Abbeydale
Building Environment Consultants

jane.curley@staffsmoorlands.gov.uk

For the attention of: Jane Curley

Your Ref:

Our Ref: 418057

Planning Ref:

Date: 21st December 2021

Dear Jane,

Q3- Moneystone Quarry - Outfall Method Statement

This statement has been prepared by Abbeydale BEC to support a full planning application for a revised Quarry 3 outfall at Moneystone Quarry.

A comprehensive earthworks package has been designed by the project team to deliver a sensitive outfall cut between Quarry 3 at Moneystone and Stream A to the southwest. This Outfall Method Statement (enclosed) sets out the construction and site management measures to deliver the proposals and minimise the environmental effects of the works. In addition to this Statement, a robust ecological assessment has been undertaken by Bowland Ecology which forms part of the Environmental Statement Addendum prepared by Avison Young and also accompanies the application submission. The results of the ecology assessment have identified a series of ecological site management and construction measures to mitigate and avoid ecological impacts to on and off-site ecological receptors. These are detailed within the Environmental Statement Addendum submitted as part of the planning application.

We trust that this Method Statement is sufficient detail for planning, but please do not hesitate to ask if further clarity is required.

Yours Sincerely

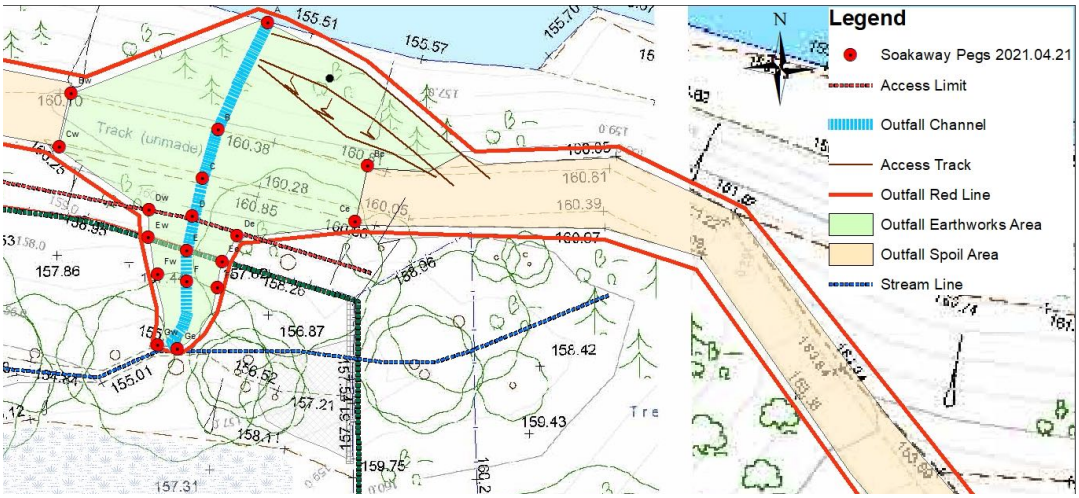
PJ Lloyd

Peter Lloyd

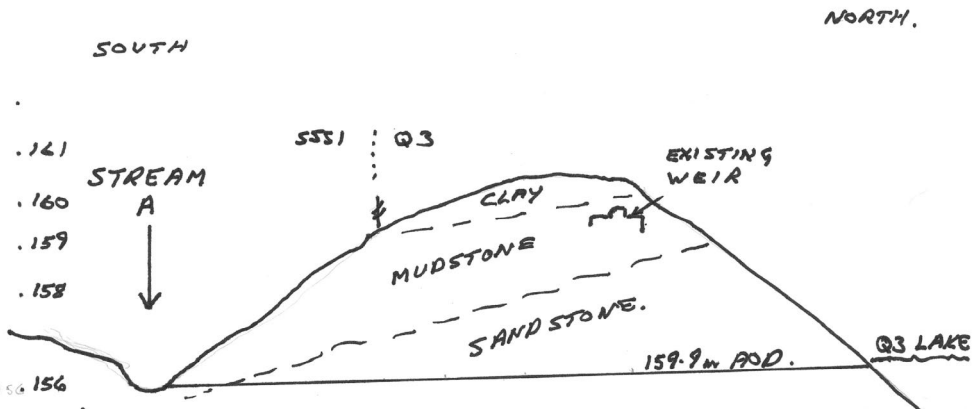
Q3 Outfall Cut Earthworks
Method Statement
Moneystone Quarry

In constructing the outfall cut the following earthworks shall be undertaken.

1. A new 156m AOD Outfall is to replace a previous 159m AOD outfall in the land bridge between Quarry 3 (Q3) lake and Stream A to create additional freeboard and limit lake levels to 156m AOD.



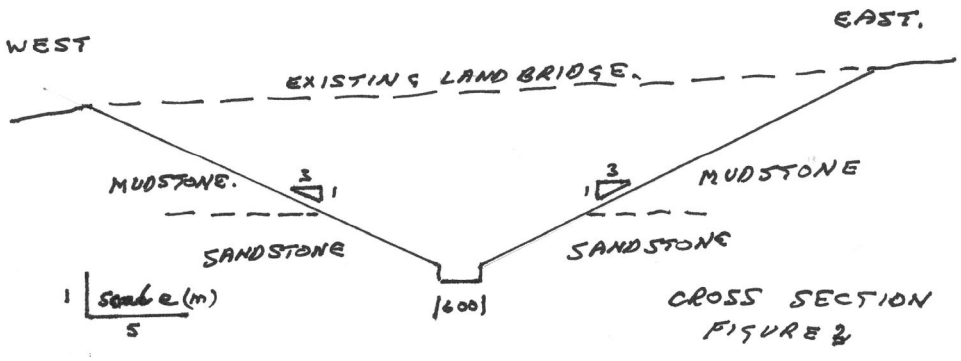
2. As part of the outfall construction a 35m long battered cutting through the bedrock forming the land bridge is proposed to the east of the existing outfall structure at the location shown in Fig 1. The cutting base/channel is to be 600mm wide and 500mm deep through the land bridge to match the stream bed within the SSSI. To maintain a lake level of 156m AOD the channel base shall be cut at 155.9m AOD throughout its length.



Long Section Figure 2

3. Sandstone bedrock will form the base of the cut, with mudstone and residual soil forming the upper sections of the cut. See Figs 2 & 3

4. Within the existing quarry area the side of the cut is to be at a gradient of 1:3 (v:h). To minimise the excavation within the SSSI the sides of the cut will be 1:1 (v:h) as shown in Fig 1. To direct the outfall water flow downstream the southern end of the channel will be curved to the south west.



Cross Section Figure 3

5. The outline of the earthworks shall be marked on the ground prior to site works starting by Abbeydale BEC. It shall then be the Contractor's responsibility to maintain sufficient ground markers and slope profiles throughout the works including the agreed boundary of his working area as shown on Fig 4.

6. Prior to site works starting a meeting with the Earthworks Contractor, Abbeydale BEC Geotechnical Engineer, Natural England, Bowland Ecologist and the Client's Representative will be arranged. The meeting will confirm and agree:-

   - The position of the cutting trench in line with the planning permission,
   - The timing of the works,
   - The location of existing services.

   Any changes to the current conditions shall be agreed in writing prior to the start of works.

7. A temporary "Access Limit" fence shall be installed at least 1m from the existing Quarry/SSSI boundary, and no encroachment to the area behind shall occur other than the marking out the southern extent of the cutting under Bowland Ecologist's supervision. See Fig 1. The fencing shall be a high visibility - pin and netlon fencing in

accordance with Bowland Ecologist's requirements and maintained throughout the period of the works. At no time shall plant and machinery or materials be allowed to enter the SSSI without agreement from the Bowland Ecologist.

8. The Bowland Ecologist shall be notified of the proposed progress of the works so that they can be present for any part of the works considered to be sensitive to the SSSI and work shall be halted if the works are not compliant with their requirements. Works shall not be restarted until agreement between Bowland and Abbeydale BEC Engineer has been reached and confirmed to the Contractor in writing.
9. No plant or machinery shall be left within the excavation area when not in use and shall be taken to an agreed location at the end of the working day. Spill kits, plant nappies and pollution prevention measures set out in Table 9.4 Ecology Mitigation Measures shall be in place throughout the period of works.
10. The topsoil shall be excavated across the full length and width of the cut and stockpiled at an agreed location to the east. This location being at least 2m from the quarry/ SSSI boundary and at least 5m from the excavation sides.
11. The current level of the lake shall be determined by the Abbeydale BEC Engineer prior to the start of the works.
12. The positions of the syphons shall be maintained to the west of the proposed excavation works to allow them to continue working throughout the works.
13. Within the quarry area the cut shall be excavated to an elevation no lower than 1m above the current lake level as identified on site by the Abbeydale BEC Engineer or 1m above the channel base (which ever is the higher). The cutting sides shall be trimmed to the 1:3 (v:h) finished profile before the cut is further deepened or extended into the SSSI area.
14. As part of the earthworks a permanent access track at least 3m wide shall be cut down to the lowered cut area on the lake side of the land bridge (Location marked on Fig 1). On completion of works the track shall have a maximum gradient of 1:5 (v:h) and upper side slope no greater than 1:2 (v:h).
15. Prior to starting work in the SSSI area each day the method of working and objectives shall be agreed between the Earthworks Contractor, Abbeydale BEC Geotechnical Engineer and Bowland Ecologist. Only hand excavation and a single mini digger shall

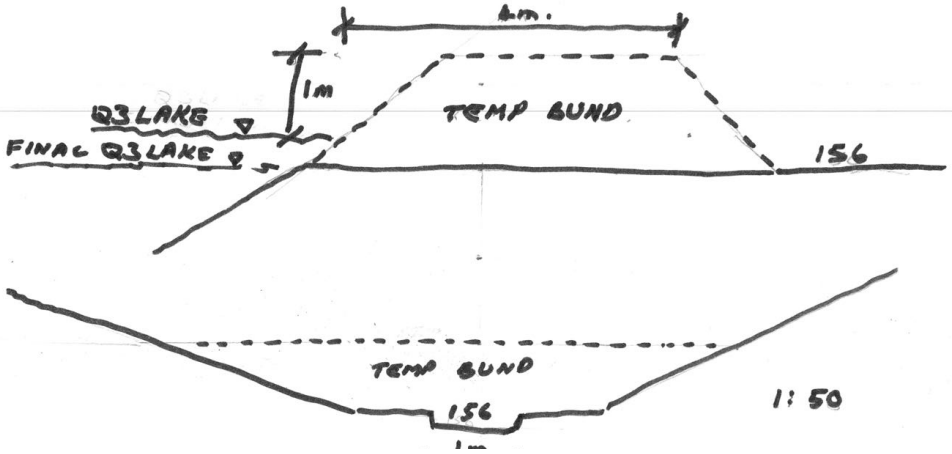


Figure 4 Long & Cross Section of Temporary Bund

be used when excavating within the SSSI area. The works shall be undertaken in a manner that does not require plant or labour to extend outside the red line boundary. No over swinging of equipment, bucket arms or material beyond the red line boundary shall be permitted.

16. The channel and cutting sides shall be fully excavated within the SSSI area and the channel extended back to the SSSI Access limit as shown on Fig 1, and previously marked out on the ground.

17. On completion of the works within the SSSI area the ABEC Engineer will sign off the works, having first gained agreement with the Bowland Ecologist. The SSSI boundary shall then be reinstated by the Contractor and the “Access Limit” fence also reinstated before further earthworks proceeds.

18. To limit the potential of silt migration a geotextile membrane shall be installed at the Access Limit fence before the SSSI boundary to limit the migration of sand and coarser fragments from entering the SSSI. This shall be maintained until all works are completed.

19. The remainder of the excavation shall then be cut within the quarry area to form the base of the cut and channel in the northern and central sections. This shall extend to, but no closer than 2m from the edge of the lake.

20. If lake levels were to rise to within 0.5m of the top of the temporary bund the Abbeydale BEC Engineer may require that works are suspended and made ready for the possibility of overtopping occurring. The contractor would be required to form a

temporary channel in the bund to direct overflowing water through the excavated area to the completed channel.

21. Having completed the earthworks below the temporary bund, all slopes shall be trimmed and left bare with no topsoiling required. This shall include controlled wetting of the channel base and removal of any silt migrating onto the geotextile membrane.

22. On completion of these works the final commissioning process for the outfall can be undertaken. If lake levels are below 155.9m AOD then processes 23 and 24 are not required.

23. Where lake level remains above 155.9m AOD a controlled lowering of the lake is required. Under the supervision of the Abbeydale BEC Engineer a 100mm wide notch through the temporary bund shall be formed. The notch will initially be cut down to

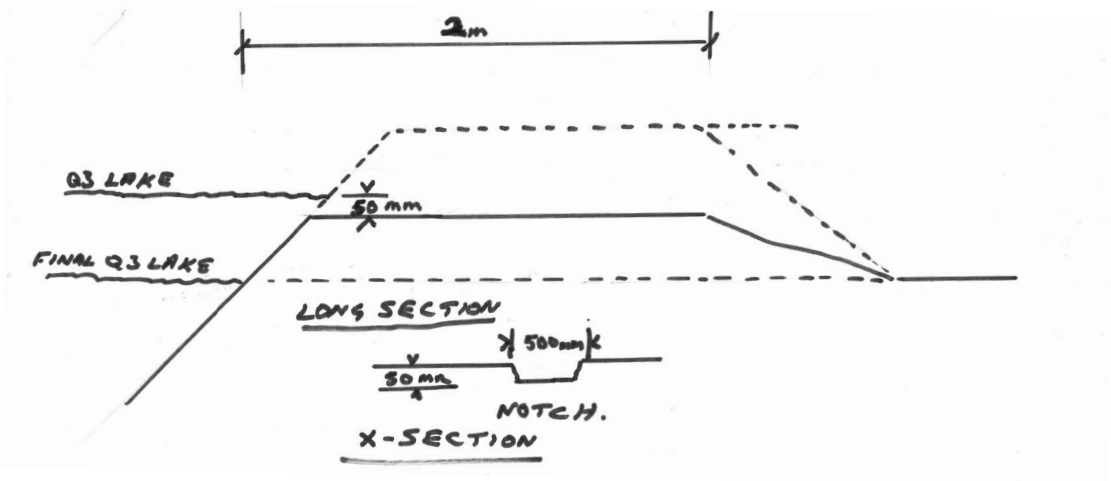


Figure 5 - Sections Through Notch

lake water level to only allow a trickle of water to pass through until the whole stream bed has been saturated. Following saturation the flow can be increased by lowering the notch by no more than 100mm below the level of the lake, See Figure 5, allowing no more than a steady volume of 800m^3/day to pass through. A geotextile lining (of a type and size agreed prior to works starting) shall be available if a temporary reduction of flow is required.

24. The notch shall only be lowered further when lake level has lowered, when the notch can again be lowered to 100mm below the level of the lake. By incrementally lowering the notch, flows through the outfall of no more than 800m^3/day shall be maintained during the lowering process.

25. Only when lake levels are at or below 156m AOD shall the remaining temporary bund be removed forming a channel at 155.9m AOD.

26. On completion of the outfall the temporary EA trench to the east of the original quarry outfall shall be infilled to the requirements set out by Natural Englands prior to the start of work. Any remaining stockpiles west of the new outfall shall be removed and the crest track reprofiled to a natural form.

27. No topsoiling, seeding or vegetating of the side slopes shall be required. The final landform shall be left to revegetate naturally and to any conditions set out by Natural England prior to the start of works.

28. Prior, during and post works photographic records/inspection records will be maintained by Abbeydale BEC & Bowland Ecology as evidence of the work and will be provided to Natural England.

29. On completion of works a meeting with the Earthworks Contractor, Abbeydale BEC Geotechnical Engineer, Natural England, Bowland Ecologist and the Client's Representative will be arranged to undertake a final inspection and sign off the works undertaken.