

Friends of Poynton Pool  
C/o The Civic Hall  
Park Lane  
Poynton  
Stockport  
SK12 1RB

20 December 2023

Dear Friends of Poynton Pool

### **STRUCTURE OF THE DAM EMBANKMENT AT POYNTON POOL**

Having discussed alternatives to the Jacobs Option 3c with our Civils and Structural Designer John Borthwick, I took it upon myself to carry out some limited, minimally invasive investigations of the soils on the dam. The main purpose was to identify the level of the clay core into which a designed clay seal would be keyed into.

I visited site on Monday and using a 70cm long Haglof Soiltax Soil Sampler, I extracted seven 1cm diameter samples at various locations along the dam between the Anglesey Drive Car Park and The White House. All were approximately midway between the path and western boundary hedge. All samples were left on site.

1. 3m from car park gate (fractured, low quality sample). 0-500mm sandy loam, from 500mm slightly clayey, coarse orange-brown sand with fine rounded gravel up to 1cm dia., having a minor clay component (slightly clayey sand).
2. 3m from car park gate 0-400mm sandy loam, slightly clayey sand from 400mm
3. Rear of first bench from car park. 0-350mm sandy loam, slightly clayey sand from 350mm with high moisture content
4. 15m to south of south end of spillway. 0-400mm sandy loam, slightly clayey sand from 400mm
5. In line with centre of driveway to Bentlea. 0-450 sandy loam. Slightly clayey sand from between 450-500mm (slightly mixed by extraction) high moisture content
6. In line with north boundary of The White House. 0-500mm sandy loam, slightly clayey sand from 500mm high moisture content
7. In line with south boundary of The White House. 0-500mm sandy loam, slightly clayey sand from 500mm high moisture content

Discussing my findings with John, the question arose, did I simply miss the clay core when I extracted the samples. I went back and took three more cores at the approximate location of my core #3. I took them across the width of the dam, with one adjacent to the western edge of the path, one approximately 3 metres to the west of the path and one on the east side of the boundary hedge. They

were all broadly the same material as the earlier samples with varying depths of loam topsoil. The path was impenetrable, but the soil to the west of the path has a higher moisture content than I would expect beneath a closed canopy woodland, perhaps resulting from lateral movement of water through the dam. As a professional arborist, it is my opinion that Cheshire East Council should not be removing and damaging trees en mass without first establishing, through site investigation, the construction of the dam and the likely consequences for soil stability of this earth embankment.

Given the nature of the cohesive sandy subsoil, I would expect there to be deep, diffuse rooting by all the trees, perhaps less so with beeches. I wonder whether the trees are part of the designed-in stability of the embankment, in terms of both static loading and high-tensile cellulose roots increasing shear strength of the soil. The loss of so many trees compounded by the death of roots will reduce soil bulk density as the roots decay and, given that the location and overall volume of roots is unknown, I can't imagine that the effects of root decay will be predictable and question whether, on this soil type, are there significant negative safety implications?

Below are three photographs to illustrate the method of extraction

- PH1. example sample in the corer
- PH2. A small but sample of straight from corer.
  - 1) compressed bead of orange-brown clay,
  - 2) 2 & 3) rounded gravel up to 10mm
- PH3. Partially dried sample from sample in PH2, having been gently rolled by fingers. Very sandy with a high percentage of fine gravel 1cm dia and smaller



PH1



PH2



PH3

Perhaps this information should be made available to the council as part of our formal representations.

Yours sincerely,

A handwritten signature in black ink, appearing to read "Mike Ellison". The signature is written in a cursive, flowing style.

Mike Ellison