

Glyn Rhonwy Pumped Storage Development Consent Order

Outline Construction Traffic Management Plan



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1 INTRODUCTION

1.1 Introduction

- 1.1.1 This Construction Traffic Management Plan (CTMP) has been prepared on behalf of Snowdonia Pumped Hydro (SPH) in relation to the Development Consent Order (DCO) application for the development of a pumped storage facility at the Glyn Rhonwy quarry system. This shall be referred to as the 'Development' herewith. This CTMP is an Appendix of the overall Code of Construction Practice (CoCP).
- 1.1.2 The Development will cover an area of approximately 91.24ha and its physical characteristics include a number of quarry pits, slate tips, mature plantation woodland, rough grazing land and a road network leading to Glyn Rhonwy Industrial Estate in the north and connecting to the A4085 to the west.
- 1.1.3 The Development comprises one head pond (Q1), its dam and spillway infrastructure to the Nant Y Betws, one tail pond (Q6), its dam and spillway infrastructure to Llyn Padarn, a penstock connecting Q1 to the Power House located adjacent to Q6, a tailrace connecting the Power House to Q6, and the Power House itself consisting of the turbines and pumps at depth with electrical distribution equipment on the surface adjacent to the power house building. Further details of the Development is set out in the Environmental Statement (ES) (Doc Ref: 6.01 – 6.04) which accompanied the DCO.
- 1.1.4 The most significant traffic impacts generated by the Development will occur during the construction phase, which will last for approximately 4 years with a workforce varying according to the construction programme. Vehicular access will be gained to Q6 from the existing industrial estate roads off the A4086 which are already in situ.

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- 1.1.5 Access to Q1 will be gained via an unclassified road (Ffordd Cefn Du) from the A4085 through Waunfawr and to a car park just south of the existing Q1 quarry. No other access route to Q1 will be permitted.
- 1.1.6 This CTMP has been updated in response to comments received during the DCO Examination and also due to the progression of discussions with Gwynedd Council on the highway improvements to Ffordd Cefn Du.
- 1.1.7 The CTMP will be finalised by the Principal Contractor prior to construction commencing, as required by Draft DCO Requirement 6, the final document will then be agreed with Gwynedd Council prior to work starting on site, the final document can then include the following information:
- Final construction programme;
 - Location of workforce will be known, as such the exact measures to reduce the numbers of car trips can be identified;
 - Location of all materials and plant will be known, and therefore the exact routes to the site, on the wider network beyond either the A4086 on the Q6 side or the A4085 / Ffordd Cefn Du on the Q1 side will be known, and
 - The name and contact details of the Environmental Liaison Officer (ELO), who will provide the point of contact for residents.
- 1.1.8 It also includes an overview of a Travel Plan for the operational phase of the development and sets out the key points of this document, which would be submitted and agreed with Gwynedd Council prior to the opening of the site.

2 CONSTRUCTION TRAFFIC MANAGEMENT

2.1 Introduction

- 2.1.1 This key purpose of this plan is to set out the measures which would be implemented to mitigate the impact of construction vehicle trips (especially Heavy Goods Vehicles (HGVs)) to and from the Development and the requirements made of the company or companies undertaking the works.
- 2.1.2 Before construction can commence at Q1, highway improvements are required along Ffordd Cefn Du. These include localised widening and drainage improvements and the inclusion of passing places above the cattle grid on Ffordd Cefn Du. These highway improvements will be undertaken by the Applicant on behalf of Gwynedd Council under an agreement under Section 278 of the Highways Act.
- 2.1.3 These improvement works may facilitate additional safety measures which will reduce the amount of traffic management required during the construction phase, especially at the Groeslon crossroads. These improvements will be subject to consultation with the local residents and so the CTMP will be updated in due course, and provide further details of the active traffic management to be implemented by the Applicant and its appointed Principal Contractor.
- 2.1.4 The remainder of this CTMP also includes the following:
- Details of the construction phase and key mitigation;
 - Results of a photographic survey recording the condition of the public highway (another will be undertaken immediately prior to the highway improvement works and again prior to construction of the Development);
 - Description of measures to be taken to prevent or minimise the deposit of mud, grit or dirt on the public highway;

- Description of provision for parking of vehicles on site for site operatives and visitors;
- Limits on the loading and unloading of plant and materials,
- A proposed methodology for the reporting of any traffic incidents involving construction vehicles
- A scheme providing details of the route to be used by contractors' vehicles (particularly HGVs) and the daily number of vehicles;
- Details of the proposed monitoring of construction traffic and how this would be controlled in liaison with Gwynedd Council;
- The temporary closure of Ffordd Clegir for construction related activities close to the road that may otherwise result in a safety concern for users, and
- The procedure to be followed so that affected residents are kept informed regarding any abnormal loads.

2.1.5 During the construction phase, access will be required to both sides of the Development - Q1 for the headpond on the Waunfawr side (west) and Q6 for the tailpond on the Llanberis side (east) of the Development.

2.1.6 The number of vehicles that are required at each site during the life of the construction works have been split into the following activities:

- Q1 - Headpond and Associated Works
 - Establish Construction Compound;
 - Access Modifications; and
 - Headpond Construction.
- Q6 - Power House, Tailpond and Associated Works
 - Establish Construction Compound;
 - Access Modifications;
 - Power House Construction;

- Tailpond Construction;
- Penstock and Tailrace; and
- Llyn Padarn pumping station / spillway infrastructure.

2.1.7 Swept path analysis has been undertaken for access from both sides of the Development for the following vehicle types; these are included within ES Volume 4, Figures 12.1-12.5 (Doc Ref: 6.04, Vol. 4E).

- Low Loader with a Moxy MT41;
- Low Loader with a JCB JS360;
- Low Loader with a CAT D6N Dozer, and
- 400T Mobile Crane.

2.1.8 With reference to the swept path analysis, it can be seen that all anticipated vehicle types will be able to access the site along both the minor access road past Waunfawr and from Glyn Rhonwy on the Llanberis side, albeit that improvements within the assumed highway boundary will be required.

2.2 Q1 Headpond and Associated Works

2.2.1 Construction of Q1 on the upper Waunfawr side is envisaged to last for a period of approximately 29 months. The highway improvement works will be undertaken in the six months, before the commencement of construction of the headpond. The highway works and DCO construction are subject to separate consenting processes however in the overall programme of works the headpond construction would start in month 7 and take 23 months.

2.2.2 There will be no construction traffic between Months 40 and the end of the construction phase at this location.

2.2.3 The traffic generation is split into weekly trips, based on an average of 4 weeks per month, and daily trips based on a 5 day working week.

2.2.4 The construction traffic to access the Q1 site would travel from the A4085 Ffordd Cefn Du through the crossroads at Groeslon using the existing access track, with all HGVs and abnormal loads arriving and departing from the A4085 (N).

- 2.2.5 No other routes other than the use of Ffordd Cefn Du would be accepted in order to access Q1 from the A4085. This would be included as a requirement in any Construction Contract with a penalty of being removed from site should this not be adhered to.
- 2.2.6 The route beyond the A4085 to the A55 would be agreed between Gwynedd Council and the Contractor and at this stage this is assumed to be either via the A4086 and the A4244 or using the A4085 to travel through Caernarfon to then use the A487.
- 2.2.7 The construction workforce would be likely to commute from the main local population areas of either Llanberis or Caernarfon.

2.3 Q6 Power House, Tailpond, Tunnel, Pumping Station and Associated Works

- 2.3.1 The construction of the Power House, Tailpond and Associated Works at the Glyn Rhonwy Industrial Estate and Llyn Padarn is envisaged to have a construction period of approximately 48 months. Construction works will mobilise in Month 1, with the main works on the Power House starting in Month 6, continuing until Month 36.
- 2.3.2 The Tailpond construction will last from Month 7 to 29, with Tunnel and Pumping Station construction lasting from Month 7 to 39.
- 2.3.3 There is proposed to be no construction traffic from Month 40 to the end of Month 48. In Month 49 the site de-mobilisation will be carried out.
- 2.3.4 The traffic generation is spilt into weekly trips, based on an average of 4 weeks per month, and daily trips based on a 5 day working week.
- 2.3.5 The construction traffic for the Q6 construction phase will use the A4086 and Glyn Rhonwy to access the quarry through the industrial estate from Glyn Rhonwy. All HGV movements and abnormal loads would use the A4244 to the north and would not travel through Llanberis to the south.
- 2.3.6 Ffordd Clegir will not be used by traffic during the construction period, however it may be necessary to close the road temporarily for short periods whilst drilling or blasting operations are undertaken.

- 2.3.7 The construction workforce would be likely to be housed in the main local population areas of either Llanberis or Caernarfon.
- 2.3.8 The total traffic to be generated by each individual element of the Q1 and Q6 construction phases is shown in Appendix B as a graphical representation, although it should be noted that these are the predicted construction flows including the 25% precautionary uplift, as given in the ES assessment.
- 2.3.9 The above provides the reasonable worst case of construction vehicle traffic that can be established prior to the appointment of the Principal Contractor and the preparation of the final construction programme.
- 2.3.10 Therefore, prior to the works commencing on site the Principal Contractor will provide Gwynedd Council with details of the proposed construction traffic movements to both Q1 and Q6.
- 2.3.11 Should there be any significant variation then this will be discussed with the Local Authority prior to the works commencing on site and the Principal Contractor will seek to reduce movements wherever possible.

2.4 Key Mitigation Measures to be Implemented

Highway Improvements

- 2.4.1 Key mitigation relating to the additional construction traffic will consist of improvements at the Groeslon crossroads. Changes to the junction will include changing the priority of the crossroads, removing the give way lines from the east and west arms and inserting new give way lines on the north and south arms. This will give priority at the crossroads to the west to east and east to west traffic during the construction phase and will also assist in improving overall junction visibility.
- 2.4.2 Prior to any of the construction works starting a full schedule and plans showing the proposed traffic management procedures will be provided to Gwynedd Council for approval. Additionally, minor highway improvements will be carried out on the unclassified road (Ffordd Cefn Du) from Waunfawr to Q1.

2.4.3 These are not proposed to form part of this DCO application but will instead be dealt with using a Section 278 Agreement with the Local Highway Authority. The other suggested road improvements are summarised below:

- Replace existing cattle grid on the Q1 access road with a heavy duty grid. Once the works are complete the grid will either remain in place, if still structurally sound, or be replaced if not;
- Widen the existing Q1 access road carriageway to a minimum width of 4m and remove, where possible, tight bends to enable the construction traffic to use the route. This would then require the length of Ffordd Cefn Du to be resurfaced from the cattle grid to the Q1 site. following this the road would then be maintained for the duration of the works; and
- Along the length of the Q1 access road it is proposed to incorporate seven passing places, positioned roughly 170m apart, to enable vehicles to travel in both directions on the single lane carriageway.

2.4.4 Appendix B at the end of this report shows the site boundary plan and areas Q1 to Q8 (inclusive). Access to areas Q6 and Q1 are discussed turn below in Section 3.

Traffic Management

2.4.5 The CTMP will be finalised by the appointed Principal Contractor. Together with the Applicant, they will be responsible for confirming and implementing these mitigation measures as a minimum:

- No HGV or large load deliveries on any construction route to the Development before 8.30am or after 4.30pm during the week and outside of 09.00-13.00 on Saturdays, with no working on Sundays or Public Bank Holidays. This includes the A4085 and A4086;
- All construction vehicles will be subject to a reduced speed limit of 20mph on Ffordd Cefn Du between the A4085 and Q1.
- All abnormal loads will be subject to the use of banksmen on Ffordd Cefn Du;

- The Principal Contractor will be required to implement and maintain a method of communication for all HGV's using Ffordd Cefn Du. This will ensure that drivers do not conflict whilst on the road as well as allowing them to warn others of the presence of any other road users.
- All construction vehicles on Ffordd Cefn Du will give way to other users such as a group of walkers, horse riders, cyclists or another car unless unsafe to do so;
- No drive ways on Ffordd Cefn Du are to be blocked by construction phase traffic including large or abnormal loads other than in an emergency or only for as long as required to allow another vehicle to pass;
- For abnormal or large deliveries, it is intended that a temporary car park will be provided for local residents;
- The Environmental Liaison Officer (ELO) will communicate any potential inconvenient or disruptive construction traffic activities such as delivery of large plant and equipment as soon as reasonably possible after the construction programme has been confirmed;
- Any deliveries containing explosives will be subject to the required security escort and compliance with the appropriate certification and legislation;
- The ELO will invite information from all competitions and event users of the Ffordd Cefn Du in order for them to be notified of any potentially disruptive activities and also for any construction deliveries or traffic to be stopped or rearranged for another working day;

2.4.6 The Applicant and Principal Contractor will be responsible for any damage to the Ffordd Cefn Du caused by the construction traffic. Regular inspections of Ffordd Cefn Du will be undertaken along with the Highways Authority, with all communication regarding any likely damage caused directed to the ELO. A maintenance and repair system will be implemented as necessary and agreed with the Highway Authority to avoid any

significant adverse effect to local residents houses from vibration (structural surveys will be undertaken as per the Noise Management Plan of selected houses who are concerned about vibration).

2.4.7 The ELO will ensure that all construction traffic is monitored and recorded and will supply this data to Gwynedd Council upon request.

2.5 Measures to Minimise Dust & Detritus on the Public Highway

2.5.1 The Applicant and PC will take reasonable steps to ensure that the deposit of mud and dirt on the highway is kept to a minimum. Wheel washing facilities will be provided off the public highway at Q1 and Q6, on the way out of the Development.

2.5.2 A pressure washer, with manual brushing facilities will be provided on site. After each vehicle has vacated the site, the road will be checked and cleared if required. The situation will be monitored, and assessed to determine if a road sweeper is necessary to ensure the public highway remains reasonably clear of mud and grit during the works.

2.6 Parking Provision

2.6.1 Areas of hard standing at Q6 will be made available off the public highway to accommodate up to fourteen vehicles no greater in size than 18.75m for Drawbar Combination HGVs or 16.5m for articulated HGVs (both are relevant as they have different manoeuvrability and therefore have different swept paths). By means of reference, both of these types of vehicle are commonly used in forestry operations and are stated in the Roundwood Haulage Working Party Code of Practice (2002). This is easily accessed via the existing industrial estate access road.

2.6.2 Within Q1, an existing, gravelled parking area is available at the terminus of Ffordd Cefn Du for use by up to six maximum size site vehicles. The area is bound by grass and short vegetation to the north which may be cleared if a larger area is required. Additionally, the disused tip to the south of the access road provides a much larger area which can be used for all vehicles during the construction phase.

2.7 Limits of Loading and Unloading of Vehicles

- 2.7.1 All loading and unloading will take place off the public highway. Sufficient area within the site is provided within the parking area to enable HGVs to load and unload off the public highway.
- 2.7.2 Due to the nature and size of the vehicles accessing the Development, a banksman will be deployed on-site to guide the larger vehicles on and off site.
- 2.7.3 Pedestrian routes and vehicle routes will be clearly set out within the site; this will reduce any likely conflicts between HGV movements and pedestrians when materials and equipment are delivered to site.
- 2.7.4 HGVs and delivery vehicles will be required through the DCO requirements to use a specific route to access the Development. Details of the chosen route will be provided to site personnel, contractors and delivery drivers.
- 2.7.5 The number of HGVs associated with construction traffic is likely to have an adverse, but temporary, effect on the local highway network and therefore, the programming of such movements will be subject to restricted periods of the day and working week. It is envisaged that such periods will be restricted to 08.30-16.30 during the week and 09.00-13.00 on Saturdays, with no working on Sundays or Public Bank Holidays.
- 2.7.6 HGVs and delivery vehicles will be required to use a specific route to access the development site. Details of the chosen route will be provided to site personnel, contractors and delivery drivers.

2.8 Incident Management

- 2.8.1 in the event of any incident involving a construction related vehicle on Ffordd Cefn Du the following procedure must be adhered to:
- the driver must stop when it is safe to do so and make a full photographic record of the incident;
 - the driver must attempt to make contact with any affected property owner, and direct them to make contact with the main site office of the PC;

- if the property owner is not contactable the driver must report the incident to the main site office of the PC as soon as is possible;
- upon receipt of an incident the PC will contact the affected property owner as soon as is possible in order to visit the site and wherever possible agree a method and programme for making any required repairs.

2.8.2 Furthermore, a Schedule of Condition of the property may be undertaken prior to the commencement of construction so any claims can be settled accordingly. The details of the surveys are set out in the CNMP.

2.8.3 Should an incident be alleged to have occurred that has not been reported by a Driver, a full investigation will be undertaken by the PC, so that the likely causation can be established. Furthermore, the PC will undertake a lessons learnt investigation in to how an accident or damage can be avoided in the future via the ELO. The resident should contact the ELO at the earliest opportunity.

2.9 Access to Q1

2.9.1 For Q1, the site would be accessed from the A55 via either junction 9, from which vehicles would travel along the A487 to Caernarfon, alternatively vehicles could use junction 11 to then use the A4244.

2.9.2 The A55 is a high quality route which gives access to the wider network. This route is therefore considered to be able to accommodate the construction traffic and as such no further consideration is required.

2.9.3 From the A55 J9, vehicles would then travel south along the A487 before joining the A4085 at an at-grade roundabout.

2.9.4 Alternatively, from junction 11 vehicles would then travel south along the A422 before joining the A4086, they would then travel west along the A4086 before turning left at Pont-rug to join the A4085 at a roundabout at Caeathro.

2.9.5 Once at the A4085, vehicles must turn left before Croesywaun on a road which passes through Groeslon, this will then join Ffordd Cefn Du, a road

running east/west. Improvements to sections of this route are described in Section 2.4.

- 2.9.6 The access to the quarry passes through the crossroads junction at Groeslon crossroads which will be subject to altered priority to allow traffic to flow west to east / east to west. Due to the presence of buildings at the edge of the carriageway, visibility is restricted from the side roads with mirrors on adjoining buildings aiding drivers. The highway improvements outlined in Section 2.4 would improve this visibility.
- 2.9.7 The section of Ffordd Cefn Du to the Q1 site from the Groeslon crossroads will provide a direct route, but due to the restricted road width, localised widening will be implemented to allow construction vehicles to access the site. Furthermore, as the construction vehicles will require the full road width in order to manoeuvre, widening to provide passing places has also been recommended as part of the improvements in Section 2.4.
- 2.9.8 The construction traffic route which shows the route which contractors must take to/from the A55 to site Q1 is shown at Appendix A.
- 2.9.9 As indicated above, Ffordd Cefn Du is subject to highway improvements and these will be implemented prior to construction commencing.

2.10 Access to Q6

- 2.10.1 For Q6, the site would be accessed from junction 11 of the A55, which is a grade separated roundabout, with the A55 passing underneath the junction
- 2.10.2 The A55 is a high quality route which gives access to the wider highway network. This route is therefore considered to be able to accommodate the construction traffic and as such no further consideration is required.
- 2.10.3 From the A55 J11, vehicles would then travel south along a short length of the A5 before joining the A4244 at an at-grade roundabout. The A4244 connects with the A4086 at a priority junction and the A4086 provides access to the Glyn Rhonwy industrial estate. This access road to site Q6 is gated and provides access to a recently constructed highway of good standard which provides direct vehicular access to the site.

- 2.10.4 Glyn Rhonwy provides access to the Siemens headquarters building and Llanberis Touring Park, and also 100m from the junction with the A4086, a side road provides access to an area of industrial development. Whilst this has not currently been developed, the full highway infrastructure has been provided.
- 2.10.5 The industrial estate road is 6.2m in width and has a footway along one side with street lighting along the main spine road through the site. Stub access roads have been provided into numerous areas, although as outlined previously, no development has taken place. The road provides a route through the future development site to Ffordd Clegir which provides a route through Llanberis to the edge of the quarry site, although this junction has been closed off.
- 2.10.6 Ffordd Clegir will not be used as a construction access route during the construction period, or as a travel route from Q6 to Q1; however it may be necessary to close the road temporarily for short periods whilst drilling or blasting operations are undertaken.
- 2.10.7 The construction traffic routes showing the route which all contractors and site operatives must take to/from the A4244 to site Q6 is shown at Appendix A.
- 2.10.8 The route to the edge of the quarry forms a side road with the spine road from Glyn Rhonwy and has a loose surfaced footway along both sides for part of the route, but no street lighting. There is also a section of road where no footway has been provided as it passes over a potential development area that has been set at a lower level.
- 2.10.9 It is concluded that for Q6, no upgrade to the existing highway network is required as the size of vehicles to be utilised for the construction works do not exceed that of those currently using the public highway in the vicinity of the site, as well as the quality of the existing highway is of a high quality.

2.11 Traffic Calming

- 2.11.1 The section 278 agreement with Gwynedd Council will ensure that agreed traffic calming measures are installed at the end of the construction works

for the operational phase. These measures may include for example reinstatement of the north-south junction priority at the Groeslon crossroads, road markings, speed bumps or other measures.

2.12 Monitoring of Traffic Movements

2.12.1 The Contractor will at all times keep a full and complete record of all vehicle movements into and out of the Construction sites at both Q1 and Q6. These records shall be held for the full duration of the contract and will be made available for inspection by Gwynedd Council at all times.

2.12.2 The ELO will provide monthly reports of vehicle movements to Gwynedd Council, and then meet quarterly with Gwynedd Council to discuss the overall traffic movements and discuss how these compare to those agreed as part of the DCO process. The monthly report will also provide an estimation of the traffic volumes expected for the following month, so that Gwynedd Council can then review the actual movements each month against those predicted the previous month. This will permit the Local Authority to raise any concerns regarding monthly traffic movements prior to the month end and will allow them to be proactive in managing and reviewing traffic levels.

2.12.3 Should the movements be greater than predicted, within 2 weeks of the quarterly meeting the ELO will submit a strategy to Gwynedd Council which sets out how the vehicle movements to and from the site will be reduced, wherever possible.

2.12.4 This strategy shall then be agreed between the ELO and Gwynedd Council within 2 weeks of submission and then reviewed again at the next quarterly meeting through the submission of the subsequent monthly vehicle monitoring reports.

2.12.5 However, should the local authority have any concerns regarding a monthly report and the levels of traffic, then a meeting could be held if required outside of the normal quarterly review as outlined above, this would then be held within 2 weeks of the receipt of the monthly report.

2.12.6 Following this meeting, a strategy would then be submitted within 2 weeks of the meeting and then agreed with Gwynedd Council within a further 2 weeks. It would then be reviewed as part of the normal monthly reporting.

2.13 Travel Plan

2.13.1 Prior to the opening of the development a Travel Plan (TP) would be submitted and agreed in writing with Gwynedd Council. This document would aim to promote alternative modes of travel to the single occupancy car trip for employees as part of their journey to work.

2.13.2 As stated in paragraph 12.1.6 of the ES (APP-079), once operational the scheme would employ around 25-35 staff on a 3 shift system, with around 8 to 11 staff per shift, and as acknowledged by Gwynedd Council in their response to Question 6.24 (REP2-041), this level of staff would limit the potential to affect the number of single occupancy car trips to the site once operational.

2.13.3 However, the TP would need to reflect the shift based working pattern and would include a set of aims and objectives which would set the context of the document, a set of measures that could be adopted in order to meet the stated objectives, a baseline modal share of employees based upon either known staff travel patterns or census data, a set of targets to achieve over time to reduce the number of single occupancy car trips and a monitoring schedule to continuously assess the TP over time to ensure that all measures are still relevant and that the targets are being met.

2.13.4 Should the exact travel patterns of staff not be known, then as stated above the initial TP would include data from census information of the wider Llanberis area. This would then be replaced by specific employee travel to work data following the completion of a travel to work questionnaire within 3 months of the development opening. The TP would then be updated with the results of the surveys and reissued to Gwynedd Council within 6 months of the development opening.

2.13.5 The TP would be a “living” document and would be reviewed annually with new employee travel to work questionnaires with a new report then being agreed with Gwynedd Council.

2.14 Temporary Closure of Ffordd Clegir

2.14.1 Ffordd Clegir will not be used for construction access and therefore users and residents of Ffordd Clegir will be able to use this road on a daily basis, with the exception of temporary road closures which may be required.

2.14.2 These will only be required for safety reasons – for example blasting or if localised works to Works No 2, 3A, 3B and 4A are required and either inhibit traffic or, on a precautionary basis, if such works pose any remote risk to users of Ffordd Clegir.

2.14.3 In the event that a Temporary Road Closure is required, the ELO will arrange for all affected properties along Ffordd Clegir to receive a letter which will detail the timing of the closure and will highlight the alternative routes available to residents. It is anticipated that these closures will be for a short duration, but could be longer (up to two days) should the blasting be in closer proximity to Ffordd Clegir.

2.14.4 Whilst the date and timing of the temporary closure will be set out in the letter, the ELO will provide residents with at least 2 weeks’ notice so that any potential disruption can be minimised.

2.15 Abnormal Loads

2.15.1 As stated above in section 2.4.5 all abnormal loads will make use of banksmen whilst on Ffordd Cefn Du.

2.15.2 At least 2 weeks prior to any abnormal loads the ELO will issue a letter to any affected properties adjacent to the site (primarily those along Ffordd Cefn Du and the properties along the A4086 adjacent to the site) informing them of the date and timing of the load.

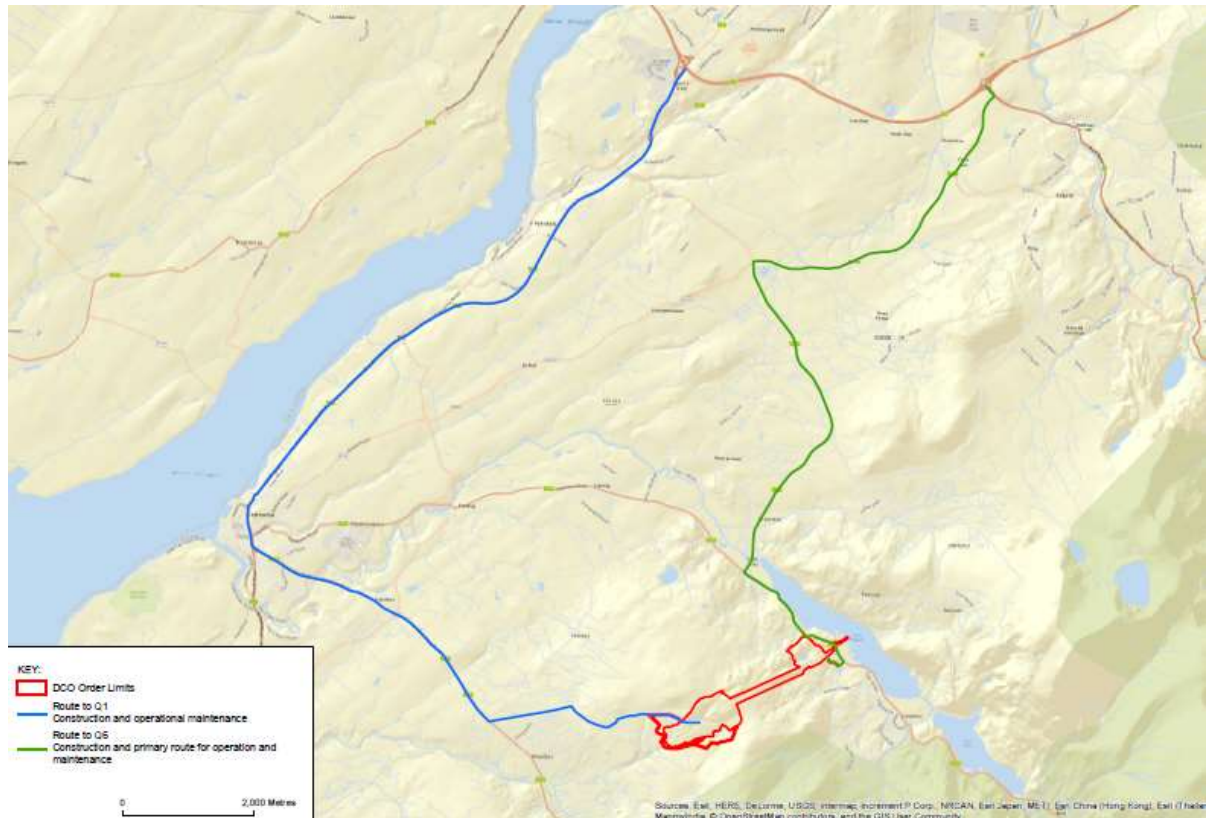
2.15.3 The PC shall liaise with Gwynedd Council and the Police to ensure that all required approvals are in place to allow the abnormal load to travel on the public highway.

3 SUMMARY

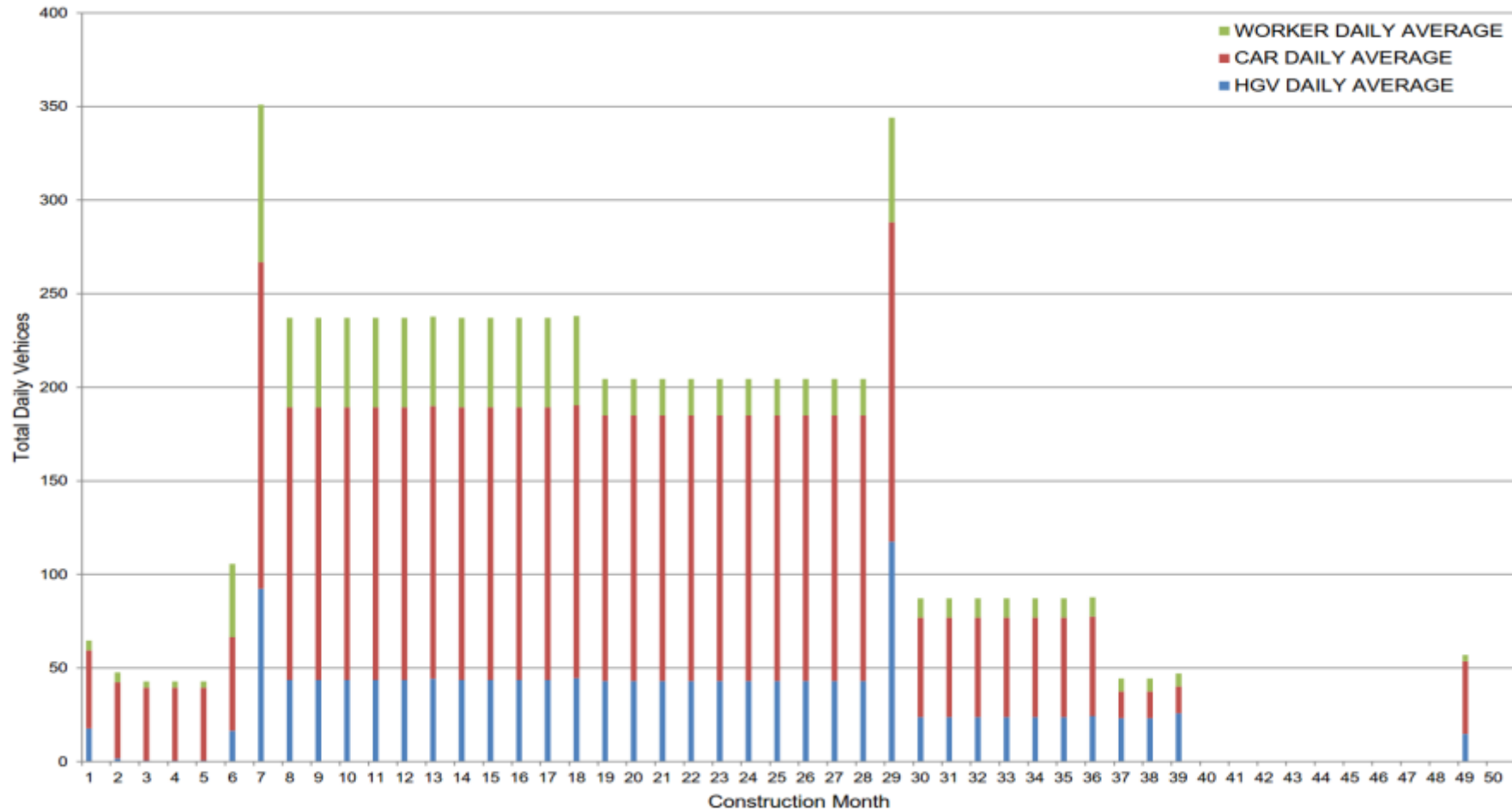
- 3.1.1 This Construction Traffic Management Plan (CTMP) has been prepared on behalf of Snowdonia Pumped Hydro (SPH) in relation to the Development Consent Order (DCO) application for the development of a pumped storage facility at the Glyn Rhonwy quarry system and is an appendix of the wider Code of Construction Practice (CoCP).
- 3.1.2 This CTMP considers the vehicular access routes to be used for the Construction Works which requires access to areas Q1 and Q6. It has set out the condition of the traffic routes to be used close to the site and identified construction traffic routes which will be provided to contractors and hauliers as the route they must use when driving to and from the site. Parking and loading areas have been identified for Q1 and Q6 which would be off the public highway and measures have also been identified including wheel washing facilities to ensure that the deposit of mud and dirt on the highway is kept to a minimum.
- 3.1.3 In some instances, and in the case of the route between Q1 and the A4085, it may be necessary to use banksmen and escort vehicles to ensure the safety of all road users, particularly if larger HGVs and plant need to access Q1.
- 3.1.4 In all areas affected by the routes to/from Q1 and Q6, it will be particularly important to ensure regular and clear lines of communication with local neighbours to inform them when large vehicles will need to pass through. This will be organised by the ELO by regular Liaison Group meetings, through leaflet drops and using the Applicant's website to keep local residents and other businesses informed during the works.
- 3.1.5 The assessment of traffic effect for the Development considers the construction period. The findings of the assessments demonstrate that all construction traffic can be accommodated on the local road network without compromising traffic operations.

- 3.1.6 Following the construction phase, a prior to the opening of the development a Travel Plan will be prepared by SPH and agreed with Gwynedd Council to encourage employees to use alternative modes of travel to the single occupancy car.

APPENDIX A – CONSTRUCTION ROUTE



APPENDIX B: TOTAL CONSTRUCTION TRAFFIC



APPENDIX C: DILAPIDATION SURVEY

Q6 Access

The condition of the industrial estate road and route to Q6 is shown on photographs 1-36 below. This route provides a high quality access to the eastern edge of the Development from the main A4086 via Glyn Rhonwy.



1. Existing signage at Glyn Rhonwy site access.



2. North view to newly constructed footway with pedestrian barrier railings.



3. View south on to newly constructed footway.



4. Existing high quality highway with Glyn Rhonwy site – kerbing in good condition and white lining provided.



5. Newly constructed highway accommodating white lining and raised area to the east.



6. View south at newly constructed industrial road - Loosely surfaced footway at either side of newly constructed highway



7. View north - Loosely surfaced footway at either side of newly constructed highway.



8. View south - Loosely surfaced footway at either side of newly constructed highway.



9. The route to the edge of the quarry forms a side road with the spine road



10. Disused quarry site to act as site for construction traffic parking. Large,

from Glyn Rhonwy and has a loose surfaced footway along both sides for part of the route, but no street lighting. There is also a section of road where no footway has been provided as it passes over a development area that has been set at a lower level. The highway however is in good condition with little sign of wear.

gravelled area provided with existing stub access from the highway.



11. Disused quarry site to act as site for construction traffic parking. Large, gravelled area provided with existing stub access from the highway.

12. Additional stub access to disused quarry where parking for construction vehicles will be provided.



13. Newly constructed priority junction off Industrial Estate road.

14. New access to site from Glyn Rhonwy.



15. View south on to newly constructed highway, with priority junction to the east.



16. View north on to newly constructed, highly, footway to the west and loose material to the east.



17. Glyn Rhonwy crossroads with priority north/south. Priority junction heads towards platform area.



18. Glyn Rhonwy crossroads with priority north/south. Priority junction heads towards platform area.



19. View north on Glyn Rhonwy towards site access. Footway to the east, street lighting begins within this area as shown.



20. North on to Glyn Rhonwy heading towards A4086 junction. Footway to the west.



21. Existing, damaged pipeline marker at gated access to Glyn Rhonwy.



22. View of industrial access road to Glyn Rhonwy which has been gated to prevent unauthorised access to the site. The road is signposted and has street lighting.



23. This junction provides an access onto the local highway network from the site and accommodates highway signage. There is a narrow tarmacked footway to the eastern side



24. This junction provides an access onto the local highway network from the site and accommodates highway signage. There is a narrow tarmacked footway to the western side.



25. View east on A4085, footway to either



26. View west on to A4085, footway to

side of highway.

either side of highway, traffic island also present with a priority junction connecting Glyn Rhonwy to the East.



27. View south on to priority junction leading to Glyn Rhonwy. Highway shows signs of resurfacing and is bound by street lighting to the west. Central reservation with traffic island is present.

28. View east on to A4085, footway to either side of highway, traffic island also present with a priority junction connecting Glyn Rhonwy to the south.



29. View west - A4086 towards A4244 and wider highway network.

30. View east - A4086 towards Llanberis. Existing traffic island.



31. View west - A4085 from junction at Glyn Rhonwy.



32. View north-west to A4085 from traffic island at Glyn Rhonwy.



33. View south from gated access at Glyn Rhonwy towards site access.



34. The A4244/A4086 priority junction incorporates street lighting and is considered to provide a high standard access to the A4086. There are currently small patches of wear on the carriageway, predominantly in the middle lane.



35. Priority junction at Glyn Rhonwy/A4086 containing highway signage and a central island. Visibility is restricted on approach to the junction due to vegetation to either side. No significant damage observed.

36. View south on Glyn Rhonwy towards quarry site. Highway has no white lining and is bound by street lighting and trees on either side.

Q1 Access

The condition of the access road and route to Q1 can be shown on photographs 37-62 below. This route provides mixed quality highway ranging from the A4085,

which is a two-lane single carriageway road to a single, gravel track leading to the site from Groeslon which contains a number of restrictions.



37. Existing service covers on grass verge adjacent to A4085. Damage to existing kerbs, with single kerb missing.



38. Existing service covers at western side of A4085 at its junction with unnamed road from Croesywaun to Groeslon, areas of degradation to the highway covering the width of the lane.



39. View west on to A4085 – Cantilever bus stop shelter with road markings.



40. A4085 – Tactile paving located on both east and west lanes.



41. This is a simple priority junction with the A4085 having a width of 6.2m and the side road to the quarry having a width of 4.8m. The layout is shown on the photographs on this page and as can be seen, there is a pinch point of width 4.8m due to the location of the building at the boundary of the highway. Highway signage is present on the verge and there are three slightly raised manhole covers in the highway. There is existing tactile paving on either side of the A4085.



42. View north to Bryn Goleu – Priority junction to the east, leading to quarry site.



43. Existing junction at Bryn Goleu to the south of Croesywaun – White and yellow lining with 'Stop' markings. Tactile paving on either side of highway. This is a simple priority junction with the A4085 and provides a route to the Groeslon crossroads. The junction at the A4085 is 8m in width with a side road width of 8m.



44. Existing highway A4085 to Croesywaun. Access from dwelling enroaches on to highway. Bryn Goleu serves a school and residential dwellings and in places narrows to a single lane with restricted forward visibility.



45. Existing speed bumps on approach to crossroads from Groeslon.

46. Raised, block paved area with short bollards provided public realm.



47. Groeslon crossroads looking north features white lining at the junctions but no centre-lines. The highway is closely bound by residential dwellings and is of reasonable condition. There is a paved area to the north west of the junction which is protected by short bollards.



48. View south from crossroads at Groeslon. Buildings and related accesses back on to highway.



49. Junction at Groeslon looking east towards quarry site. Narrow highway restricted by on-street parking throughout.



50. View west from Groeslon crossroads away from Q1. Unmarked road bound by dwellings to the north and existing access to the south.



51. Existing ramped access to dwelling. Caution must be taken when heading north towards quarry site past dwelling access.



52. View east on unnamed road towards quarry site. Priority junction to the north.



53. Junction with second access to single track road. Existing highway signage and utilities present. Access to adjacent field also provided by metal gate.



54. Existing cattle grid and metal gate leading to Ffordd Cefn Du.



55. Unclassified road has patched resurfacing within the vicinity of the gravelled parking site.

56. Gravelled area adjacent to Ffordd Cefn Du may be utilised as a passing place when necessary.



57. The remains of historical quarrying activity are evident along the course of the access road.



58. The quarry access road is of mixed condition throughout. There are existing signs of cracking and there is no kerblines just a grass verge. Remains from previous quarry activity feature to the left of the highway.



59. View east on unnamed road, grass verge to the north side of the highway, stone walls to the south.



60. View from access of parking provision at terminus of unclassified road. Site is gravelled and show signs of use by vehicles.



61. View east on to unnamed single track road below small gravelled parking area.



62. View west from access of parking provision at terminus of unclassified road.

The carriageway through Croesywaun and east towards Groeslon is narrow with occasional buildings and parked vehicles to the north and south, particularly in proximity of the Groeslon crossroads.

To the east of Groeslon the route to Q1 joins Ffordd Cefn Du The carriageway is approximately 3-3.5m wide with a narrow grass verge and walls or fences to the north and south. There are informal surfaced and unsurfaced areas which can be used as passing places. Towards the west of the disused quarry site the road has drainage ditches on the northern and southern sides which would limit vehicles passing on these sections.