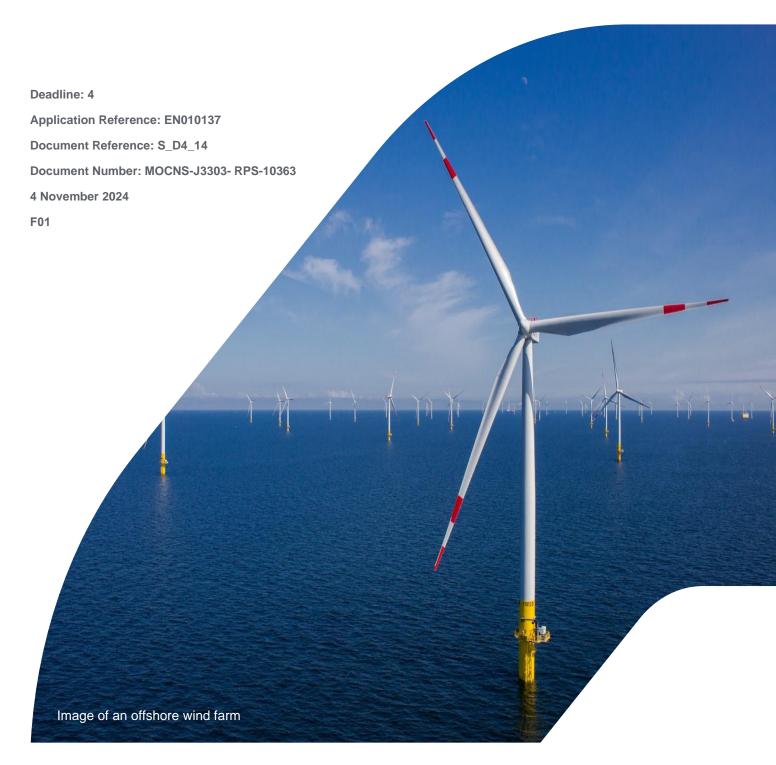


Construction Noise and Vibration Clarification Note





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Glossary

Term	Meaning
Applicant	Mona Offshore Wind Limited.
Bodelwyddan National Grid Substation	This is the Point of Interconnection (POI) selected by the National Grid for the Mona Offshore Wind Project.
Competent Authority	Regulation 6(1) defines competent authorities as "any Minister, government department, public or statutory undertaker, public body of any description or person holding a public office".
Development Consent Order (DCO)	An order made under the Planning Act 2008 granting development consent for one or more Nationally Significant Infrastructure Project (NSIP).
Environmental Statement	The document presenting the results of the Environmental Impact Assessment (EIA) process for the Mona Offshore Wind Project.
Local Authority	A body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. This includes County Councils, District Councils and County Borough Councils.
Maximum Design Scenario (MDS)	The scenario within the design envelope with the potential to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Mona Offshore Wind Project	The Mona Offshore Wind Project is comprised of both the generation assets, offshore and onshore transmission assets, and associated activities.
Mona Onshore Cable Corridor	The corridor between MHWS at the landfall and the Mona onshore substation, in which the onshore export cables will be located.
Mona Onshore Development Area	The area in which the landfall, onshore cable corridor, onshore substation, mitigation areas, temporary construction facilities (such as access roads and construction compounds), and the connection to National Grid substation will be located
Pre-construction site investigation surveys	Pre-construction geophysical and/or geotechnical surveys undertaken offshore and, or onshore to inform, amongst other things, the final design of the Mona Offshore Wind Project.
Relevant Local Planning Authority	The Relevant Local Planning Authority is the Local Authority in respect of an area within which a project is situated, as set out in Section 173 of the Planning Act 2008. Relevant Local Planning Authorities may have responsibility for discharging requirements and some functions pursuant to the DCO, once made.
the Secretary of State for Business, Energy and Industrial Strategy	The decision maker with regards to the application for development consent for the Mona Offshore Wind Project.
The Planning Inspectorate	The agency responsible for operating the planning process for NSIPs.



Acronyms

Acronym	Description
BEIS	Department for Business, Energy and Industrial Strategy
DCC	Denbighshire County Council
DCO	Development Consent Order
EIA	Environmental Impact Assessment
EnBW	Energie Baden-Württemberg AG
EWG	Expert Working Group
HVAC	High Voltage Alternating Current
IEMA	Institute for Environmental Management and Assessment
VP	Viewpoint

Units

Unit	Description
GW	Gigawatt
km	Kilometres
km²	Kilometres squared
kV	Kilovolt
MW	Megawatt
nm	Nautical miles



1 CONSTRUCTION NOISE AND VIBRATION CLARIFICATION NOTE

1.1 Introduction

- 1.1.1.1 In their written submission at Deadline 1, Mr and Mrs Hussey (REP1-085) raised a number of queries regarding the Applicant's construction noise assessment, in particular the distance of construction activities used in the construction noise model and the resulting noise level predictions. In its response (REP2-078), the Applicant confirmed that errors had been made in the reporting of impacts in the Construction noise and vibration technical report (Annex 9.2 of the Environmental Statement (ES) (APP-179)). The Applicant also confirmed that, despite these errors, the impact at the Hussey's property would remain unchanged in that no significant adverse effects were predicted to occur during the construction phase.
- 1.1.1.2 However, in their written submission at Deadline 3 (REP3-110), Mr and Mrs Hussey reiterated their concerns regarding the Applicant's construction noise assessment.
- 1.1.1.3 In addition, following submission of its response to the Conwy County Borough Council (CCBC) and Denbighshire County Council (DBC) Local Impact Report at Deadline 2 (REP-085), the Applicant has reviewed and updated some of the information in the construction vibration impacts reported in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)).

1.2 Response

1.2.1 Purpose of the note

- 1.2.1.1 To respond to the queries raised by Mr and Mrs Hussey, the Applicant has undertaken a comprehensive review of the construction noise modelling and impacts reported in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)). The purpose of the clarification note is to present the findings of the review, changes made to the construction noise modelling assumptions and any resulting changes to the construction noise impacts and significant effect conclusions reported in the Environmental Statement.
- 1.2.1.2 As set out in Section 9.9.5 of Volume 3 Chapter 9 of the ES (APP-072), the Applicant's construction noise modelling was only used to identify construction noise impacts from those activities which are to be focussed around one location. Such works include those associated with establishing temporary construction compounds and their accesses, joint bay works, trenchless crossings and onshore substation construction.
- 1.2.1.3 The construction noise impacts associated with transitory works along the Onshore Cable Corridor (such as onshore site preparation, haul road construction and removal, and trenching works) were not derived using the construction noise model. These have instead been calculated from the source sound power of the relevant construction activities, corrected for attenuation for distance over hard ground. No correction has been applied for soft ground or air absorption effects. Therefore, the predicted levels associated with these



transient works are a conservative worst case, and the impacts reported from transitory works in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)) remain unchanged.

- 1.2.1.4 The Applicant notes that the methodology it has applied to assess construction noise impacts and effects which has been agreed by Denbighshire County Council and Conwy County Borough Council. These agreements are reported in S_D3_22 Mona and Denbighshire County Council SoCG (REP3-060) and S_D3_23 Mona and Conwy County Borough Council SoCG (REP3-061).
- 1.2.1.5 The Applicant has also undertaken a review of the construction vibration impacts reported in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)). This clarification note presents changes to the construction vibration impacts resulting from this review and any resulting changes to the significant effect conclusions. Updated versions of the Noise and Vibration Chapter of the ES (APP-072) and the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)) will be submitted at Deadline 5.

1.2.2 Construction modelling review

- 1.2.2.1 The scope of the construction modelling review undertaken by the Applicant included the following:
 - Assumptions on location of construction activities
 - Noise sensitive receptors
 - Assumptions on construction noise mitigation
- 1.2.2.2 The outcome of the Applicant's review of each of these factors is set out in the following sections.

Assumptions on location of construction activities

- 1.2.2.3 The Applicant has undertaken a review of the assumptions made on the location of the following construction activities included in the ES construction noise modelling:
 - Establishing Temporary Construction Compounds and site access
 - Transition Joint Bay at Landfall
 - Joint bays along Onshore Cable Corridor
 - Trenchless techniques at landfall and along Onshore Cable Corridor
 - Onshore Substation
- 1.2.2.4 The outcome of the Applicant's review for each of the above activities is reported in Table 1-1below and includes any changes to assumptions relating to those activities.



Table 1-1 Construction noise model construction activity location assumptions review

Construction activity	Construction noise model assumptions for ES assessment	Construction noise model assumptions following review
Establishing Temporary Construction Compounds and Site Access	Modelling assumed construction plant associated with this activity to be focussed within the temporary construction compound areas	No change to assumptions.
Transition Joint Bay at Landfall	Modelling assumed activities associated with Transition Joint Bay construction to be located within the proposed landfall compound within Work Area 10	No change to assumptions
Joint bays along Onshore Cable Corridor	Modelling assumed these activities to be located within the temporary construction compounds within the Mona Offshore Development Area, noting that the actual locations of joint bays were unknown at the ES stage.	Modelling has been updated to include locations of joint bays where these have the potential to be situated close to noise sensitive receptors along the entirety of the onshore cable route. Although the exact locations of the joint bays cannot be determined at this stage, the worst case has been assumed by modelling presuming that they will be situated close to residential dwellings. It is unlikely a joint bay will be sited in close proximity to Mr and Mrs Hussey's property. trenchless technique works are planned at the rear of the property and it is therefore unlikely a joint bay would be in the same location. Modelling has also been undertaken to assess the impact associated with the running of pumps to dewater all joint bay excavations during the nighttime period, in line with the modelling only previously undertaken at the landfall transition joint bay. The update to this modelling assumption has resulted in the inclusion of 20 noise sensitive receptors which had not been included in the original ES noise model. These receptors are identified in Appendix 1.



Construction activity	Construction noise model assumptions for ES assessment	Construction noise model assumptions following review
Trenchless Techniques	Modelling focussed on specific locations along the route at which trenchless techniques were considered likely to result in worst case impacts at receptors. Assessment assumed night time working at all trenchless techniques locations.	Modelling has been updated to include all potential locations at which trenchless techniques may occur. These locations are presented in Volume 5, Annex 4.3: Onshore Crossing Schedule of the ES (REP1-007). Both the "trenchless" and "trenching or trenchless" locations have been included in the modelling. For the purposes of the assessment, the maximum design scenario assumes that night time works will be required in complex trenchless technique locations, these are at Landfall and Gwyrch Wood. Any works in other locations will be in accordance with Requirement 14 of the DCO.
Onshore substation	Modelling assumed activities associated with the construction of the Onshore Substation to be focussed in the Onshore Substation platform (Work Area No. 22).	No change to assumptions.

Receptors

- 1.2.2.5 As indicated in Table 1-1, the change in assumptions relating to the joint bay locations has resulted in the inclusion of 20 noise sensitive receptors which had not been included in the original ES noise model.
- 1.2.2.6 These and all previously assessed receptors are included in Appendix 1,, which identifies the closest distance from each receptor in the updated construction noise assessment to each construction activity.

Mitigation

1.2.2.7 The Applicant has undertaken a review of the construction noise mitigation assumptions included in the ES construction noise model, which is summarised in Table 1-2.



Table 1-2 Construction noise model noise mitigation assumptions review

Mitigation measure	Construction noise model assumptions for ES assessment	Construction noise model assumptions following review
Temporary noise barriers and bunds	None	Modelling has been updated to include the 10m wide topsoil bund (as shown in the S_D1_5.6 Appendix to Response to Hearing Action Point: Indicative onshore cable corridor crossing section and trenchless technique crossing long-section (REP1-018)) which will be in place along the boundary of the Onshore Cable Corridor Order Limits during the construction works. Paragraph 1.11.2.1 of the Outline Soil Management Plan specifies that the height of the topsoil bund will not exceed 3m in height. The height of the bund in the model has been conservatively set at 2.5m.

1.2.3 Construction noise predictions

1.2.3.1 The outcome of the Applicant's review for each of the above activities is reported below and includes any changes to assumptions that have been made. Detailed results are presented in Appendix 2. Where the predicted construction noise level has changed, it has been re-assessed against the associated LOAEL and SOAEL values.

Onshore Cable Corridor – Activities except Trenchless Techniques

- 1.2.3.2 The noise impact assessment reported in the Noise and Vibration Chapter of the ES (APP-072) identified that the highest noise levels due to construction works at the majority of receptors were predicted to arise from the works required to establish the temporary construction compounds and access bellmouths along the Mona Onshore Cable Corridor. Paragraph 9.9.5.13 of the Noise and Vibration Chapter (APP-072) identifies that the highest noise levels at Roberts Caravan Park and Sarn Rug were predicted to arise due to the backfill works of the joint bays. However, the impacts associated with these works were low to negligible overall during the daytime and evening/weekend period. The effects were determined as minor adverse significance which is not significant in EIA terms.
- 1.2.3.3 The construction noise level predictions in Appendix 2 indicate that the construction works with the highest noise levels experienced at properties is more variable in the updated assessment. Typically, receptors in closest proximity to temporary construction compound areas are predicted to experience their highest noise levels from the temporary compound construction. Despite this, the impacts associated with such works remain low to negligible during the daytime and evening/weekend period and thus no change to the impacts reported in the Noise and Vibration Chapter of the ES (APP-072).

- 1.2.3.4 The introduction of indicative joint bay locations along the onshore cable route has resulted in these activities producing the highest predicted construction noise levels at several receptors. However, despite their close proximity to the joint bay works, the topsoil bund which is to be installed along the onshore cable corridor boundary will mitigate these effects and as a result there will be negligible to low impacts at these receptors.
- 1.2.3.5 The Applicant has undertaken an additional assessment to determine the construction noise impacts likely to occur during nighttime hours due to the 24-hour operation of pumps to dewater joint bay excavations. The construction noise predictions in Appendix 2 indicated that the operation of dewatering pumps will result in low to negligible impacts during the nighttime at all but two properties. Medium impacts during the nighttime are predicted to result for the operation of pumps at Tyddyn Meredydd and Maes Cefn.
- 1.2.3.6 However, the Applicant notes that the joint bay locations included within the model have been sited at their closest point to the onshore cable corridor boundary to provide a reasonable worst case construction noise impact at nearby receptors. As stated in Table 1-1, joint bays are likely to be located further away from receptors than those assumed in the construction noise model and the impacts are therefore likely to be lower than those predicted
- 1.2.3.7 In particular, joint bays have been modelled approximately 28m and 25m from the boundaries of Tyddyn Meredydd and Maes Cefn respectively. However, It is unlikely a joint bay will be sited in close proximity to these properties. Trenchless technique works are planned nearby and it is therefore unlikely a joint bay would be in the same locations. Therefore, the impacts during the nighttime at these receptors due to the operation of pumps are likely to reduce to low.
- 1.2.3.8 Thus, the Applicant considers the effects due to these activities to be of minor significance which is not significant in EIA terms. This is unchanged from the conclusion reported in the Noise and Vibration Chapter of the ES (APP-072).

Onshore Cable Corridor – Trenchless Techniques

- 1.2.3.9 The noise impact assessment reported in the Noise and Vibration Chapter of the ES (APP-072) identified that that impacts from trenchless techniques were predicted to be negligible at the majority of receptors during the daytime, with the exception of Pentre Meredydd at which a low impact was predicted during the daytime periods. A medium impact from trenchless techniques was also predicted at caravans along the western boundary of Roberts Caravan Park during the night-time. These receptors were assumed to be of medium sensitivity and thus the initial result indicated a major adverse effect which is significant in EIA terms. However, due to the seasonality of the caravan park (only open between March and October to holiday caravans and motorhomes), the overall daytime impacts (including weekends) due to trenchless techniques were considered negligible and the effects will be of **minor adverse** significance which is not significant in EIA terms.
- 1.2.3.10 The overall night-time impacts due to trenchless techniques were identified as low and thus the effects will be of minor or moderate adverse significance. Since receptors are only likely be affected for short periods, the overall effect due to trenchless techniques were considered to be of **minor adverse** significance which is not significant in EIA terms.



- 1.2.3.11 The construction noise level predictions in Appendix 2 identify that daytime and evening/weekend construction noise levels from trenchless techniques works have increased overall from than those reported in the Noise and Vibration Chapter of the ES (APP-072). These increases have resulted from the identification all potential locations of all planned trenchless techniques works, many of which were not included in the original ES model. Despite these increases, the impacts from trenchless techniques are predicted to be negligible to low at all receptors during the daytime and evening/weekend periods and the effects will be of **minor adverse** significance which is not significant in EIA terms.
- 1.2.3.12 The night-time impacts at properties in close proximity to landfall and Gwych Wood have reduced to negligible at all receptors, with the exception of Henblas at which nighttime impacts for trenchless techniques works remain low. These overall negligible impacts are lower than those reported at ES stage. An analysis of the ES model has identified that the low impacts resulted from trenchless techniques works being placed closer to the landfall properties than is planned. Despite this difference, the night time impacts associated with such night time are low to negligible and the effects will be of minor adverse significance which is not significant in EIA terms. This conclusion remains unchanged from that reported in the Noise and Vibration Chapter of the ES (APP-072).

Onshore Substation

- 1.2.3.13 The noise impact assessment reported in the Noise and Vibration Chapter of the ES (APP-072) identified that the activities most likely to impact receptors were substation groundworks, access road and car parking works, and the building fabrication and plant installation. The impacts predicted at all receptors were predicted to be negligible to low overall and the effect **minor adverse** significance which is not significant in EIA terms.
- 1.2.3.14 The construction noise level predictions in Appendix 2 indicate that construction noise levels from the individual activities have changed from those reported in in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)). Although no changes to the construction activity assumptions for the onshore substation works were made, these changes in construction noise levels have resulted from the updating of construction plant input parameters in the noise model. The resulting impacts remain unchanged from the ES, with impacts predicted at all receptors were predicted to be negligible to low overall and the effect **minor adverse** significance which is not significant in EIA terms.

1.2.4 Construction vibration predictions

- 1.2.4.1 The construction of the Mona Onshore Cable Corridor and the Onshore Substation will require the use of vibration-generating equipment. There are two primary sources for consideration:
 - the use of vibratory piling techniques for the installation of trenchless techniques entry and exit pits. For the purpose of this assessment, a realistic worst case has been assumed that vibratory piling will only be required for complex drills at landfall and Gwrych Wood;



- the use of vibratory rollers for the dynamic compaction of the haul road, temporary construction compounds, and the Mona Onshore Substation Platform during the groundworks phase of construction.
- 1.2.4.2 The construction vibration predictions reported in Table 9.31 of the Noise and Vibration Chapter of the ES (APP-072) have been reviewed and corrections made to the distances associated with high, medium and low impacts. The corrected distances associated with these impacts and the number of vibration sensitive receptors within each distance band are reported in Table 1.3 below. Where a change to the ES value has been identified, the original reported values is reported in brackets.

Table 1-3 Construction vibration impact magnitudes

Location	Impact M Distance	t Magnitude Band Number of receptors ce (m) Impact Magnitude B				-		
	High	Medium	Low	High	Medium	Low		
Dynamic Compaction								
Haul Road	13 (10)	71(26)	160(60)	4 (1)	40 (11)	48(17)		
Temporary construction compounds (onshore cable corridor).				2(0)	1	2		
Temporary construction compounds (onshore substation).				0	0	2(0)		
Onshore substation platform.				0	0	2(0)		
Vibratory Piling	Vibratory Piling							
Trenchless technique entry/exit pits	12	73	186	0	4(1)	26(0)		
Onshore substation platform.				0	0	0		

- 1.2.4.3 The results of the updated assessment of impacts due to dynamic compaction show that high impacts are predicted at four receptors (Llys Awel, Penrefail Cottage, Roberts Caravan Park and Maes Cefn) during the construction of the haul road, with medium impacts predicted at a total of 40 receptors.
- 1.2.4.4 High impacts are predicted at two receptors (Penrefail Cottage and Roberts Caravan Park) during the dynamic compaction works for the temporary construction compounds, with medium impacts at one receptor (Sarn Rug).
- 1.2.4.5 Medium impacts from vibratory piling associated with the trenchless technique compounds have been predicted at four properties. However, vibratory piling is unlikely to be required as close to the boundary of the trenchless technique compounds as has been assessed. Any works required will also be short-term in duration.
- 1.2.4.6 As noted in paragraph 9.9.8.9 of the Noise and Vibration Chapter of the ES (APP-072)), the assessment of impacts due to construction vibration has been undertaken from the boundary of the Mona Onshore Development Area for the haul road and the temporary construction compounds. It is unlikely that the



dynamic compaction works will be undertaken for any extended period along this boundary as both types of works are expected to be located well within this area. Furthermore, the receptors affected during the construction of the haul road are situated along the access routes to the Mona Onshore Development Area and thus are likely to be situated further from the construction works than assessed. Any compaction works required along these access routes will be short-term in duration and thus receptors are unlikely to be affected for an extended period.

1.2.4.7 Based on above the overall impact due to construction vibration will be low and the effect is considered to be of minor adverse significance which is not significant in EIA terms. This conclusion remains unchanged from that reported in the Noise and Vibration Chapter of the ES (APP-072).

1.3 Summary

- 1.3.1.1 Following concerns raised by Mr and Mrs Hussey, the Applicant has undertaken a comprehensive review of the construction noise modelling and impacts reported in the Noise and Vibration Chapter of the ES (APP-072) and in the Construction noise and vibration technical report (Annex 9.2 of the ES (APP-179)). The Applicant has also undertaken a review of the construction vibration impacts identified in the ES assessment.
- 1.3.1.2 This review has resulted in a several changes to assumptions in the construction, operation and mitigation included in the construction noise model, particularly with regard to joint bays and trenchless techniques works which have resulted in construction noise impacts being predicted at 20 additional locations along the Onshore Cable Corridor. Corrections have also been made to construction model inputs where errors have been identified.
- 1.3.1.3 Despite these changes and corrections, the Applicant's review has concluded that the conclusions of the construction noise and vibration effects reported in the Noise and Vibration Chapter of the ES (APP-072) remain unchanged.



Appendix 1 CONSTRUCTION NOISE SENSITIVE RECEPTOR REVIEW

Table 1-4 Construction noise receptors and their approximate distance to construction operations

Location	Receptor name	Original ES receptor	Additional receptor	Establish TCCs	Joint bay works	Trenchless Techniques	Substation works (except car park and access road)	Substation car park and access road
Landfall	Dwellings on Cae Eithin (South)	Υ	-	709	709	813	-	-
	Dwellings on Cae Eithin (West)	Υ	-	707	707	824	-	-
	Gwrych Castle	Υ	-	492	492	324	-	-
	Gwyrch Cottage	Υ	-	182	182	379	-	-
	Gwyrch House	Υ	-	190	190	331	-	-
	Hen Wrych Farm	Υ	-	181	181	417	-	-
	Hen Wrych Hall	Υ	-	201	201	438	-	-
	Hen Wrych Lodge	Υ	-	222	222	466	-	-
	Henblas	Υ	-	846	148	152	-	-
	Justholme	Υ	-	252	252	466	-	-
	North Wales Business Park	Υ	-	895	895	960	-	-
	Northern Towers	Υ	-	720	720	759	-	-
	Nursery Cottage	Υ	-	83	83	397	-	-
	Plas Tan yr Ogof	Υ	-	717	717	776	-	-
	Ty Crwn	Υ	-	319	319	608	-	-





Location	Receptor name	Original ES receptor	Additional receptor	Establish TCCs	Joint bay works	Trenchless Techniques	Substation works (except car park and access road)	Substation car park and access road
Onshore Cable Corridor	Bryn Bela	Υ	-	300	410	428	-	-
	Bryn Gwynt	-	Υ	1400	123	72	-	-
	Bryntwydd	-	Y	660	151	167	-	-
	Caer Clawdd	-	Υ	625	75	82	-	-
	Caravans (South)	Y	-	100	180	110	-	-
	Caravans (West)	Υ	-	40	80	85	-	-
	Carreg Dafydd	-	Υ	946	99	112	-	-
	Ffynnon Dyfyr	-	Υ	1450	147	125	-	-
	Ffynnon Meifod	Υ	-	430	327	338	-	-
	Ffynnon Wen	-	Υ	715	559	142	-	-
	Ffynnonau Farm	-	Y	1296	162	159	-	-
	Glandyfr	-	Y	1237	122	122	-	-
	Gwel Y Mor	-	Y	1639	312	156	-	-
	Llys Awel	-	Y	1118	290	97	-	-
	Meiford Lodge	Υ	-	194	79	83	-	-
	Merlyn	-	Y	1540	60	42	-	-
	Nant Bach	-	Υ	682	147	142	-	-
	Nant Ganol	-	Υ	1805	109	141	-	-
	Nant Meifod	Υ	-	450	348	364	-	-
	Penrefail Cottage	Υ	-	60	112	112	-	-





Location	Receptor name	Original ES receptor	Additional receptor	Establish TCCs	Joint bay works	Trenchless Techniques	Substation works (except car park and access road)	Substation car park and access road
	Pistyll	-	Υ	464	551	233	-	-
	Plas Hafod	-	Υ	1445	161	174	-	-
	Plas Newydd	-	Υ	1250	217	219	-	-
	Pwll Y Cibau Bach	-	Y	950	86	82	-	-
	Sarn Rug	Υ	-	69	395	92	-	-
	Sirior Bach	Υ	-	312	505	242	-	-
	Springhill	-	Υ	930	175	127	-	-
	Tan y Bryn	-	Υ	764	314	575	-	-
	The Barn	Υ	-	402	310	322	-	-
	The Gardeners Cottage	Υ	-	410	319	334	-	-
	Tyn Y Mynydd	-	Υ	744	524	113	-	-
Onshore Substation	Bryn Arian	Υ	-	776	372	368	709	776
	Bryn Hen	Υ	-	440	145	168		
	Bryn y Pin	Υ	-	249	339	465		
	Bryn y Pin Cottage	Υ	-	245	309	421		
	Bryn y Pin Mawr	Υ	-	416	269	303		
	Cae Llwyd	Υ	-	570	326	288	275	570
	Cae Pwll	Υ	-	963	1450	1450	935	1255
	Caer Delyn	Υ	-	645	857	798	763	645





Location	Receptor name	Original ES receptor	Additional receptor	Establish TCCs	Joint bay works	Trenchless Techniques	Substation works (except car park and access road)	Substation car park and access road
	Carreg Wen	Υ	-	607	899	833	746	611
	Cefn Farm	Υ	-	750	1057	1048	750	699
	Craig Llwyd	Υ	-	660	289	280	626	660
	Derwen Deg	Υ	-	710	1113	1079	850	710
	Groesffordd Farm	Υ	-	833	441	438	798	833
	Grouse Lodge	Υ	-	420	231	266		
	Isfryn	Υ	-	374	618	606	270	600
	Maes	Υ	-	1140	25	17	908	1140
	Pant Farm	Υ	-	969	1118	1089	873	1205
	Pentre Bach	Υ	-	5540	205	130	507	554
	Pentre Mawr Farm	Υ	-	603	284	210	563	603
	Pentre Meredydd	Υ	-	432	111	99	191	432
	Plas yr Esgob	Υ	-	728	1213	1173	865	728
	Rhos Aber	Υ	-	535	1282	1246	777	962
	Squirrels Lodge	Υ	-	513	1368	1325	802	932
	Tan y Bryn	Υ	-	114	725	685	197	430
	Tan y Bryn Uchaf	Υ	-	103	670	645	150	395
	Tan y Graig	Υ	-	901	952	952	797	1096
	Trebanog	Υ	-	794	400	394	756	794



Location	Receptor name	Original ES receptor	Additional receptor	Establish TCCs	Joint bay works	Trenchless Techniques	Substation works (except car park and access road)	Substation car park and access road
	Ty Celyn	Υ	-	612	898	891	550	875
	Tyddyn Meredydd	Υ	-	400414	28	45	200	400414
	Tyn y Caeau	Υ	-	695	1174	1106	830	695
	Tyn y Ffordd	Υ	-	1109	213	203	845	1109
	Tyn y Ffordd Bach	Υ	-	460	1286	1238	750	873
	Tyn y Ffordd Fawr	Υ	-	524	1390	1338	813	911
	Tyn y Ffordd Newydd	Υ	-	519	1259	1227	744	940
	Waen Meredydd	Υ	-	421	539	482	503	418
	Ysgubor EOS	Υ	-	1019	604	593	978	1019
	Ysgubor Newydd	Υ	-	1095	423	420	811	1095



Appendix 2 Updated Construction Noise Predicted Levels¹

Table 1-5 Establish Access and Temporary Construction Compounds

Location	Receptor		DAEL, IB(A)		DAEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Кесерісі	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Castle Cove Caravan Park	53	50	65	55	35	35	Negligible	Negligible
	Dwellings on Cae Eithin (South)	52	46	65	55	37	37	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	65	55	38	38	Negligible	Negligible
	Gwrych Castle	53	50	65	55	34	34	Negligible	Negligible
	Gwyrch Cottage	53	50	65	55	47	47	Negligible	Negligible
Landfall	Gwyrch House	53	50	65	55	45	45	Negligible	Negligible
Lanulan	Hen Wrych Farm	53	50	65	55	43	43	Negligible	Negligible
	Hen Wrych Hall	53	50	65	55	40	40	Negligible	Negligible
	Hen Wrych Lodge	53	50	65	55	44	44	Negligible	Negligible
	Henblas	44	36	65	55	31	31	Negligible	Negligible
	Justholme	53	50	65	55	43	43	Negligible	Negligible
	North Wales Business Park	52	46	65	55	35	35	Negligible	Negligible
	Northern Towers	53	50	65	55	36	36	Negligible	Negligible

¹ Additional receptors identified following review of construction noise sensitive receptors identified by *





Location	Receptor		DAEL, IB(A)		DAEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Νουσμιοί	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Nursery Cottage	53	50	65	55	49	49	Negligible	Negligible
	Plas Tan yr Ogof	53	50	65	55	36	36	Negligible	Negligible
	Ty Crwn	53	50	65	55	39	39	Negligible	Negligible
	Bryn Bela	39	37	65	55	41	41	Low	Low
	Caravans (South)	47	45	65	55	44	44	Negligible	Negligible
	Caravans (West)	53	50	65	55	49	49	Low	Low
	Penrefail Cottage	47	45	65	55	48	48	Low	Low
	Sirior Bach	47	45	65	55	38	38	Negligible	Negligible
	Ffynnon Meifod	40	39	65	55	36	36	Negligible	Negligible
	Meiford Lodge	46	43	65	55	40	40	Negligible	Negligible
Onshore	Nant Meifod	40	39	65	55	35	35	Negligible	Negligible
Cable Corridor	Sarn Rug	46	43	65	55	46	46	Low	Low
Comadi	The Barn	40	39	65	55	37	37	Negligible	Negligible
	The Gardeners Cottage	40	39	65	55	36	36	Negligible	Negligible
	Bryn Hen	40	35	65	55	33	33	Negligible	Negligible
	Bryn y Pin	46	43	65	55	40	40	Negligible	Negligible
	Bryn y Pin Cottage	46	43	65	55	39	39	Negligible	Negligible
	Bryn y Pin Mawr	46	43	65	55	36	36	Negligible	Negligible
	Grouse Lodge	46	43	65	55	36	36	Negligible	Negligible
	Llys Awel*	44	36	65	55	26	26	Negligible	Negligible





Location	Receptor		DAEL, IB(A)		DAEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Ffynnonau Farm*	48	40	65	55	28	28	Negligible	Negligible
	Springhill*	48	40	65	55	23	23	Negligible	Negligible
	Tan y Bryn*	43	42	65	55	32	32	Negligible	Negligible
	Bryntwydd*	39	37	65	55	31	31	Negligible	Negligible
	Pwll Y Cibau Bach*	39	37	65	55	30	30	Negligible	Negligible
	Bryn Gwynt*	48	47	65	55	24	24	Negligible	Negligible
	Merlyn*	48	47	65	55	24	24	Negligible	Negligible
	Gwel Y Mor*	48	47	65	55	26	26	Negligible	Negligible
	Glandyfr*	48	47	65	55	28	28	Negligible	Negligible
	Ffynnon Dyfyr*	48	47	65	55	26	26	Negligible	Negligible
	Ffynnon Wen*	40	39	65	55	34	34	Negligible	Negligible
	Tyn Y Mynydd*	40	39	65	55	26	26	Negligible	Negligible
	Pistyll*	40	39	65	55	35	35	Negligible	Negligible
	Nant Bach*	46	43	65	55	30	30	Negligible	Negligible
	Caer Clawdd*	46	43	65	55	30	30	Negligible	Negligible
	Plas Hafod*	47	39	65	55	28	28	Negligible	Negligible
-	Plas Newydd*	40	35	65	55	23	23	Negligible	Negligible
-	Carreg Dafydd*	40	35	65	55	29	29	Negligible	Negligible
	Nant Ganol*	41	40	65	55	24	24	Negligible	Negligible
	Bryn Arian	45	41	65	55	36	36	Negligible	Negligible





Location	Receptor		DAEL, IB(A)		DAEL, B(A)		iction Noise el, dB(A)	Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
Onshore	Cae Llwyd	43	42	65	55	41	41	Negligible	Negligible
Substation	Cae Pwll	43	39	65	55	30	30	Negligible	Negligible
	Caer Delyn	46	40	65	55	37	37	Negligible	Negligible
	Carreg Wen	46	40	65	55	35	35	Negligible	Negligible
	Cefn Farm	43	39	65	55	33	33	Negligible	Negligible
	Craig Llwyd	45	41	65	55	37	37	Negligible	Negligible
	Derwen Deg	46	40	65	55	36	36	Negligible	Negligible
	Groesffordd Farm	45	41	65	55	36	36	Negligible	Negligible
	Isfryn	47	39	65	55	40	40	Negligible	Low
	Maes	47	39	65	55	25	25	Negligible	Negligible
	Pant Farm	43	39	65	55	21	21	Negligible	Negligible
	Pentre Bach	45	41	65	55	38	38	Negligible	Negligible
	Pentre Mawr Farm	45	41	65	55	38	38	Negligible	Negligible
	Pentre Meredydd	43	42	65	55	41	41	Negligible	Negligible
	Plas yr Esgob	46	40	65	55	35	35	Negligible	Negligible
	Rhos Aber	43	39	65	55	30	30	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	30	30	Negligible	Negligible
	Tan y Bryn	43	42	65	55	32	32	Negligible	Negligible
	Tan y Bryn Uchaf	43	42	65	55	41	41	Negligible	Negligible
	Tan y Graig	43	39	65	55	19	19	Negligible	Negligible





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Trebanog	45	41	65	55	33	33	Negligible	Negligible
	Ty Celyn	43	39	65	55	37	37	Negligible	Negligible
	Tyddyn Meredydd	43	42	65	55	37	37	Negligible	Negligible
	Tyn y Caeau	46	40	65	55	34	34	Negligible	Negligible
	Tyn y Ffordd	47	39	65	55	24	24	Negligible	Negligible
	Tyn y Ffordd Bach	44	40	65	55	31	31	Negligible	Negligible
	Tyn y Ffordd Fawr	44	40	65	55	29	29	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	29	29	Negligible	Negligible
	Waen Meredydd	44	39	65	55	40	40	Negligible	Low
	Ysgubor EOS	45	41	65	55	31	31	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	20	20	Negligible	Negligible



Table 1-6 Transition Joint Bay (TJB) and Joint Bay Excavation

Location	Receptor		OAEL, IB(A)		DAEL, B(A)		ıction Noise el, dB(A)	Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Dwellings on Cae Eithin (South)	52	46	65	55	33	33	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	65	55	35	35	Negligible	Negligible
	Gwrych Castle	53	50	65	55	30	30	Negligible	Negligible
	Gwyrch Cottage	53	50	65	55	43	43	Negligible	Negligible
	Gwyrch House	53	50	65	55	42	42	Negligible	Negligible
	Hen Wrych Farm	53	50	65	55	39	39	Negligible	Negligible
	Hen Wrych Hall	53	50	65	55	38	38	Negligible	Negligible
Landfall	Hen Wrych Lodge	53	50	65	55	41	41	Negligible	Negligible
	Henblas	44	36	65	55	42	42	Negligible	Low
	Justholme	53	50	65	55	40	40	Negligible	Negligible
	North Wales Business Park	52	46	65	55	32	32	Negligible	Negligible
	Northern Towers	53	50	65	55	34	34	Negligible	Negligible
	Nursery Cottage	53	50	65	55	44	44	Negligible	Negligible
	Plas Tan yr Ogof	53	50	65	55	34	34	Negligible	Negligible
	Ty Crwn	53	50	65	55	35	35	Negligible	Negligible
Onshore	Bryn Bela	39	37	65	55	35	35	Negligible	Negligible
Cable	Caravans (South)	47	45	65	55	40	40	Negligible	Negligible
Corridor	Caravans (West)	53	50	65	55	46	46	Negligible	Low



Location	Receptor		AEL, B(A)		DAEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact	
Location	. Trocoptoi	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Penrefail Cottage	47	45	65	55	42	42	Negligible	Negligible
	Sirior Bach	47	45	65	55	31	31	Negligible	Negligible
	Ffynnon Meifod	40	39	65	55	35	35	Negligible	Negligible
	Meiford Lodge	46	43	65	55	46	46	Negligible	Low
	Nant Meifod	40	39	65	55	33	33	Negligible	Negligible
	Sarn Rug	46	43	65	55	37	37	Negligible	Negligible
	The Barn	40	39	65	55	35	35	Negligible	Negligible
	The Gardeners Cottage	40	39	65	55	35	35	Negligible	Negligible
	Bryn Hen	40	35	65	55	42	42	Low	Low
	Bryn y Pin	46	43	65	55	30	30	Negligible	Negligible
	Bryn y Pin Cottage	46	43	65	55	35	35	Negligible	Negligible
	Bryn y Pin Mawr	46	43	65	55	36	36	Negligible	Negligible
	Grouse Lodge	46	43	65	55	37	37	Negligible	Negligible
	Llys Awel*	44	36	65	55	36	36	Negligible	Negligible
	Ffynnonau Farm*	48	40	65	55	39	39	Negligible	Negligible
	Springhill*	48	40	65	55	40	40	Negligible	Negligible
	Tan y Bryn*	43	42	65	55	35	35	Negligible	Negligible
	Bryntwydd*	39	37	65	55	31	31	Negligible	Negligible
	Pwll Y Cibau Bach*	39	37	65	55	45	45	Low	Low
	Bryn Gwynt*	48	47	65	55	44	44	Negligible	Negligible





Location	Receptor		DAEL, IB(A)		DAEL, B(A)		ction Noise el, dB(A)	Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Merlyn*	48	47	65	55	49	49	Low	Low
	Gwel Y Mor*	48	47	65	55	35	35	Negligible	Negligible
	Glandyfr*	48	47	65	55	42	42	Negligible	Negligible
	Ffynnon Dyfyr*	48	47	65	55	41	41	Negligible	Negligible
	Ffynnon Wen*	40	39	65	55	26	26	Negligible	Negligible
	Tyn Y Mynydd*	40	39	65	55	24	24	Negligible	Negligible
	Pistyll*	40	39	65	55	30	30	Negligible	Negligible
	Nant Bach*	46	43	65	55	40	40	Negligible	Negligible
	Caer Clawdd*	46	43	65	55	46	46	Negligible	Low
	Plas Hafod*	47	39	65	55	44	44	Negligible	Low
	Plas Newydd*	40	35	65	55	35	35	Negligible	Low
	Carreg Dafydd*	40	35	65	55	44	44	Low	Low
	Nant Ganol*	41	40	65	55	43	43	Low	Low
	Bryn Arian	45	41	65	55	36	36	Negligible	Negligible
	Cae Llwyd	43	42	65	55	40	40	Negligible	Negligible
	Cae Pwll	43	39	65	55	26	26	Negligible	Negligible
Onshore Substation	Caer Delyn	46	40	65	55	32	32	Negligible	Negligible
Cassianon	Carreg Wen	46	40	65	55	32	32	Negligible	Negligible
	Cefn Farm	43	39	65	55	29	29	Negligible	Negligible
	Craig Llwyd	45	41	65	55	38	38	Negligible	Negligible





Location	Receptor		DAEL, IB(A)		DAEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Derwen Deg	46	40	65	55	29	29	Negligible	Negligible
	Groesffordd Farm	45	41	65	55	32	32	Negligible	Negligible
	Isfryn	47	39	65	55	33	33	Negligible	Negligible
	Maes	47	39	65	55	57	57	Low	Medium
	Pant Farm	43	39	65	55	25	25	Negligible	Negligible
	Pentre Bach	45	41	65	55	46	46	Low	Low
	Pentre Mawr Farm	45	41	65	55	41	41	Negligible	Low
	Pentre Meredydd	43	42	65	55	45	45	Low	Low
	Plas yr Esgob	46	40	65	55	31	31	Negligible	Negligible
	Rhos Aber	43	39	65	55	27	27	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	27	27	Negligible	Negligible
	Tan y Bryn	43	42	65	55	35	35	Negligible	Negligible
	Tan y Bryn Uchaf	43	42	65	55	33	33	Negligible	Negligible
	Tan y Graig	43	39	65	55	30	30	Negligible	Negligible
	Trebanog	45	41	65	55	36	36	Negligible	Negligible
	Ty Celyn	43	39	65	55	30	30	Negligible	Negligible
	Tyddyn Meredydd	43	42	65	55	51	51	Low	Low
	Tyn y Caeau	46	40	65	55	29	29	Negligible	Negligible
	Tyn y Ffordd	47	39	65	55	40	40	Negligible	Low
	Tyn y Ffordd Bach	44	40	65	55	27	27	Negligible	Negligible



Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
200411011	nocopio.	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Tyn y Ffordd Fawr	44	40	65	55	27	27	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	27	27	Negligible	Negligible
	Waen Meredydd	44	39	65	55	37	37	Negligible	Negligible
	Ysgubor EOS	45	41	65	55	32	32	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	28	28	Negligible	Negligible

Table 1-7 Transition Joint Bay (TJB) and Joint Bay Base Construction

Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	recooptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Dwellings on Cae Eithin (South)	52	46	65	55	34	34	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	65	55	36	36	Negligible	Negligible
	Gwrych Castle	53	50	65	55	30	30	Negligible	Negligible
Landfall	Gwyrch Cottage	53	50	65	55	43	43	Negligible	Negligible
Landian	Gwyrch House	53	50	65	55	42	42	Negligible	Negligible
	Hen Wrych Farm	53	50	65	55	39	39	Negligible	Negligible
	Hen Wrych Hall	53	50	65	55	38	38	Negligible	Negligible
-	Hen Wrych Lodge	53	50	65	55	41	41	Negligible	Negligible
	Henblas	44	36	65	55	45	45	Low	Low





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Кесерісі	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Justholme	53	50	65	55	40	40	Negligible	Negligible
	North Wales Business Park	52	46	65	55	32	32	Negligible	Negligible
	Northern Towers	53	50	65	55	34	34	Negligible	Negligible
	Nursery Cottage	53	50	65	55	44	44	Negligible	Negligible
	Plas Tan yr Ogof	53	50	65	55	34	34	Negligible	Negligible
	Ty Crwn	53	50	65	55	35	35	Negligible	Negligible
	Bryn Bela	39	37	65	55	40	40	Low	Low
	Caravans (South)	47	45	65	55	44	44	Negligible	Negligible
	Caravans (West)	53	50	65	55	50	50	Low	Low
	Penrefail Cottage	47	45	65	55	47	47	Negligible	Low
	Sirior Bach	47	45	65	55	36	36	Negligible	Negligible
	Ffynnon Meifod	40	39	65	55	40	40	Negligible	Low
Onshore Cable	Meiford Lodge	46	43	65	55	49	49	Low	Low
Corridor	Nant Meifod	40	39	65	55	37	37	Negligible	Negligible
	Sarn Rug	46	43	65	55	42	42	Negligible	Negligible
	The Barn	40	39	65	55	40	40	Low	Low
	The Gardeners Cottage	40	39	65	55	40	40	Negligible	Low
	Bryn Hen	40	35	65	55	46	46	Low	Low
	Bryn y Pin	46	43	65	55	34	34	Negligible	Negligible



Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Bryn y Pin Cottage	46	43	65	55	40	40	Negligible	Negligible
	Bryn y Pin Mawr	46	43	65	55	41	41	Negligible	Negligible
	Grouse Lodge	46	43	65	55	42	42	Negligible	Negligible
	Llys Awel*	44	36	65	55	40	40	Negligible	Low
	Ffynnonau Farm*	48	40	65	55	44	44	Negligible	Low
	Springhill*	48	40	65	55	45	45	Negligible	Low
	Tan y Bryn*	43	42	65	55	39	39	Negligible	Negligible
	Bryntwydd*	39	37	65	55	36	36	Negligible	Negligible
	Pwll Y Cibau Bach*	39	37	65	55	49	49	Low	Low
	Bryn Gwynt*	48	47	65	55	48	48	Low	Low
	Merlyn*	48	47	65	55	52	52	Low	Low
	Gwel Y Mor*	48	47	65	55	40	40	Negligible	Negligible
	Glandyfr*	48	47	65	55	46	46	Negligible	Negligible
	Ffynnon Dyfyr*	48	47	65	55	46	46	Negligible	Negligible
	Ffynnon Wen*	40	39	65	55	31	31	Negligible	Negligible
	Tyn Y Mynydd*	40	39	65	55	30	30	Negligible	Negligible
	Pistyll*	40	39	65	55	35	35	Negligible	Negligible
	Nant Bach*	46	43	65	55	44	44	Negligible	Low
	Caer Clawdd*	46	43	65	55	50	50	Low	Low
	Plas Hafod*	47	39	65	55	44	44	Negligible	Low





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Neceptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Plas Newydd*	40	35	65	55	41	41	Low	Low
	Carreg Dafydd*	40	35	65	55	48	48	Low	Low
	Nant Ganol*	41	40	65	55	47	47	Low	Low
	Bryn Arian	45	41	65	55	36	36	Negligible	Negligible
	Cae Llwyd	43	42	65	55	40	40	Negligible	Negligible
	Cae Pwll	43	39	65	55	26	26	Negligible	Negligible
	Caer Delyn	46	40	65	55	32	32	Negligible	Negligible
	Carreg Wen	46	40	65	55	32	32	Negligible	Negligible
	Cefn Farm	43	39	65	55	29	29	Negligible	Negligible
	Craig Llwyd	45	41	65	55	38	38	Negligible	Negligible
	Derwen Deg	46	40	65	55	30	30	Negligible	Negligible
Onshore Substation	Groesffordd Farm	45	41	65	55	32	32	Negligible	Negligible
Capstation	Isfryn	47	39	65	55	33	33	Negligible	Negligible
	Maes	47	39	65	55	57	57	Low	Medium
	Pant Farm	43	39	65	55	26	26	Negligible	Negligible
	Pentre Bach	45	41	65	55	46	46	Low	Low
	Pentre Mawr Farm	45	41	65	55	41	41	Negligible	Low
	Pentre Meredydd	43	42	65	55	47	47	Low	Low
	Plas yr Esgob	46	40	65	55	31	31	Negligible	Negligible
	Rhos Aber	43	39	65	55	27	27	Negligible	Negligible





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Κεσερισί	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Squirrels Lodge	43	39	65	55	27	27	Negligible	Negligible
	Tan y Bryn	43	42	65	55	39	39	Negligible	Negligible
	Tan y Bryn Uchaf	43	42	65	55	35	35	Negligible	Negligible
	Tan y Graig	43	39	65	55	30	30	Negligible	Negligible
	Trebanog	45	41	65	55	36	36	Negligible	Negligible
	Ty Celyn	43	39	65	55	30	30	Negligible	Negligible
	Tyddyn Meredydd	43	42	65	55	54	54	Low	Low
	Tyn y Caeau	46	40	65	55	29	29	Negligible	Negligible
	Tyn y Ffordd	47	39	65	55	40	40	Negligible	Low
	Tyn y Ffordd Bach	44	40	65	55	29	29	Negligible	Negligible
	Tyn y Ffordd Fawr	44	40	65	55	27	27	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	27	27	Negligible	Negligible
	Waen Meredydd	44	39	65	55	37	37	Negligible	Negligible
	Ysgubor EOS	45	41	65	55	33	33	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	28	28	Negligible	Negligible



Table 1-8 Jointing of Cables in Transition Joint Bays and Joint Bays

Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Neceptoi	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Dwellings on Cae Eithin (South)	52	46	65	55	33	33	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	65	55	35	35	Negligible	Negligible
	Gwrych Castle	53	50	65	55	30	30	Negligible	Negligible
	Gwyrch Cottage	53	50	65	55	43	43	Negligible	Negligible
	Gwyrch House	53	50	65	55	42	42	Negligible	Negligible
	Hen Wrych Farm	53	50	65	55	39	39	Negligible	Negligible
	Hen Wrych Hall	53	50	65	55	38	38	Negligible	Negligible
Landfall	Hen Wrych Lodge	53	50	65	55	41	41	Negligible	Negligible
	Henblas	44	36	65	55	44	44	Low	Low
	Justholme	53	50	65	55	40	40	Negligible	Negligible
	North Wales Business Park	52	46	65	55	32	32	Negligible	Negligible
	Northern Towers	53	50	65	55	34	34	Negligible	Negligible
	Nursery Cottage	53	50	65	55	44	44	Negligible	Negligible
	Plas Tan yr Ogof	53	50	65	55	34	34	Negligible	Negligible
	Ty Crwn	53	50	65	55	35	35	Negligible	Negligible
Onshore	Bryn Bela	39	37	65	55	38	38	Negligible	Low
Cable	Caravans (South)	47	45	65	55	42	42	Negligible	Negligible
Corridor	Caravans (West)	53	50	65	55	48	48	Low	Low





Location	Receptor	LOAEL, dB(A)			SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Penrefail Cottage	47	45	65	55	45	45	Negligible	Negligible	
	Sirior Bach	47	45	65	55	34	34	Negligible	Negligible	
	Ffynnon Meifod	40	39	65	55	38	38	Negligible	Negligible	
	Meiford Lodge	46	43	65	55	48	48	Low	Low	
	Nant Meifod	40	39	65	55	36	36	Negligible	Negligible	
	Sarn Rug	46	43	65	55	40	40	Negligible	Negligible	
	The Barn	40	39	65	55	38	38	Negligible	Negligible	
	The Gardeners Cottage	40	39	65	55	38	38	Negligible	Negligible	
	Bryn Hen	40	35	65	55	44	44	Low	Low	
	Bryn y Pin	46	43	65	55	35	35	Negligible	Negligible	
	Bryn y Pin Cottage	46	43	65	55	38	38	Negligible	Negligible	
	Bryn y Pin Mawr	46	43	65	55	39	39	Negligible	Negligible	
	Grouse Lodge	46	43	65	55	40	40	Negligible	Negligible	
	Llys Awel*	44	36	65	55	39	39	Negligible	Low	
	Ffynnonau Farm*	48	40	65	55	42	42	Negligible	Low	
	Springhill*	48	40	65	55	43	43	Negligible	Low	
	Tan y Bryn*	43	42	65	55	38	38	Negligible	Negligible	
	Bryntwydd*	39	37	65	55	35	35	Negligible	Negligible	
	Pwll Y Cibau Bach*	39	37	65	55	47	47	Low	Low	
	Bryn Gwynt*	48	47	65	55	46	46	Negligible	Negligible	





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Merlyn*	48	47	65	55	51	51	Low	Low
	Gwel Y Mor*	48	47	65	55	38	38	Negligible	Negligible
	Glandyfr*	48	47	65	55	44	44	Negligible	Negligible
	Ffynnon Dyfyr*	48	47	65	55	44	44	Negligible	Negligible
	Ffynnon Wen*	40	39	65	55	29	29	Negligible	Negligible
	Tyn Y Mynydd*	40	39	65	55	28	28	Negligible	Negligible
	Pistyll*	40	39	65	55	34	34	Negligible	Negligible
	Nant Bach*	46	43	65	55	43	43	Negligible	Negligible
	Caer Clawdd*	46	43	65	55	48	48	Low	Low
	Plas Hafod*	47	39	65	55	42	42	Negligible	Low
	Plas Newydd*	40	35	65	55	39	39	Negligible	Low
	Carreg Dafydd*	40	35	65	55	46	46	Low	Low
	Nant Ganol*	41	40	65	55	45	45	Low	Low
	Bryn Arian	45	41	65	55	35	35	Negligible	Negligible
	Cae Llwyd	43	42	65	55	37	37	Negligible	Negligible
	Cae Pwll	43	39	65	55	24	24	Negligible	Negligible
Onshore Substation	Caer Delyn	46	40	65	55	31	31	Negligible	Negligible
Sassiation	Carreg Wen	46	40	65	55	30	30	Negligible	Negligible
	Cefn Farm	43	39	65	55	27	27	Negligible	Negligible
	Craig Llwyd	45	41	65	55	37	37	Negligible	Negligible





Location	Receptor		DAEL, IB(A)		DAEL, B(A)		ction Noise el, dB(A)	Magnitude of Impact		
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Derwen Deg	46	40	65	55	28	28	Negligible	Negligible	
	Groesffordd Farm	45	41	65	55	31	31	Negligible	Negligible	
	Isfryn	47	39	65	55	31	31	Negligible	Negligible	
	Maes	47	39	65	55	55	55	Low	Low	
	Pant Farm	43	39	65	55	24	24	Negligible	Negligible	
	Pentre Bach	45	41	65	55	44	44	Negligible	Low	
	Pentre Mawr Farm	45	41	65	55	40	40	Negligible	Negligible	
	Pentre Meredydd	43	42	65	55	45	45	Low	Low	
	Plas yr Esgob	46	40	65	55	29	29	Negligible	Negligible	
	Rhos Aber	43	39	65	55	26	26	Negligible	Negligible	
	Squirrels Lodge	43	39	65	55	26	26	Negligible	Negligible	
	Tan y Bryn	43	42	65	55	38	38	Negligible	Negligible	
	Tan y Bryn Uchaf	43	42	65	55	32	32	Negligible	Negligible	
	Tan y Graig	43	39	65	55	28	28	Negligible	Negligible	
	Trebanog	45	41	65	55	34	34	Negligible	Negligible	
	Ty Celyn	43	39	65	55	29	29	Negligible	Negligible	
	Tyddyn Meredydd	43	42	65	55	52	52	Low	Low	
	Tyn y Caeau	46	40	65	55	28	28	Negligible	Negligible	
	Tyn y Ffordd	47	39	65	55	39	39	Negligible	Low	
	Tyn y Ffordd Bach	44	40	65	55	27	27	Negligible	Negligible	





Location	Receptor		DAEL, IB(A)		AEL, (A)		ction Noise el, dB(A)	Magnitude of Impact		
200411011	nocopio.	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Tyn y Ffordd Fawr	44	40	65	55	26	26	Negligible	Negligible	
	Tyn y Ffordd Newydd	43	39	65	55	26	26	Negligible	Negligible	
	Waen Meredydd	44	39	65	55	35	35	Negligible	Negligible	
	Ysgubor EOS			65	55	30	30	Negligible	Negligible	
	Ysgubor Newydd			65	55	27	27	Negligible	Negligible	



Table 1-9 Backfill Over Transition Joint Bays and Joint Bays

Location	Receptor		DAEL, IB(A)		AEL, B(A)		iction Noise el, dB(A)	Magnitude of Impact	
Location	πεσερισί	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Dwellings on Cae Eithin (South)	52	46	65	55	33	33	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	65	55	35	35	Negligible	Negligible
	Gwrych Castle	53	50	65	55	30	30	Negligible	Negligible
	Gwyrch Cottage	53	50	65	55	43	43	Negligible	Negligible
	Gwyrch House	53	50	65	55	42	42	Negligible	Negligible
	Hen Wrych Farm	53	50	65	55	39	39	Negligible	Negligible
	Hen Wrych Hall	53	50	65	55	38	38	Negligible	Negligible
Landfall	Hen Wrych Lodge	53	50	65	55	41	41	Negligible	Negligible
	Henblas	44	36	65	55	43	43	Negligible	Low
	Justholme	53	50	65	55	40	40	Negligible	Negligible
	North Wales Business Park	52	46	65	55	32	32	Negligible	Negligible
	Northern Towers	53	50	65	55	34	34	Negligible	Negligible
	Nursery Cottage	53	50	65	55	44	44	Negligible	Negligible
	Plas Tan yr Ogof	53	50	65	55	34	34	Negligible	Negligible
	Ty Crwn	53	50	65	55	35	35	Negligible	Negligible
Onshore	Bryn Bela	39	37	65	55	36	36	Negligible	Negligible
Cable	Caravans (South)	47	45	65	55	40	40	Negligible	Negligible
Corridor	Caravans (West)	53	50	65	55	47	47	Negligible	Low





Location	Receptor		DAEL, B(A)		DAEL, B(A)		ction Noise el, dB(A)	Magnitude of Impact		
Location	recoptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Penrefail Cottage	47	45	65	55	43	43	Negligible	Negligible	
	Sirior Bach	47	45	65	55	32	32	Negligible	Negligible	
	Ffynnon Meifod	40	39	65	55	36	36	Negligible	Negligible	
	Meiford Lodge	46	43	65	55	46	46	Low	Low	
	Nant Meifod	40	39	65	55	34	34	Negligible	Negligible	
	Sarn Rug	46	43	65	55	38	38	Negligible	Negligible	
	The Barn	40	39	65	55	36	36	Negligible	Negligible	
	The Gardeners Cottage	40	39	65	55	36	36	Negligible	Negligible	
	Bryn Hen	40	35	65	55	42	42	Low	Low	
	Bryn y Pin	46	43	65	55	31	31	Negligible	Negligible	
	Bryn y Pin Cottage	46	43	65	55	36	36	Negligible	Negligible	
	Bryn y Pin Mawr	46	43	65	55	37	37	Negligible	Negligible	
	Grouse Lodge	46	43	65	55	38	38	Negligible	Negligible	
	Llys Awel*	44	36	65	55	36	36	Negligible	Low	
	Ffynnonau Farm*	48	40	65	55	40	40	Negligible	Negligible	
	Springhill*	48	40	65	55	41	41	Negligible	Low	
	Tan y Bryn*	43	42	65	55	36	36	Negligible	Negligible	
	Bryntwydd*	39	37	65	55	33	33	Negligible	Negligible	
	Pwll Y Cibau Bach*	vll Y Cibau Bach* 39 37		65 55		46 46		Low	Low	
	Bryn Gwynt*	48	47	65	55	45	45	Negligible	Negligible	





Location	Receptor		DAEL, B(A)		AEL, B(A)	Construction Noise Level, dB(A)		Magnitude of Impact		
	recopio	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Merlyn*	48	47	65	55	50	50	Low	Low	
	Gwel Y Mor*	48	47	65	55	36	36	Negligible	Negligible	
	Glandyfr*	48	47	65	55	43	43	Negligible	Negligible	
	Ffynnon Dyfyr*	48	47	65	55	42	42	Negligible	Negligible	
	Ffynnon Wen*	40	39	65	55	27	27	Negligible	Negligible	
	Tyn Y Mynydd*	40	39	65	55	26	26	Negligible	Negligible	
	Pistyll*	40	39	65	55	31	31	Negligible	Negligible	
	Nant Bach*	46	43	65	55	40	40	Negligible	Negligible	
	Caer Clawdd*	46	43	65	55	46	46	Low	Low	
	Plas Hafod*	47	39	65	55	41	41	Negligible	Low	
	Plas Newydd*	40	35	65	55	37	37	Negligible	Low	
	Carreg Dafydd*	40	35	65	55	45	45	Low	Low	
	Nant Ganol*	41	40	65	55	44	44	Low	Low	
	Bryn Arian	45	41	65	55	32	32	Negligible	Negligible	
	Cae Llwyd	43	42	65	55	36	36	Negligible	Negligible	
	Cae Pwll	43	39	65	55	22	22	Negligible	Negligible	
Onshore Substation	Caer Delyn	46	40	65	55	28	28	Negligible	Negligible	
	Carreg Wen	46	40	65	55	28	28	Negligible	Negligible	
	Cefn Farm	43	39	65	55	25	25	Negligible	Negligible	
	Craig Llwyd	45	41	65	55	35	35	Negligible	Negligible	





Location	Receptor		DAEL, IB(A)		DAEL, B(A)		ıction Noise el, dB(A)	Magnitude of Impact		
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Derwen Deg	46	40	65	55	25	25	Negligible	Negligible	
	Groesffordd Farm	45	41	65	55	28	28	Negligible	Negligible	
	Isfryn	47	39	65	55	29	29	Negligible	Negligible	
	Maes	47	39	65	55	51	51	Low	Low	
	Pant Farm	43	39	65	55	22	22	Negligible	Negligible	
	Pentre Bach	45	41	65	55	42	42	Negligible	Low	
	Pentre Mawr Farm	45	41	65	55	38	38	Negligible	Negligible	
	Pentre Meredydd	43	42	65	55	43	43	Negligible	Low	
	Plas yr Esgob	46	40	65	55	27	27	Negligible	Negligible	
	Rhos Aber	43	39	65	55	24	24	Negligible	Negligible	
	Squirrels Lodge	43	39	65	55	23	23	Negligible	Negligible	
	Tan y Bryn	43	42	65	55	36	36	Negligible	Negligible	
	Tan y Bryn Uchaf	43	42	65	55	31	31	Negligible	Negligible	
	Tan y Graig	43	39	65	55	26	26	Negligible	Negligible	
	Trebanog	45	41	65	55	32	32	Negligible	Negligible	
	Ty Celyn	43	39	65	55	27	27	Negligible	Negligible	
	Tyddyn Meredydd	43	42	65	55	51	51	Low	Low	
	Tyn y Caeau	46	40	65	55	26	26	Negligible	Negligible	
	Tyn y Ffordd	47	39	65	55	36	36	Negligible	Negligible	
	Tyn y Ffordd Bach	44	40	65	55	24	24	Negligible	Negligible	



Location	Receptor		DAEL, B(A)		AEL, (A)		ction Noise el, dB(A)	Magnitude of Impact		
	necopio.	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	
	Tyn y Ffordd Fawr	44	40	65	55	23	23	Negligible	Negligible	
	Tyn y Ffordd Newydd	43	39	65	55	23	23	Negligible	Negligible	
	Waen Meredydd	44	39	65	55	32	32	Negligible	Negligible	
	Ysgubor EOS	45	41	65	55	29	29	Negligible	Negligible	
	Ysgubor Newydd 47		39	65	55	24	24	Negligible	Negligible	

Table 1-10 Transition Joint Bay and Joint Bay - use of pumps to dewater excavations²

		LOAEL, dB(A)			SOAEL, dB(A)			Construction Noise Level, dB(A)			Magnitude of Impact		
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Dwellings on Cae Eithin (South)	52	46	42	65	55	45			33			Negligible
Landfall	Dwellings on Cae Eithin (West)	52	46	42	65	55	45			35			Negligible
	Gwrych Castle	53	50	46	65	55	50			30			Negligible

²Only Nighttime construction noise levels and impacts reported in this table



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Co	nstruction Level, dB		Magnitude of Impact		
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Gwyrch Cottage	53	50	46	65	55	50			43			Negligible
	Gwyrch House	53	50	46	65	55	50			41			Negligible
	Hen Wrych Farm	53	50	46	65	55	50			39			Negligible
	Hen Wrych Hall	53	50	46	65	55	50			38			Negligible
	Hen Wrych Lodge	53	50	46	65	55	50			41			Negligible
	Henblas	44	36	35	65	55	45			38			Low
	Justholme	53	50	46	65	55	50			40			Negligible
	North Wales Business Park	52	46	42	65	55	45			32			Negligible
	Northern Towers	53	50	46	65	55	50			34			Negligible
	Nursery Cottage	53	50	46	65	55	50			44			Negligible
	Plas Tan yr Ogof	53	50	46	65	55	50			34			Negligible
	Ty Crwn	53	50	46	65	55	50			35			Negligible
	Bryn Bela	39	37	36	65	55	45			32			Negligible



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Co	nstruction Level, dB		Magnitude of Impact		
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
Onshore Cable	Caravans (South)	47	45	43	65	55	45			36			Negligible
Corridor	Caravans (West)	47	45	43	65	55	45			41			Negligible
	Penrefail Cottage	47	45	43	65	55	45			38			Negligible
	Sirior Bach	47	45	43	65	55	45			27			Negligible
	Ffynnon Meifod	39	37	36	65	55	45			31			Negligible
	Meiford Lodge	47	45	43	65	55	45			41			Low
	Nant Meifod	53	50	46	65	55	45			29			Negligible
	Sarn Rug	47	45	43	65	55	45			34			Negligible
	The Barn	47	45	43	65	55	45			32			Negligible
	The Gardeners Cottage	40	39	37	65	55	45			31			Negligible
	Bryn Hen	40	35	34	65	55	45			37			Low
	Bryn y Pin	46	43	37	65	55	45			25			Negligible
	Bryn y Pin Cottage	46	43	38	65	55	45			31			Negligible
	Bryn y Pin Mawr	40	39	37	65	55	45			32	_		Negligible



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Coi	nstruction Noise Level, dB(A)	Mag	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Night Weekend s	Day	Evening and Weekends	Night
	Grouse Lodge	40	39	37	65	55	45		33			Negligible
	Llys Awel*	44	36	35	65	55	45		32			Negligible
	Ffynnonau Farm*	48	40	38	65	55	45		35			Negligible
	Springhill*	48	40	38	65	55	45		36			Negligible
	Tan y Bryn*	43	42	37	65	55	45		31			Negligible
	Bryntwydd*	39	37	36	65	55	45		28			Negligible
	Pwll Y Cibau Bach*	39	37	36	65	55	45		40			Low
	Bryn Gwynt*	48	47	46	65	55	50		39			Negligible
	Merlyn*	48	47	46	65	55	50		44			Negligible
	Gwel Y Mor*	48	47	46	65	55	50		31			Negligible
	Glandyfr*	48	47	46	65	55	50		38			Negligible
	Ffynnon Dyfyr*	48	47	46	65	55	50		37			Negligible
	Ffynnon Wen*	40	39	37	65	55	45		22			Negligible
	Tyn Y Mynydd*	40	39	37	65	55	45		22			Negligible
	Pistyll*	40	39	37	65	55	45		26			Negligible
	Nant Bach*	46	43	38	65	55	45		35			Negligible



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Construction Noise Level, dB(A)			Magnitude of Impact		
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Caer Clawdd*	46	43	38	65	55	45			41			Low
	Plas Hafod*	47	39	38	65	55	45			36			Negligible
	Plas Newydd*	40	35	34	65	55	45			32			Negligible
	Carreg Dafydd*	40	35	34	65	55	45			39			Low
	Nant Ganol*	41	40	34	65	55	45			38			Low
	Bryn Arian	40	35	34	65	55	45			27			Negligible
	Cae Llwyd	46	43	38	65	55	45			30			Negligible
	Cae Pwll	46	43	38	65	55	45			18			Negligible
	Caer Delyn	46	43	38	65	55	45			24			Negligible
	Carreg Wen	46	43	38	65	55	45			22			Negligible
Onshore	Cefn Farm	45	41	40	65	55	45			20			Negligible
Substation	Craig Llwyd	43	42	37	65	55	45			29			Negligible
	Derwen Deg	43	39	36	65	55	45			21			Negligible
	Groesffordd Farm	46	40	37	65	55	45			23			Negligible
	Isfryn	46	40	37	65	55	45			24			Negligible
	Maes	43	39	36	65	55	45			45			Medium
	Pant Farm	45	41	40	65	55	45			17			Negligible



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Co	nstruction Level, dB(Mag	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Pentre Bach	46	40	37	65	55	45			37			Negligible
	Pentre Mawr Farm	45	41	40	65	55	45			32			Negligible
	Pentre Meredydd	43	42	37	65	55	45			37			Negligible
	Plas yr Esgob	47	39	38	65	55	45			23			Negligible
	Rhos Aber	47	39	38	65	55	45			19			Negligible
	Squirrels Lodge	43	39	36	65	55	45			20			Negligible
	Tan y Bryn	45	41	40	65	55	45			31			Negligible
	Tan y Bryn Uchaf	45	41	40	65	55	45			25			Negligible
	Tan y Graig	43	42	37	65	55	45			21			Negligible
	Trebanog	46	40	37	65	55	45			27			Negligible
	Ty Celyn	43	39	36	65	55	45			22			Negligible
	Tyddyn Meredydd	43	39	36	65	55	45			45			Medium
	Tyn y Caeau	43	42	37	65	55	45			21			Negligible
	Tyn y Ffordd	43	42	37	65	55	45			31			Negligible
	Tyn y Ffordd Bach	43	39	36	65	55	45			20			Negligible





		L	OAEL, dB	(A)	;	SOAEL, dE	B(A)	Constructior Level, dB		Magı	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Tyn y Ffordd Fawr	45	41	40	65	55	45		21			Negligible
	Tyn y Ffordd Newydd	43	39	36	65	55	45		19			Negligible
	Waen Meredydd	43	42	37	65	55	45		28			Negligible
	Ysgubor EOS	46	40	37	65	55	45		25			Negligible
	Ysgubor Newydd	47	39	38	65	55	45		19			Negligible



Table 1-11 Use of trenchless techniques compounds³

		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Со	nstruction Level, dB		Magr	nitude of In	npact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Dwellings on Cae Eithin (South)	52	46	42	65	55	45	33	33	33	Negligible	Negligible	Negligible
	Dwellings on Cae Eithin (West)	52	46	42	65	55	45	35	35	35	Negligible	Negligible	Negligible
	Gwrych Castle	53	50	46	65	55	50	30	30	30	Negligible	Negligible	Negligible
	Gwyrch Cottage	53	50	46	65	55	50	43	43	43	Negligible	Negligible	Negligible
Landfall	Gwyrch House	53	50	46	65	55	50	41	41	41	Negligible	Negligible	Negligible
	Hen Wrych Farm	53	50	46	65	55	50	39	39	39	Negligible	Negligible	Negligible
	Hen Wrych Hall	53	50	46	65	55	50	38	38	38	Negligible	Negligible	Negligible
	Hen Wrych Lodge	53	50	46	65	55	45	41	41	41	Negligible	Negligible	Negligible
	Henblas	44	36	35	65	55	45	44	44	44	Low	Low	Low
	Justholme	53	50	46	65	55	50	40	40	40	Negligible	Negligible	Negligible

³ Night time impacts only reported for locations close to complex locations



		l	OAEL, dB	(A)	,	SOAEL, dE	B(A)	Co	nstruction Level, dB(Magr	nitude of Im	npact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	North Wales Business Park	52	46	42	65	55	45	32	32	32	Negligible	Negligible	Negligible
	Northern Towers	53	50	46	65	55	50	34	34	34	Negligible	Negligible	Negligible
	Nursery Cottage	53	50	46	65	55	50	44	44	44	Negligible	Negligible	Negligible
	Plas Tan yr Ogof	53	50	46	65	55	45	34	34	34	Negligible	Negligible	Negligible
	Ty Crwn	53	50	46	65	55	45	35	35	35	Negligible	Negligible	Negligible
	Bryn Bela	39	37	36	65	55	45	38	38	38	Negligible	Low	-
	Caravans (South)	47	45	43	65	55	45	46	46	46	Negligible	Low	-
	Caravans (West)	53	50	46	65	55	45	48	48	48	Low	Low	-
Onshore	Penrefail Cottage	47	45	43	65	55	45	44	44	44	Negligible	Negligible	-
Cable Corridor	Sirior Bach	47	45	43	65	55	45	40	40	40	Negligible	Negligible	-
00,,,,	Ffynnon Meifod	40	39	65	65	55	45	37	37	37	Negligible	Negligible	-
	Meiford Lodge	46	43	65	65	55	45	48	48	48	Low	Low	-
	Nant Meifod	40	39	65	65	55	45	36	36	36	Negligible	Negligible	-
	Sarn Rug	46	43	65	65	55	45	46	46	46	Negligible	Low	-



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Co	nstruction Level, dB(Magr	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	The Barn	40	39	65	65	55	45	37	37	37	Negligible	Negligible	-
	The Gardeners Cottage	40	39	65	65	55	45	37	37	37	Negligible	Negligible	-
	Bryn Hen	40	35	65	65	55	45	42	42	42	Low	Low	-
	Bryn y Pin	46	43	65	65	55	45	33	33	33	Negligible	Negligible	-
	Bryn y Pin Cottage	46	43	65	65	55	45	36	36	36	Negligible	Negligible	-
	Bryn y Pin Mawr	46	43	65	65	55	45	31	31	31	Negligible	Negligible	-
	Grouse Lodge	46	43	65	65	55	45	31	31	31	Negligible	Negligible	-
	Llys Awel*	44	36	35	65	55	45	46	46	46	Low	Low	-
	Ffynnonau Farm*	48	40	38	65	55	45	42	42	42	Negligible	Low	-
	Springhill*	48	40	38	65	55	45	43	43	43	Negligible	Low	-
	Tan y Bryn*	43	42	37	65	55	45	33	33	33	Negligible	Negligible	-
	Bryntwydd*	39	37	36	65	55	45	38	38	38	Negligible	Low	-
	Pwll Y Cibau Bach*	39	37	36	65	55	45	46	46	46	Low	Low	-
	Bryn Gwynt*	48	47	46	65	55	50	48	48	48	Low	Low	-
	Merlyn*	48	47	46	65	55	50	51	51	51	Low	Low	-



		L	OAEL, dB	(A)		SOAEL, dE	B(A)		nstruction Level, dB(Magı	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Gwel Y Mor*	48	47	46	65	55	50	44	44	44	Negligible	Negligible	-
	Glandyfr*	48	47	46	65	55	50	44	44	44	Negligible	Negligible	-
	Ffynnon Dyfyr*	48	47	46	65	55	50	43	43	43	Negligible	Negligible	-
	Ffynnon Wen*	40	39	37	65	55	45	45	45	45	Low	Low	-
	Tyn Y Mynydd*	40	39	37	65	55	45	43	43	43	Low	Low	-
	Pistyll*	40	39	37	65	55	45	33	33	33	Negligible	Negligible	-
	Nant Bach*	46	43	38	65	55	45	41	41	41	Negligible	Negligible	-
	Caer Clawdd*	46	43	38	65	55	45	46	46	46	Low	Low	-
	Plas Hafod*	47	39	38	65	55	45	43	43	43	Negligible	Low	-
	Plas Newydd*	40	35	34	65	55	45	39	39	39	Negligible	Low	-
	Carreg Dafydd*	40	35	34	65	55	45	45	45	45	Low	Low	-
	Nant Ganol*	41	40	34	65	55	45	43	43	43	Low	Low	-
	Bryn Arian	40	35	34	65	55	45	40	40	40	Negligible	Negligible	-
Onshore	Cae Llwyd	46	43	38	65	55	45	37	37	37	Negligible	Negligible	-
Substation	Cae Pwll	46	43	38	65	55	45	25	25	25	Negligible	Negligible	-
	Caer Delyn	46	43	38	65	55	45	38	38	38	Negligible	Negligible	-



		L	OAEL, dB	(A)		SOAEL, dE	B(A)	Со	nstruction Level, dB(Magr	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Carreg Wen	46	43	38	65	55	45	35	35	35	Negligible	Negligible	-
	Cefn Farm	45	41	40	65	55	45	29	29	29	Negligible	Negligible	-
	Craig Llwyd	43	42	37	65	55	45	40	40	40	Negligible	Negligible	-
	Derwen Deg	43	39	36	65	55	45	33	33	33	Negligible	Negligible	-
	Groesffordd Farm	46	40	37	65	55	45	40	40	40	Negligible	Negligible	-
	Isfryn	46	40	37	65	55	45	32	32	32	Negligible	Negligible	-
	Maes	43	39	36	65	55	45	51	51	51	Low	Low	-
	Pant Farm	45	41	40	65	55	45	27	27	27	Negligible	Negligible	-
	Pentre Bach	46	40	37	65	55	45	44	44	44	Negligible	Low	-
	Pentre Mawr Farm	45	41	40	65	55	45	40	40	40	Negligible	Negligible	-
	Pentre Meredydd	43	42	37	65	55	45	45	45	45	Low	Low	-
	Plas yr Esgob	47	39	38	65	55	45	33	33	33	Negligible	Negligible	-
	Rhos Aber	47	39	38	65	55	45	26	26	26	Negligible	Negligible	-
	Squirrels Lodge	43	39	36	65	55	45	26	26	26	Negligible	Negligible	-
	Tan y Bryn	45	41	40	65	55	45	33	33	33	Negligible	Negligible	-
	Tan y Bryn Uchaf	45	41	40	65	55	45	35	35	35	Negligible	Negligible	-





		L	_OAEL, dB	(A)	;	SOAEL, dE	B(A)	Co	nstruction Level, dB(Magr	nitude of Im	pact
Location	Receptor	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekend s	Night	Day	Evening and Weekends	Night
	Tan y Graig	43	42	37	65	55	45	28	28	28	Negligible	Negligible	-
	Trebanog	46	40	37	65	55	45	42	42	42	Negligible	Low	-
	Ty Celyn	43	39	36	65	55	45	29	29	29	Negligible	Negligible	-
	Tyddyn Meredydd	43	39	36	65	55	45	49	49	49	Low	Low	-
	Tyn y Caeau	43	42	37	65	55	45	35	35	35	Negligible	Negligible	-
	Tyn y Ffordd	43	42	37	65	55	45	40	40	40	Negligible	Low	-
	Tyn y Ffordd Bach	43	39	36	65	55	45	26	26	26	Negligible	Negligible	-
	Tyn y Ffordd Fawr	45	41	40	65	55	45	25	25	25	Negligible	Negligible	-
	Tyn y Ffordd Newydd	43	39	36	65	55	45	27	27	27	Negligible	Negligible	-
	Waen Meredydd	43	42	37	65	55	45	47	47	47	Low	Low	-
	Ysgubor EOS	46	40	37	65	55	45	36	36	36	Negligible	Negligible	-
	Ysgubor Newydd	47	39	38	65	55	45	29	29	29	Negligible	Negligible	-



Table 1-12 Substation Groundworks

Location	Receptor		DAEL, IB(A)		DAEL, B(A)		ction Noise I, dB(A)	Magnitud	e of Impact
Location	Νεσερισί	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Bryn Arian	45	41	65	55	41	41	Negligible	Low
	Cae Llwyd	43	42	65	55	48	48	Low	Low
	Cae Pwll	43	39	65	55	38	38	Negligible	Negligible
	Caer Delyn	46	40	65	55	42	42	Negligible	Low
	Carreg Wen	46	40	65	55	40	40	Negligible	Negligible
	Cefn Farm	43	39	65	55	45	45	Low	Low
	Craig Llwyd	45	41	65	55	43	43	Negligible	Low
	Derwen Deg	46	40	65	55	42	42	Negligible	Low
	Groesffordd Farm	45	41	65	55	41	41	Negligible	Low
Onshore Substation	Hendy Farm	43	42	65	55	56	56	Low	Medium
	Isfryn	47	39	65	55	52	52	Low	Low
	Maes	47	39	65	55	25	25	Negligible	Negligible
	Pant Farm	43	39	65	55	28	28	Negligible	Negligible
	Pentre Bach	45	41	65	55	46	46	Low	Low
	Pentre Mawr Farm	45	41	65	55	43	43	Negligible	Low
	Pentre Meredydd	43	42	65	55	52	52	Low	Low
	Plas yr Esgob	46	40	65	55	41	41	Negligible	Low
	Rhos Aber	43	39	65	55	38	38	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	40	40	Negligible	Low





cation	Receptor		DAEL, IB(A)		AEL, B(A)		ction Noise el, dB(A)	Magnitud	e of Impact
ation	recorptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Tan y Bryn	43	42	65	55	46	46	Low	Low
	Tan y Bryn Uchaf	43	42	65	55	53	53	Low	Low
	Tan y Graig	43	39	65	55	26	26	Negligible	Negligible
+	Trebanog	45	41	65	55	39	39	Negligible	Negligible
-	Ty Celyn	43	39	65	55	46	46	Low	Low
-	Tyddyn Meredydd	43	42	65	55	53	53	Low	Low
-	Tyn y Caeau	46	40	65	55	41	41	Negligible	Low
-	Tyn y Ffordd	47	39	65	55	27	27	Negligible	Negligible
=	Tyn y Ffordd Bach	44	40	65	55	40	40	Negligible	Low
=	Tyn y Ffordd Fawr	44	40	65	55	39	39	Negligible	Negligible
=	Tyn y Ffordd Newydd	43	39	65	55	36	36	Negligible	Negligible
-	Waen Meredydd	44	39	65	55	43	43	Negligible	Low
	Ysgubor EOS	45	41	65	55	35	35	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	29	29	Negligible	Negligible



Table 1-13 Substation Building Foundation Works

Location	Receptor		OAEL, IB(A)		DAEL, B(A)		iction Noise el, dB(A)	Magnitud	e of Impact
Location	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Bryn Arian	45	41	65	55	38	38	Negligible	Negligible
	Cae Llwyd	43	42	65	55	46	46	Low	Low
	Cae Pwll	43	39	65	55	34	34	Negligible	Negligible
	Caer Delyn	46	40	65	55	37	37	Negligible	Negligible
	Carreg Wen	46	40	65	55	35	35	Negligible	Negligible
	Cefn Farm	43	39	65	55	41	41	Negligible	Low
	Craig Llwyd	45	41	65	55	39	39	Negligible	Negligible
	Derwen Deg	46	40	65	55	38	38	Negligible	Negligible
	Groesffordd Farm	45	41	65	55	37	37	Negligible	Negligible
Onshore Substation	Hendy Farm	43	42	65	55	55	55	Low	Medium
Cascialion	Isfryn	47	39	65	55	48	48	Low	Low
	Maes	47	39	65	55	21	21	Negligible	Negligible
	Pant Farm	43	39	65	55	24	24	Negligible	Negligible
	Pentre Bach	45	41	65	55	42	42	Negligible	Low
	Pentre Mawr Farm	45	41	65	55	41	41	Negligible	Negligible
	Pentre Meredydd	43	42	65	55	53	53	Low	Low
	Plas yr Esgob	46	40	65	55	39	39	Negligible	Negligible
	Rhos Aber	43	39	65	55	34	34	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	36	36	Negligible	Negligible





cation	Receptor		DAEL, IB(A)		AEL, B(A)		ction Noise el, dB(A)	Magnitud	e of Impact
ation	Receptor	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Tan y Bryn	43	42	65	55	47	47	Low	Low
	Tan y Bryn Uchaf	43	42	65	55	54	54	Low	Low
	Tan y Graig	43	39	65	55	21	21	Negligible	Negligible
	Trebanog	45	41	65	55	35	35	Negligible	Negligible
	Ty Celyn	43	39	65	55	43	43	Negligible	Low
	Tyddyn Meredydd	43	42	65	55	53	53	Low	Low
	Tyn y Caeau	46	40	65	55	36	36	Negligible	Negligible
	Tyn y Ffordd	47	39	65	55	25	25	Negligible	Negligible
	Tyn y Ffordd Bach	44	40	65	55	37	37	Negligible	Negligible
	Tyn y Ffordd Fawr	44	40	65	55	35	35	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	32	32	Negligible	Negligible
	Waen Meredydd	44	39	65	55	39	39	Negligible	Low
	Ysgubor EOS	45	41	65	55	33	33	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	25	25	Negligible	Negligible



Table 1-14 Substation Access Road and Car Parking Road Works

Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Bryn Arian	45	41	65	55	38	38	Negligible	Negligible
	Cae Llwyd	43	42	65	55	38	38	Negligible	Negligible
	Cae Pwll	43	39	65	55	33	33	Negligible	Negligible
	Caer Delyn	46	40	65	55	41	41	Negligible	Low
	Carreg Wen	46	40	65	55	41	41	Negligible	Low
	Cefn Farm	43	39	65	55	35	35	Negligible	Negligible
	Craig Llwyd	45	41	65	55	38	38	Negligible	Negligible
	Derwen Deg	46	40	65	55	52	52	Low	Low
	Groesffordd Farm	45	41	65	55	38	38	Negligible	Negligible
Onshore Substation	Hendy Farm	43	42	65	55	42	42	Negligible	Negligible
	Isfryn	47	39	65	55	39	39	Negligible	Low
	Maes	47	39	65	55	26	26	Negligible	Negligible
	Pant Farm	43	39	65	55	26	26	Negligible	Negligible
	Pentre Bach	45	41	65	55	39	39	Negligible	Negligible
	Pentre Mawr Farm	45	41	65	55	39	39	Negligible	Negligible
	Pentre Meredydd	43	42	65	55	43	43	Low	Low
	Plas yr Esgob	46	40	65	55	46	46	Low	Low
	Rhos Aber	43	39	65	55	35	35	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	36	36	Negligible	Negligible





cation	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Tan y Bryn	43	42	65	55	40	40	Negligible	Negligible
	Tan y Bryn Uchaf	43	42	65	55	41	41	Negligible	Negligible
	Tan y Graig	43	39	65	55	23	23	Negligible	Negligible
	Trebanog	45	41	65	55	36	36	Negligible	Negligible
	Ty Celyn	43	39	65	55	38	38	Negligible	Negligible
	Tyddyn Meredydd	43	42	65	55	43	43	Low	Low
	Tyn y Caeau	46	40	65	55	47	47	Low	Low
	Tyn y Ffordd	47	39	65	55	24	24	Negligible	Negligible
	Tyn y Ffordd Bach	44	40	65	55	36	36	Negligible	Negligible
	Tyn y Ffordd Fawr	44	40	65	55	33	33	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	35	35	Negligible	Negligible
	Waen Meredydd	44	39	65	55	40	40	Negligible	Low
	Ysgubor EOS	45	41	65	55	31	31	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	23	23	Negligible	Negligible



Table 1-15 Substation Building Fabrication and High-Voltage Plant Installation

Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Bryn Arian	45	41	65	55	37	37	Negligible	Negligible
	Cae Llwyd	43	42	65	55	46	46	Low	Low
	Cae Pwll	43	39	65	55	34	34	Negligible	Negligible
	Caer Delyn	46	40	65	55	36	36	Negligible	Negligible
	Carreg Wen	46	40	65	55	35	35	Negligible	Negligible
	Cefn Farm	43	39	65	55	41	41	Negligible	Low
	Craig Llwyd	45	41	65	55	39	39	Negligible	Negligible
	Derwen Deg	46	40	65	55	38	38	Negligible	Negligible
	Groesffordd Farm	45	41	65	55	36	36	Negligible	Negligible
Onshore Substation	Hendy Farm	43	42	65	55	56	56	Low	Medium
	Isfryn	47	39	65	55	49	49	Low	Low
	Maes	47	39	65	55	21	21	Negligible	Negligible
	Pant Farm	43	39	65	55	23	23	Negligible	Negligible
	Pentre Bach	45	41	65	55	42	42	Negligible	Low
	Pentre Mawr Farm	45	41	65	55	40	40	Negligible	Negligible
	Pentre Meredydd	43	42	65	55	52	52	Low	Low
	Plas yr Esgob	46	40	65	55	38	38	Negligible	Negligible
	Rhos Aber	43	39	65	55	32	32	Negligible	Negligible
	Squirrels Lodge	43	39	65	55	35	35	Negligible	Negligible





Location	Receptor	LOAEL, dB(A)		SOAEL, dB(A)		Construction Noise Level, dB(A)		Magnitude of Impact	
		Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends	Day	Evening and Weekends
	Tan y Bryn	43	42	65	55	43	43	Negligible	Low
	Tan y Bryn Uchaf	43	42	65	55	53	53	Low	Low
	Tan y Graig	43	39	65	55	21	21	Negligible	Negligible
	Trebanog	45	41	65	55	35	35	Negligible	Negligible
	Ty Celyn	43	39	65	55	43	43	Negligible	Low
	Tyddyn Meredydd	43	42	65	55	53	53	Low	Low
	Tyn y Caeau	46	40	65	55	38	38	Negligible	Negligible
	Tyn y Ffordd	47	39	65	55	22	22	Negligible	Negligible
	Tyn y Ffordd Bach	44	40	65	55	36	36	Negligible	Negligible
	Tyn y Ffordd Fawr	44	40	65	55	34	34	Negligible	Negligible
	Tyn y Ffordd Newydd	43	39	65	55	33	33	Negligible	Negligible
	Waen Meredydd	44	39	65	55	39	39	Negligible	Negligible
	Ysgubor EOS	45	41	65	55	32	32	Negligible	Negligible
	Ysgubor Newydd	47	39	65	55	24	24	Negligible	Negligible