

PINS document reference 5.4.5.1

APPENDIX ES5.1

WESTERN LANDFILL EXTENSION STANDOFF DESIGN PRINCIPLES

Appendix ES5.1

Standoff design principles for the western landfill area.

SECTION 1. Cumulative standoff design principles

Figure ESA5.1 (drawing reference AU/KCW/07-21/22695) has been created to show the derivation of the standoff distances for the development of the landfill design for the proposed western extension. The distances are based on the following:

1. Root protection area

The extent of the root protection area (RPA) shown as a solid pink line on Figure ESA5.1 is derived by the ecological specialists in the ecological impact assessment presented at Appendix ES13.1. Where there are no trees or hedgerows adjacent to the boundary for which an RPA needs to be specified, the boundary line is shown as a dashed pink line along the boundary of the area of land under the control of Augean.

2. Extent of restoration

The extent of the restoration (shown in light blue on the drawings) follows the line of the proposed ecological protection fence provided by the ecological specialists, with the exception (as detailed further below) of:

- a. the southern boundary where it follows the boundary of the land under the control of Augean,
- b. the eastern boundary of the southern field where it follows a 5m standoff from the farm track as detailed in section 7 below,
- c. the pipeline areas where it follows the extent of the easements as explained in sections 4 and 5 below,
- d. the doline area where it follows the 20m standoff, and
- e. the eastern boundary where it abuts the current site where the restoration profile will extend across the boundary and tie in to the existing landfill restoration.

3. *Extent of excavation*

The extent of the excavation area (shown as a green line on Figure ESA5.1) follows a 2.5m operational standoff (to allow access for the excavation and engineering of the site from the extent of the restoration (as detailed in section 2 as being based on the protection fence, land control areas and easements, and shown in light blue on the attached drawings) with the exception (as detailed below) of:

- a. the eastern boundary of the southern field where it follows the extent of the restoration,
- b. the doline area where it follows the extent of the restoration, and
- c. the eastern boundary where it abuts the current site where the excavation and phase design will extend through the boundary and tie in to the current site design.

4. *Gas Pipeline*

The location of the gas pipeline has been taken from the topographical survey of the permanent marker posts at the site and a series of temporary marker pegs placed between the permanent marker posts which were placed by National Grid when they visited the site.

A 6m easement has been allowed from the centre of the gas pipe. This is based on discussions with National Grid. A document entitled "Specification" provided by National Grid in March 2020 states that: "*The easement strip should be clearly marked by a suitable permanent boundary such as a post and wire fence, and where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party.*" As a result it is assumed that the restoration can extend to the easement boundary, but that an operational standoff (2.5m is assumed) is needed from the edge of the easement to allow access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of the stability risk assessment for the site which is carried out as part of the detailed design of each phase and is agreed with the Environment Agency under the Environmental Permit. The stability risk assessment will be subject to consultation with National Grid. Correspondence with the statutory undertakers is presented at Annex 1.

5. Water Pipelines

The locations of the water pipelines through the proposed western extension have been plotted using the water pipeline route recorded during the geophysical investigation of the proposed western extension in May 2020. As the line of the water pipelines recorded during the geophysical investigation does not extend to the existing field boundary pipeline markers located at the western extent of the site, the western extent the pipeline has been based on the services plan and the surveyed marker posts. The precise location of the pipelines will be confirmed prior to the commencement of excavation works in adjacent landfill phases.

A 7m easement has been allowed from the centre of each of the two water pipelines based on discussions with Anglian Water in March 2020. Consistent with the easement for the gas pipeline it is assumed that the restoration can extend to the easement boundary, but that an operational standoff (2.5m is assumed) is needed from the edge of the easement to allow access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of a stability risk assessment for the site which is carried out as part of the detailed design of each phase and is agreed with the Environment Agency under the Environmental Permit. The stability risk assessment will be subject to consultation with Anglian Water. Correspondence with the statutory undertakers is presented at Annex 1.

6. Electricity Cables

The overhead electricity power cables which follow the western boundary of the existing landfill area and cross the proposed western extension as shown on Figure ES3.3 will be diverted and run below ground. The cables will be diverted from the south western corner of the existing ENRMF to follow the route of the water pipelines and then to turn to the north at the western boundary of the site and follow the western site boundary and re-join the original cable route at the north western corner of the site. A 3.5m easement has been allowed from the centre of the diverted electricity cable. This is based on discussions with Western Power. It is assumed that this easement will be contained within the 7m easement from the northern of the two water pipelines. However confirmation will be sought from Western Power and Anglian

Water prior to the finalisation of the designs in this area. Correspondence with the statutory undertakers is presented at Annex 1.

6. Doline Area

A swallow hole and area of potential dolines is located in the central area of the shallow valley which crosses the proposed western extension at the southern end of the northern field. Site investigation data to date has confirmed the presence of some features and the possibility of additional buried features underlying this area of the site. It will be necessary to maintain surface water flow from west to east in this general area of the site. It has been agreed with the Environment Agency that the final design of the proposed landfill extension in the vicinity of the swallow hole and potential other limestone solution features will be developed in detail following the grant of the DCO and the Environmental Permit variation for the hazardous waste landfill. Further targeted site investigations will be carried out in this central area of the proposed western extension prior to finalising the design in this area.

The design in this central area is based on the retention of a 20m wide corridor linking the land to the west of the proposed extension to the swallow hole in the east to provide a continuing route for the drainage of surface water from the west to the east. No landfilling will be carried out in this area and it is proposed that the current below ground surface water drainage pipe is excavated and replaced with an open watercourse and ponds which will be developed for ecological benefit (Swallow Brook) as well as continuing drainage provision. If the results of the further site investigation lead to the conclusion that there should be a wider distance from the potential doline area in which there should be no landfilling of waste, the excavation boundary for the landfill will be relocated to reflect the findings. The ground between the revised landfill boundary and the edge of the 20m wide corridor will be made up with excavated overburden so that the restoration profile still will be achieved hence the restoration landform will not be affected by any change to the landfill excavation boundary that may be agreed with the Environment Agency following the further investigations.

7. Farm Track

A 5m standoff to the excavation and restoration boundary from the western edge of the farm track on the eastern boundary of the southern field to allow for hedge or tree planting and an overall 5m RPA between the hedge and the excavation boundary.

8. Tie in to existing site

It is assumed that extraction will proceed through the existing western boundary of the ENRMF landfill site and that the western extension will not be worked as a separate site to the existing landfill. The proposed working extents for the western extension area have been tied in to the existing newt exclusion fence to the north of Phase 11 and the proposed extraction model for the southern boundary of the Phase 7 working area.

SECTION 2. Ecological stand off design principles

1 Determination of Ecological Constraints

The ecological assessment and mitigation proposals on which these standoff distances are based are presented in the technical reports at Appendix ES13.1 and summarised in Section 13 of the Environmental Statement.

Where the development is adjacent to trees the proposed retained margins are based primarily on the Root Protection Area (RPA)/ Construction Exclusion Zone (CEZ) necessary based on the Arboricultural survey (Appendix 2 of Appendix ES13.1) and the calculations in BS 5837: 2012. The presence of ditches within these zones is ignored even though they may restrict horizontal root growth to some extent.

Movement within the ecological mitigation margin/RPA area will be restricted to foot traffic only (other than for emergencies) due to the likely presence of protected animals and potential for root compaction.

The animal exclusion fencing will be erected for the protection of all or some of herptiles, badgers and deer depending on the need at each boundary as determined

from the ecological surveys. As a minimum the protection fence will be located at the RPZ/CEZ distance from the trees.

2. North Field, eastern boundary with Collyweston Wood NNR

Along the whole of this boundary the RPA/CEZ is set at 7.5m from the tree-line. It is recommended however that the excavation boundary is set beyond this, to at least 10m from the site boundary. This will allow the important plant community along this edge (which supports the invertebrate and bat interest of the NNR) to remain undisturbed. It will also provide a continued woodland edge movement zone for the ground based animals.

With the exception of the north eastern corner where a wider buffer is proposed, a minimum buffer of 10m from the tree line to the excavation boundary will be retained. The protection fence will be placed at a minimum distance of 7.5m from the tree line. Some overlap of restoration soils beyond the excavation boundary will be acceptable up to the reptile/amphibian fence.

3 North Field, north-west boundary.

The RPA/CEZ of this short stretch is only 4.2m, but does have invertebrate and reptile interest, so a minimum exclusion buffer at 5m is appropriate.

No placement of restoration soils will be acceptable within this protected zone.

4 North Field, western boundary

The northern half of this boundary abuts an arable field, and is formed by a tree line with a RPA/CEZ of 7.8m. However, there is no significant invertebrate interest, and low reptile interest. It is proposed that the trees will be retained with a minimum standoff of 7.8m.

The remainder of this boundary abuts The Assarts area of Fineshade Wood, which has no statutory designation, but is a local wildlife site with high reptile interest. The

woodland RPA/CEZ is 5.4m, although two trees halfway down have RPA/CEZ of 6.0m and 10.8m; both are potential bat roost trees. The standoff will be set at 5.5m from the tree line to the protection fence, with the land between managed for reptiles and invertebrates. No placement of restoration soils will be acceptable in the standoff area.

The two identified trees will be retained and monitored as they may well thrive and they can continue to provide bat roosting potential. The trees can be removed later if/when they are identified as at potential risk of falling.

The overhead electricity cable which currently runs over the proposed western extension will be relocated in a trench adjacent to the water pipes that cross the site and then in a trench along the western boundary. This trench will be formed within the 5.5m buffer area under supervision (relating mainly to the presence of tree roots and in a suitable season).

5 North Field, southern boundary hedge.

This hedge will be removed, together with the tree at its eastern end. Removal will be phased and carried out with associated mitigation. This area will form part of the landfill.

6 South Field, eastern and southern boundaries.

This boundary comprises two parts, the northern part is formed of a hedgerow with the arable field to the west and the existing ENRMF to the east. The southern part of the boundary is adjacent to a farm track with a hedgerow to the west of the track and arable land beyond. The farm track on the southern part of the boundary (approximately 7m wide) is wider than the hedgerow RPA/CEZ (1.2m southern).

The hedge on the northern part of the boundary will be removed with associated mitigation and this area will form part of the landfill. There is no requirement for protective fencing once the hedge has been searched and cleared.

The access track in a 7m wide strip along the southern section of the eastern boundary remains under the control of the landowner and is excluded from the development. A line of hedging shrubs or small trees will be planted to the west of the farm track, there will be a stand-off of 5m from the track to the edge of the capping layer.

There is no feature which forms the southern boundary, it is located in an arable field. The RPA/CEZ for the woodland in Little Wood to the south is 13.2m. However, given that the application boundary is at least 50m from this woodland, there are no ecological constraints to excavation. There is a pond with GCN adjacent to the south west corner of this area, which will need to be separated from the development by an amphibian exclusion fence.

7 South Field, western boundary

The woodland between the northern hedge and the access gap into The Assarts has the same RPA/CEZ as the woodland to the north which is 5.4m. The protection fence for this short length would therefore be at 5.5m from the woodland, and excavation can take place to the foot of this fence.

The remainder of the western boundary abuts The Assarts, but the trees are older/taller in this section of woodland with RPA/CEZ of 6.9m. A minimum 7m stand-off to the excavation boundary will be maintained.

Conclusions

The information and constraints summarised in this appendix together with consideration of other operational requirements have been used to derive the principles for the boundary standoff design for the landfill in the proposed western extension. The derivation of the width of the boundary standoff distance used in the design for each area is based on a combination of:

- Tree root protection area (RPA) distance.
- Width of the ecological margin to be retained at the edge of the site.

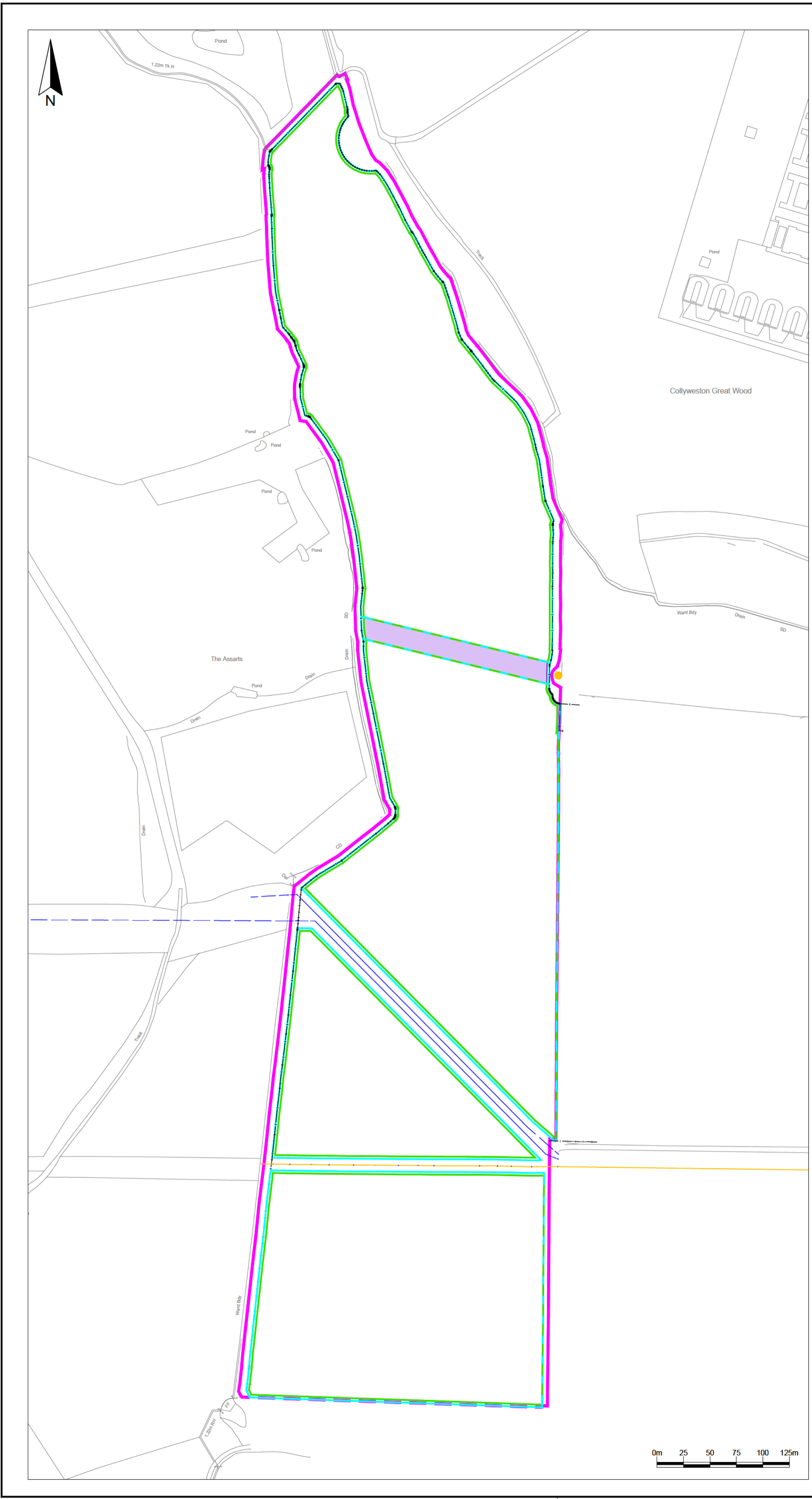
- Installation of animal exclusion fencing.
- Standoff from buried services.
- Working margin inside the animal exclusion fence between the fence and the extraction boundary.

These principles are set out at Appendix DEC B of the DCO Environmental Commitments Document (PINS document reference 6.5) and are the subject of Requirement 3 of the draft DCO.

The exact design including the boundary of each of the phases of the landfill will be determined at the detailed design stage. The design and the construction proposals for each phase will be agreed with the Environment Agency under the Environmental Permit prior to the commencement of construction.

ANNEX 1

CORRESPONDENCE WITH THE STATUTORY UNDERTAKERS



Key / Notes

- Gas marker post
- Approximate location of a gas pipeline identified by a topographical survey of marker posts set out by National Grid
- Approximate location of the water pipeline identified by the geophysics survey
- - - Approximate location of the water pipeline identified by the pipeline marker posts and the services plan
- Approximate location of a swallow hole
- Extent of the root protection area determined by the ecological specialists
- - - Extent of the land under the control of Augean
- - - Extent of the proposed reptile/amphibian protection fence
- Extent of the 10 metre standoff from the approximate doline area
- - - Extent of the restoration works for the proposed western landfill area
- - - Extent of the excavation for the proposed western landfill area

Note:
Based on model reference AU-KCW-15438.LSS

Rev	Status	Dm	App	Chk	Date
	Final	KR	SPS	LH	26/07/21

Site:
EAST NORTHANTS RESOURCE MANAGEMENT FACILITY

Client:

Title:
Plan showing the standoff distances for the proposed western extension area

Figure ESA5.1 Scale: 1:2,500@A2

Drawing Ref:
AU/KCW/07-21/22695

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From: Dan Riding
Sent: 01 February 2021 17:02
To: [REDACTED]@augeanplc.com'
Subject: ENRMF - Western Fields Extension - Utility Easements
Attachments: Figure 1 - aukcw22189.pdf

1 February 2021

Dear Pete

ENRMF - Western Fields Extension - Utility Easements

Further to our conference call on 15 January 2021 with John Young of Anglian Water and Mark Jarvis of Western Power we are pleased to attach to this email Figure 1 (drawing reference AU/KCW/01-21/22189) which shows the location of the proposed easements and standoffs to the water and gas pipelines and the relocated electric cable within the Western Fields Extension to ENRMF.

As discussed during the call these easements are based on our understanding of previous discussions with the utility companies responsible for the utility infrastructure as detailed below:

- **Water Pipelines** - A 7m easement has been allowed from the centre of each of the two water pipelines. This is based on Augean's previous discussions with Anglian Water. The restoration will extend to the easement boundary, and an additional operational standoff (2.5m) will be maintained from the edge of the easement to the edge of the excavation to provide access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of a stability risk assessment for the site which will be subject to consultation with Anglian Water.
- **Gas Pipeline** - A 6m easement has been allowed from the centre of the gas pipe. This is based on Augean's previous discussions with National Grid/Western Power and the document entitled "Specification" provided by National Grid to Augean on 4 March 2020 states that: "*The easement strip should be clearly marked by a suitable permanent boundary such as a post and wire fence, and where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party.*" The restoration will extend to the easement boundary, and an additional operational standoff (2.5m) will be maintained from the edge of the easement to provide access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of the stability risk assessment for the site which will be subject to consultation with National Grid/Western Power.
- **Electric cable** - A 3.5m easement has been allowed from the centre of the diverted electricity cable. This is based on Augean's previous discussions with Western Power. It is assumed that this easement will be contained within the 7m easement from the northern water pipeline. However we understand that both Mark Jarvis (Western Power) and John Young (Anglian Water) will be seeking confirmation within their organisations that this is acceptable.

The drawing shows the approximate location of the pipelines. As we are unsure of the precise depth below ground or diameter of the pipelines we have not shown either a depth or dimension for the various pipelines or diverted electricity cable.

As discussed during the conference call we do not anticipate undertaking detailed design of the crossing points at this time. It is assumed that the crossing points will be designed in accordance with the utility providers guidance, then submitted to the utility provider and agreed before any crossings are constructed.

We trust the attached drawing is of assistance. Please do not hesitate to contact us if you wish to discuss this matter further.

Regards

Dan

Attachment:

Figure 1 (aukcw22189).pdf

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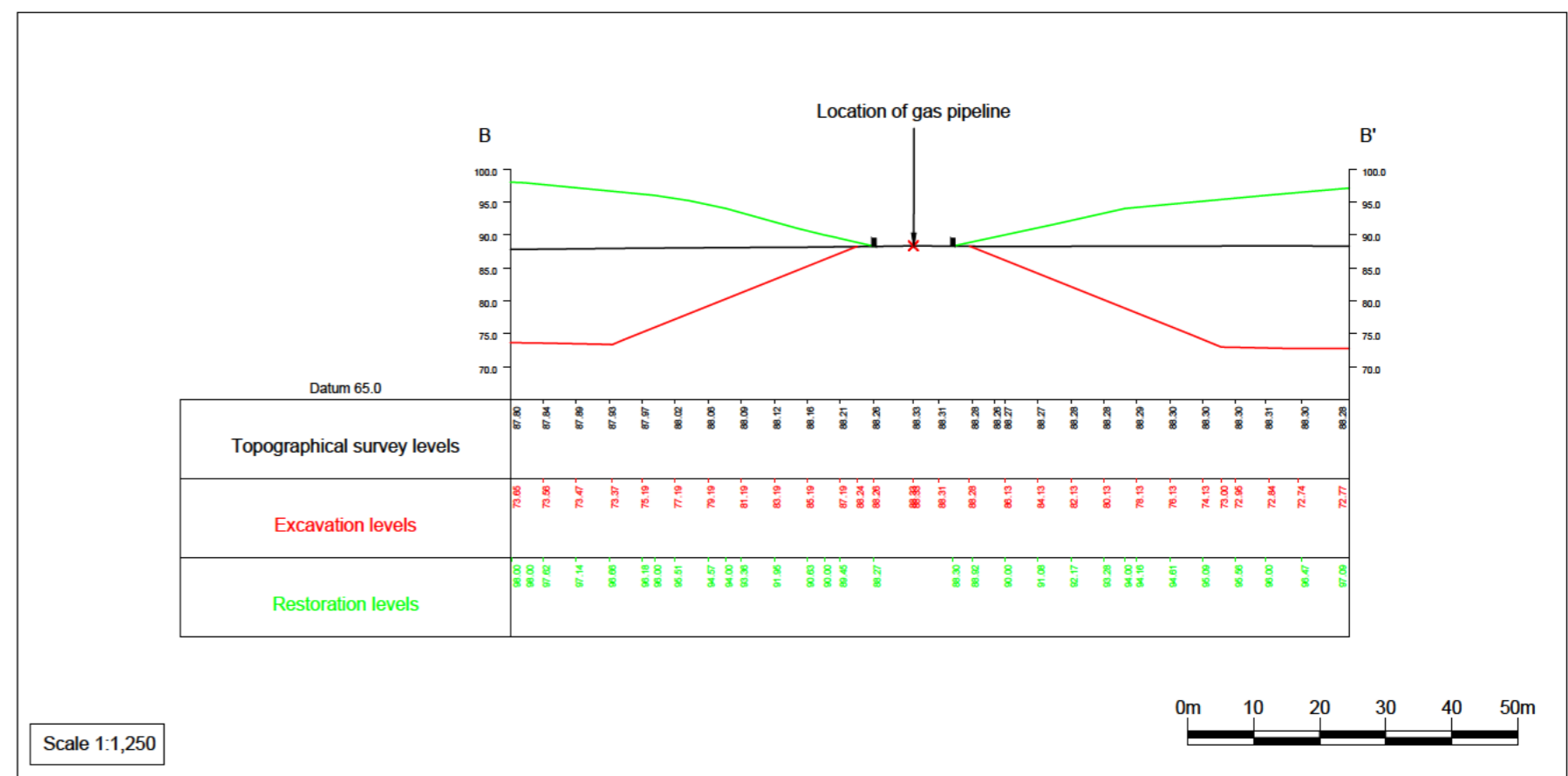
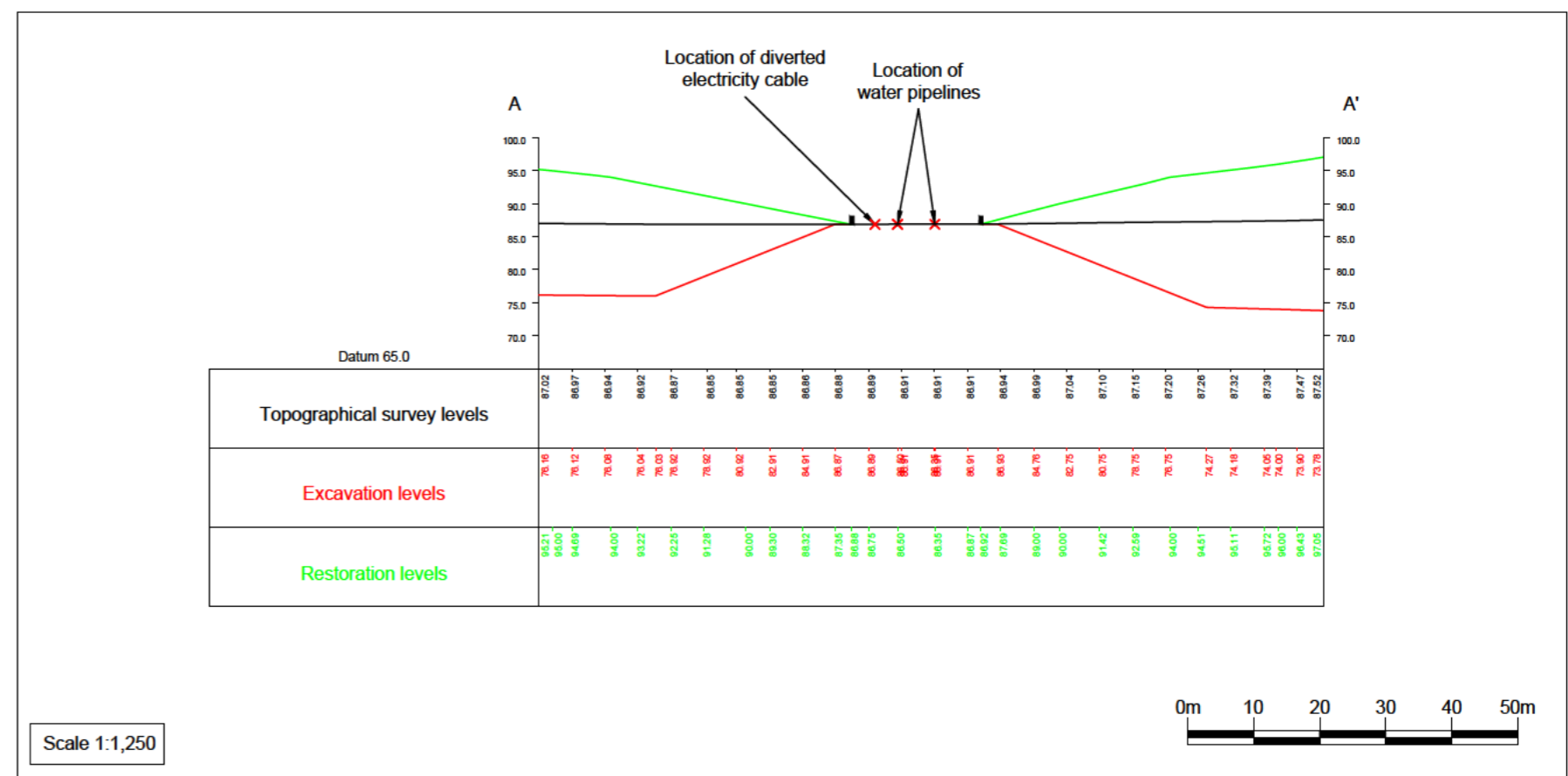
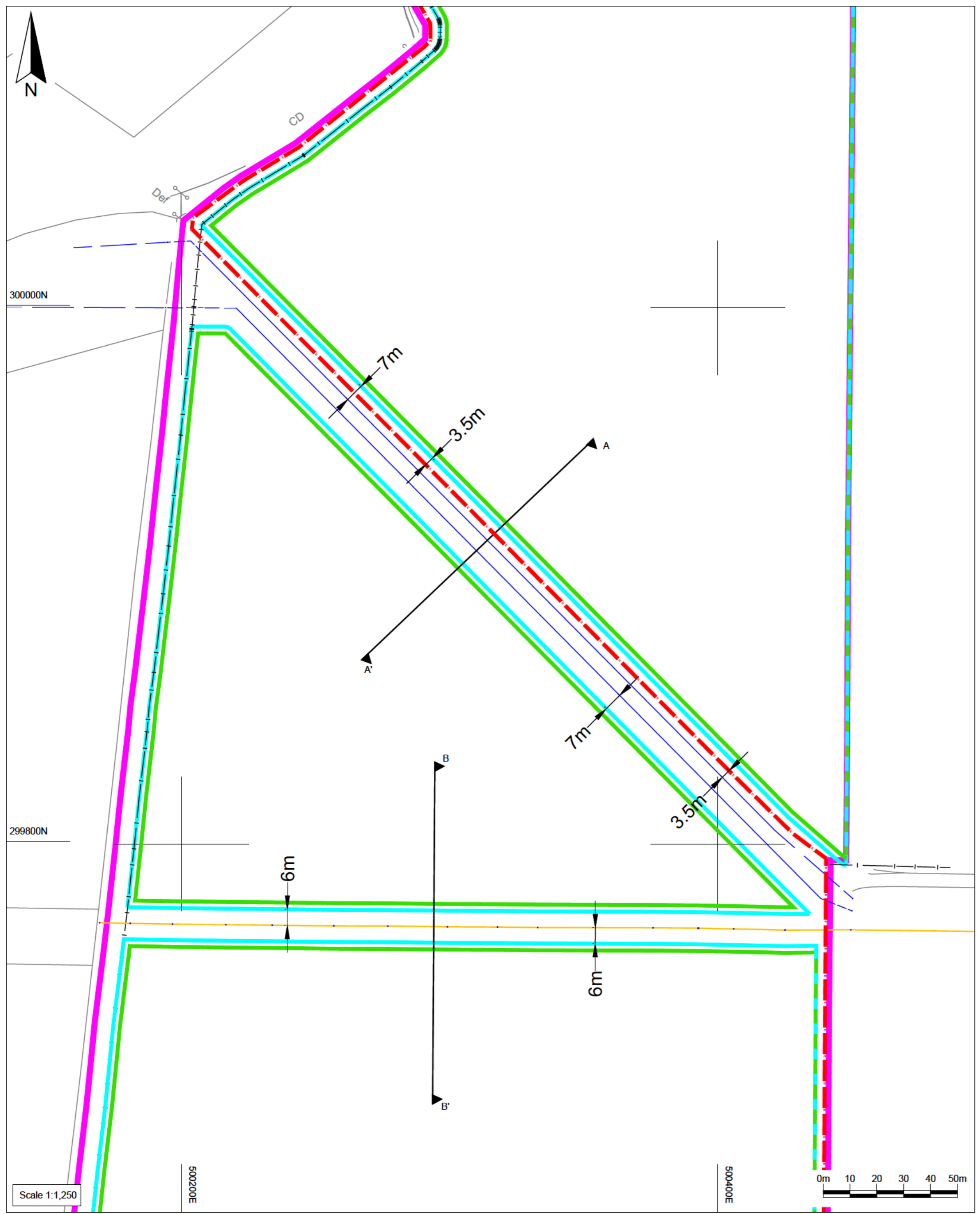
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Key / Notes

- Gas marker post
- Approximate location of a gas pipeline identified by a topographical survey of marker posts set out by National Grid
- Approximate location of a pipeline
- Approximate location of the water pipeline identified by the geophysics survey
- Approximate location of the water pipeline identified by the pipeline marker posts and the services plan
- Extent of the root protection area (RPA) provided by ESL on 27 May 2020
- Extent of the option boundary shown on drawings references AU/KCW/09-19/21214RevD and AU/KCW/09-19/21385 included in the Option Agreement
- Extent of the proposed new/protection fence
- Extent of the proposed restoration works for the WFE
- Extent of the proposed excavation for the WFE
- Approximate route of the diverted electric cable
- Location of cross sections

Note:
Based on model reference AU-KCW-15438.LSS

Rev	Final	KR	HL	DFR	01/02/21
	Status	Drm	App	Chk	Date

Site
EAST NORTHANTS RESOURCE MANAGEMENT FACILITY - WESTERN FIELDS EXTENSION

Client

Title
Plan showing the locations of the water and gas pipelines through the proposed western fields extension to the site together with the easements from the existing pipelines and the proposed location of the diverted electricity cable

Figure 1 | Scale As shown@A2

Drawing Ref
AU/KCW/01-21/22189

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From: Leslie Heasman
Sent: 03 February 2021 17:51
Subject: FW: ENRMF - Western Fields Extension - Utility Easements
Attachments: Figure 1 - aukcw22189.pdf

From: Peter Oldfield <[REDACTED]@augeanplc.com>
Sent: Wednesday, 03 February 2021 17:02
To: Leslie Heasman <[REDACTED]@mjca.co.uk>
Subject: FW: ENRMF - Western Fields Extension - Utility Easements

FYI

Thanks
Pete

Peter Oldfield
Head of Planning and Permitting

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- ✓ Keep washing your hands regularly

STAY ALERT > CONTROL THE VIRUS > SAVE LIVES

NHS

From: Peter Oldfield
Sent: 03 February 2021 16:52

To: Young John [REDACTED]

Subject: FW: ENRMF - Western Fields Extension - Utility Easements

Dear John,

Following the call on 15th of January please see attached plan prepared by our landfill design consultants showing easements and standoffs from the water pipeline for the landfill engineering as per previous discussions.

As agreed on the call we should be grateful if you can review and advise of any issue with these proposals.

Please give me a call if you have any queries.

Best Regards

Pete

From: Dan Riding [REDACTED] >

Sent: 01 February 2021 17:02

To: Peter Oldfield [REDACTED] >

Subject: ENRMF - Western Fields Extension - Utility Easements

1 February 2021

Dear Pete

ENRMF - Western Fields Extension - Utility Easements

Further to our conference call on 15 January 2021 with John Young of Anglian Water and Mark Jarvis of Western Power we are pleased to attach to this email Figure 1 (drawing reference AU/KCW/01-21/22189) which shows the location of the proposed easements and standoffs to the water and gas pipelines and the relocated electric cable within the Western Fields Extension to ENRMF.

As discussed during the call these easements are based on our understanding of previous discussions with the utility companies responsible for the utility infrastructure as detailed below:

1. **Water Pipelines** - A 7m easement has been allowed from the centre of each of the two water pipelines. This is based on Augean's previous discussions with Anglian Water. The restoration will extend to the easement boundary, and an additional operational standoff (2.5m) will be maintained from the edge of the easement to the edge of the excavation to provide access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of a stability risk assessment for the site which will be subject to consultation with Anglian Water.
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understand that both Mark Jarvis (Western Power) and John Young (Anglian Water) will be seeking confirmation within their organisations that this is acceptable.

The drawing shows the approximate location of the pipelines. As we are unsure of the precise depth below ground or diameter of the pipelines we have not shown either a depth or dimension for the various pipelines or diverted electricity cable.

As discussed during the conference call we do not anticipate undertaking detailed design of the crossing points at this time. It is assumed that the crossing points will be designed in accordance with the utility providers guidance, then submitted to the utility provider and agreed before any crossings are constructed.

We trust the attached drawing is of assistance. Please do not hesitate to contact us if you wish to discuss this matter further.

Regards

Dan

Attachment:

Figure 1 (aukcw22189).pdf

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From: Leslie Heasman
Sent: 03 February 2021 17:52
Subject: FW: ENRMF - Western Fields Extension - Utility Easements
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Sent: Wednesday, 03 February 2021 17:02
To: Leslie Heasman <LeslieHeasman@mjca.co.uk>
Subject: FW: ENRMF - Western Fields Extension - Utility Easements

FYI

Thanks
Pete

Peter Oldfield
Head of Planning and Permitting

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- ✓ Stay home as much as possible
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STAY ALERT > CONTROL THE VIRUS > SAVE LIVES

NHS

From: Peter Oldfield
Sent: 03 February 2021 16:54

To: Jarvis, Mark [REDACTED]

Subject: FW: ENRMF - Western Fields Extension - Utility Easements

Dear Mark,

Following our meeting on 15th of January please see attached plan prepared by our landfill design consultants showing easements and standoffs from the relocated electric cable, water pipeline and gas pipeline for the landfill engineering as per previous discussions.

As agreed on the call we should be grateful if you can review and advise of any issue with these proposals.

Please give me a call if you have any queries.

Best Regards

Pete

From: Dan Riding [REDACTED] >

Sent: 01 February 2021 17:02

To: Peter Oldfield <[REDACTED]>

Subject: ENRMF - Western Fields Extension - Utility Easements

1 February 2021

Dear Pete

ENRMF - Western Fields Extension - Utility Easements

Further to our conference call on 15 January 2021 with John Young of Anglian Water and Mark Jarvis of Western Power we are pleased to attach to this email Figure 1 (drawing reference AU/KCW/01-21/22189) which shows the location of the proposed easements and standoffs to the water and gas pipelines and the relocated electric cable within the Western Fields Extension to ENRMF.

As discussed during the call these easements are based on our understanding of previous discussions with the utility companies responsible for the utility infrastructure as detailed below:

1. **Water Pipelines** - A 7m easement has been allowed from the centre of each of the two water pipelines. This is based on Augean's previous discussions with Anglian Water. The restoration will extend to the easement boundary, and an additional operational standoff (2.5m) will be maintained from the edge of the easement to the edge of the excavation to provide access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of a stability risk assessment for the site which will be subject to consultation with Anglian Water.
2. **Gas Pipeline** - A 6m easement has been allowed from the centre of the gas pipe. This is based on Augean's previous discussions with National Grid/Western Power and the document entitled "Specification" provided by National Grid to Augean on 4 March 2020 states that: "*The easement strip should be clearly marked by a suitable permanent boundary such as a post and wire fence, and where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party.*" The restoration will extend to the easement boundary, and an additional operational standoff (2.5m) will be maintained from the edge of the easement to provide access for the excavation and engineering of the site. This standoff and the associated excavation slope gradients will be assessed as part of the stability risk assessment for the site which will be subject to consultation with National Grid/Western Power.

3. **Electric cable** - A 3.5m easement has been allowed from the centre of the diverted electricity cable. This is based on Augean's previous discussions with Western Power. It is assumed that this easement will be contained within the 7m easement from the northern water pipeline. However we understand that both Mark Jarvis (Western Power) and John Young (Anglian Water) will be seeking confirmation within their organisations that this is acceptable.

The drawing shows the approximate location of the pipelines. As we are unsure of the precise depth below ground or diameter of the pipelines we have not shown either a depth or dimension for the various pipelines or diverted electricity cable.

As discussed during the conference call we do not anticipate undertaking detailed design of the crossing points at this time. It is assumed that the crossing points will be designed in accordance with the utility providers guidance, then submitted to the utility provider and agreed before any crossings are constructed.

We trust the attached drawing is of assistance. Please do not hesitate to contact us if you wish to discuss this matter further.

Regards

Dan

Attachment:
Figure 1 (aukcw22189).pdf

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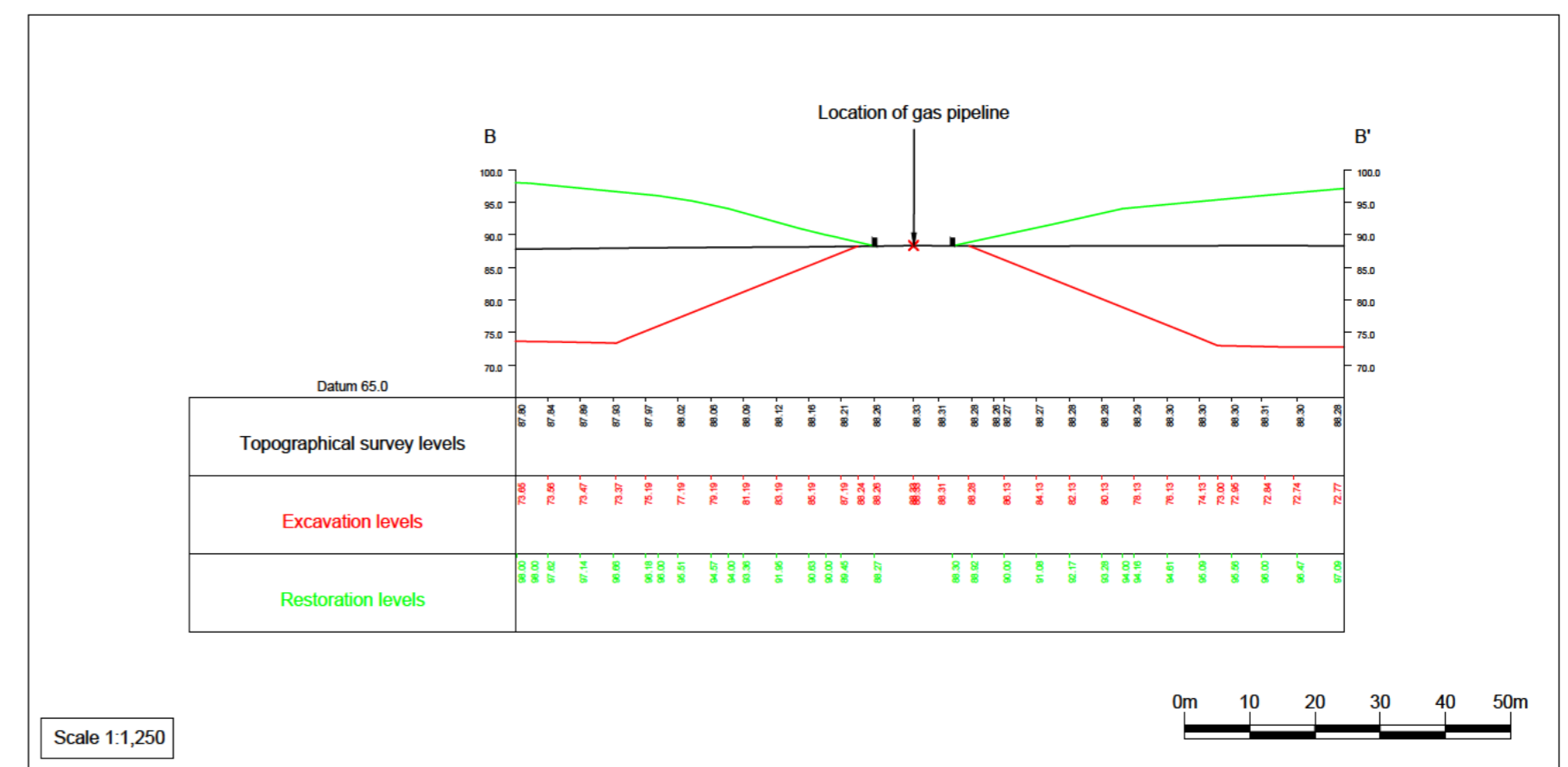
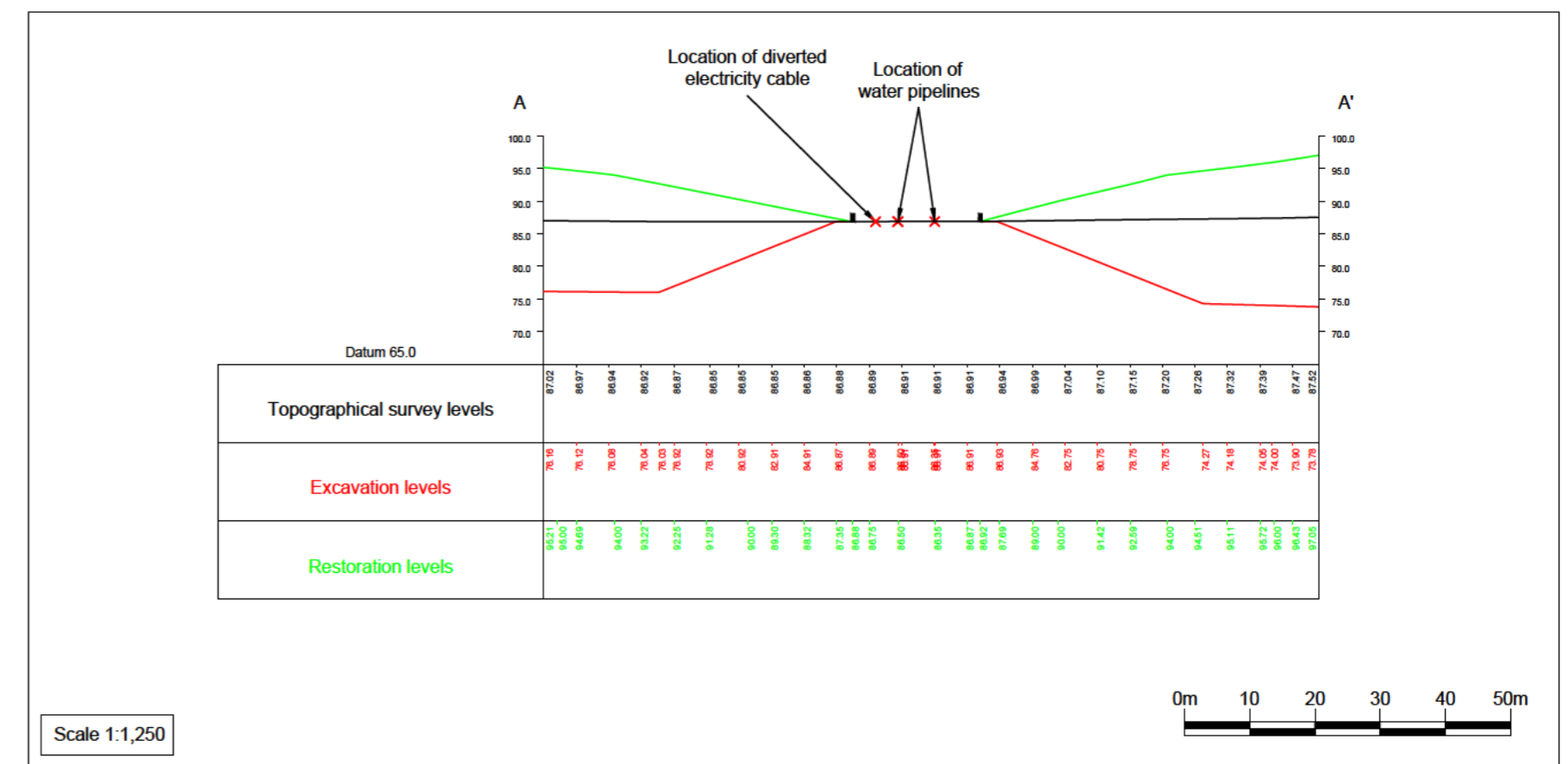
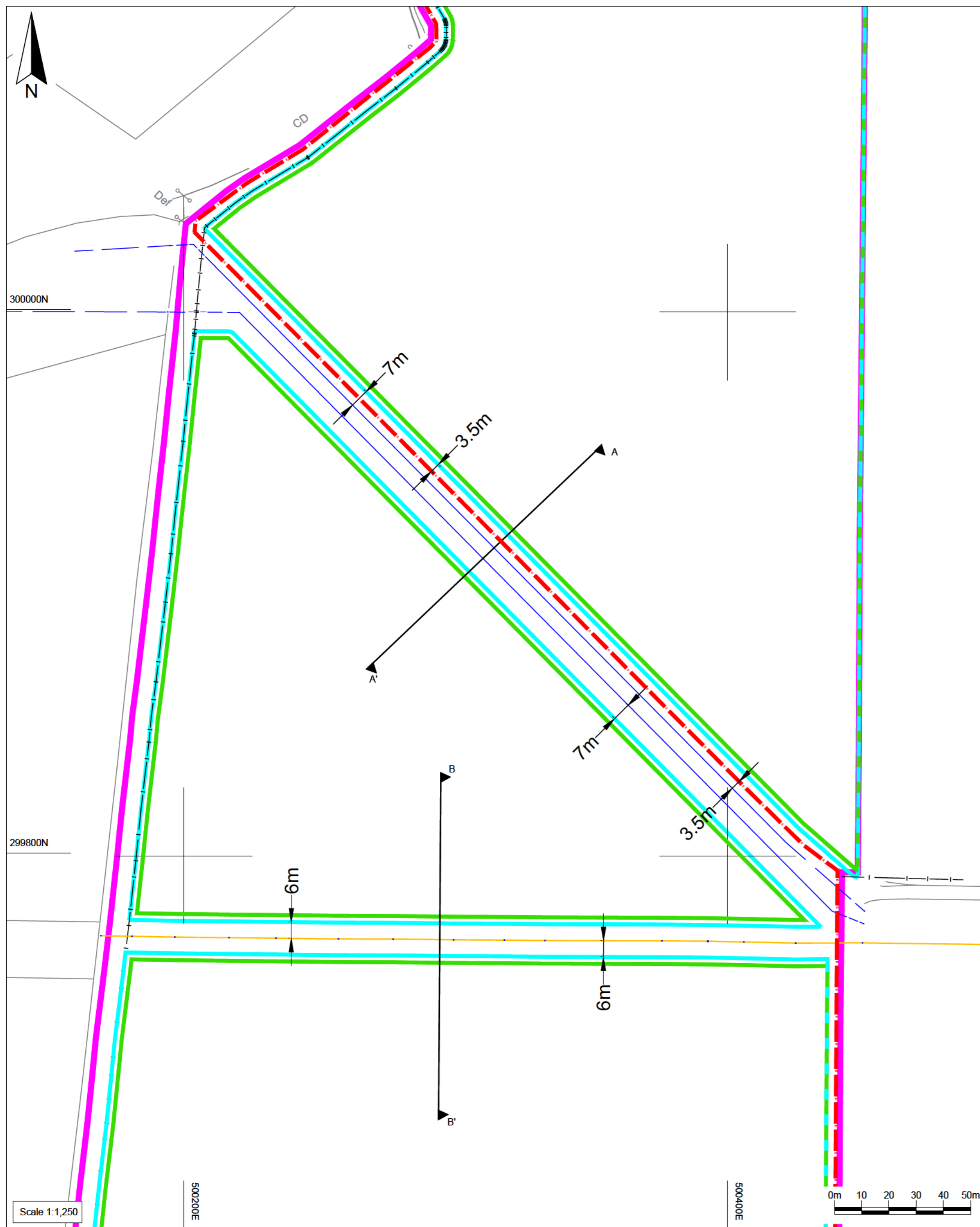


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Key / Notes

- Gas marker post
- Approximate location of a gas pipeline identified by a topographical survey of marker posts set out by National Grid
- Approximate location of a pipeline
- Approximate location of the water pipeline identified by the geophysics survey
- Approximate location of the water pipeline identified by the pipeline marker posts and the services plan
- Extent of the root protection area (RPA) provided by ESL on 27 May 2020
- Extent of the option boundary shown on drawings references AU/KCW/09-19/21214RevD and AU/KCW/09-19/21385 included in the Option Agreement
- Extent of the proposed new/protection fence
- Extent of the proposed restoration works for the WFE
- Extent of the proposed excavation for the WFE
- Approximate route of the diverted electric cable
- Location of cross sections

Note:
Based on model reference AU-KCW-15438.LSS

Rev	Final	KR	HL	DFR	01/02/21
	Status	Drm	App	Chk	Date

Site: EAST NORTANTS RESOURCE MANAGEMENT FACILITY - WESTERN FIELDS EXTENSION

Client:

Title: Plan showing the locations of the water and gas pipelines through the proposed western fields extension to the site together with the easements from the existing pipelines and the proposed location of the diverted electricity cable

Figure 1

Scale: As shown@A2

Drawing Ref: AU/KCW/01-21/22189

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Specification for safe working in the vicinity of National Grid high pressure gas pipelines and associated installations – requirements for third parties



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Emergency telephone number:
0800 111 999*

*All calls are recorded and may be monitored

Disclaimer

This document is provided for use by third parties for safe working in the vicinity of National Grid high-pressure gas pipelines and associated installations.

Where this document is used by any other party it is the responsibility of that party to ensure that this document is correctly applied.

Mandatory and non-mandatory requirements

In this document:

shall: indicates a mandatory requirement.

should: indicates best practice and is the preferred option. If an alternative method is used then a suitable and sufficient risk assessment shall be completed to show that the alternative method delivers the same, or better, level of protection.

Introduction

Specification for safe working In the vicinity of National Grid high-pressure gas pipelines and associated installations – requirements for third parties

This specification is for issue to third parties carrying out work in the vicinity of National Grid high pressure gas pipelines (above 7 bar gauge) and associated installations and is provided to ensure that individuals planning and undertaking work take appropriate measures to prevent damage.

Any damage to a high-pressure gas pipeline or its coating can affect its integrity and can result in failure of the pipeline with potential serious hazardous consequences for individuals located in the vicinity. It is therefore essential that the procedures outlined in this document are complied with when working near to a high pressure pipeline. If any work is considered by National Grid to be in breach of the requirements stipulated in this document then the National Grid responsible person will suspend the work until the non-compliances have been rectified.

The Pipelines Safety Regulations state that “No person shall cause such damage to a pipeline as may give rise to a danger to persons” (Regulation 15). Failing to comply with these requirements could therefore also result in prosecution by the Health and Safety Executive (HSE).

The requirements in this document are in line with the requirements of the Institution of Gas Engineers and Managers (IGEM) recommendations IGE/SR/18 Edition 2 - Safe Working Practices To Ensure The Integrity Of Gas Pipelines And Associated Installations and the HSE’s guidance document HS(G)47 Avoiding Danger from Underground Services.

It is the responsibility of the third party to ensure that any work carried out also conforms with the requirements of the Construction and Design Management Regulations and all other relevant health and safety legislation.

Always contact National Grid prior to carrying out any work in the vicinity of a high pressure pipeline

CONTACT NATIONAL GRID

Contact National Grid on 0800 688588 to obtain formal consent - Section 2 of this document.

Note: at least 14 days notice prior to commencement of the work is normally required

CONSIDER SAFETY

Consider the safety requirements - Section 3 of this document.

INFORM NATIONAL GRID AND REQUEST PIPELINE LOCATION

Inform National Grid prior to carrying out work and arrange for National Grid to locate the pipeline - Section 4 of this document Note: at least 14 days notice is normally required

OBSERVE RESTRICTIONS

Observe National Grid restrictions on the allowed proximity of mechanical excavators and other power tools and the measures to protect the pipeline from construction vehicles when carrying out the work – Sections 5, 6 and 7 of this document.

Note: National Grid may wish to supervise the work, consult National Grid to confirm whether or not this is the case.

SPECIFIC ACTIVITIES

No-Dig Techniques
Change in Cover
Piling
Seismic Surveys

Hot Work
Blasting
Demolition
Surface Mineral Extraction

Landfilling
Pressure Testing
Deep Mining
Wind and Solar Farms

CONSULT NATIONAL GRID

Consult National Grid prior to any backfilling over, alongside or under the pipeline and obtain National Grid's agreement to proceed. Normally National Grid requires 48 hours notice prior to backfilling - Section 9 of this document.

IMPORTANT: This flowchart should be used in conjunction with the entire SSW22 document and not in isolation, AND if at any time during the works the pipeline is damaged even slightly then observe the precautions in Section 10 of this document.

IF IN DOUBT CONTACT NATIONAL GRID

1 Scope

This specification sets out the safety precautions and other conditions affecting the design, construction and maintenance of services, structures and other works in the vicinity of National Grid pipelines and associated installations operating at pressures greater than 7 bar gauge, located in both negotiated easements (see Section 12) and public highways.

The principles of this document should also be observed when carrying out work in the vicinity of intermediate pressure mains (pipelines operating between 2 and 7 bar gauge). In some circumstances some of the requirements of the document, when applied to intermediate pressure mains, may be relaxed but only with the prior agreement of National Grid.

2 Formal consent

High pressure pipelines are generally laid across country within an easement agreed with the landowner or within the highway.

As the required arrangements for working within an easement and working within the highway differ, this document has been structured to highlight the specific requirements for these two types of area where work may be carried out.

In Scotland a 'Deed of Servitude', known generally as a 'wayleave' is considered equivalent to 'easement' in this document.

Generally, normal agricultural activities are not considered to affect the integrity of the pipeline, however consult National Grid prior to undertaking deep cultivation in excess of 0.5 m.

In all other cases no work shall be undertaken in the vicinity of the pipeline without the formal written consent of National Grid.

Any documents handed to contractors, or other individuals undertaking work (e.g. farmer, local authority etc), on site by National Grid, shall be signed for by the site manager. National Grid will record a list of these documents using the form in Appendix A, and the contractor or other individuals undertaking work should maintain a duplicate list.

2.1 Within an easement

The promoter of any works (see Section 12) within an easement shall provide National Grid with details of the proposed works including a method statement of how the work is intended to be carried out.

Work shall not go ahead until formal written consent has been given by National Grid. This will include details of National Grid's protection requirements, contact telephone numbers and the emergency telephone number.

On acceptance of National Grid's requirements the promoter of the works shall give National Grid 14 days notice, or shorter only if agreed with National Grid, before commencing work on site.

2.2 Within the highway

Work shall be notified to National Grid in accordance with the requirements of The New Roads and Street Works Act (NRSWA) and HS(G)47.

The promoter of any works within the highway should provide National Grid with details of the proposed works including a method statement of how the work is intended to be carried out. This should be submitted 14 days before the planned work is to be carried out, or shorter only if agreed with National Grid. If similar works are being carried out at a number of locations in close proximity a single method statement should be adequate.

Work should not go ahead until formal written consent has been given by National Grid. This will include details of National Grid's protection requirements, contact telephone numbers and the emergency telephone number.

3 HS&E considerations

3.1 Safe control of operations

All working practices shall be agreed by National Grid prior to work commencing. All personnel working on site shall be made aware of the potential hazard of the pipeline and the actions they should follow in case of an emergency. The Site Document Control Form (Appendix A) should be used to record the list of relevant documents that have been provided by National Grid to persons undertaking work at the site.

3.2 Deep excavations

Special consideration should be given to the hazards associated with deep excavations. The HSE document CIS08 'Safety in Excavations' provides further guidance and is available on the HSE web site www.hse.gov.uk

3.3 Positioning of plant

Mechanical excavators and any other powered mechanical plant shall not be sited or moved above the pipeline unless written authority has been given by the National Grid responsible person.

Mechanical excavators and any other powered mechanical plant shall not dig on one side of the pipeline with the cab of the excavator positioned on the other side.

Mechanical excavators, any other powered mechanical plant, and other traffic shall be positioned far enough away from the pipeline trench to prevent trench wall collapse.

3.4 General

Works in the vicinity of high pressure pipelines may have an impact on the safety of the general public, site workers, National Grid staff and contractors, and may affect the local environment. Anyone (e.g. contractors, site workers, farmers, local authorities etc.) working close to the pipeline shall carry out suitable and adequate risk assessments prior to the commencement of work to ensure that all such issues are properly considered and risks mitigated.

4. Pipeline locating

Where formal consent to work has been given, the third party should give 14 working days notice, or shorter, if agreed with National Grid, to ensure that the pipeline is suitably located and marked out by National Grid prior to the work commencing.

Before commencing work on site, the pipeline shall be located and pegged or suitably marked out by National Grid personnel using pipeline location markers with triangular flags (see Appendix B) to indicate the presence of the pipeline. In exceptional circumstances and only with the prior agreement of National Grid, the locating and marking out of the pipeline could be carried out by competent third parties as long as National Grid is assured of their competence and the procedures to be followed.

Safe digging practices, in accordance with HSE publication HS(G)47 should be followed as both direct and consequential damage to gas plant can be dangerous both to employees and to the general public.

Previously agreed working practices should be reviewed and revised based on current site conditions. Any changes shall be agreed by the National Grid responsible person.

The requirements for trial holes to locate the pipeline or determine levels at crossing points shall be determined on site by the National Grid responsible person.

The excavation of all trial holes shall be supervised by the National Grid responsible person.



5 Slabbing and other protective measures

No protective measures including the installation of concrete slab protection shall be installed over or near to the National Grid pipeline without the prior permission of National Grid. National Grid will need to approve the material, the dimensions and method of installation of the proposed protective measure. The method of installation shall be confirmed through the submission of a formal written method statement from the contractor to National Grid.

Where permanent slab protection is to be applied over the pipeline, National Grid will normally carry out a coating survey of the pipeline to check that there is no existing damage to the coating of the pipeline prior to the slab protection being put in place. National Grid shall therefore be given suitable advance notice (typically 14 working days) prior to the laying of any slab protection to arrange for them to carry out this survey.

The Safety precautions detailed in Sections 3 and 6 of this document should also be observed during the installation of the pipeline protection.



6 Excavation

6.1 In Proximity to a pipeline in an easement

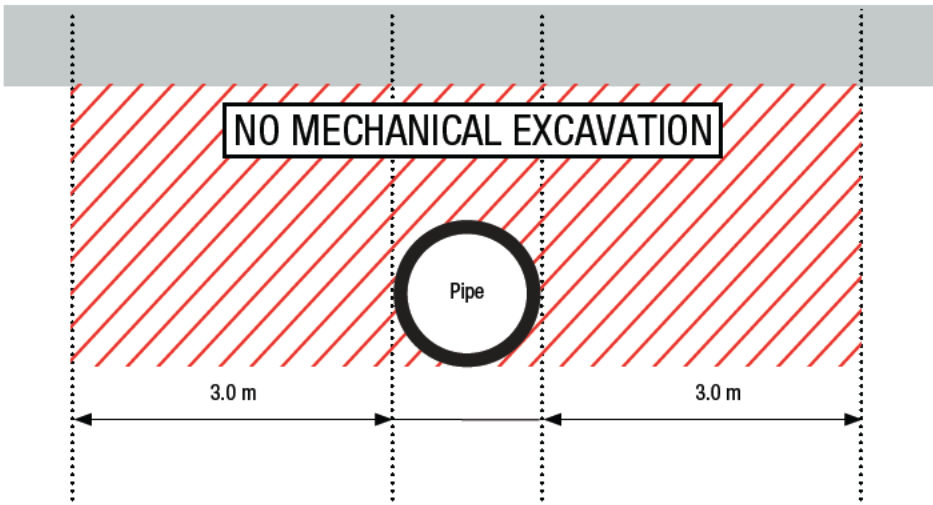
Third parties may excavate, unsupervised, with powered mechanical plant no closer than 3 metres to the National Grid pipeline as long as the pipeline has been clearly located and marked out by National Grid staff. Due to the potential of toothed excavator buckets to damage pipelines, toothless buckets shall be used. Any fitting, attachment or connecting pipework on the pipeline shall be exposed by hand. All other excavation shall be by hand.

Consideration may be given to a relaxation of these limits by agreement with the National Grid responsible person on site, provided the pipeline position has been confirmed by hand-dug trial holes and only whilst the National Grid responsible person remains on site.

Where sufficient depth of cover exists, following evidence from hand dug trial holes, light tracked vehicles may be permitted to strip topsoil to a depth of 0.25 metres, using a toothless bucket.

No topsoil or other materials shall be stored within the easement without the written permission of National Grid.

Figure 1. Excavation restrictions



No fires are allowed in the easement strip or close to above ground gas installations.

After the completion of the work the level of cover over the pipeline should be the same as that prior to work commencing, unless agreed otherwise with the National Grid responsible person.

No new service shall be laid parallel to the pipeline within the easement. In special circumstances, and only with formal written agreement from National Grid, this may be relaxed for short excursions where the service shall be laid no closer than 0.6 metres to the side of the pipeline.

Where work is being carried out parallel to the pipeline within or just alongside the easement a post and wire fence shall be erected as a protective barrier between the works and the pipeline.

National Grid may require that an easement crossing agreement (deed of indemnity) be completed by the third party prior to the commencement of work. This shall be discussed with the National Grid responsible person prior to the commencement of the works.

6.2 In proximity to a pipeline in the highway

Removal of the bituminous or concrete highway surface layer by mechanical means is permitted to a depth of 0.3 metres, although the use of chain trenchers to do this is not permitted within 3 metres of the pipeline. The National Grid responsible person may monitor this work.

Where the bituminous or concrete highway surface layer extends below 0.3 metres deep, it shall only be removed by handheld power assisted tools under the supervision of the National Grid responsible person. In exceptional circumstances, and following a risk assessment, these conditions may be relaxed by the National Grid responsible person.

Third parties may excavate, unsupervised, with powered plant mechanical plant no closer than 3 metres to the located National Grid pipeline. Any fitting or attachment shall be exposed by hand.

In special circumstances consideration may be given to a relaxation of these rules by agreement with the National Grid responsible person on site and only whilst they remain on site.

The use of 'No dig' techniques is covered in Section 8.1.

Any new service running parallel to the pipeline should be laid no closer than 0.6 metres to the side of the pipeline (see Section 6.4).

6.3 Crossing over a pipeline

Where a new service is to cross over the pipeline, a clearance distance of 0.6 metres between the crown of the pipeline and underside of the service should be maintained. If this cannot be achieved, the service shall cross below the pipeline, see section 6.4.

In special circumstances, this distance may be reduced at the discretion of the National Grid responsible person on site.

6.4 Crossing below a pipeline

Where a service is to cross below the pipeline, a clearance distance of 0.6 metres between the crown of the service and underside of the pipeline shall be maintained.

Where lengths of pipeline greater than one metre are to be exposed, the National Grid responsible person shall be consulted to establish any support requirements. Any supports shall be removed prior to backfilling.

The exposed pipeline/s shall be protected by matting and suitable timber cladding.



6.5 Cathodic protection

Cathodic Protection is applied to National Grid's buried steel pipelines and is a method of protecting pipelines from corrosion by maintaining an electrical potential the pipeline and anodes placed at strategic points along the pipeline.

Where a new service is to be laid and similarly protected, National Grid will undertake interference tests to determine whether the new service is interfering with the cathodic protection of the National Grid pipeline.

Should any cathodic protection posts or associated apparatus need moving to facilitate third party works, appropriate notice, at least 14 days, shall be given to National Grid. National Grid will undertake this work and any associated costs will be borne by the third party.

6.6 Installation of electrical equipment

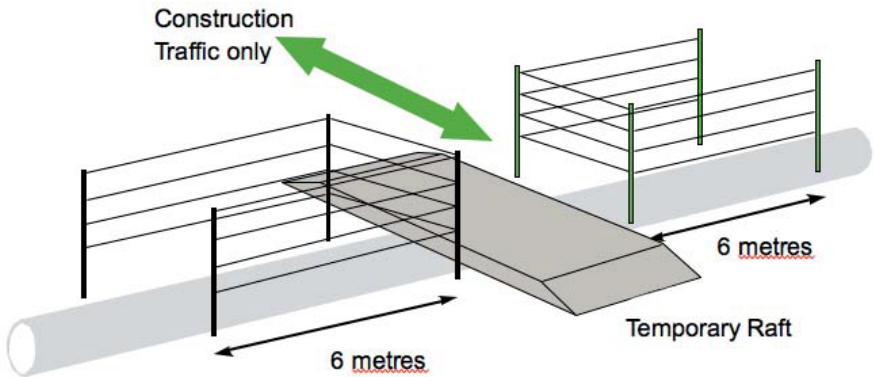
Where electrical equipment is being installed close to National Grid's buried steel pipelines, the effects of a rise of earth potential under fault conditions shall be considered by the third party and a risk assessment shall be submitted to National Grid for approval, prior to the works.

7 Construction traffic

Where existing roads cannot be used, construction traffic should ONLY cross the pipeline at previously agreed locations. All crossing points will be fenced on both sides with a post and wire fence and with the fence returned along the easement for a distance of 6 metres. The pipeline shall be protected, at the crossing points,

by temporary rafts constructed at ground level. The third party shall review ground conditions, vehicle types and crossing frequencies to determine the type and construction of the raft required. The type of raft shall be agreed with National Grid prior to installation.

Figure 2. Construction traffic requirements



8 Specific activities

This section details the precautions that need to be taken when carrying out certain prescribed activities in the vicinity of the pipeline. Consult National Grid if you are intending to undertake one of the listed prescribed activities and/or you require further advice on whether the work that you are intending to undertake has the potential to affect the pipeline.

The table below shows, for some specific activities, the prescribed distances within which the advice of National Grid shall be sought (see Sections 8.1 to 8.13 for further details):

Activity	Distance within which National Grid advice shall be sought
Piling	15 m
Surface Mineral Extraction	100 m
Landfilling	100 m
Demolition	150 m
Blasting	250 m
Deep Mining	1000 m
Wind Turbine	Not permitted within 1.5 times the turbine mast height from the nearest edge of a pipeline (please see www.ukopa.co.uk)

8.1 No-dig techniques

Where the third party (e.g. contractor, farmer, local authority, site worker etc.) intends using no dig techniques then a formal method statement shall be produced for all work that would encroach (either above or below ground) within the pipeline easement. This method statement shall be formally agreed with National Grid prior to the commencement of the work. National Grid may wish to be present when the work is being carried out and shall therefore be given adequate advance notice before the commencement of the work.

8.2 Changes to depth of cover

8.2.1 Increase in Cover

A pipeline integrity assessment shall be provided for situations involving a final cover depth exceeding 2.5 metres. This assessment should take due account of soil 'dead' loading, ground settlement due to earthworks and the impact of the increased cover on National Grid's ability to inspect and maintain the pipeline. Embankment design and construction over pipelines shall give consideration to prevention of any instability. Expert advice may need to be sought which can be arranged through National Grid.

8.2.2 Reduction in Cover

The depth of cover over National Grid's pipeline shall not be reduced. National Grid shall be consulted for any activity proposed that will lead to a reduction in cover over the pipeline. Expert advice may need to be sought which can be arranged through National Grid.

8.3 Piling

No piling shall be allowed within 15 metres of a pipeline without an assessment of the vibration levels at the pipeline. The peak particle velocity at the pipeline shall be limited to a maximum level of 75 mm/sec. Where the peak particle velocity is predicted to exceed 50 mm/sec, the ground vibration shall be monitored by the contractor and the results available to the National Grid responsible person at their request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the pipeline shall be made.

Expert advice may need to be sought which can be arranged through National Grid.

8.4 Demolition

No demolition should be allowed within 150 metres of a pipeline without an assessment of the vibration levels at the pipeline. The peak particle velocity at the pipeline shall be limited to a maximum level of 75 mm/sec. Where the peak particle velocity is predicted to exceed 50 mm/sec, the ground vibration shall be monitored by the contractor and the results available to the National Grid responsible person at their request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the pipeline shall be made.

Expert advice may need to be sought which can be arranged through National Grid.

8.5 Blasting

No blasting should be allowed within 250 metres of a pipeline without an assessment of the vibration levels at the pipeline. The peak particle velocity at the pipeline shall be limited to a maximum level of 75 mm/sec. Where the peak particle velocity is predicted to exceed 50 mm/sec, the ground vibration shall be monitored by the individual/company undertaking the work and the results available to the National Grid responsible person at their request.

Where ground conditions include silt or sand, an assessment of the effect of vibration on settlement and liquefaction at the pipeline shall be made.

Expert advice may need to be sought which can be arranged through National Grid.

8.6 Surface mineral extraction

An assessment shall be carried out on the effect of surface mineral extraction activity within 100 metres of a pipeline. Consideration should also be given to extraction around other pipeline associated plant and equipment.

Where the mineral extraction extends up to the pipeline easement, a stable slope angle and stand-off distance between the pipeline and slope crest

shall be determined by National Grid. The easement strip should be clearly marked by a suitable permanent boundary such as a post and wire fence, and where appropriate, slope indicator markers shall be erected to facilitate the verification of the recommended slope angle as the slope is formed, by the third party. The pipeline easement and slope needs to be inspected periodically to identify any signs of developing instability. This may include any change of slope profile including bulging, the development of tension cracks on the slope or easement, or any changes in drainage around the slope. The results of each inspection should be recorded.

Where surface mineral extraction activities are planned within 100 metres of the pipeline but do not extend up to the pipeline easement boundary, an assessment, by National Grid shall be made on whether the planned activity could promote instability in the vicinity of the pipeline. This may occur where the pipeline is routed across a natural slope or the excavation is deep. A significant cause of this problem is where the groundwater profile is affected by changes in drainage or the development of lagoons.

Where the extraction technique involves explosives the provisions of section 8.5 apply.

8.7 Deep Mining

Pipelines routed within 1 km of active deep mining may be affected by subsidence resulting from mineral extraction. The determination of protective or remedial measures will normally require expert assistance, which can be arranged through National Grid.

8.8 Landfilling

The creation of slopes outside of the pipeline easements may promote instability within the vicinity of the pipeline. An assessment should therefore be carried out, by National Grid, on the effect of any landfilling activity within 100 metres of a pipeline. The assessment is particularly important if landfilling operations are taking place on a slope in which the pipeline is routed.

8.9 Pressure testing

Hydraulic testing of a third party pipeline should not be permitted within 6 metres either side of a National Grid pipeline, to provide protection against the effects of a burst.

Where this cannot be achieved, typically where the third party pipeline needs to cross a National Grid pipeline, one of the following precautions would need to be adopted:

- a) limiting of the design factor of the third party pipeline to 0.3 at the pipeline's nominated maximum operating pressure (MOP), and the use of pre-tested pipe.
- or b) the use of sleeving.

In either case, the third party shall submit of their proposed precautions and method statement for National Grid consideration.

8.10 Seismic surveys

National Grid shall be advised of any seismic surveying work in the vicinity of pipeline that will result in National Grid's pipeline being subjected to peak particle velocities in excess of 50 mm/sec. The ground vibration near to the pipeline shall also be monitored by the contractor whilst the survey work is being carried out. Where the peak particle velocity is predicted to exceed 50 mm/sec, the ground vibration should be monitored by the contractor and the results available to the National Grid responsible person at their request.

8.11 Hot work

The National Grid responsible person on site should supervise all welding, burning or other 'hot work' that takes place within the easement.

8.12 Wind Turbines

Wind turbines shall not be sited any closer than 1.5 times the proposed height of the turbine mast away from the nearest edge of the pipeline.

8.13 Solar Farms

Solar Farms can be built adjacent to pipelines but never within the easement. Advice shall be sought from National Grid at the early stages of design to ensure that electrical interference, security, future access and construction methods can be mutually agreed.

9 Backfilling

No backfilling should be undertaken without National Grid agreement to proceed. The National Grid responsible person will stipulate the necessary consolidation requirements.

Individuals/Contractors/companies/organisations undertaking work shall provide National Grid with 48 hours notice, or shorter notice only if agreed with National Grid, of the intent to backfill over, under or alongside the pipeline. This requirement should also apply to any backfilling operations alongside the pipeline within 3 metres of the pipeline.

Minor damage to pipe coating and test leads will be repaired by National Grid free of charge.

Any damage to the pipeline or coating shall be reported to the National Grid responsible person in order that damage can be assessed and repairs can be carried out.

If the pipeline has been backfilled without the knowledge of the National Grid responsible person, they will require the material to be re-excavated in order to enable the condition of the pipeline coating to be confirmed.

10 Action in the case of damage to the pipeline

If the National Grid pipeline is damaged, even slightly, and even if no gas leak has occurred then the following precautions shall be taken immediately:-

- Shut down all plant and machinery and extinguish any potential sources of ignition.
- Evacuate all personnel from the vicinity of the pipeline.
- Notify National Grid using the free 24 hour emergency telephone number

0800 111 999*

***All calls are recorded and may be monitored**

- Notify the National Grid responsible person or his office immediately using the contact telephone number provided.

- Ensure no one approaches the pipeline.
- Do not try to stop any leaking gas.

11 References

NRSA	New Roads & Street Works Act
HS(G)47	HSE Guidance 'Avoiding Danger from Underground Services'
IGE/SR/18	Safe Working Practices to Ensure the Integrity of Gas Pipelines and Associated Installations (Institution of Gas Engineers)
CIS08	Safety in Excavations (HSE document – see HSE website www.hse.gov.uk)

12 Glossary of terms

Deed of Servitude: In Scotland a 'Deed of Servitude' is considered equivalent to 'easement' in this document.

Easement: Easements are negotiated legal entitlements between National Grid and landowner and allow National Grid to lay, operate and maintain pipelines within the easement strip. Easement strips may vary in width typically between 6 and 25 metres depending on the diameter and pressure of the pipeline. Consult National Grid for details of the extent of the easement strip where work is intended.

Liquefaction: Liquefaction is a phenomenon in which the strength and stiffness of the soil is reduced by earthquake shaking or other rapid loading. Liquefaction occurs in saturated soils, that is, soils in which the space between individual particles is completely filled with water. When liquefaction occurs, the strength of the soil decreases and the ability of the soil to support pipelines or other components is reduced.

Promoter of works: The person or persons, firm, company or authority for whom new services, structures or other works in the vicinity of existing National Grid pipelines and associated installations operating above 7 bar gauge are being undertaken.

National Grid responsible person:

The person or persons appointed by National Grid with the competencies required to act as the National Grid representative for the purpose of managing the particular activity

Wayleave: General term which is considered equivalent to 'easement' in this document.

Appendix A

Site Document Control Form - Sample

EMERGENCY TELEPHONE NO. 0800 111 999*		NATIONAL GRID
SITE DOCUMENT CONTROL FORM		
ACTIVITY REFERENCE:		
ACTIVITY LOCATION:		
SITE MANAGER:		
NATIONAL GRID CONTACT:		
THE FOLLOWING DOCUMENTS WERE ISSUED TO <i>(INDIVIDUAL'S NAME)</i> OF <i>(COMPANY NAME AND ADDRESS)</i> BY <i>(NATIONAL GRID REPRESENTATIVE)</i> ON <i>(DATE)</i> DOCUMENTS: <i>(LIST OF DOCUMENTS)</i>		
Signed: <i>(by the recipient)</i>		Date of signature:

* All calls are recorded and may be monitored

Site Document Control Form

EMERGENCY TELEPHONE NO. 0800 111 999*		NATIONAL GRID
SITE DOCUMENT CONTROL FORM		
ACTIVITY REFERENCE:		
ACTIVITY LOCATION:		
SITE MANAGER:		
NATIONAL GRID CONTACT:		
THE FOLLOWING DOCUMENTS WERE ISSUED TO		
OF		
BY		
ON (DATE)		
DOCUMENTS:		
Signed:		Date of signature:

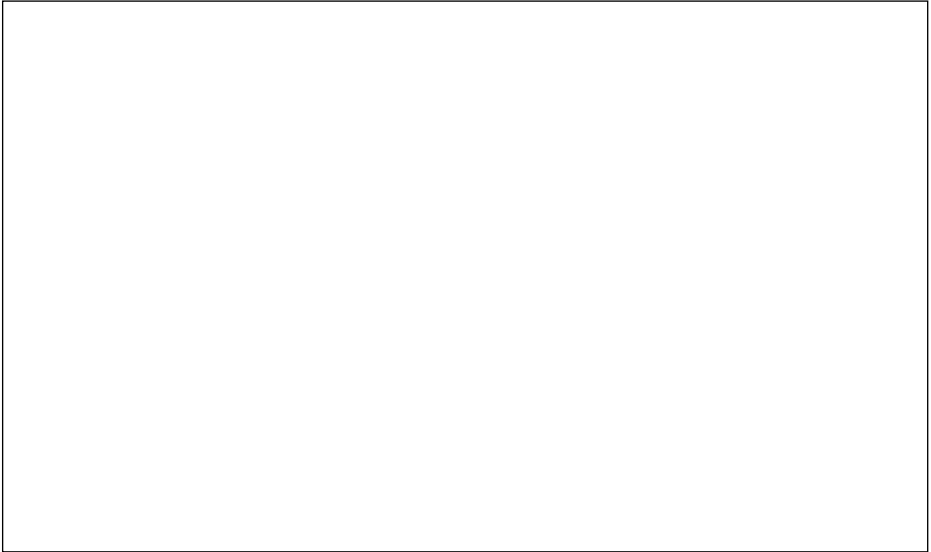
* All calls are recorded and may be monitored

Appendix B

Pipeline Location Flags



National Grid contact details:



EMERGENCY TELEPHONE NO.

0800 111 999*

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SELF SERVICE FOR PLANT ENQUIRIES:

www.beforeyoudig.cadentgas.com

This is a free online enquiry service giving results within minutes from a grid reference, postcode or street name. This site allows you to submit enquiries about activities and work that you are planning, which may have an impact on the National Grid Gas Distribution and Transmission Gas and Electricity Networks.

www.linesearchbeforeudig.co.uk

This is a free online enquiry service giving instant results from a grid reference, postcode or street name. If your result is within a National Grid zone of interest, you can click directly through to www.beforeyoudig.cadentgas.com

NOTE: Linesearch service is not available for all National Grid Pipelines. Therefore, please click on the National Grid link or call Plant Protection to ensure you have all the available information.

EMERGENCY

If you hit the pipeline, whether the damage is visible or not, or in the event of an emergency, call the National Gas Emergency Service immediately on

0800 111 999*

*CALLS WILL BE RECORDED
AND MAY BE MONITORED

Cadent Gas Plant Protection Team

☎ 0800 688 588*

✉ plantprotection@cadentgas.com

✉ Cadent Plant Protection Team

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Hinckley LE10 0NA

/SP/SSW/22
April 2014



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