From:	Edwards, Steven
To:	AwelyMor
Subject:	EN010112 Awel y Môr Offshore Wind Farm project Deadline 1 Representation from SP Energy Networks RR-013
Date:	24 October 2022 20:35:39
Attachments:	image002.png WORK_46493830_1_AyM - Protective Provisions - SP Manweb (10.10.2022) (clean).DOCX Outline Construction Method Statement SP Manweb vFINAL.pdf

Further to previous comments and ExQ1 3.24, please note the following:

Protective Provisions

SP Energy Networks and the applicant have worked together to produce the revised PPs in relation to SP Energy Networks specific requirements as attached.

These should be included in the latest DCO to be submitted at Deadline 1. Once this has been published and can be reviewed, SP Energy Networks can then agree a position with the applicant.

Method Statement

SP Energy Networks is pleased to see a revised version of the Outline Construction Method Statement and understands this is also being submitted by the applicant for Deadline 1. Likewise, once this has been published and can be reviewed, SP Energy Networks can then agree a position with the applicant.

Outstanding matters

SPEN has identified a need for the applicant to address the following:

- to show on suitable plans where direct and indirect impacts from the new development on SPEN network will arise
- to identify land parcels where SP Energy Networks has existing land rights that will be interfered with and replacement rights retain SPEN's existing rights and do not in any way disadvantage SPEN from keeping installed its required apparatus

Further engagement with the applicant in due course on the above is welcomed with a view to agreeing a statement of common ground.

I would like to reserve SPEN's position in making further submissions and attending any future hearings depending on the progress made on resolving the above matters with the applicant.

Regards

Internal Use

FOR THE PROTECTION OF SP MANWEB AS ELECTRICITY UNDERTAKER

Application

1. The following provisions have effect for the protection of SP Manweb unless otherwise agreed in writing between the undertaker and SP Manweb.

Interpretation

2. In this Part of this Schedule—

"alternative apparatus" means appropriate alternative apparatus to enable SP Manweb to fulfil its statutory functions in a manner no less efficient than previously (to the reasonable satisfaction of SP Manweb);

"apparatus" means electric lines or electrical plant as defined in the 1989 Act, belonging to or maintained by SP Manweb together with any replacement apparatus and such other apparatus constructed pursuant to the Order that becomes operational apparatus of SP Manweb for the purposes of transmission, distribution and/or supply and includes any structure in which apparatus is or will be lodged or which gives or will give access to apparatus;

"authorised development" has the same meaning as is given to the term "authorised development" in article 2 of this Order and includes any associated development authorised by the Order and for the purposes of this Part of this Schedule includes the use and maintenance of the authorised development and construction of any works authorised by this Part of this Schedule;

"commence" has the same meaning as in article 2 of this Order and commencement must be construed to have the same meaning

"deed of consent" means a deed of consent, crossing agreement, deed of variation or new deed of grant agreed between the parties acting reasonably in order to vary and/or replace existing easements, agreements, enactments and other such interests so as to secure land rights and interests as are necessary to carry out, maintain, operate and use the apparatus in a manner consistent with the terms of this Part of this Schedule;

"functions" includes powers and duties;

"in" in a context referring to apparatus or alternative apparatus in land includes a reference to apparatus or alternative apparatus under, over, across, along or upon such land;

"maintain" and "maintenance" includes the ability and right to do any of the following in relation to any apparatus or alternative apparatus of SP Manweb including construct, use, repair, alter, inspect, renew or remove the apparatus;

"plan" or "plans" include all designs, drawings, specifications, method statements, soil reports, programmes, calculations, risk assessments and other documents that are reasonably necessary properly and sufficiently to describe and assess the works to be executed;

"SP Manweb" means SP Manweb PLC (Company No. 02366937) whose registered office is at 3 Prenton Way, Prenton, CH43 3ET or any successor company;

"specified works" means any of the authorised development or activities undertaken in association with the authorised development which:

(a) will or may be situated over, or within 15 metres (measured in any direction) of any apparatus the removal of which has not been required by the undertaker under paragraph 5(2) or otherwise;

(b) is reasonably likely to adversely affect any apparatus the removal of which has not been required by the undertaker under paragraph 5(2) or otherwise; and/or

(c) include any of the activities that are referred to in SP Manweb's polices for development near overhead lines EN43-8 and HSE's guidance note 6 "Avoidance of Danger from Overhead Lines".

On Street Apparatus

3. Except for paragraphs 7, 8 and 9 of this Part of this Schedule which will apply in respect of the exercise of all or any powers under the Order affecting the rights and apparatus of SP Manweb, the other provisions of this Schedule do not apply to apparatus in respect of which the relations between the undertaker and SP Manweb are regulated by the provisions of Part 3 of the 1991 Act.

Acquisition of land

4.—(1) Regardless of any provision in this Order or anything shown on the land plans or contained in the book of reference to the Order, the undertaker may not appropriate or acquire or take temporary possession of any land interest of SP Manweb or appropriate, acquire, extinguish, interfere with or override any easement or other interest or right and/or apparatus of SP Manweb otherwise than by agreement (such agreement not to be unreasonably withheld or delayed).

(2) As a condition of agreement between the parties in sub-paragraph (1), prior to the carrying out of any part of the authorised development (or in such other timeframe as may be agreed between SP Manweb and the undertaker) that are subject to the requirements of this Part of this Schedule that will cause any conflict with or breach the terms of any easement and/or other legal or land interest of SP Manweb and/or affects the provisions of any enactment or agreement regulating the relations between SP Manweb and the undertaker in respect of any apparatus laid or erected in land belonging to or secured by the undertaker, the undertaker must as SP Manweb reasonably requires enter into such deeds of consent upon such terms and conditions as may be agreed between SP Manweb and the undertaker acting reasonably and which must be no less favourable on the whole to SP Manweb unless otherwise agreed by SP Manweb, and it will be the responsibility of the undertaker to procure and/or secure the consent and entering into of such deeds and variations by all other third parties with an interest in the land at that time who are affected by such authorised development.

(3) Where there is any inconsistency or duplication between the provisions set out in this Part of this Schedule relating to the relocation and/or removal of apparatus (including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easement, rights, agreements and licences granted, used, enjoyed or exercised by SP Manweb and/or other enactments relied upon by SP Manweb as of right or other use in relation to the apparatus, then the provisions in this Schedule must prevail.

(4) No agreement or consent granted by SP Manweb under any other paragraph of this Part of this Schedule constitutes agreement under sub-paragraph (1).

Removal of apparatus

5.—(1) If, in the exercise of the agreement reached in accordance with paragraph 4 or in any other authorised manner, the undertaker acquires any interest in any land in which any apparatus is placed, that apparatus must not be removed under this Part of this Schedule and any right of SP Manweb to maintain that apparatus in that land must not be extinguished until alternative apparatus has been constructed, and is in operation to the reasonable satisfaction of SP Manweb in accordance with sub-paragraph (2) to (5) inclusive.

(2) If, for the purpose of executing any specified works in, on, under or over any land purchased, held, appropriated or used under this Order, the undertaker requires the removal of any apparatus placed in that land, it must give to SP Manweb at least 56 days' advance written notice of that requirement, together with a plan of the work proposed, and of the proposed position of the alternative apparatus to be provided or constructed and in that case (or if in consequence of the exercise of any of the powers conferred by this Order SP Manweb reasonably needs to remove any of its apparatus) the undertaker must, subject to sub-paragraph (3), secure any necessary consents for the alternative apparatus and afford to SP Manweb to its satisfaction (taking into account paragraph 6(1) below) the necessary facilities and rights—

(a) for the construction of alternative apparatus in other land of or land secured by the undertaker; and

(b) subsequently for the use and maintenance of that apparatus.

(3) If alternative apparatus or any part of such apparatus is to be constructed elsewhere than in other land of or land secured by the undertaker, or the undertaker is unable to afford such facilities and rights as are mentioned in sub-paragraph (2), in the land in which the alternative apparatus or part of such apparatus is to be constructed, SP Manweb must, on receipt of a written notice to that effect from the undertaker, as soon as reasonably possible use its best endeavours to obtain the necessary facilities and rights in the land in which the alternative apparatus is to be constructed.

(4) Any alternative apparatus to be constructed in land of or land secured by the undertaker under this Part of this Schedule must be constructed in such manner and in such line or situation as may be agreed between SP Manweb and the undertaker.

(5) SP Manweb must, after the alternative apparatus to be provided or constructed has been agreed, and subject to the prior grant to SP Manweb of any such facilities and rights as are referred to in sub-paragraph (2) or (3), proceed without unnecessary delay to construct and bring into operation the alternative apparatus and subsequently to remove any apparatus required by the undertaker to be removed under the provisions of this Part of this Schedule.

(6) Where there is any inconsistency or duplication between the provisions set out in this Part of this Schedule relating to the relocation and/or removal of apparatus/including but not limited to the payment of costs and expenses relating to such relocation and/or removal of apparatus) and the provisions of any existing easement, rights, agreements and licences granted, used, enjoyed or exercised by SP Manweb and/or other enactments relied upon by SP Manweb as of right or other use in relation to the apparatus, then the provisions in this Schedule must prevail.

Facilities and rights for alternative apparatus

6.—(1) Where, in accordance with the provisions of this Part of this Schedule, the undertaker affords to or secures for SP Manweb facilities and rights in land for the construction, use, maintenance and protection of alternative apparatus in substitution for apparatus to be removed, those facilities and rights must be granted upon such terms and conditions as may be agreed between the undertaker and SP Manweb and must be no less favourable on the whole to SP Manweb than the facilities and rights enjoyed by it in respect of the apparatus to be removed unless otherwise agreed by SP Manweb.

(2) If the facilities and rights to be afforded by the undertaker and agreed with SP Manweb under sub-paragraph (1) above in respect of any alternative apparatus, and the terms and conditions subject to which those facilities and rights are to be granted, are less favourable on the whole to SP Manweb than the facilities and rights enjoyed by it in respect of the apparatus to be removed and the terms and conditions to which those facilities and rights are subject in the matter will be referred to arbitration in accordance with paragraph 13 of this Part of this Schedule and the arbitrator must make such provision for the payment of compensation by the undertaker to SP Manweb as appears to the arbitrator to be reasonable having regard to all the circumstances of the particular case. In respect of the appointment of an arbitrator under this sub-paragraph, article 44 (arbitration) applies.

Retained apparatus: Protection of SP Manweb as Electricity Undertaker

7.—(1) Not less than 56 days before the commencement of any specified works the removal of which has not been required by the undertaker under paragraph 5(2), the undertaker must submit to SP Manweb a plan of the works to be executed and seek from SP Manweb details of the underground extent of their electricity tower foundations.

(2) In relation to specified works which will or may be situated on, over, under or within (i) 15 metres measured in any direction of any apparatus, or (ii) involve embankment works within 15 metres of any apparatus, the plan to be submitted to SP Manweb under sub-paragraph (1) must include a method statement which is consistent with the principles set out in the outline method statement [dated [x]] provided by the undertaker to SP Manweb and show and describe—

Commented [BS1]: Date of outline method statement to be inserted

(a) the exact position of the specified works;

(b) the level at which the specified works are proposed to be constructed or renewed;

(c) the manner of their construction or renewal;

(d) the position of all apparatus;

(e) by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus; and

(f) any intended maintenance regimes.

(3) In relation to any specified works which will or may be situated on, over, under or within 10 metres of any part of the foundations of an electricity supports or between any two or more adjacent electricity supports which are within the Order limits or within 10 metres of the Order limits, the plan to be submitted under sub-paragraph (1) must include a method statement which, in addition to the matters set out in sub-paragraph (2), must—

(a) describe details of any cable trench design including route, dimensions, clearance to support foundations;

(b) demonstrate that support foundations will not be affected prior to, during and post construction;

(c) describe load bearing capacities of trench supporting structures;

(d) describe details of cable installation methodology including access arrangements, jointing bays and backfill methodology;

(e) provide a written management plan for high voltage hazard during construction and ongoing maintenance of the cable route;

(f) provide written details of the operations and maintenance regime for the cable, including frequency and method of access;

(g) provide an assessment of earth rise potential if reasonably required by SP Manweb's engineers;

(h) provide evidence that trench collapse resistance and supporting structures bearing capacity are to be designed to 26 tonnes to take the weight of overhead line construction traffic.

(4) The undertaker must not commence any works to which sub-paragraph (2) or (3) applies until SP Manweb has given written approval of the plan so submitted provided that SP Manweb must not unreasonably delay notification of its approval or disapproval.

(5) Any approval of SP Manweb required under sub-paragraph (2)—

(a) may be given subject to reasonable conditions for any purpose mentioned in sub-paragraphs (6) or (8); and,

(b) must not be unreasonably withheld or delayed.

(6) If after the expiry of 56 days SP Manweb has not communicated approval or disapproval, SP Manweb is deemed to have approved the plans as supplied.

(7) In relation to any work requiring the submission of a plan under sub-paragraph (1), SP Manweb may require such modifications to be made to the plans as may be reasonably necessary for the purpose of securing its apparatus against interference or risk of damage or for the purpose of providing or securing proper and convenient means of access to any apparatus and SP Manweb must notify the undertaker of such modifications within a period of 56 days beginning with the date on which the plan required under sub-paragraph (1) has been submitted to SP Manweb.

(8) Works requiring the submission of a plan under sub-paragraph (1) must only be executed in accordance with the plan as approved or as amended from time to time by agreement between the undertaker and SP Manweb and in accordance with such reasonable requirements as may be made in accordance with sub-paragraphs (4), (6), (8) or (9) by SP Manweb for the alteration or otherwise for the protection of the apparatus, or for securing access to it, and SP Manweb will be entitled to watch and inspect the execution of those works.

(9) Where SP Manweb reasonably requires any protective works to be carried out by itself or by the undertaker (whether of a temporary or permanent nature) such protective works, inclusive of any measures or schemes required and approved as part of the plan approved pursuant to this paragraph, must be carried out to SP Manweb's reasonable satisfaction prior to the commencement of any authorised development (or any relevant part thereof) for which protective works are required and SP Manweb must give 56 days' notice of such works from the date of submission of a plan pursuant to sub-paragraph (1), (2) or (6) (except in an emergency).

(10) If SP Manweb in accordance with sub-paragraphs (7) or (9) and in consequence of the works proposed by the undertaker, reasonably requires the removal of any apparatus and gives written notice to the undertaker of that requirement, sub-paragraphs (1) to (3) and (6) to (8) apply as if the removal of the apparatus had been required by the undertaker under paragraph 5(2).

(11) Nothing in this paragraph precludes the undertaker from submitting at any time or from time to time, but in no case less than 56 days before commencing the execution of the authorised development, a new plan, instead of the plan previously submitted, and having done so the provisions of this paragraph must apply to and in respect of the new plan.

(12) The undertaker must not be required to comply with sub-paragraph (1) where it needs to carry out emergency works as defined in the 1991 Act but in that case it must give to the SP Manweb notice as soon as is reasonably practicable and a plan of those works and must—

(a) comply with sub-paragraphs (6), (7) and (8) insofar as is reasonably practicable in the circumstances; and

(b) comply with sub-paragraph (12) at all times.

(13) At all times when carrying out any works authorised under the Order, the undertaker must comply with statutory requirements and guidelines for development near overhead lines EN43-8 and HSE's guidance note 6 "Avoidance of Danger from Overhead Lines" in relation to any apparatus and aligning with SP Manweb guidelines.

Expenses

8.—(1) Subject to the following provisions of this paragraph, the undertaker must pay to SP Manweb on demand all reasonable charges, costs and expenses reasonably incurred by SP Manweb in direct consequence of the execution of any authorised development including without limitation in respect of: —

(a) any costs reasonably incurred by or compensation properly paid by SP Manweb in connection with the acquisition of rights or the exercise of statutory powers for such apparatus including without limitation all costs incurred by SP Manweb as a consequence of SP Manweb;

(i) using its own compulsory purchase powers to acquire any necessary rights under paragraph 5(3); and/or

(ii) exercising any compulsory purchase powers in the Order transferred to or benefitting SP Manweb;

(b) in connection with the cost of the carrying out of any diversion work or the provision of any alternative apparatus;

(c) the cutting off of any apparatus from any other apparatus or the making safe of redundant apparatus;

(d) the approval of plans;

(e) the carrying out of protective works(including any temporary protective works and their removal);

(f) the survey of any land, apparatus or works, the inspection and monitoring of works or the installation or removal of any temporary works reasonably necessary in consequence of the execution of any such works referred to in this Part of this Schedule.

(2) There will be deducted from any sum payable under sub-paragraph (1) the value of any apparatus removed under the provisions of this Part of this Schedule and which is not re-used as part of the alternative apparatus, that value being calculated after removal.

(3) If in accordance with the provisions of this Part of this Schedule—

(a) apparatus of better type, of greater capacity or of greater dimensions is placed in substitution for existing apparatus of worse type, of smaller capacity or of smaller dimensions; or

(b) apparatus (whether existing apparatus or apparatus substituted for existing apparatus) is placed at a depth greater than the depth at which the existing apparatus was situated,

and the placing of apparatus of that type or capacity or of those dimensions or the placing of apparatus at that depth, as the case may be, is not agreed by the undertaker or, in default of agreement, is not determined by arbitration in accordance with article 44 (arbitration) to be necessary, then, if such placing involves cost in the construction of works under this Part of this Schedule exceeding that which would have been involved if the apparatus placed had been of the existing type, capacity or dimensions, or at the existing depth, as the case may be, the amount which apart from this sub-paragraph would be payable to SP Manweb by virtue of sub-paragraph (1) will be reduced by the amount of that excess

(4) For the purposes of sub-paragraph (3)—

(a) an extension of apparatus to a length greater than the length of existing apparatus will not be treated as a placing of apparatus of greater dimensions than those of the existing apparatus; and

(b) where the provision of a joint in a cable is agreed, or is determined to be necessary, the consequential provision of a jointing chamber or of a manhole will be treated as if it also had been agreed or had been so determined.

(5) An amount which apart from this sub-paragraph would be payable to SP Manweb in respect of works by virtue of sub-paragraph (1) must, if the works include the placing of apparatus provided in substitution for apparatus placed more than 7 years and 6 months earlier so as to confer on SP Manweb any financial benefit by deferment of the time for renewal of the apparatus in the ordinary course, be reduced by the amount which represents that benefit.

Indemnity

9.—(1) Subject to sub-paragraphs (2) and (3), if by reason or in consequence of the construction of any such works authorised by this Part of this Schedule or in consequence of the construction, use, maintenance or failure of any of the authorised development by or on behalf of the undertaker or in consequence of any act or default of the undertaker (or any person employed or authorised by it) in the course of carrying out such works, including without limitation works carried out by the undertaker under this Part of this Schedule or any subsidence resulting from any of these works, any damage is caused to any apparatus or alternative apparatus (other than apparatus the repair of which is not reasonably necessary in view of its intended removal for the purposes of the authorised development) or property of SP Manweb, or if there is any interruption in any service provided, or in the supply of any goods by SP Manweb, or SP Manweb becomes liable to pay any amount to any third party, the undertaker must—

(a) bear and pay on demand accompanied by an invoice or claim from SP Manweb the cost reasonably and properly incurred by SP Manweb in making good such damage or restoring the supply; and

(b) indemnify SP Manweb for any other expenses, loss, demands, proceedings, damages, claims, penalties or costs incurred by or recovered from SP Manweb, by reason or in consequence of any such damage or interruption or SP Manweb becoming liable to any third party as aforesaid other than arising from any default of SP Manweb

provided that at all times SP Manweb will be under an obligation to take reasonable steps to mitigate its loss.

(2) The fact that any act or thing may have been done by SP Manweb on behalf of the undertaker or in accordance with a plan approved by SP Manweb or in accordance with any requirement of SP Manweb as a consequence of the authorised development or under its supervision does not (unless sub-paragraph (3) applies), excuse the undertaker from liability under the provisions of this paragraph where the undertaker fails to carry out and execute the works properly with due care and attention and in a skilful and workmanlike manner or in a manner that does not materially accord with the approved plan (or as otherwise agreed between the undertaker and SP Manweb pursuant to paragraph 8).

(3) Nothing in sub-paragraph (1) will impose any liability on the undertaker in respect of-

(a) any damage or interruption to the extent that it is attributable to the neglect or default of SP Manweb, its officers, employees, contractors or agents;

(b) any authorised development and/or any other works authorised by this Part of this Schedule carried out by SP Manweb as an assignee, transferee or lessee of the undertaker with the benefit of the Order pursuant to section 156 of the 2008 Act or article 6 (benefit of the Order) subject to the proviso that once such works become apparatus ("new apparatus"), any authorised development yet to be executed and not falling within this sub-paragraph 3(b) will be subject to the full terms of this Part of this Schedule including this paragraph in respect of such new apparatus; and / or

(c) any indirect or consequential loss of any third party (including but not limited to loss of use, revenue, profit, contract, production, increased cost of working or business interruption) arising from any such damage or interruption, which is not reasonably foreseeable.

(4) SP Manweb must give the undertaker reasonable notice of any claim or demand and no settlement, admission of liability or compromise or demand, unless payment is required in connection with a statutory compensation scheme, is to be made without first consulting the undertaker and considering its representations.

Enactments and agreements

10. Save to the extent provided for to the contrary elsewhere in this Part of this Schedule or by agreement in writing between SP Manweb and the undertaker, nothing in this Part of this Schedule will affect the provisions of any enactment or agreement regulating the relations between the undertaker and SP Manweb in respect of any apparatus laid or erected in land belonging to the undertaker on the date on which this Order is made.

Co-operation

11.—(1) Where in consequence of the proposed construction of any of the authorised development, the undertaker or SP Manweb requires the removal of apparatus under paragraph 5(2) or SP Manweb makes requirements for the protection or alteration of apparatus under paragraph 7, the undertaker must use its best endeavours to co-ordinate the execution of the works in the interests of safety and the efficient and economic execution of the authorised development and taking into account the need to ensure the safe and efficient operation of SP Manweb's undertaking and SP Manweb must use its best endeavours to co-operate with the undertaker for that purpose.

(2) For the avoidance of doubt whenever SP Manweb's consent, agreement or approval is required in relation to plans, documents or other information submitted by the undertaker or the taking of action by SP Manweb is required, it must not be unreasonably withheld or delayed.

Access

12. If in consequence of the agreement reached in accordance with paragraph 4(1) or the powers granted under this Order the access to any apparatus is materially obstructed, the undertaker must provide such alternative means of access to such apparatus as will enable SP Manweb to maintain or use the apparatus no less effectively than was possible before such obstruction.

Arbitration

13. Save for differences or disputes arising under paragraphs 5(2), 5(4), 6(1) and 7 any difference or dispute arising between the undertaker and SP Manweb under this Part of this Schedule must, unless otherwise agreed in writing between the undertaker and SP Manweb, determined by arbitration in accordance with article 44 (arbitration).

Awel y Môr Offshore Wind Farm

Outline Construction Method Statement – SP Manweb

Revised from Outline Code of Construction Practice Appendix 1, Outline Construction Method Statement

Date: 17 Oct 2022

Revision: B2

Application Reference: 8.13.1

Pursuant to: APFP Regulation 5(2)(a)

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

REVISION	DATE	STATUS/ REASON FOR ISSUE	AUTHOR:	CHECKED BY:	APPROVED BY:
A	Aug 2021	PEIR	SLR	SLR/GoBe	RWE
B	Mar 2022	Application	SLR	SLR/GoBe	RWE
B2	Oct 2022	Protective provisions	RWE	SLR/Gobe	RWE

Contents

Abbreviations and acronyms

TERM	DEFINITION
ALEP	Artificial Light Emissions Plan
AIL	Abnormal Indivisible Load
CBS	Cement Bound Sand
CFA	Continuous Flight Auger
CMS	Construction Method Statement
CoCP	Code of Construction Practice
DCC	Denbighshire County Council
DEFRA	Department of the Environment, Food and Rural Affairs
DCO	Development Consent Order
EA	Environment Agency
Onshore ECC	Onshore Export Cable Corridor
ECoW	Ecological Clerk of Works
HVAC	High Voltage Alternating Current
HGV	Heavy Good Vehicle
LEMP	Landscape and Ecology Management Plan
NRW	Natural Resources Wales
OWF	Offshore Wind Farm
PPEIRP	Pollution Prevention and Emergency Incident Response Plan
PEIR	Preliminary Environmental Information Report
PRoW	Public Rights of Way

TERM	DEFINITION
TCC	Temporary Construction Compound
WTGs	Wind turbine generators

1 Introduction

1.1 Purpose of this Outline CMS

1 This Outline Construction Method Statement (CMS) is provided as Appendix 1 to the Outline Code of Construction Practice (CoCP) (application ref: 8.13) as part of the Environmental Statement (ES).

2 This is an outline document that, by reference to the assessments reported in the ES, sets out the key elements that will be secured in the detailed CMS which Awel y Môr Offshore Wind Farm Limited (The Applicant) will be required to submit to Denbighshire County Council (DCC) for approval as a requirement of the DCO.

3 This Outline CMS sets out the construction methods which will be implemented by the Applicant and its contractors during the construction of the Awel y Môr OWF and should be read in conjunction with the Outline CoCP and all of its supporting appendices.

1.2 Scope of this Outline CMS

4 For the avoidance of doubt, this Outline CMS relates to the onshore elements of the Awel y Môr OWF only (i.e. landward of Mean High Water Springs). This document does not relate to offshore works seaward of Mean High Water Springs that are principally marine activities.

2 General Construction Management

2.1 Introduction

5 This section addresses construction methods which are common to, or shared by, some or all of the component elements of the proposed onshore works.

2.2 Construction Working Hours

6 The working hours for the project are explained in detail within the Outline CoCP (application ref 8.13).

2.3 Construction of Temporary Construction Compounds

7 Where a Temporary Construction Compound (TCC) is to be constructed in association with the onshore works, the following provisions will apply.

8 The temporary construction compound base area will be constructed by removing the topsoil and setting aside for reuse, laying a geotextile membrane or similar separation membrane directly on top of the subsoil, over which layers of granular stone will be spread or alternatively use of protective matting, temporary metal road surface (i.e. trackway) or a tarmac surface could be used. Any existing services in the area will be crossed in a manner agreed with the services owner. All temporary services necessary for the activities of onshore works within a temporary construction compound will be ducted through the temporary haul road under the membrane and the location will be identified for future reference. Where an impermeable surface is used, suitable surface water drainage measures will be used.

9 Once the compound has been constructed, foundations for the site cabins will be installed. Once this work is completed, the cabins will be delivered and placed using a suitably sized all terrain crane.

10 Any lighting used within temporary construction compound will comply with the approved Artificial Light Emissions Plan (ALEP) to be submitted for the approval of DCC. An Outline ALEP can be found in Appendix 10 (application ref: 8.13.10) of the Outline CoCP.

11 Material and non-static plant for the installation of the onshore cable will be stored at each compound and transported out to the active cable installation sites.

12 Each compound would be removed at the end of the project and the land reinstated to its former condition as far as reasonably practicable.

2.4 Temporary Haul Road

13 The temporary haul road which is to be constructed along the cable route, to provide access to the duct/cable installation work sites, will be constructed from a range of different materials depending on ground conditions. All temporary haul roads will be suitably engineered to support the axle weight from the construction vehicles. Haul roads will be periodically inspected and maintained throughout the construction phase.

14 Depending upon the ground conditions and weather conditions it may not be necessary to construct a designated haul road. Where the ground is sufficiently firm enough it may be acceptable to drive directly on the sub-soil.

15 The stone haul road will be constructed by placing successive layers of stone compacted on a layer of permeable geo-textile membrane which provides additional ground stability. In certain areas the installation of drainage measures for the haul road may be required which will be detailed at the design stage.

16 The use of the haul road will reduce road traffic movements on the local highway network between entry and exit points along the cable route.

17 Construction work across surface watercourses will require measures to ensure that the water quality and flow rates are unaffected either directly or indirectly.

18 Where the haul road crosses smaller watercourses and land drainage, measures would be discussed with the relevant stakeholders (e.g. construction access roads installed over pre-installed culverts, flumes, installation of bailey bridges etc).

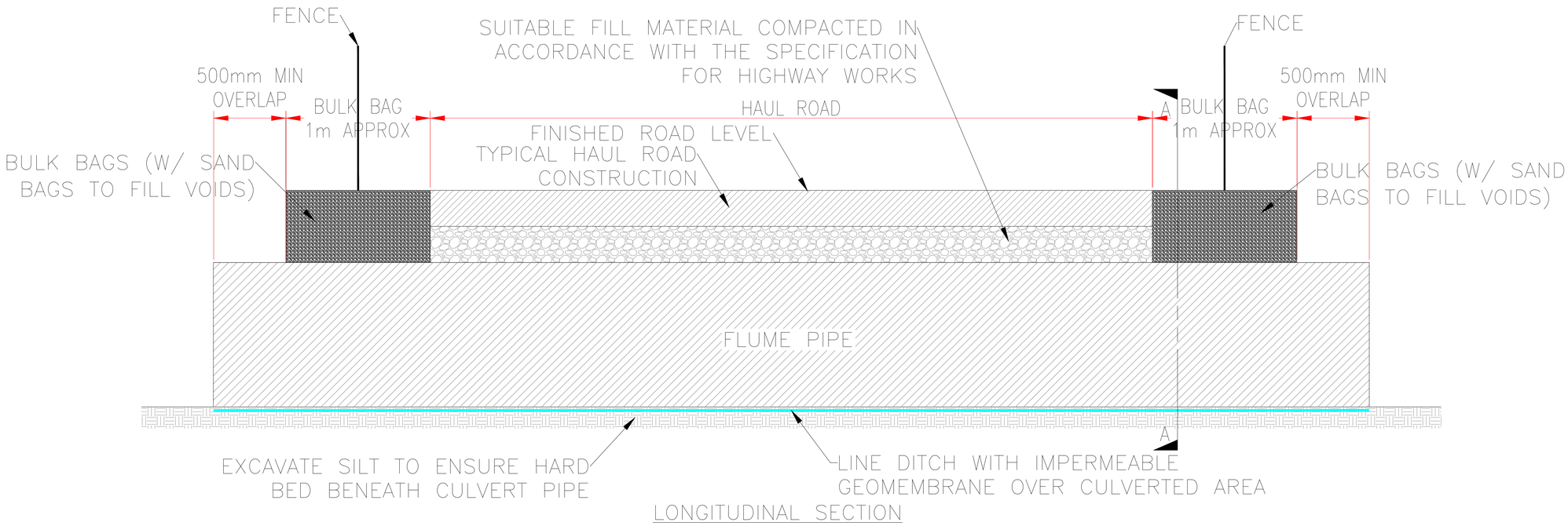
19 It is proposed to disapply the Environmental Permitting (England and Wales) Regulations 2016 Flood Risk Activity Permits (FRAPs) and Land Drainage Act 1991 Ordinary Watercourse Consent (OWC) within the draft DCO for the proposed development. The Applicant will provide the final CMS which will include the final detailed design and approach to water way crossings.

20 At land drain crossings and smaller watercourses the haul road will be installed over a pre-installed culvert pipe of suitable size to accommodate the water volumes and flows necessary. The ditch or watercourse will be lined with a geo-textile separator membrane and the culvert pipe will be installed on, and surrounded by, suitable clean bedding material (e.g. sand). As an alternative, and only where appropriate, diversion of the land drain or watercourse may be used. It is not proposed to pipe larger or deeper watercourses. Where appropriate, another alternative which could be deployed is the use of temporary 'Bailey' bridges (steel framed modular units), or similar, supported on abutments outwith the channel. Figure 1 and Figure 2 provide indicative arrangements for these crossing options.

DO NOT SCALE FROM THIS DRAWING

NOTES

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE.
3. ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.
4. ANY HAUL ROAD CROSSING OF WATERCOURSES MUST BE UNDERTAKEN IN CONSULTATION NATURAL RESOURCES WALES AND / OR DENBIGHSHIRE COUNTY COUNCIL AS APPROPRIATE.
5. DESIGN OF CULVERT CROSSING WILL BE DEPENDANT ON SIZE OF WATERCOURSE, LOCAL GROUND CONDITIONS ETC AND TO BE CONFIRMED AT DETAILED DESIGN.



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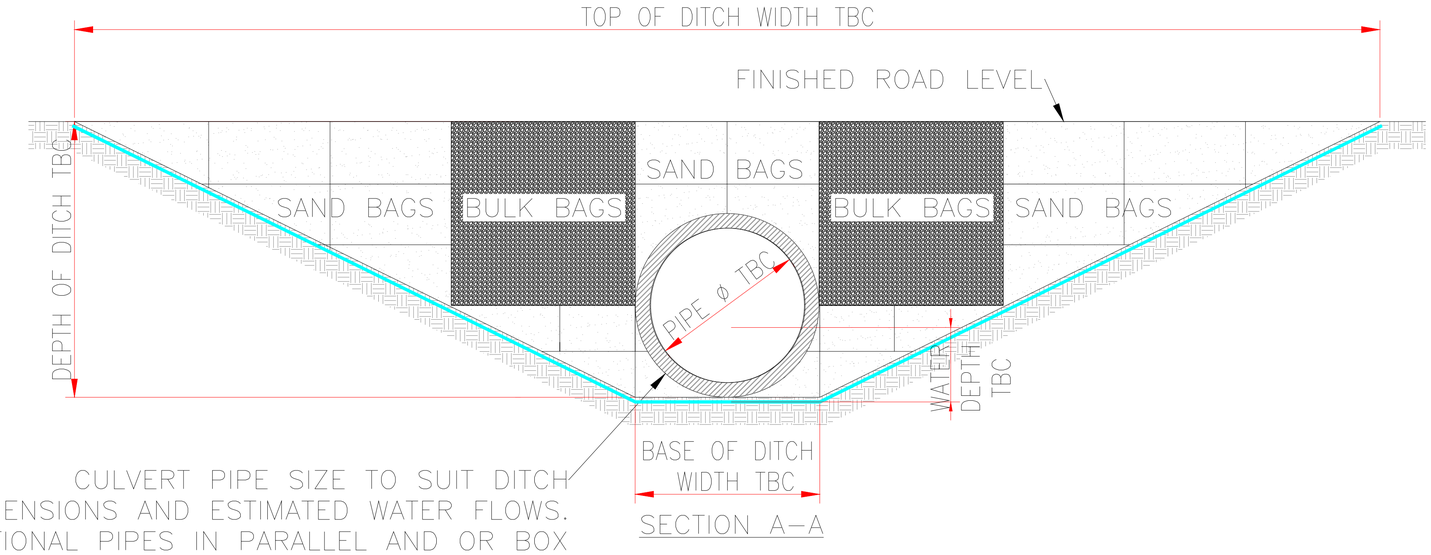

CULVERT PIPE SIZE TO SUIT DITCH DIMENSIONS AND ESTIMATED WATER FLOWS. ADDITIONAL PIPES IN PARALLEL AND OR BOX CULVERTS MAY BE USED WHERE NECESSARY.

SECTION A–A

REV	DATE	REASON FOR ISSUE	BY	CHK	APP
02	01-04-2022	UPDATE AND ISSUE AS FINAL	PM	AH	AH
01	24-03-2022	DRAFT FOR COMMENT	DB	PM	AH

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PROJECT TITLE
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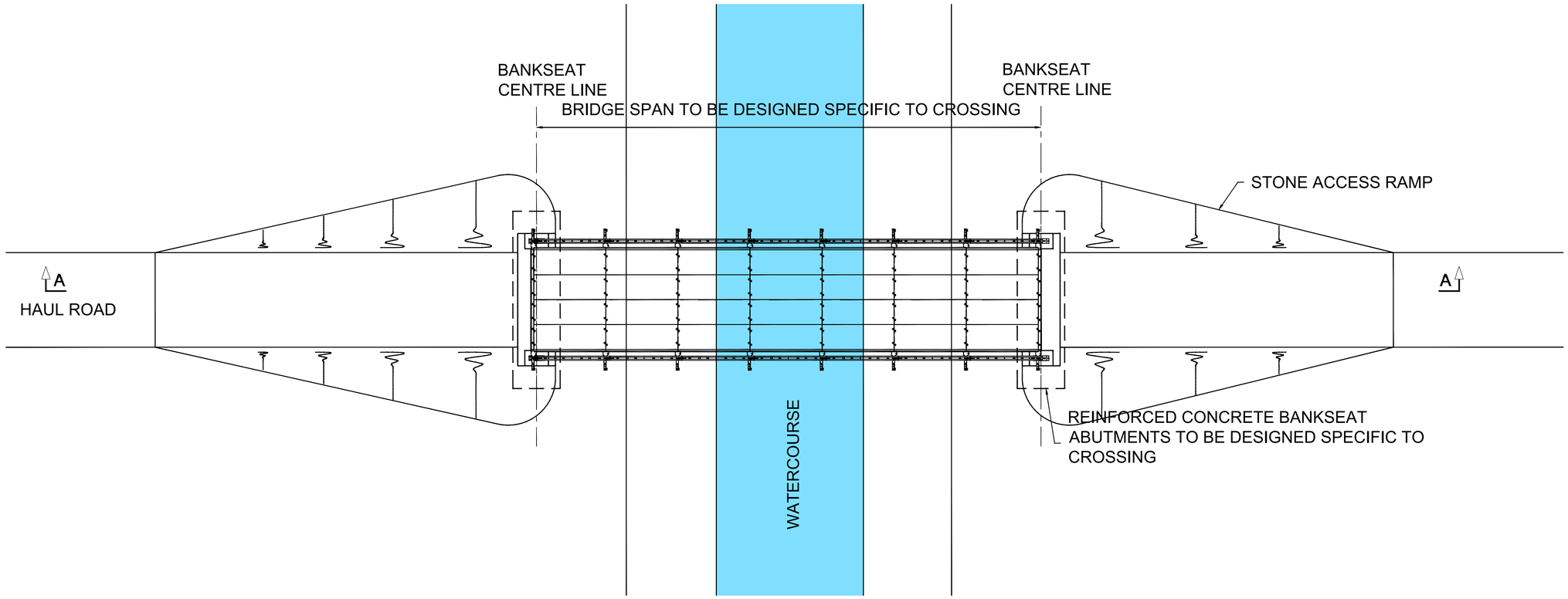
DRAWING TITLE
FIGURE: 1 INDICATIVE HAUL ROAD WATERCOURSE CROSSING - GENERAL ARRANGEMENT - TEMPORARY CULVERT

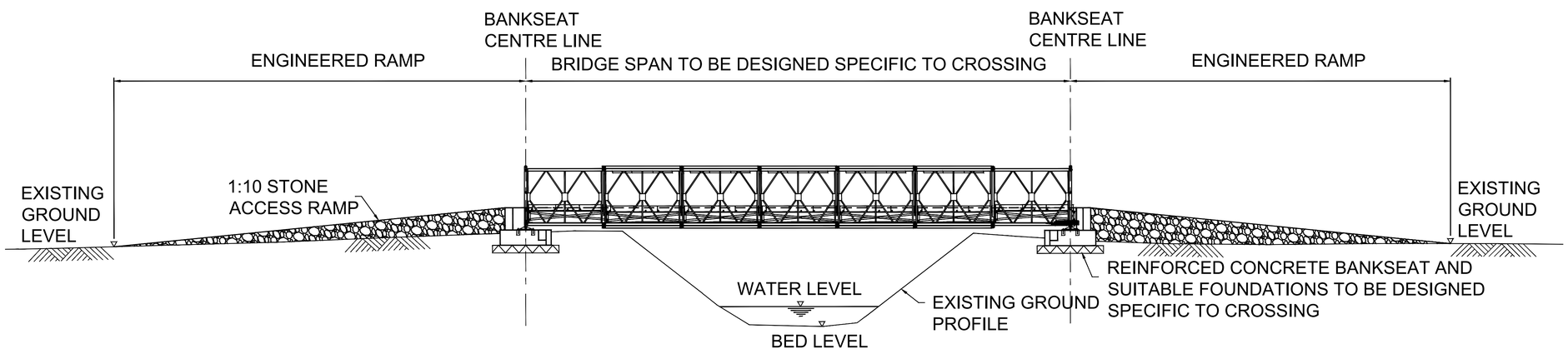
DRAWING STATUS
FINAL

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	PM	PM	AH	AH
SHEET SCALE	DATE	DATE	DATE	DATE
NTS	01.04.2022	01.04.2022	01.04.2022	01.04.2022

WA DRAWING NUMBER	REVISION
ED13184-C-3052	02
AYM DOCUMENT NUMBER	REVISION
AYM-WAR-V2-XX-M2-C-0068-B	02
RWE ECODOC NUMBER	SHEET No / REVISION
004322627-01	001 OF 001 / 01



PLAN



SECTION A - A

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NOTES

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3. ALL LEVELS ARE IN METRES UNLESS STATED OTHERWISE.
4. ANY HAUL ROAD CROSSING OF WATERCOURSES MUST BE UNDERTAKEN IN CONSULTATION NATURAL RESOURCES WALES AND / OR DENBIGHSHIRE COUNTY COUNCIL AS APPROPRIATE.
5. DESIGN OF BRIDGE CROSSING WILL BE DEPENDANT ON SIZE OF WATERCOURSE, LOCAL GROUND CONDITIONS ETC AND TO BE CONFIRMED AT DETAILED DESIGN.
6. ALL SURFACE MATERIALS WOULD BE REMOVED AFTER COMPLETION OF WORKS.
7. BANKSEAT TO BE FOUNDED ON COMPETENT SOIL OR SHEET PILED SUPPORT.

REV	DATE	REASON FOR ISSUE	BY	CHK	APP
02	01-04-2022	UPDATE AND ISSUE AS FINAL	PM	AH	AH
01	24-03-2022	DRAFT FOR COMMENT	DB	PM	AH

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DRAWING TITLE
FIGURE 2: INDICATIVE HAUL ROAD WATERCOURSE CROSSING - GENERAL ARRANGEMENT - BAILEY BRIDGE

DRAWING STATUS
FINAL

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02	01-04-2022	UPDATE AND ISSUE AS FINAL	PM	AH	AH	PM
01	24-03-2022	DRAFT FOR COMMENT	DB	PM	AH	PM

21 The onshore ECC will be fenced on all sides, with stock-proof fencing used where farming practices require, prior to works starting. At designated points along the route identified in consultation with each landowner, gated crossing points will be provided to facilitate access across the working corridor for both accesses of landowners, Public Rights of Way (PRoW) and livestock.

22 The haul roads and temporary watercourse crossing points will be removed at the end of the installation process and the land reinstated to its previous condition and levelled out.

2.5 Permanent Access Roads

23 Permanent access roads are to be constructed to the onshore substation from Glascoed Road to allow delivery of abnormal indivisible loads (AILs) and for access during the operational phase.

24 Permanent access roads will be designed, constructed to tie in with existing highways and to accommodate the AIL vehicle loadings, along with normal traffic movements associated with the construction, maintenance and operation of the substation.

2.6 Speed Limit

25 The site speed limit shall be 15 mph on all site access roads and must be adhered to at all times. Appropriate speed limits within the temporary construction compounds will be set. Speed limit signs shall be installed on all construction roads and site access roads.

26 Vehicles on site shall be fitted with visual and audible warning devices for reversing where appropriate.

27 Banksmen will be used, if required, when reversing in the compounds and on the temporary haul road.

2.7 Emergency Contacts

28 Emergency contact details and an emergency incident response plan are provided for in the Outline Pollution Prevention and Emergency Incident Response Plan (PPEIRP) within Appendix 6 (application ref: 8.13.6) of the Outline CoCP.

2.8 Landowner Liaison

29 General disruption impacts will be mitigated early in the construction planning process where possible by allowing a sufficient time period between the serving of notice for entry and the commencement of on-site activities. This will allow farmers and landowners time to adapt their working practices in anticipation of the works. Further information on agricultural liaison is provided within CoCP Appendix 4 outline Soil Management Plan (application ref: 8.13.4).

2.9 Fuel, Chemical and Waste Handling and Storage

30 All fuels, chemicals and wastes shall be handled and stored in accordance with the approved PPEIRP and Site Waste Management Plan. Outline versions of those documents are provided in Appendices 6 (application ref: 8.13.6) and 5 (application ref: 8.13.5) of the Outline CoCP.

2.10 Works on Existing Drains, Sewers and Chambers

31 Where any works are carried out in connection with existing drains. adequate precautions shall be taken to ensure that no earth, rubble or foreign matter is introduced into the drains. The contractor will inspect existing drains prior to commencing work. Any existing contamination, blockage or damage shall be recorded and reported to the site manager or appropriate alternative personnel.

32 The principal contractor shall ensure that surface water is prevented from entering foul water sewers and that foul sewage is not allowed to leak or overflow into surface water drains, adjacent to sewers or elsewhere.

33 On completion of any works, the principal contractor shall inspect the affected drains, sewers or chambers to ensure that no contamination, blockage or damage has occurred to the drain, sewer or chamber as a consequence of the said works. Any such contamination, blockage or damage shall be made good by the principal contractor.

34 In order to connect new drainage ducts to the existing drainage system the principal contractor shall expose existing gully tails until they have reached a depth of about 1.5 metres. A new manhole will be constructed to form the tie in.

2.11 Utilities Providers and Existing Services

35 All potentially affected utility providers will be contacted and the location of existing services will be accurately identified on the ground prior to construction or intrusive ground investigations.

36 On exposure of services the contractor shall record the position and depth of each service encountered and shall report his findings to the project manager. All measures for protection, as agreed, will be implemented before any works commence.

37 All utility crossings will be undertaken in accordance with standards agreed with the utility owner/operator, as required.

2.11.1 SP Manweb assets

38 All works will comply with statutory requirements and relevant guidelines for development near overhead lines ENA(TS)43-8 and HSE's guidance note GS6 "Avoiding Danger from Overhead Lines".

39 In accordance with the SP Manweb protective provisions included in Schedule 9 of the draft DCO, for specified works within 15metres (or involving embankment works with 15metres) of any SP Manweb apparatus, the following information will be provided to SP Manweb:

- the exact position of the specified works;
- the level at which the specified works are proposed to be constructed or renewed;
- the manner of their construction or renewal;
- the position of all apparatus;
- by way of detailed drawings, every alteration proposed to be made to or close to any such apparatus; and
- any intended maintenance regimes

40 Similarly, for specified works within 10metres of foundations supports (or between any two or more adjacent electricity supports), the following information will also be provided:

- details of any cable trench design including route, dimensions, clearance to support foundations;
- a demonstration that support foundations will not be affected prior to, during and post construction;
- details of load bearing capacities of trench supporting structures;
- details of cable installation methodology including access arrangements, jointing bays and backfill methodology;
- written management plan for high voltage hazard during construction and ongoing maintenance of the cable route;
- written details of the operations and maintenance regime for the cable, including frequency and method of access;
- an assessment of earth rise potential if reasonably required by SP Manweb's engineers;
- evidence that trench collapse resistance and supporting structures bearing capacity are to be designed to 26 tonnes to take the weight of overhead line construction traffic.

2.12 Ecological Management

41 Works will be undertaken in line with the final Landscape and Ecology Management Plan (LEMP), that will be submitted to DCC for approval, in consultation with NRW and other relevant stakeholders, as a requirement of the DCO. The LEMP will be in accordance with the Outline LEMP (application ref: 8.4) and include the following:

- Details of pre-construction ecology surveys;
- Measures to protect retained habitat during construction;
- Measures to minimise and compensate for potential impacts on protected and notable species and ensure compliance with relevant wildlife-related legislation, e.g. the Wildlife and Countryside Act 1981 and the Conservation of Habitats and Species Regulations 2017;
- Ecological monitoring measures during construction; and
- Details for habitat reinstatement post construction

42 An outline LEMP (application ref: 8.4) that sets out the in-principle measures, including measures during construction, which will be implemented by the Applicant to avoid, reduce, mitigate or compensate for potential impacts on landscape and biodiversity resources was provided with the DCO application.

43 Removal of hedgerows, trees and scrub will be conducted outside of the bird breeding season wherever possible, or the vegetation will be examined for active nests by an ecologist immediately prior to removal.

44 Surveys for protected species (if required) will be undertaken prior to commencement of ground works to ensure compliance with relevant legislation (e.g. Wildlife and Countryside Act 1981), and final details contained within the final LEMP submitted for each stage of the onshore works. Micrositing of project elements will be used to avoid important ecological features, where possible.

45 All habitats will be reinstated, in accordance with the final LEMP, as soon as possible after construction. Hedgerows along the onshore Export Cable Corridor (onshore ECC) will be reinstated using a species-rich, locally appropriate native mixture including heavy standard trees at a 3:1 ratio for any lost. Trees and deep rooted plants will not be planted over and in proximity to the edge of the cable trench to avoid the risk of damage to the cable by their roots.

46 Checks for the presence of badger setts, reptiles, hedgehogs, polecats, hares or other protected or notable species will be carried out by the Ecological Clerk of Works (ECOW) prior to vegetation clearance. Additional reasonable avoidance measures will be implemented/ mitigation licences applied for as necessary.

47 An ECoW shall be employed for the duration of the project to ensure species specific mitigation, method statements and plans are implemented effectively.

48 Pollution will be controlled during construction works through measures described in the Outline PPEIRP within Appendix 6 (application ref: 8.13.6) of the Outline CoCP. This will minimise damage to habitats and/or food resources used by fauna and prevent direct toxic effects on individual animals.

49 Subject to the final design parameters, piling (if required for the establishment of a temporary cofferdam at the landfall) would either take place outside the winter period (October to March) or utilize less noisy, vibro-piling technology, unless otherwise agreed with DCC through provision of a CMS.

50 If required, depending on the final locations and timing of the works, HDD pits and other working areas at the landfall and River Clwyd crossing would be screened, where possible, to provide an element of visual and acoustic screening of active working areas. The need for screening and details of proposed screening, if required, will be determined during detailed design and will be agreed with DCC and NRW via approval of the final CoCP and CMS (post consent).

51 Trenchless installation techniques working areas at the landfall and River Clwyd crossing would be partially fenced, where required.

2.13 Ground Investigations

52 Ground investigation for geotechnical and or environmental purposes would be undertaken pre-construction at key points including at the onshore substation and where surface water, road and rail crossings occur. Those investigations will inform the detailed design and the final CMS submitted for each stage of the onshore works.

2.14 Invasive Species

53 Measures contained in relevant Department of the Environment, Food and Rural Affairs (DEFRA) and NRW best practice guidance on the control and removal of invasive weed species will be implemented. Further detail is provided in the outline Invasive Non-Native Species Management Plan (outline CoCP Appendix 11 (application ref: 8.13.11)).

2.15 Surface Water Drainage

54 Construction of the onshore ECC will require temporary management of surface water along the route. Where required, drainage would be installed within either side of the onshore ECC to ensure existing land drainage flow is maintained. A surface water drainage scheme for the onshore ECC works will be informed by detailed design and provided for approval by DCC prior to construction. The onshore ECC surface water drainage scheme will be prepared in line with the principles of surface water management that are provided in Volume 5, Annex 7.1 (application ref: 6.5.7.1). An outline surface water drainage scheme has been provided as part of the OnSS Flood Consequences Assessment (Volume 5, Annex 7.2 (application ref: 6.5.7.2)).

55 Drainage will be directed away from Network Rail land and no drainage works will be designed within 5m of the Network Rail boundary.

2.16 Flood Risk

56 Storage on the floodplain of excavated material and other construction materials will be positioned in a manner that does not constrain potential flood waters unduly or direct flood waters towards population or industrial centres of high sensitivity.

57 Construction activity will not be undertaken without appropriate mitigation during very extreme wet weather where erosion of sediments and risk from flooding may increase.

58 The construction site access roads will be designed to minimise land take and to avoid, where possible, impacts on existing drainage networks and features. Specific details for the surface water drainage design at each section of the works shall be provided in the surface water drainage scheme for the onshore ECC works that will be informed by detailed design and provided for approval by DCC prior to construction.

59 A flood response plan, including emergency flood evacuation procedures, will be prepared as part of the final CMS for approval by DCC, setting out actions in the event of flooding or a flood warning during construction works. This would include a procedure for evacuation of personnel and the securing or relocating plant or materials stored in bulk.

2.17 Restoration and Reinstatement

60 Following completion of construction operations all agricultural land will be restored to its previous condition as far as possible. This will include the replacement of field boundaries and stock fences. Topsoil will be prepared and seeded using an appropriate seed mix or returned to arable cultivation. Further details of these measures are provided in the Outline Soil Management Plan within Appendix 4 (application ref: 8.13.4) of the Outline CoCP.

61 Land drains within the cable route, which may be temporarily affected by construction operations, will also be restored following completion of construction. This is important to ensure that the growth of trees and hedgerows is not affected by changes to the surface water drainage system.

62 Ecological reinstatement will be undertaken in accordance with the final LEMP. Hedgerows which will have been removed during the construction period will be replanted, including on the cable route. Trees and deep rooted plants will not be planted over and in proximity to the edge of the cable trench to avoid the risk of damage to the cable by their roots.

3 Construction Management for Onshore Components

63 This section considers aspects of construction that relates to the onshore component of the works at landfall, onshore ECC and proposed substation.

64 A full description of the site of the onshore components is provided in Volume 3, Chapter 1: Onshore Project Description (application ref: 6.3.1) of the PEIR.

3.1 Onshore Export Cable Duct Installation

65 The onshore export cables will be installed in a flat formation or trefoil formation. In addition to the onshore power cables, fibre optic cables will be installed in additional, smaller ducts with each formation.

66 Suitably engineered and tested granular backfill material, in this case cement bound sand (CBS), will be used to backfill around each set of cable ducts during installation. This will aid heat dissipation. CBS will be delivered by lorry to the appropriate cable access points and distributed as needed along the temporary haul road during duct installation.

67 Where open cut trenches are used for the excavation of the cable route, the following measures will be implemented:

- Deep excavations may require de-watering. Water pumped or removed from excavations would be passed through a silt-separator tank or equivalent, and discharged to ground or surface water. An environmental permit would be sought from NRW prior to undertaking such operations.
- Extended excavations would be arranged so as not to create preferential drainage pathways with the potential to cause flooding of lower land.
- Cable protection strips would be placed on top of compacted CBS over each set of ducts, in accordance with relevant Standards.

3.2 Onshore Export Cable Trenchless Techniques

68 Volume 5, Annex 1.1 provides a copy of the Crossing Schedule (application ref: 6.5.1) which comprises a table noting the identified obstacles on the cable route that will be crossed by the onshore ECC. The list of obstacles where HDD (or other trenchless techniques) will be used to cross them is not exhaustive. The most suitable method for crossing obstructions will be determined during the construction stage of AyM which may identify additional trenchless crossings. Any variation to the Crossing Schedule for any section of the onshore ECC will be agreed with the relevant local authority within the final CoCP.

69 Where variations to the Crossing Schedule are necessary, they shall be addressed at this point of the CMS for any given stage of works.

70 The directional drills will be installed in line with construction design drawings based on ground topography and cable design depth / spacing etc.

3.3 Onshore Export Cable Watercourse and Flood Defence Crossings

71 It is proposed to disapply the Environmental Permitting Regulations (2016) FRAPS and Land Drainage Regs 1991 OWC within the draft DCO for the proposed development. The Applicant will provide the final CMS which will include the final detailed design and approach to water way crossings.

72 The depth of each cable at every watercourse or flood defence crossing will be determined through the Crossing Schedule in consultation and agreement with the relevant authority on a case-by-case basis in collaboration with the respective owner / operator to ensure that routine maintenance, repairs and any engineering works to adapt to climate change can be undertaken in the future.

73 Options for open cut or trenchless crossing of watercourses will be finalised following ground investigation.

74 Cables will be installed at a minimum of two metres underneath any flood defence, to reduce potential construction effects. Cable entry and exit points within transition pits and cable junction bays will be sealed with an appropriate water proofing material to mitigate flood risk.

75 Where practically possible, trenchless techniques will not be undertaken on sections of flood defence where other assets such as culvert intersect i.e. not where the defence is inherently weaker.

76 Clay stacks or other vertical barriers shall be constructed within trench excavations where necessary to prevent the section of preferential mitigation pathways for contaminants.

77 Where required, drainage would be installed within either side of the onshore ECC to ensure existing land drainage flow is maintained. A Final Construction Drainage Scheme will be developed prior to works commencing in agreement with the appropriate stakeholders.

78 Surface water flowing into the trenches during the construction period will be pumped via the appropriate means to remove sediment and potential contaminants, before being discharged into local ditches or drains via temporary interceptor drains. Where gradients on site are significant, where required, cable trenches will include a hydraulic brake (bentonite or natural clay seals) to reduce flow rates along trenches and hence reduce local erosion.

79 Any field drainage intercepted during the cable installation will either be reinstated following the installation of the cable or diverted to a secondary channel through agreement with the appropriate stakeholders.

80 Consideration to surface water runoff will be given when sizing stockpiles along the cable route with stockpiles kept to minimum size, where possible, with gaps to allow surface water runoff to pass through.

3.4 Onshore Export Cable Open Cut Trenching Techniques at Watercourse crossings

81 Ducts may be installed under smaller watercourses or ditches using open-cut techniques. Such smaller watercourses or ditches may be temporarily flumed, dammed-up and over-pumped or diverted to allow installation to take place. Figure 3, Figure 4 and Figure 5 provide indicative arrangements for such crossings. Trench support may be required to temporarily hold open the excavated trenches either side of the ditch. Trench support would be removed prior to reinstatement, including reinstatement of the watercourse or ditch.

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NOTES

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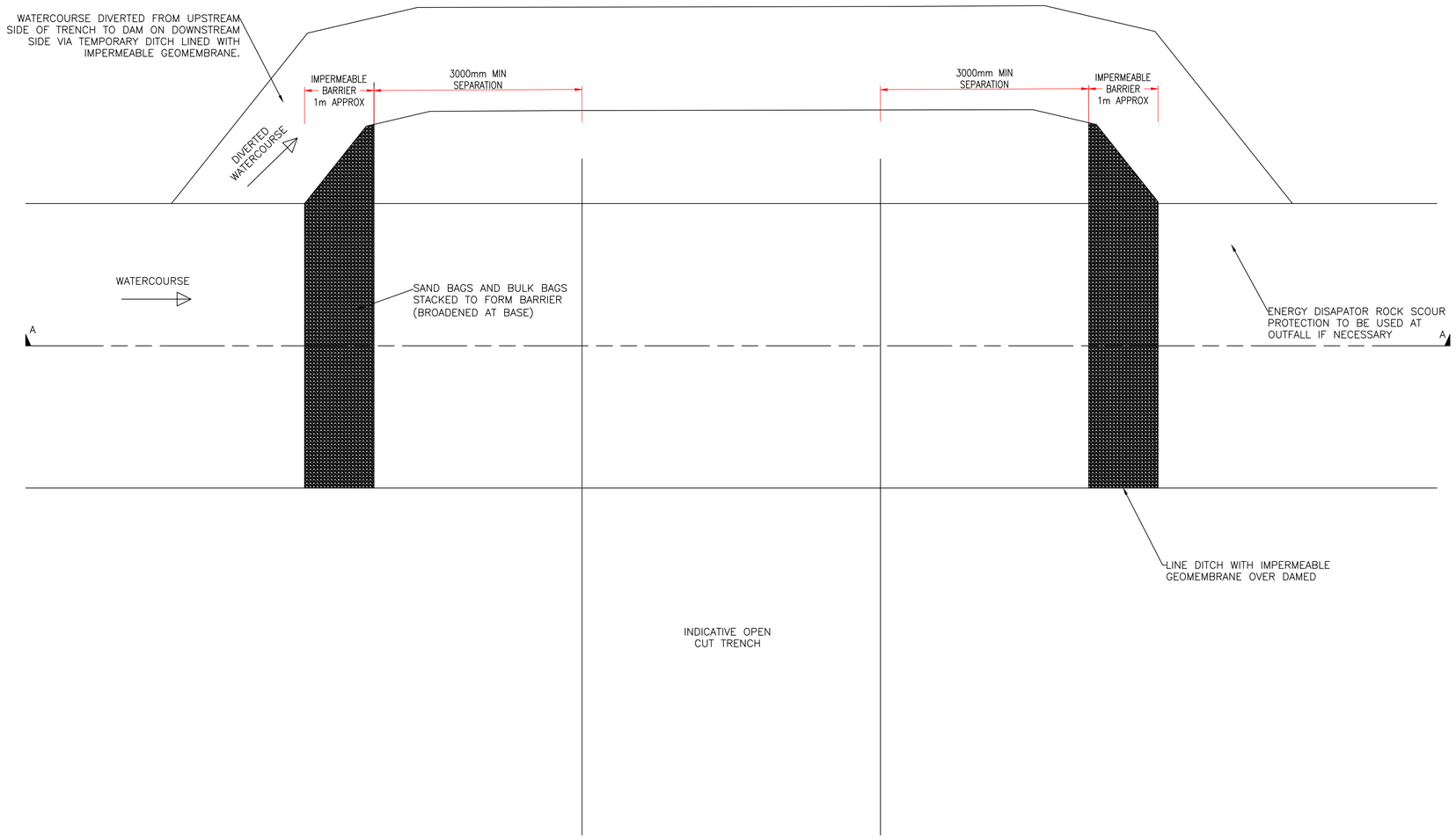
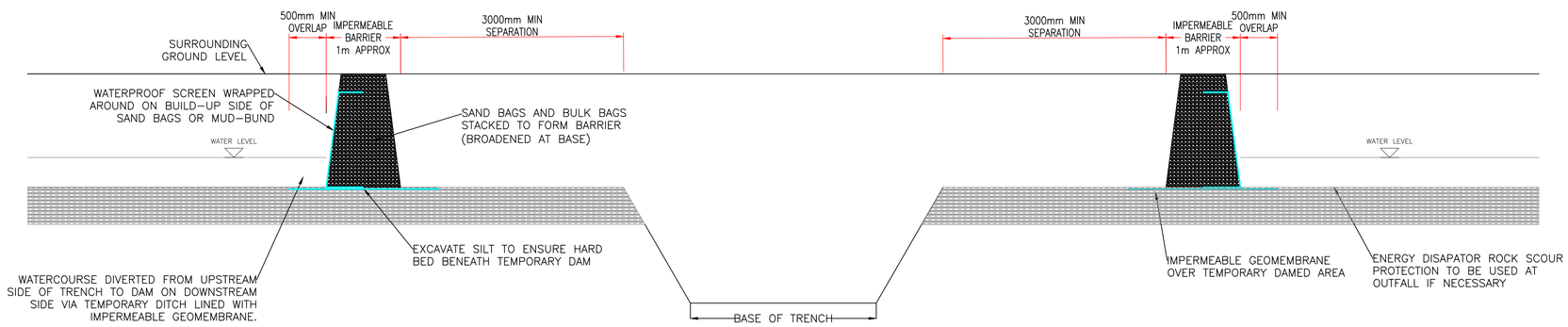
6. SEE DRAWING ED13184-C-3006 GENERAL ARRANGEMENT FOR WATERCOURSE CROSSING FOR TRENCH EXCAVATION AND BACKFILL DETAILS



PLAN VIEW



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PROJECT TITLE
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DRAWING TITLE
FIGURE 3: OPEN TRENCH WATERCOURSE CROSSING - GENERAL ARRANGEMENT - TEMPORARY DIVERSION OF WATERCOURSE

DRAWING STATUS
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A1	PM	PM	AH	AH
SHEET SCALE	DATE	DATE	DATE	DATE
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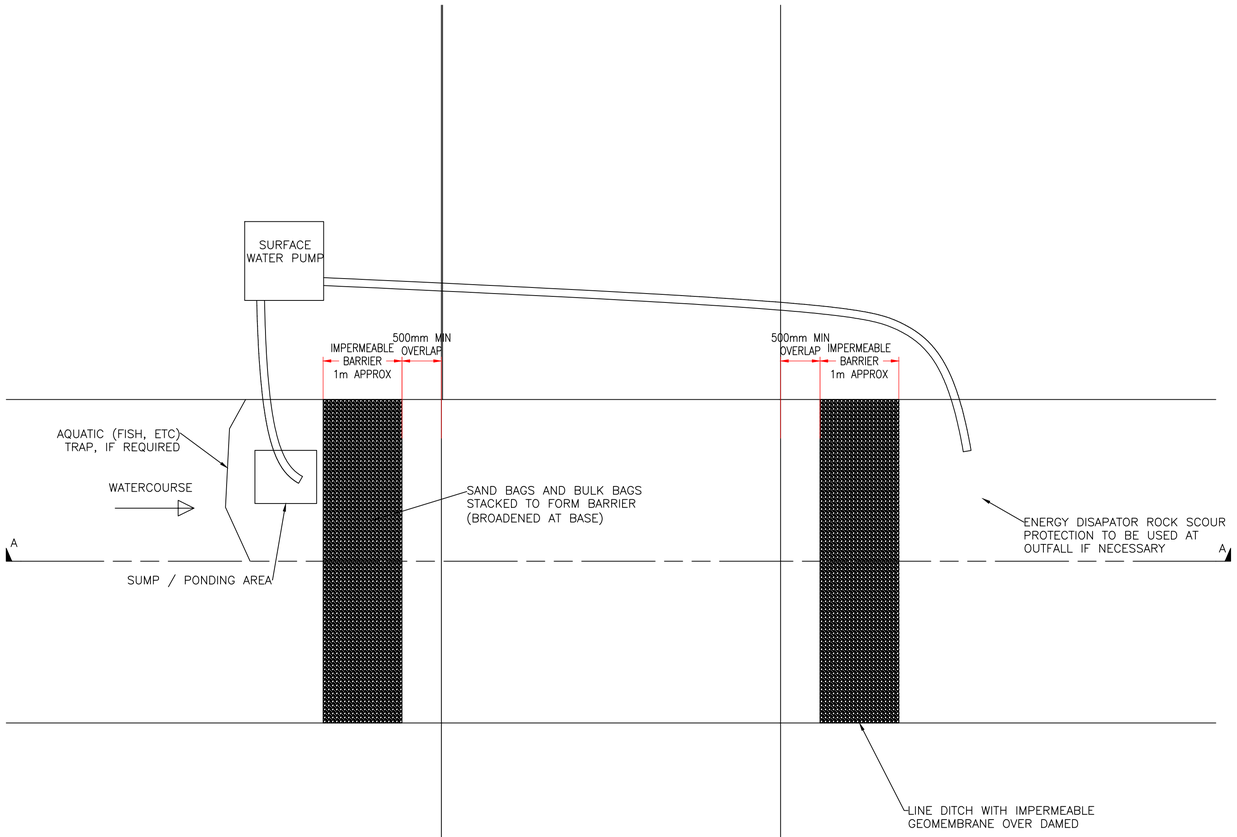
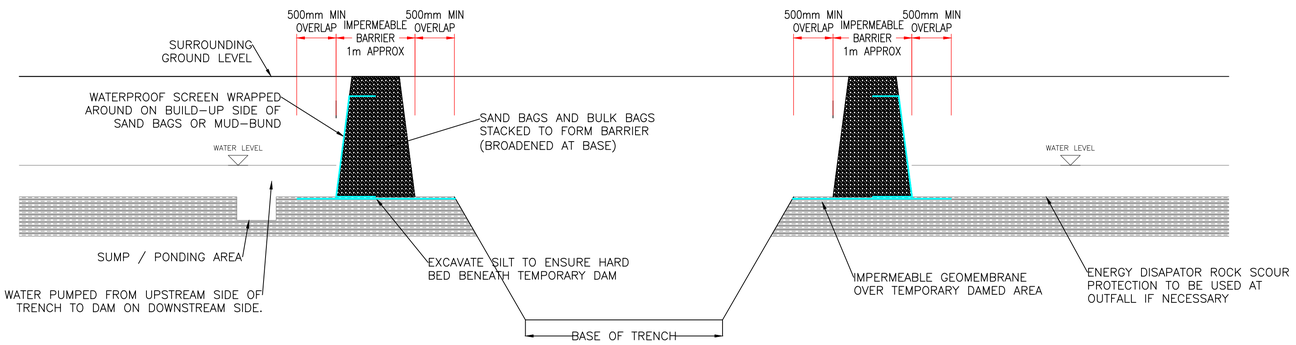


INDICATIVE OPEN CUT TRENCH

PLAN VIEW



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DRAWING TITLE
FIGURE 4: OPEN TRENCH WATERCOURSE CROSSING - GENERAL ARRANGEMENT - OVER PUMPING OF WATERCOURSE

DRAWING STATUS
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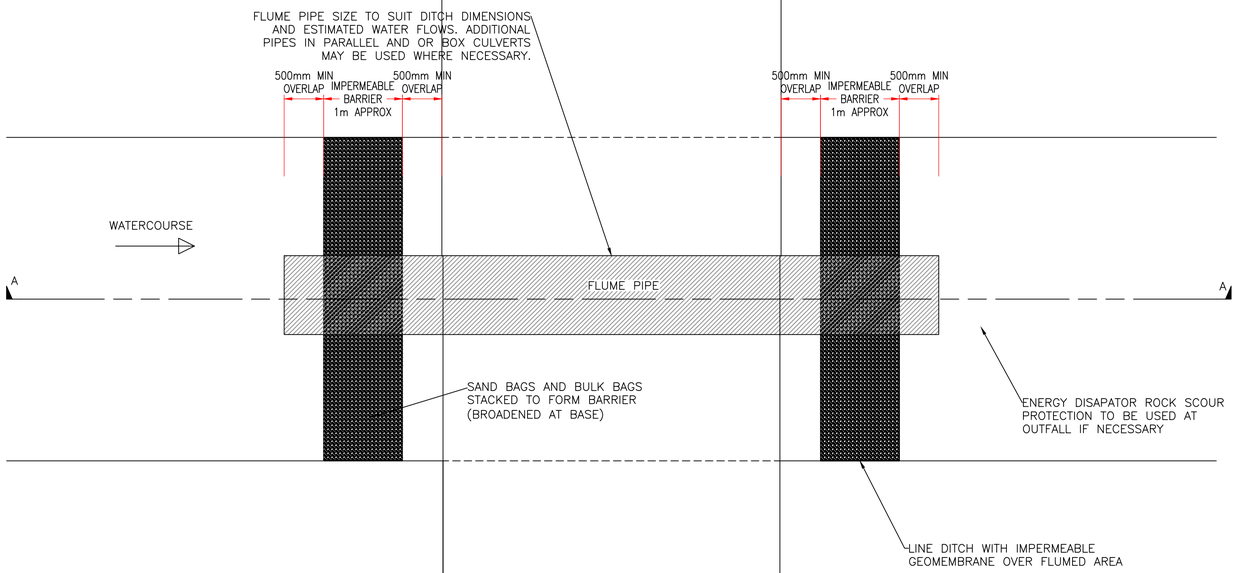
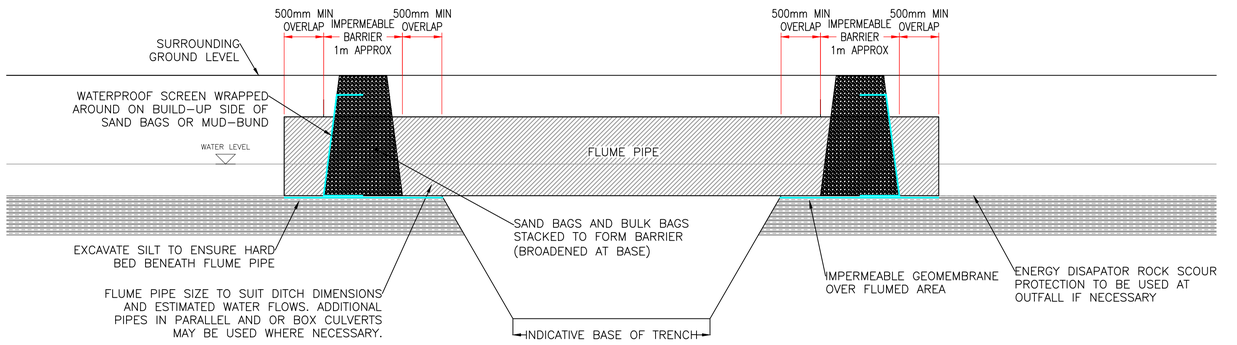
6. SEE DRAWING ED13184-C-3006 GENERAL ARRANGEMENT FOR WATERCOURSE CROSSING FOR TRENCH EXCAVATION AND BACKFILL DETAILS



PLAN VIEW



SECTION A-A

REV	DATE	REASON FOR ISSUE	BY	CHK	APP
02	01-04-2022	UPDATE AND ISSUE AS FINAL	PM	AH	AH
01	24-03-2022	DRAFT FOR COMMENT	PM	NP	AH

Fferm Wynt Alltraeth
AWEL Y MÔR
Offshore Wind Farm

wardell armstrong

PROJECT TITLE
AWEL Y MÔR OFFSHORE WIND FARM

DRAWING TITLE
FIGURE 5: OPEN TRENCH WATERCOURSE CROSSING - GENERAL ARRANGEMENT - TEMPORARY FLUME

DRAWING STATUS
FINAL

SHEET SIZE	DESIGNED	DRAWN	CHECKED	APPROVED
A1	PM	PM	AH	AH
SHEET SCALE	DATE	DATE	DATE	DATE
NTS	01.04.2022	01.04.2022	01.04.2022	01.04.2022

WA DRAWING NUMBER	REVISION
ED13184-C-3053	02
AYM DOCUMENT NUMBER	REVISION
AYM-WAR-V2-XX-M2-C-0069-B	02
RWE ECODOC NUMBER	SHEET No / REVISION
004322628-01	001 OF 001 / 01

REV	DATE	REASON FOR ISSUE	PREPARED	CHECKED	APPROVED	RELEASED
02	01-04-2022	UPDATE AND ISSUE AS FINAL	PM	AH	AH	PM
01	24-03-2022	DRAFT FOR COMMENT	PM	NP	AH	PM

3.5 Onshore Export Cable Ecological Management

82 As noted in Section 2.12, a final LEMP will be approved by DCC, in consultation with NRW, prior to the commencement of construction works. A pre-construction walkover survey of the working area will be undertaken by an appropriately experienced arboriculturist and the guidance set out in BS5837:2012 Trees in Relation to Construction will be adhered to where applicable. The survey will define specific mitigation measures required for all trees situated in or adjacent to the working width, including where practical, measures such as the erection of protective fencing in order to minimise the impacts on trees and their roots. Those measures will be identified in the final CMS for each stage of the works.

83 In addition, hedgerows in proximity to the working width will be protected from disruption and, if necessary, protection fences will be erected to ensure that roots remain undisturbed.

84 A reduced working width will be used, where practicable, when crossing ecologically sensitive water courses and hedgerows.

85 Reinstatement will be undertaken in accordance with the final LEMP.

3.6 Onshore Export Cable Jointing Pits

86 The jointing equipment will be assembled on the concrete foundation base pad, constructed within the joint bay to support the cable joint. A container and small welfare facilities will be delivered to the location of the joint bay to provide a clean room for storage and some of the jointing operations.

87 During the jointing operation the joint bay is completely enclosed under a temporary jointing shelter.

88 On completion of jointing works the joint pit is backfilled in line with the normal trench backfilling method.

3.7 Onshore Export Cable Deliveries

89 The onshore cables will be delivered by road and will be held in temporary construction compounds until needed to install as and when required.

90 Specialist Low Loader lorries will deliver the loaded cable drums and remove empty drums from the compound. The drums will be off loaded using a specialist crane company. Cable drums will be transported from the compound area to each cable installation site by the means of a specially designed cable trailer pulled by suitable vehicle.

3.8 Onshore Substation Piling

91 Foundations for the substation may require piling. It is anticipated that the majority of piling, if not all, can take place using methods of piling such as Continuous Flight Auger (CFA) or rotary displacement that are quieter than percussive piling methods. Details of specific piling requirements are not yet known for the project and will be confirmed following detailed design and further geotechnical investigations.

92 CFA piling involves boring a hole using an auger drill, with concrete injected as the drill is removed, allowing a pile to be installed without leaving an open hole. Reinforcements may be added to the wet concrete once the drill is removed.

3.9 Onshore Substation Platform Earthworks

93 Preliminary site works will be required before construction can commence. These may include:

- Fencing;
- Upgrade of existing or installation of new access from Glascoed Road
- Utility diversions and installation of temporary site drainage where required;
- Archaeological and ecological survey and mitigation works as necessary;
- Vegetation clearance; and

- Establishment of temporary construction compound, offices, welfare facilities, security, wheel wash, lighting and signage.

94 The first operation will be to strip the topsoil from the site of the substation platform and TCC.

95 Following completion of the topsoil stripping, the pre-earthworks drainage will be installed prior to cut and fill works to level the substation platform and TCC areas. A temporary ditch will also be installed along the relevant boundary of the substation site which will catch runoff from the substation platform during the construction period. This shall also intercept any existing land drainage crossing the substation site. At a later date a filter drain will be installed to collect surface water runoff from the substation platform. This two stage methodology has been devised to avoid silts from exposed earthworks during construction from reducing the effectiveness of a permanent filter drain.

3.10 Onshore Substation Abnormal Indivisible Loads (AILs)

96 Due to the size and weight of the transformers' tanks, these deliveries will be classed as AILs. Such loads will require specialist delivery methods to be employed.

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