

## Planning, Taxi Licensing and Rights of Way Committee Report

**Application No:** 20/0738/FUL

**Grid Ref:** 283213 211223

**Community Council:** Tawe-Uchaf CC

**Valid Date:**  
15/05/20

**Officer:**  
Carms CC

**Applicant:** Mr Rob Thompson, Celtic Energy Ltd, 9 Beddau Way, Castlegate Business Park, Caerphilly, CF83 2AX

**Location:** Land at and Surrounding Nant Helen Open Cast Coal Site Powys and Onllwyn Distribution Centre, Neath Port Talbot

**Proposal:** Construction of complementary restoration earthworks to create 2 looped landform platforms (part in cutting and part on embankment) with associated drainage infrastructure and areas of landscaping and habitat creation to create a flexible and adaptable area of land that could be used for a variety of uses including agriculture, nature conservation, leisure, tourism and industrial, research and development/business uses (potentially including a proposed rail testing, research and development and storage facility). (Cross-boundary application, see Neath Port Talbot CC Application ref. P2020/0362)

**Application Type:** Full

### REPORT UPDATE

#### Updated Consultee Response

##### PCC Land Drainage Officer

Thank you for the opportunity to comment on this application. Both Powys CC and Neath & Port Talbot CBC, as Lead Local Flood Authority (LLFA) and SuDS Approval Body (SAB) for their respective areas, have considered the information submitted and would make the following joint comments.

We are pleased to note that SuDS opportunities have been identified for use at this early stage and note the hierarchy approach the design will take. The use of infiltration, surface ditches/swales, ponds and wetlands are all suitable SuDS features for the management of surface water run-off.

We note that the Drainage Strategy (Issue P01 dated 06 December 2019), acknowledges previous flooding concerns of those watercourses associated with the Tawe catchment and that the aim of the drainage proposal is to reduce and manage flow to these known watercourses. The drainage proposals also set out how surface water run-off is to be managed in all other catchments across the site.

The drainage strategy indicates that the hydraulic controls proposed for management of surface water run-off will be designed to accommodate rainfall events up to 1: 100-year storm event, to include a 40% allowance for climate change from potential future impermeable areas across the site. This is noted.

Whilst we encourage the surface water drainage design to mimic Greenfield Runoff Rates (GRR), betterment is required within those catchment areas identified in the drainage strategy where flood concerns have been noted through the use of appropriate attenuation and effective flow management systems.

The following is an outline of the proposed surface water management for each of the drainage sub-catchments on the site.

#### River Tawe catchment

- o Catchment 1A – Report identifies catchment 1A is outside the planning boundary and not affected by the proposed scheme. This is noted.
- o Catchment 1B – Report identifies that there are no contributing flows within Catchment 1B. This is noted.
- o Catchment 1C – Use of engineered watercourse and connection to an existing watercourse is proposed. There will be an overall reduction in catchment area and only a relatively small amount of track side drainage (from Catchment 1D) is contributing to catchment flow due to the track running through a relatively deep cutting. An attenuation pond is to be installed to store flows from track side drainage only. Surface water runoff outside the track loop will continue to discharge from the landscape as sheet runoff, as previous.
- o Catchment 1D – Identifies the use of an engineered watercourse communicating to an existing watercourse that was previously severed during the mining operations on the site. Existing settlement ponds from current mining operations are to be used as attenuation pond facilities. This change of use will need to be carefully managed during the construction phase to mitigate potential pollution concerns. The creation of potential impermeable areas within this catchment would increase runoff rate and volume, therefore the scheme proposes to build-in additional attenuated storage capacity and use of an orifice control system to regulate the rate of discharge to GRR.
- o Catchment 1E – The report notes an engineered watercourse is to be created as part of the restoration scheme and communicate with an existing unnamed ditch. The report also recognises that this unnamed ditch has had previous flood risk issues associated with it. We would add that this existing ditch is an important feature for the management of flow from this catchment and we would strongly recommend that channel improvements to the existing ditch are included within the Complementary Earthworks Scheme to further improve the channel's effectiveness. This work can be considered at detailed design stage.

The report indicates that part of the proposed restoration watercourse will need to be diverted and culverted as part of the Complementary Earthworks Scheme. Sheet runoff is to be collected and conveyed by cut-off ditches along the base of the proposed track embankments.

The proposed catchment area (including track area) is to be slightly larger than the original catchment area. The report acknowledges that due to known flooding issues on the receiving watercourse downstream, a reduced discharge rate for the

proposed restoration scheme was being incorporated within that design. The Complementary Earthworks Scheme has recognised this and proposes to use a reduced discharge rate as that previous set (45.9l/s/ha for a 1: 100-year event) for an equivalent restoration area, with the remaining contributing area to discharge at the GRR.

The proposal is to create an attenuation pond of suitable capacity and use an orifice control system to regulate the rate of discharge from the pond system.

- o Catchment 1F – The drainage rationale for Catchment 1F is the same to that proposed for Catchment 1E.

Again, the proposed catchment is slightly larger than the original catchment. The Complementary Earthworks Scheme has recognised this and proposes to use a reduced discharge rate as that previous set under the restoration scheme (46.5l/s/ha for the 1: 100-year event) for an equivalent restoration area, with the remaining contributing area to discharge at the GRR.

The proposal is to introduce attenuation pond systems of suitable capacity and use an orifice control system to regulate the rate of discharge.

- o Catchment 1G – As previously proposed under the restoration scheme, surface water run-off from this catchment is to be collected by an engineered watercourse and communicate to an existing watercourse that was previously severed during the mining operations on the site.

The proposed catchment under this Complementary Earthworks Scheme is significantly greater to the proposed restoration catchment. Therefore, the proposal is to attenuate run-off to the peak discharge rate (as determined under the restoration scheme proposals), thus avoiding increased flows to the downstream watercourse. This will be achieved through the introduction of an attenuation pond of suitable capacity and using an appropriate control system to regulate the rate of discharge.

- o Catchment 1H – This catchment was not covered by the restoration area scheme and is significantly smaller in size than its original catchment size. However, the creation of potential impermeable areas within this catchment area would increase runoff rate and volume and therefore under this Complementary Earthworks Scheme there is a proposal to build-in additional attenuated storage capacity. An appropriate control system to regulate the rate of discharge from the pond to GRR would be installed. Additionally, the exact flow route of the existing ditch system to the Nant Llech will need to be confirmed. This matter can be considered at detailed design stage.

- o Catchment 1I (a & b) – Run-off from this catchment is to connect to the same unnamed ditch referred to under Catchment 1E. Although the track area bisects this catchment, the surface water runoff generate from the track is to drain to Catchment 1E and 1G respectively. The proposed discharge rate from this catchment will therefore mirror GRR's.

The LLFA would reiterate its early comments regarding the existing unnamed ditch to which Catchment 1I will connect. This existing ditch is an important feature for the management of flow from this development and would strongly recommend that channel improvements are incorporated within the Complementary Earthworks Scheme to further improve the effectiveness of this channel. This work can be considered at detailed design stage.

#### River Dulais catchment

- o Catchment 2A – The proposed catchment area under this Complementary Earthworks Scheme is greater in size to the proposed restoration catchment but is smaller than the original catchment.

The LLFA is not aware of flooding issues within the downstream tributary. No attenuation is proposed for the surface water run-off generated within this catchment, other than for the track area, for which an attenuation pond of suitable size is proposed. An appropriate control system to regulate the rate of discharge from the pond is to be installed.

- o Catchment 2B – The proposed catchment area under this Complementary Earthworks Scheme is significantly greater in size to the proposed restoration catchment. This is due to the restoration scheme proposals only covering part of this catchment.

To ensure that the overall surface water discharge rate from this catchment is not greater than what drained from the original catchment, the proposal is to create several suitably sized attenuation ponds across the catchment to collect and discharge flow at controlled rates. Appropriate control systems to regulate the rate of discharge from the various ponds would be installed.

- o Catchment 2C – The proposed catchment area under this Complementary Earthworks Scheme is smaller in size to the original catchment and therefore no attenuation is proposed at this stage for the surface water run-off generated within this catchment.

The report does however indicate that the outfall locations will more than likely differ in the final track design from those proposed under this application. Any attenuation requirements, and the likely effect of potential future use of the track area, can be considered at detailed design stage.

#### Afon Pyrddin catchment

- o Catchment 3A – The proposed catchment area under this Complementary Earthworks Scheme is slightly smaller in size to the original catchment. However, potential future use of the track plateau could result in development of impermeable surfaces. The proposal is to introduce attenuation pond systems of suitable capacity and use an orifice control system to regulate the rate of discharge.

The drainage design does compare the effect the earthworks proposals will have within each of the sub-catchment areas, to ensure the run-off rate from the site is not increased. For the River Tawe catchment, a reduction in contributing area coupled

with a reduction in discharge rates proposed as part of the restoration scheme will provide an overall 30% reduction in peak flow to the River Tawe (inclusive of a 40% allowance for climate change for future impermeable areas).

For the River Dulais catchment, although there would be an increase in the impermeable area within this catchment, the mitigation measures proposed would result in an overall reduction to the original peak discharge rate.

A reduced peak discharge rate is also achieved in the Afon Pyrddin catchment through the mitigation measures being proposed.

These overall design proposals are generally acceptable. However, the following additional comments/observations need to be taken into account at detailed design stage and addressed prior to any commencement on site.

The use of hedge planting/screening, grass filter strips and other natural solutions should be considered to help create Blue Green corridors and to allow the re-integration of natural species. Any greening/planting up of existing brownfield or bare earth areas are to be welcomed and with careful planning can be effective in replenishing/rewilding the site whilst also reducing runoff and the transfer of silt.

It is noted that the existing reservoirs and other existing ponds across the site (which are substantial in surface area) are being replaced with significantly smaller (in surface area terms) but deep attenuation ponds (2m plus).

Due to the steepness of the new embankments, the attenuation ponds will fill relatively quickly; the design of these attenuation features will therefore need to consider the effect any rapid inundation has on their sizing.

The use of attenuation ponds does not necessarily follow the good practice designs within the SuDS Manual, particularly for water quality purposes. However, each attenuation pond is to be lined to provide a permanent wet base. The use of detention ponds or wetlands would provide better enhancement opportunities not only for amenity and biodiversity but also water quality purposes. It is recommended that further consideration be given to the design of the attenuation ponds in terms of water treatment requirements.

Information boards displaying the function and ecological benefits of each SuDS component should be erected, particularly where these features are accessible to the public.

In terms of maintenance to these ponds, the Applicant would be responsible for the management and maintenance for these SuDS features for the lifetime of the development. An appropriate management and maintenance plan shall be provided.

Although the design indicates an access track around each pond, no provision for access to the SuDS features has been shown within the current proposals. Appropriate access arrangements will need to be provided, particularly in reaction to a spillage/pollution incident that may impact the SuDS feature.

We note at this stage, only the embankments for the outer and inner rails will be created. However, when fully developed as a testing centre, if an engine were to breakdown at the furthest point on the rail track away from the operational centre, the current drainage proposal makes no allowance in its design for the construction of any vehicular access track that may be required for future maintenance needs. Should this be the case, then the provision of the maintenance track will need to be considered in the drainage design.

Although the proposals indicate the inclusion of swales as part of the SuDS management train, it is considered that the depth and sizing of the proposed attenuation ponds would not be adequate for water quality needs alone. As previously mentioned, the use of detention ponds or wetlands would provide better enhancement opportunities not only for amenity and biodiversity but also water quality purposes.

It is considered that the size of the cut off ditches, particularly those located along the toe of the large and steep embankments, may not cope with the rapid surface water run-off generated from such slopes, thereby allowing water to sheet over. The size of the ditches throughout the scheme will need to be appropriately designed to allow sufficient capacity to mitigate any exceedance.

The design should take full account of the method of construction, including any specific programming requirements, to minimise the potential for poor construction of any drainage component. For a phased development, the design should indicate how SuDS features will be managed, protected and commissioned, especially where their use may change through the construction programme.

Several hazards and risks are currently present within the proposed design/land use. Specific consideration and assessment along with risk mitigation design approach/methodology considering PPW10 and other relevant UK standards/good practice is required for the following geotechnical/geoenvironmental aspects:

- Mining Subsidence – risks from shallow mine workings.
- Mining Subsidence – mine entries.
- Slope stability – general restoration and track earthworks.
- The impact of historical landslides and/or ground movement.
- Risks from combustible soils.
- Risks from sulphate rich and/or pyritic materials.
- Differential settlement and high wall interactions.
- Compressible ground, e.g. unconsolidated deposits.
- Collapse compression of fill materials (e.g. following inundation).
- Deterioration of placed fill, e.g. scour.
- The potential for failure of culverts and other drainage beneath embankments.

- Leakage from ponds and drains.
- Groundwater control and management (shallow and deep).
- Risks to human health including hazardous ground gasses.
- Management of risks to controlled waters, including consideration of potential acid mine drainage.

It is therefore recommended that prior to any commencement on site that full engineering details and drawings, together with any relevant assessments, for the surface water drainage design be submitted and approved by the LPA.

Condition: No development shall commence until full engineering details, relevant assessments and drawings of the implementation, maintenance and management of the surface water drainage scheme have been submitted to and approved by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

- a timetable for its implementation, and
- a management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.
- The detailed geotechnical design must be approved prior to commencement.

Reason: To ensure that the proposed surface water drainage systems for the site are fully compliant with regulations and are of robust design.

Informative: The LLFA is, in general, opposed to culverting of Ordinary watercourses and whenever practical will seek to have culverted watercourses restored to open channels. Any proposed diversion or culverting of an Ordinary watercourse will require the prior consent from the LLFA under the terms of the Land Drainage Act 1991 (as amended by the Flood & Water Management Act 2010). Relevant application forms and guidance should be sought from the relevant LLFA.

Riparian rights and responsibilities would continue to exist in respect to these ordinary watercourse systems.

Schedule 3 of the Flood and Water Management Act (FWMA) 2010 requires surface water drainage for new developments to comply with mandatory National Standards for sustainable drainage (SuDS). The SuDS Approval Body (SAB) deem that the construction area is greater than 100m<sup>2</sup> and therefore this proposed development will require SAB approval prior to any construction works commencing onsite.

Please contact the SAB Team on 01597 826000 or via email [sab@powys.gov.uk](mailto:sab@powys.gov.uk)

### **Officer Appraisal Update**

### **Hydrological Impact (sustainable drainage, water quality and flood risk)**

The Land Drainage Officer has confirmed that

- For the River Tawe catchment, a reduction in contributing area coupled with a reduction in discharge rates proposed as part of the restoration scheme will provide an overall 30% reduction in peak flow to the River Tawe (inclusive of a 40% allowance for climate change for future impermeable areas).
- For the River Dulais catchment, although there would be an increase in the impermeable area within this catchment, the mitigation measures proposed would result in an overall reduction to the original peak discharge rate.
- A reduced peak discharge rate is also achieved in the Afon Pyrddin catchment through the mitigation measures being proposed.

The Land Drainage Officer sets out the potential risks associated with the development which will need to be addressed in detail and these risks will need to be 'designed-out'. A condition is recommended to require the detailed design to be approved by the Local Planning Authority.

### **Public Access and Common Land**

Policy T1 of the LDP states that development proposals should incorporate

1. Safe and efficient flow of traffic for all transport users, including more vulnerable users, and especially those making 'Active Travel' journeys by walking or cycling;
2. Manage any impacts to the network and the local environment to acceptable levels and mitigate any adverse impacts; and,
3. Minimise demand for travel by private transport and encourage, promote and improve sustainable forms of travel including Active Travel opportunities in all areas.

The Sustrans National Cycle Route 43 passes through the site and to ensure that the route is retained for use by cyclists and walkers an additional condition is recommended to ensure that it is retained either along its current alignment or along an alternative alignment if the design of the embankment requires the existing route to be moved.

### **Recommendation Update**

The recommendation remains unchanged but the following additional conditions and notes are recommended:

26. No development shall commence until full engineering details, relevant assessments and drawings of the implementation, maintenance and management of the surface water drainage scheme have been submitted to and approved by the local planning authority. The scheme shall be implemented and thereafter managed and maintained in accordance with the approved details. Those details shall include:

- a timetable for its implementation, and
- a management and maintenance plan for the lifetime of the development which shall include the arrangements for adoption by any public body or statutory undertaker, or any other arrangements to secure the operation of the sustainable drainage scheme throughout its lifetime.
- The detailed geotechnical design must be approved prior to commencement.



27. No development shall take place upon the Sustrans National Cycle Route 43 Celtic Trail East unless alternative provision has been made in accordance with details submitted to and approved by the Local Planning Authority.

Reasons:

26. To ensure that the proposed surface water drainage systems for the site are fully compliant with regulations and are of robust design in compliance with Policy DM6 of the LDP

27. To ensure the cycle route is retained and is available for cycling and recreation in compliance with Policies T1 and T2 of the LDP.

**Notes:**

6. The LLFA is, in general, opposed to culverting of Ordinary watercourses and whenever practical will seek to have culverted watercourses restored to open channels. Any proposed diversion or culverting of an Ordinary watercourse will require the prior consent from the LLFA under the terms of the Land Drainage Act 1991 (as amended by the Flood & Water Management Act 2010). Relevant application forms and guidance should be sought from the relevant LLFA.

7. Riparian rights and responsibilities would continue to exist in respect to these ordinary watercourse systems.

8. Schedule 3 of the Flood and Water Management Act (FWMA) 2010 requires surface water drainage for new developments to comply with mandatory National Standards for sustainable drainage (SuDS). The SuDS Approval Body (SAB) deem that the construction area is greater than 100m<sup>2</sup> and therefore this proposed development will require SAB approval prior to any construction works commencing onsite.