

16th October 2023

FAO: Mr. C. Shaw

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Dear Rich,

CHRISTMAS FARM, LLAY ROAD, WREXHAM
TECHNICAL NOTE 001 – PERCOLATION TESTING FOR A DRAINAGE FIELD

This letter reports on the percolation testing for the infiltration of treated water discharging to ground.

Foul water is proposed to be treated by a Klargester BioTec BTA Domestic Sewage Treatment Plant and water quality is suitable for discharge to ground. Secondary treatment is proposed in the form of a drainage field.

Two trial pits (TP01 and TP02) were excavated on Wednesday 11th October to a depth of approximately 600mm in the location indicated on the appended plan and a 300mm square hole was dug 300mm deep in the base. The pits were filled with water in the afternoon to saturate the ground for testing the following day.

Percolation testing was undertaken on Thursday 12th October. The pits were filled (300mm deep) and the time taken for seepage from 75% full to 25% full was recorded. The test was undertaken 3 times for each pit and the third test at both locations had the slowest time taken to fall the 150mm; this was recorded at TP01 as 2hrs 58mins (10680sec) and at TP02 as 3hrs 15mins (11700sec). The rate at TP02 has been used as this is a lower rate of infiltration and adopts a precautionary approach for sizing the drainage field.

$V_p = \text{Time} / \text{depth (from 75\% > 25\%)}$

$V_p = 78\text{secs}$ [average time in seconds to drop 1mm]

Drainage field disposal should only be used when percolation tests indicate average values of V_p of between 12 and 100 and the preliminary site assessment report and trial hole tests have been favourable. In this instance V_p (78 seconds) is within the allowable range.

For design and construction of Drainage Fields see B.Reg.s Part H2 – 1.39-1.44



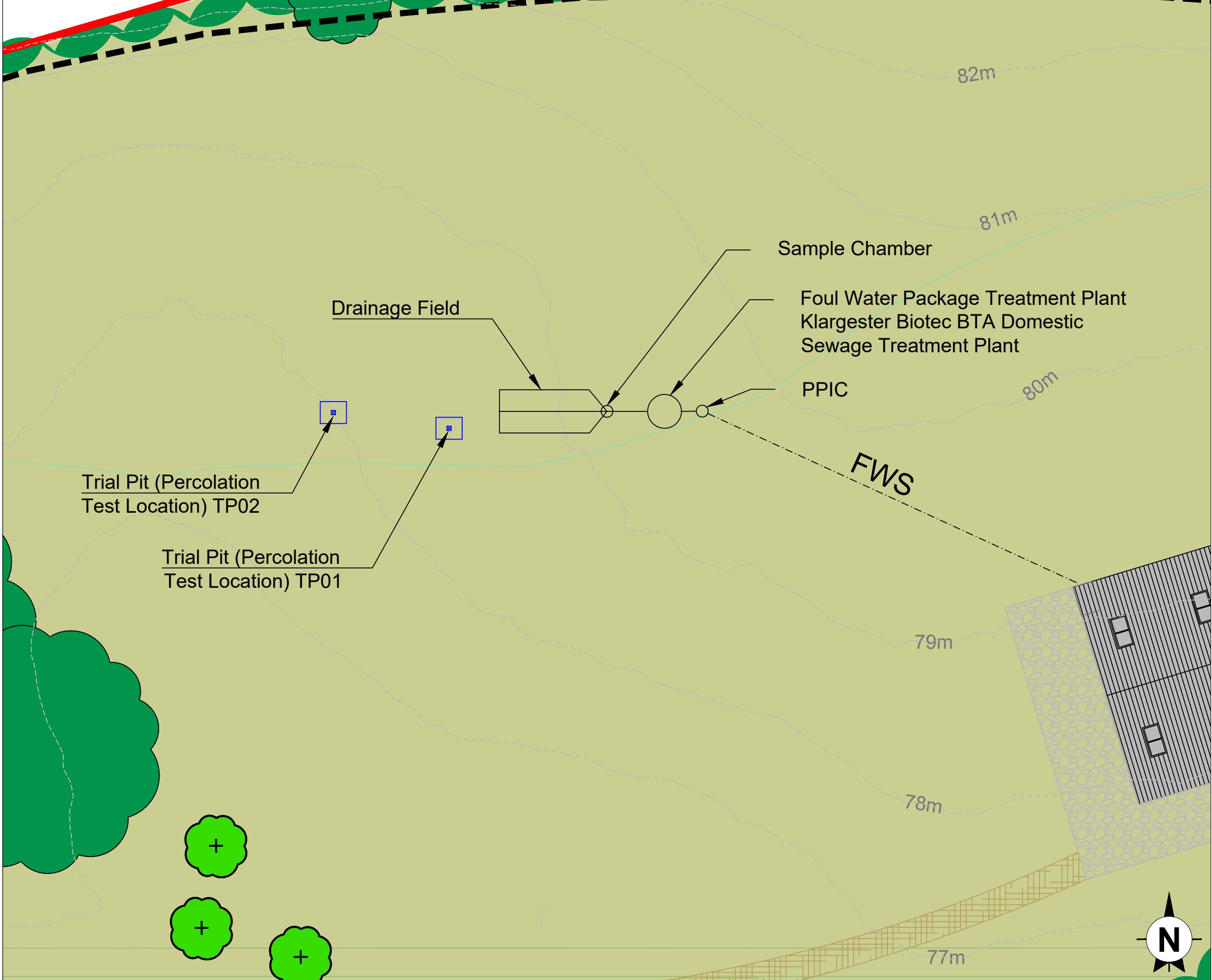
I trust you will find the above of assistance, however, if you have any queries or require further information please do not hesitate to contact me.



Richard Nicholas BEng(Hons) MSc MBA GMICE MCIWEM
Director
BETTS HYDRO LIMITED

Enc.

Trial Pit Location Plan
Photographs
General Arrangement Plan showing drainage features



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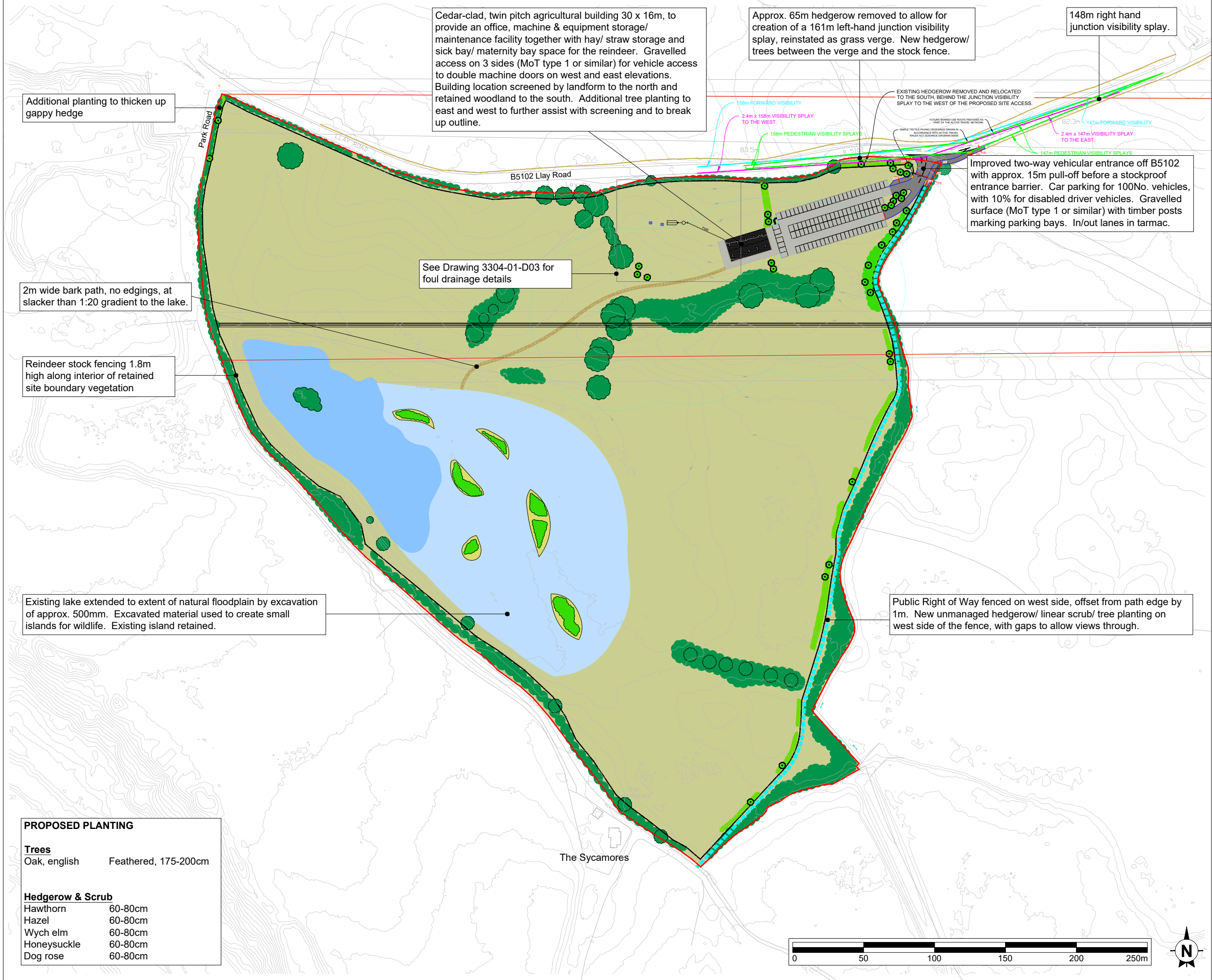
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Revision History		Date
A	TREATMENT PLANT RELOCATED	29-03-23
B	AMENDED ACCORDING TO DETAILS PROVIDED BY BETTS HYDROLOGY	18-10-23

KEY

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0844 8700 007		www.axisped.co.uk		
client: CHRISTMAS FARM				
project: CHRISTMAS FARM, LLAY ROAD, CEFN-Y-BEDD				
drawing title: PROPOSED SITING OF PACKAGE SEWAGE TREATMENT PLANT AND TRIAL TEST PIT LCOATIONS				
date: 20.09.22		drawn by: LV		checked: LK
drawing number: 3034-01-D03		status: PRELIM		
scale(s): 1:250@A3		rev: B		
planning environment design				





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Revision History	Date
A PACKAGE SEWAGE TREATMENT PLANT AND SITE ACCESS LAYOUT REVISED	28.03.23
B TREATMENT PLANT RELOCATED	29-03-23
C FOUL DRAINAGE DETAILS AMENDED	16-10-23

axis

client: Christmas Farm

project: Christmas Farm, Llay Road, Cefn-y-Bedd

drawing title: General Arrangement

date: 03.08.21

drawing number: 3034-01-002

scale(s): 1:2500@A3

drawn by: AR

checked: LK

status: Planning

rev: C

planning environment design