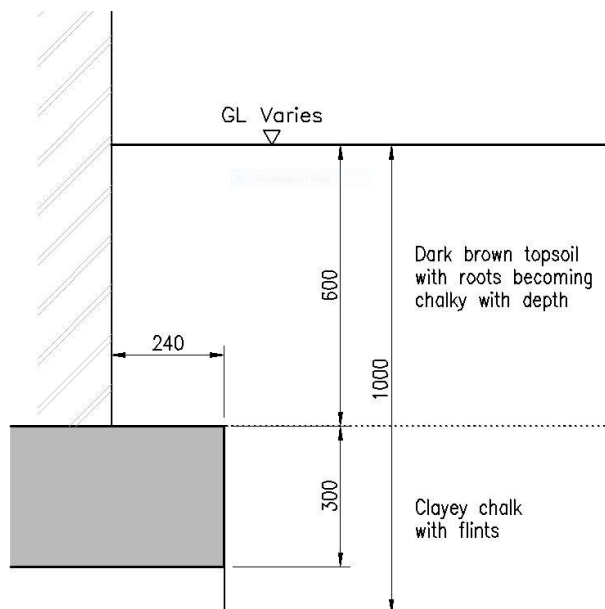
Description of the Building:



4. The property is a single storey detached prefabricated building built in about 1970.
5. It is built on a site sloping from the rear to the front and is built on a brick plinth which is built off strip foundations stepped to allow for the slope of the site.
6. The walls are constructed of precast concrete posts supporting precast concrete panels slotted into the posts. There is a concrete slab and the roof is formed from asbestos cement sheets supporting on lightweight steel sections.

Trial Inspection:

7. A single trial hole was excavated at the rear of the building close to the boundary and adjacent trees.



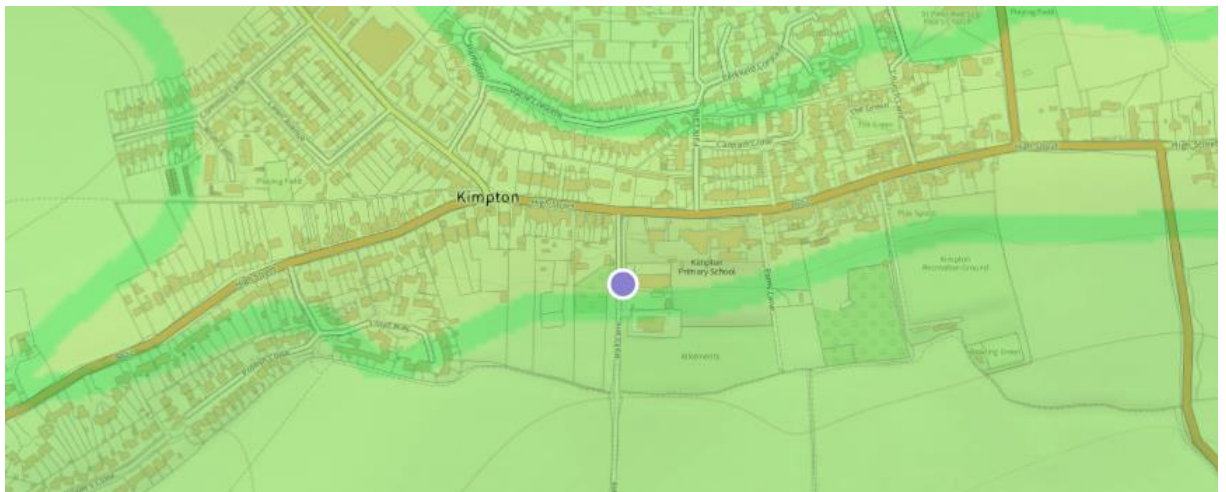
Trial Hole 1



8. The trial log above shows that the foundations at the trial hole location were approximately 900mm and are bearing a clayey chalk material with flints.

A sample of this material was taken from a depth of 1.0m below ground level for laboratory testing.

Other Information:



9. The British Geological Survey suggests the most likely 'bedrock' is expected to be:
Chalk Rock Member - Chalk. Sedimentary bedrock formed between 93.9 and 89.8 million years ago during the Cretaceous period.

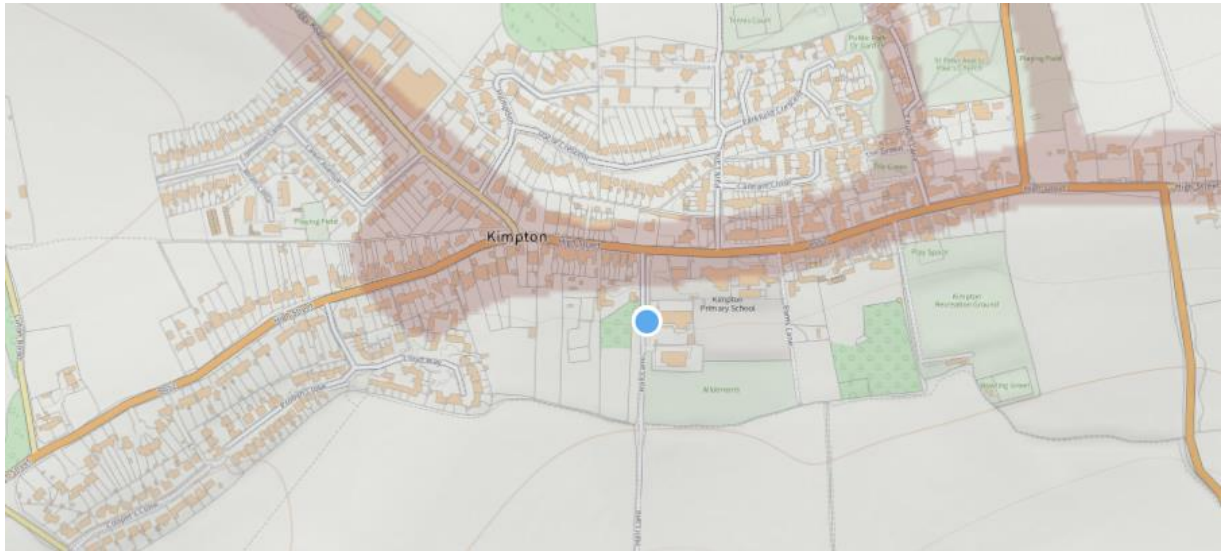
The building is right on the border between:

Holywell Nodular Chalk Formation and New Pit Chalk Formation - Chalk.

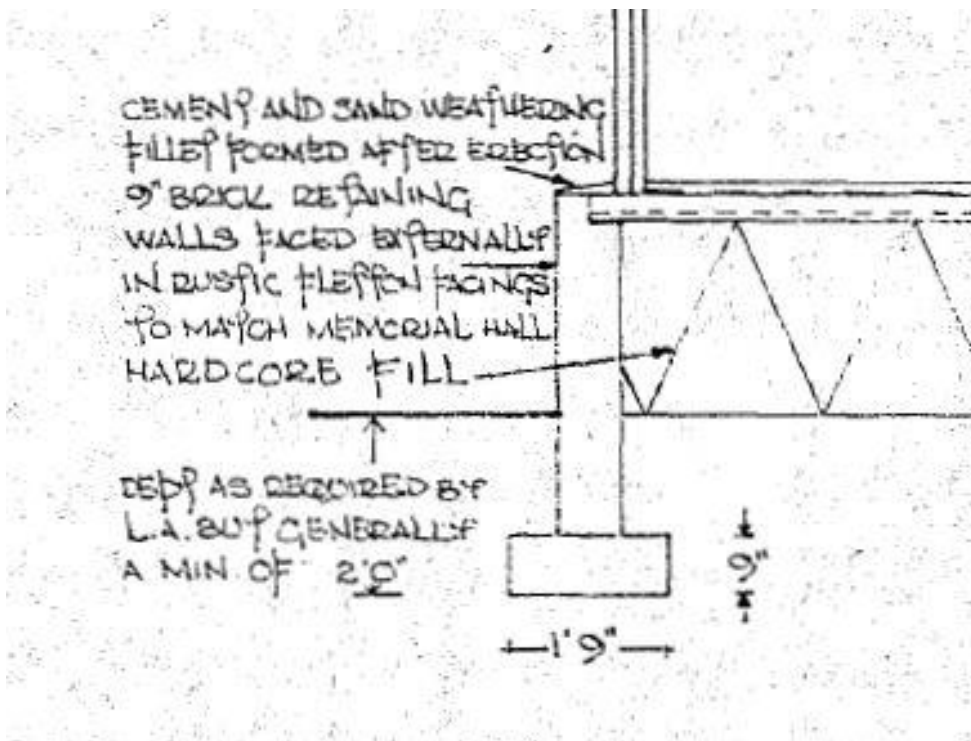
Sedimentary bedrock formed between 100.5 and 89.8 million years ago during the Cretaceous period.

and

Lewes Nodular Chalk Formation and Seaford Chalk Formation - Chalk. Sedimentary bedrock formed between 93.9 and 83.6 million years ago during the Cretaceous period.



There are no superficial deposits expected at this location.



10. We were provided with some historical drawings for the building. The drawing showed included some dimensions for the foundations and an extract from the drawing is shown above.
11. The client's intention is to demolish the existing building retaining the substructure walls and foundations and construct a similar size building off the existing foundations.

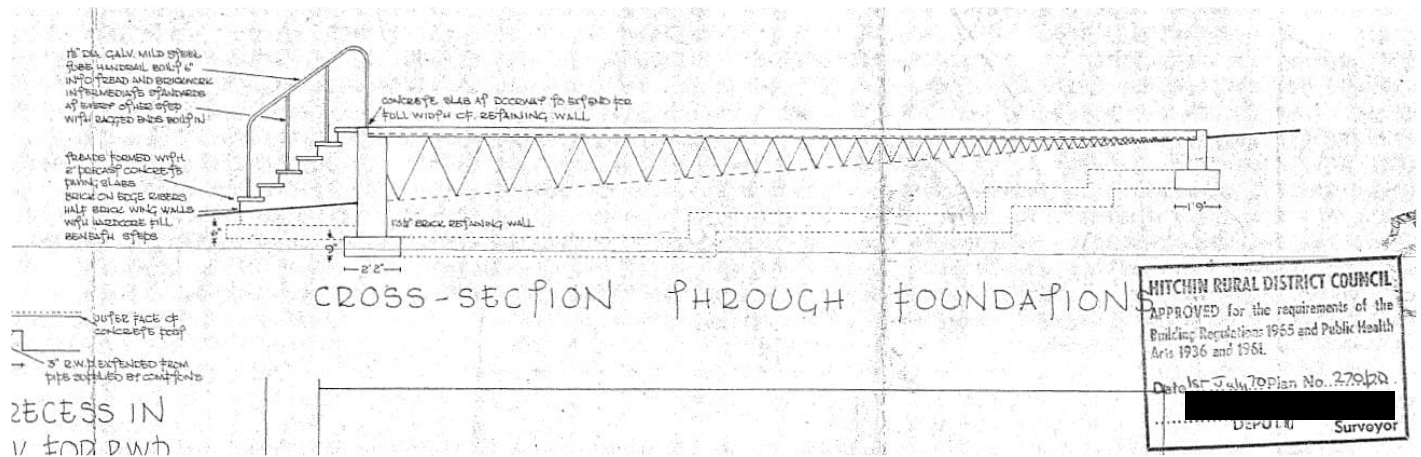
The new building is likely to be constructed in timber frame or SIP panels, which is likely to be lighter than the existing building.

Assessment and Recommendations:

12. The 'bedrock' at this location, according to the British Geological Survey, is expected to be chalk and this is normally found to be non-shrinkable.

Bedrock does not necessarily mean 'rock' but is the primary subsoil and this is then sometimes overlain by superficial deposits.

13. There are no superficial deposits at this location.



14. From the historical information provided, the foundations are likely to be about 2'0" deep (600mm), stepping up to follow the slope of the ground.
15. The foundations at the trial hole location were found to be 900mm deep bgl.
16. The historical drawings also indicate that the minimum width of the foundations is likely to be 1'9" wide (530mm).
17. The wall by the steps is 325 thick with the other walls 215 thick.
18. A soil sample was taken from 1.0m below ground level and a plasticity test was carried out of the sample. The result of this testing is included in Appendix A of this report.
19. The test results state that the sample tested has a Plasticity Index (Ip) of 11%.
It also states that 86% of the sample passed the 425 micron BS test sieve.
20. The NHBC 2024 Standards Chapter 4.2 gives guidance on meeting the technical requirements when building near trees, hedgerows and shrubs, particularly in shrinkable soils for new build houses.

We use the guidance in this document also when assessing if existing foundations are suitable for reuse.

21. The guidance states that for the soil to be classed as shrinkable it must have 35% fine particles and a Modified Plasticity Index (I'p) of 10% or greater.
22. The I'p is defined as the Ip of the soil multiplied by the percentage of particles less than 425 microns.

$$I'p = \frac{11 \times 86}{100} = 9.46\% < 10\%$$

23. The clayey chalk identified in the trial hole has a Modified Plasticity Index of 9.46% and is classed as non-shrinkable and therefore will be relatively unaffected by seasonal variations in moisture content.

The influence of vegetation on the foundations will be limited to the physical interaction with roots if trees exist or are planted in close proximity to foundations.

24. The clayey chalk encountered on site is likely to have a bearing pressure in excess of 100 kN/m².
25. The existing foundations should be more than adequate to support the loads from this and the building proposed for the site and therefore should be able to be reused, subject to the agreement of the building inspector.

I trust this gives you the information you require, but if you have any queries, please contact me.

Yours sincerely,



Kevin Lennon
IEng MICE
Incorporated Civil Engineer
for David French Partnership ^{LLP}

Appendix A

Laboratory Results



TEST CERTIFICATE

DETERMINATION OF LIQUID AND PLASTIC LIMITS

Tested in Accordance with: BS EN ISO 17892-12:2018+A2:2022,
cl 5.3 and 5.5, Fall Cone Method, 4 Pt Test, BS 1377-2:2022,
cl 5.2 and 6

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



Environmental Science

4041

Client: Mayer Environmental
Client Address: Transport Avenue, Brentford,
Middlesex, TW8 9HA

Contact: Rebecca Beddard
Site Address: Kimpton Players Playhouse

Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Client Reference: 101 003356
Job Number: 24-048093-1
Date Sampled: Not Given
Date Received: 16/10/2024
Date Tested: 23/10/2024
Sampled By: Client - DFP

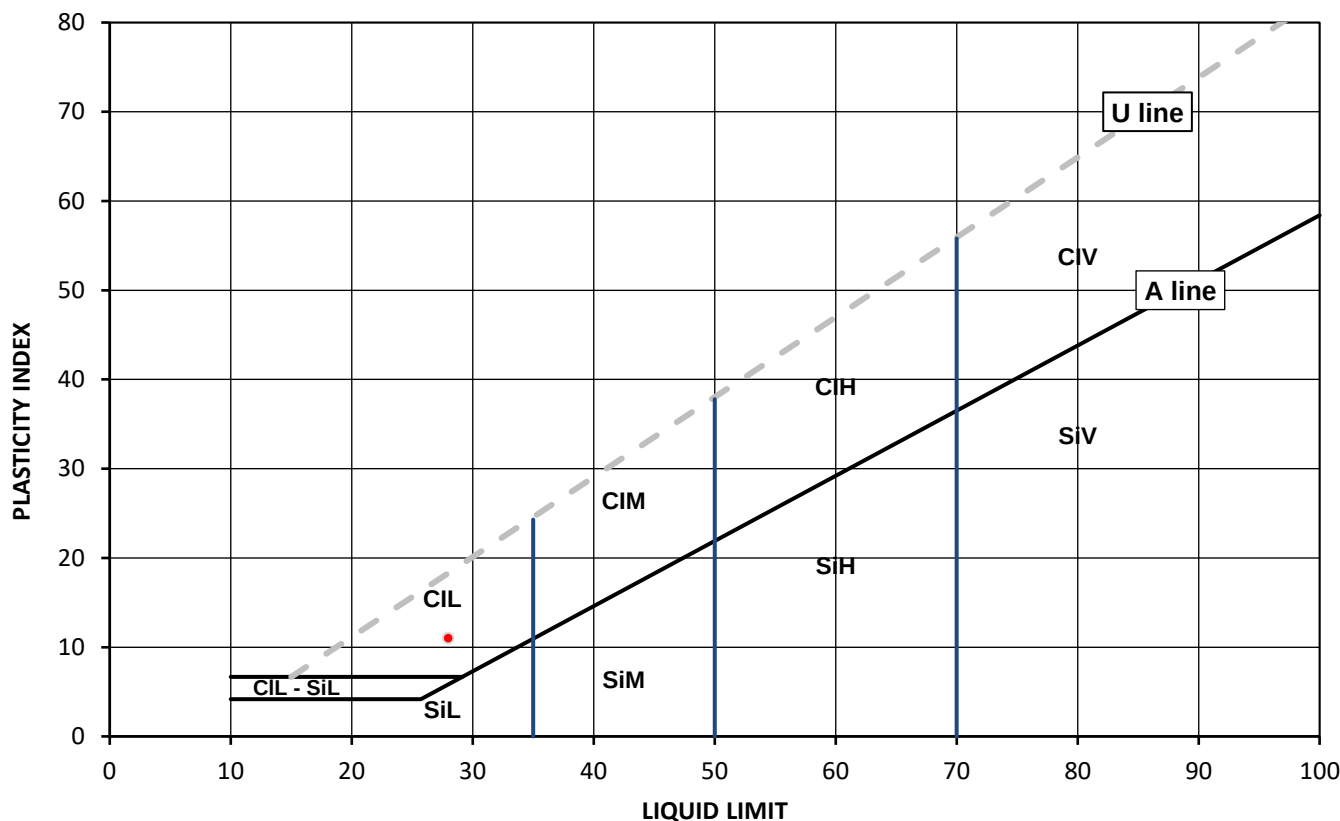
Test Results:

Laboratory Reference: 350337
Hole No.: TH1
Sample Reference: Not Given
Sample Description: Brownish grey slightly gravelly very sandy CLAY with fragments of chalk

Depth Top [m]: 1.00
Depth Base [m]: Not Given
Sample Type: B

Sample Preparation: Tested after washing to remove >0.425mm; The water content in the sample was increased
Cone Type: 80g/30deg

As Received Water Content [W] %	Liquid Limit [WL] %	Plastic Limit [Wp] %	Plasticity Index [Ip] %	Liquidity Index [IL] % #	Consistency Index [IC] % #	% Passing 425µm BS Test Sieve
16.0	28	17	11	-0.09	1.09	86



Legend, based on BS EN ISO 14688 2:2018 Geotechnical investigation and testing – Identification and classification of soil

	Plasticity	Liquid Limit
Cl	Clay	L Low below 35
Si	Silt	M Medium 35 to 50
		H High 50 to 70
		V Very high exceeding 70
	O Organic	append to classification for organic material (eg ClHO)

Note: Water Content by BS EN ISO 17892-1:2014+A1:2022, BS 1377-2:2022; # Non accredited

Remarks: Ip= 9.46

Signed:



Katarzyna Koziel
Geotechnical Reporting Team Leader
for and on behalf of i2 Analytical Ltd

Opinions and interpretations expressed herein are outside of the scope of the UKAS Accreditation. This report may not be reproduced other than in full without the prior written approval of the issuing laboratory. The results included within the report relate only to the sample(s) submitted for testing.



SUMMARY REPORT
DETERMINATION OF WATER CONTENT

Tested in Accordance with: BS EN ISO 17892-1:2014+A1:2022, BS 1377-2: 2022, clause 4.1

i2 Analytical Ltd
Unit 8 Harrowden Road
Brackmills Industrial Estate
Northampton NN4 7EB



4041
Client: Mayer Environmental
Client Address: Transport Avenue, Brentford,
Middlesex, TW8 9HA

Contact: Rebecca Beddard
Site Address: Kimpton Players Playhouse

Client Reference: 101 003356
Job Number: 24-048093-1
Date Sampled: Not Given
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Testing carried out at i2 Analytical Limited, ul. Pionierow, 41-711 Ruda Slaska, Poland

Test results

Laboratory Reference	Hole No.	Sample				Description	Remarks	WC											
		Reference	Depth Top m	Depth Base m	Type														
350337	TH1	Not Given	1.00	Not Given	B	Brownish grey slightly gravelly very sandy CLAY with fragments of chalk		16.0											

Comments:

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Signed:



Katarzyna Koziel
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