PWS & INSTALLATIONS
Premier Water Solutions 10 Ltd

7 Mellingey Fields
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OUR REF: J-777-02
DATE: 09 06 2021

Fionna Catlin
Planning Officer
Cornwall Council Planning Department
1 Pydar Street
Truro
Cornwall

Fionna.Catlin@cornwall.gov.uk

Dear Fionna,

REF: NO 1 AND NO 2 ALLEN VIEW ST TEATH PL30 3JN PLANNING APPLICATION PA21 / 04678

We have been appointed by the joint clients of No. 1 and No. 2 Allen View to assist in providing a drainage system that serves their properties that complies with the relevant Statutory Authority legislation.

Existing Overview

There is a 100mm diameter pipework which is located to the rear of No. 1 and No. 2 and this connects into a shared septic tank and soakaway in the garden of No. 2. The septic tank has failed. The reason being that in the winter months when the winter groundwater table rises the effluent is not able to infiltrate into the ground (it is impossible to push water into saturated ground) and the consequence is that the drains back up through the properties and spill out into the garden. During the winter of 2020/2021 the septic tank had to be emptied regularly just to be able to use the necessary flushing facilities within the properties.

If the septic tank was not emptied, then the effluent would reach the surface of the garden which would be an environmental health hazard for any children playing in the garden.

This means that the settled effluent is discharging directly into the ground water which is not acceptable as there needs to be at least 1m between the base of the invert of the soakaway and the winter ground water table. With the water table 312mm below ground level in the winter time, it is possible the water table is literally just below ground level. The septic tank in its current form does not comply with the General Binding Rules, the British Standard 6297 or Building Regulations Part H. The system should be condemned and an alternative option found.

Premier Water Solutions 10 Ltd (PWS) was appointed in the spring of 2021 to come up with a solution to provide a wastewater drainage solution as the clients cannot go through another winter like last year.

The nearest sewer is 1.26km and it would by unfeasible to connect to the mains as it would be financially unviable. See the SWW map.

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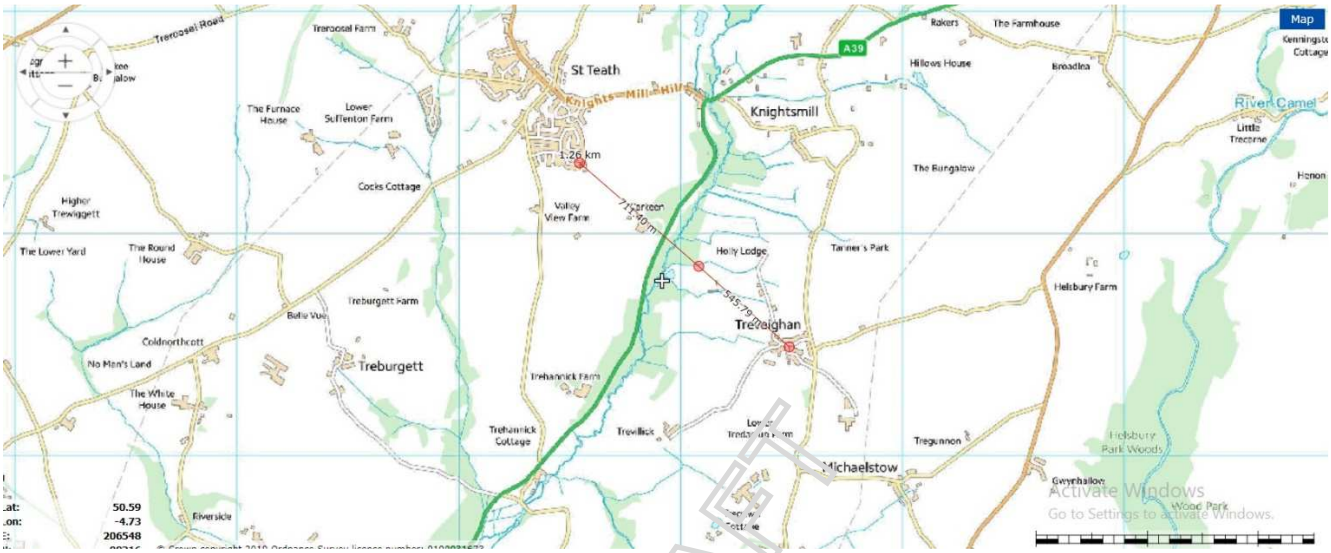

Since the route for the connection would cross many third party landowners, the best solution would be to use the requisition powers of South West Water to lay pipework across this land following the red line over this land. Not withstanding that the pump station and pumps would need to be very powerful due to the distance. South West Water is currently using £1,000 / metre to requisition pipework in virgin ground. This would mean just to lay the rising main this would be £1.27million, exc the pump station cost. This would be an unreasonable amount to ensure that the property connects to the sewer.

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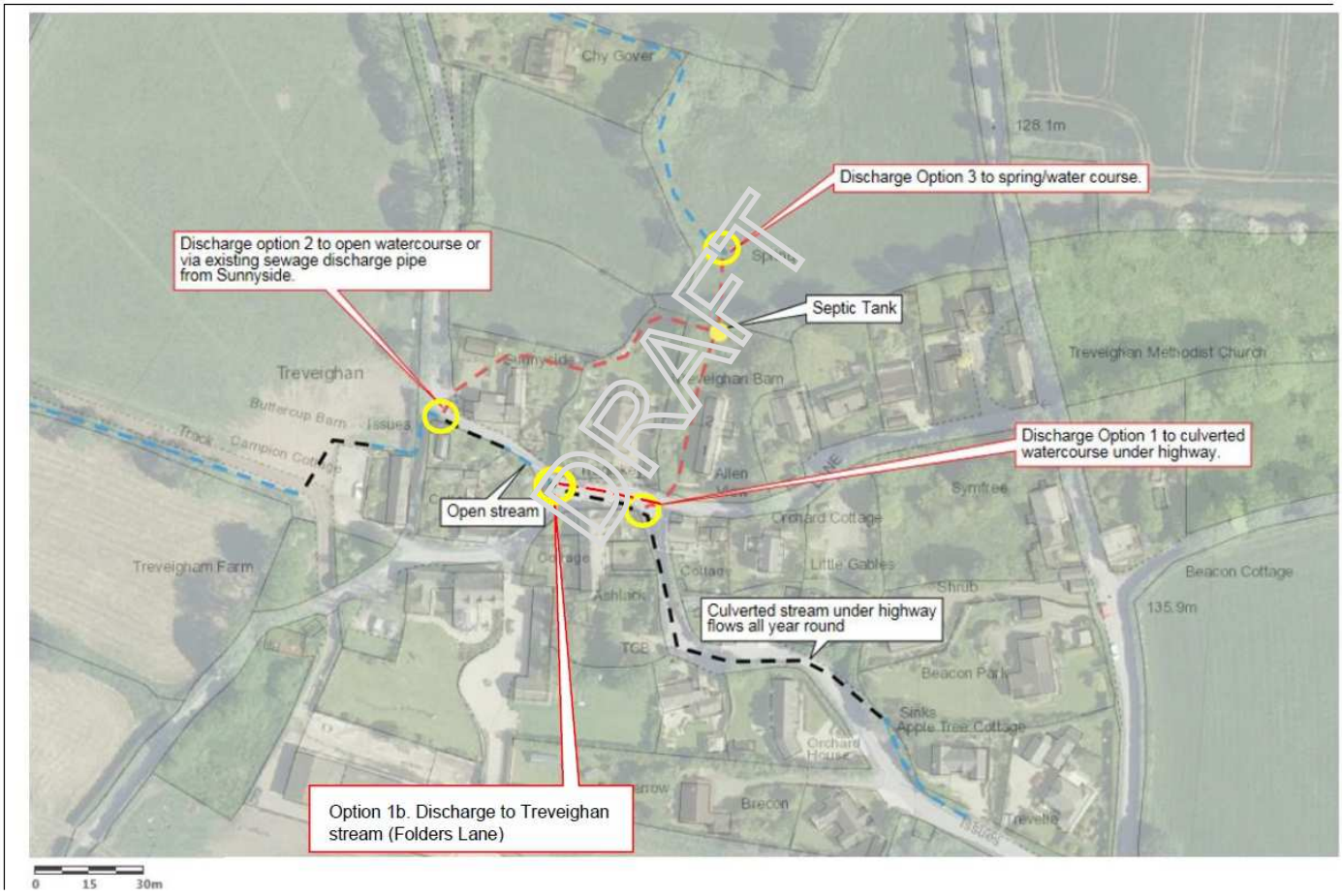
The following drawing has been produced which includes the options that have been explored as part of this design process. (drawing supplied by Howard Simpson).

Options for Sewage for Numbers 1 & 2 Allen View, Treveighan, Cornwall PL30 3JN. Notes 10th February 2021



A site visit was undertaken and the following information was obtained :

- In the garden on No. 2 there is an existing well / spring with a water level 312mm below the ground level – this automatically rules out using a below ground infiltration system. An above ground drainage mound was also ruled out because a typical mound for 1 property is 9m (l) x 8m (w) for 2 properties if that was extended to 18m (l) x 16m (w) there would be insufficient room to site this mound in the garden of no.2. In addition to this, the whole garden would become unusable which would be unacceptable solution for No.2. (see photos below) also see attached drawing J-777-3000 A.pdf
- Option 3 was ruled out as the landowner has not granted permission to lay pipework in that area.

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- Option 1 1b and 2 were progressed.

A pre permit application was made to the Environment Agency for a connection point for Option 2; this initially came back that this would require a permit as the discharge was classed as a new discharge and the discharge point was within 500m of a conservation area.

In the interim Cornwall Highways and Infrastructure Department confirmed that they would accept the discharge of treated effluent into the pipework in beneath the road as this is a designated ordinary watercourse and that this would require a Land Drainage Consent from them. This department also contacted County Highways and they said that they had no objections provided that there was no other future connections to the pipe. They would point out that you will need to go via Cornwall Council Streetworks and use an accredited contractor for any works. Subsequent liaising with the Environment Agency confirmed that by moving the discharge point to the ordinary watercourse beneath the road, would mean that the discharge would comply with the General Binding Rules and would not require an Environmental Permit. This is as per Option 1 and this is the route that will be progressed.

- Please see attached drawing J-777-1000 C.pdf which now shows the revised red line boundary for the planning application and drawing J-777-1000 d.pdf for the revised conceptual layout.

- Planning application **PA21 / 04678** now refers to the new installation of a treatment plant with connection into the ordinary watercourse beneath Treveighnan Road.

- A Land Drainage Consent Application will be made separately to this planning application on the basis in the map below.

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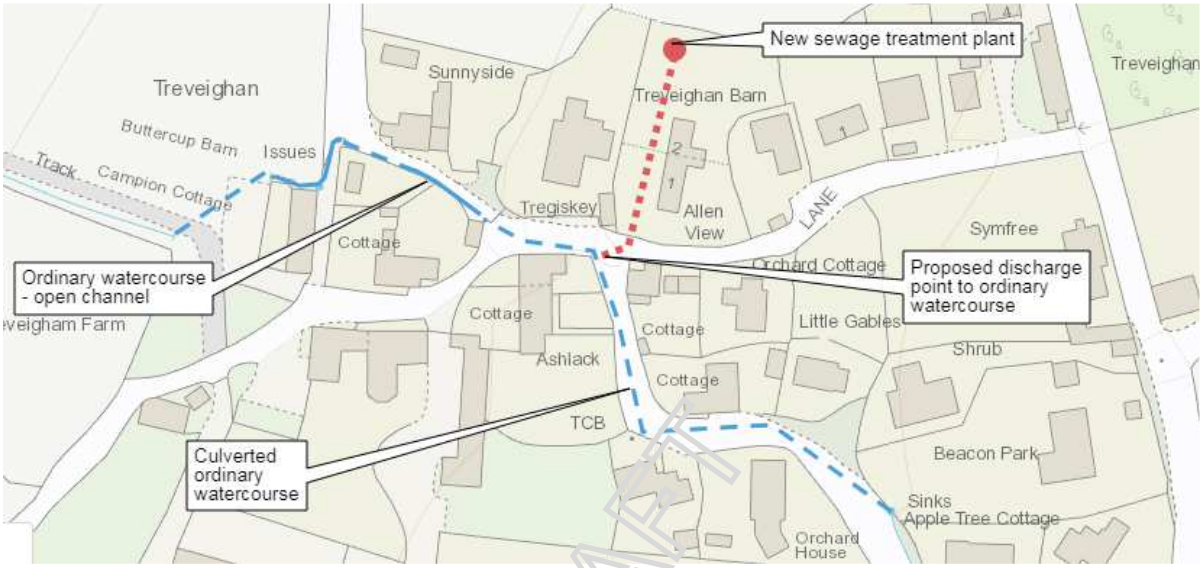

- Once planning is awarded an application will be made to Cornwall Council Building Control under a Build Notice, to ensure the works are carried out in accordance with Building Regulations Part H.
- The Non Mains Drainage Assessment form has been completed and is attached with this technical letter.

It has subsequently come to our attention that rules have recently changed regarding the Phosphate levels within the Camel Catchment as Natural England has recently written to Cornwall Council advising them of the impacts of the CJEU case in relation to the planning applications that may affect the River Camel protected site.

The most important factor that needs to be considered for this project is that this planning application refers to a replacement failed septic tank which is more than likely currently polluting the groundwater, and is for two **existing** dwellings. Clearly the dwellings need to have a working sanitary system to comply with their mortgage loan.

Assessment of likely Phosphate loading

Using British Water's Flows and Loads V4 a 3 bedroom house would generate a population equivalent of 5, thus 2 no. 3 bedroom dwellings would provide a population equivalent of 10.

Table 1 in the Natural England Commissioned Report NECR221 states that the average phosphate loading from a septic tank is 15mg/l.

Calculation of existing phosphate

10 (PE) x 150 l/day x 15mg/l = 22,500 mg/day or 22.5g /day.

A discussion has been had with Premier Tech Environment (treatment plant supplier) that their treatment plant can reduce the phosphate level by 68% which would reduce the level of the phosphate loading to a respectable 7.2g/day. If their bolt on phosphate dosing system was used then this would further reduce the phosphate loading to 1.05g/day. It

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is accepted that this figure is not zero phosphate but that should only relate to any new development within the catchment and not a replacement treatment system for 2 dwellings.

A phosphate reduction from 22.5g to 1.05g (if using the treatment plant and phosphate doing system) is a significant reduction in the phosphate concentrations within the Camel Catchment. As such we ask that the planning application be validated and be progressed as a matter of urgency as it is very clear that this system cannot be used this winter and it would be unreasonable for either the clients to vacate their home or tanker every other day.

Yours sincerely,
For and on behalf of Premier Water Solutions 10 Ltd

Louisa Inch
CEnv | MCIWEM | MIEMA |BSC Hons
Managing Director

Enc. J-777-1000 C.pdf
J-777-3000 A.pdf
J-777-1000. D.pdf
J-77 Non Mains Drainage Assessment

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