From: Harris, Marney (NE)
Sent: 02/08/2017 12:24:59
To: Whitehead, Andrew (NE); Development Control
CC: Graham Megson
Subject: RE: FAO Helen Heward, Ref: H/2017/0344, Housing at land east of Easington Road
Attachments: D2017 00098145 EIA TO 2017 05 Hartville Meadow_Screening_notice_final as sent out_Redacted.pdf; 2017.06.07 Vegetation survey - Report Hartville Meadow.pdf; 2017.06.07 Vegetation survey - Report Hartville Meadow-Appendix 1.pdf; EIA TO 2017 05 Hartville Meadow Screening Notice Map.pdf

Dear Helen
Further to our response of 31 July 2017, I attach as addenda supporting information:

- the redacted* Screening Notice with associated map, served on 28 June 2017, which takes into consideration Natural England Grassland Specialist opinion on the land
- and the vegetation survey and appendix of Hartville Meadow conducted by Natural England on 7 June 2017.

This confirms the points made by Graham Megson of the action Natural England took after our investigation of a possible breach of the EIA (Agriculture) 2006 Regulations.

Although we did not determine a breach of the Regulations, there was evidence that the grassland was of environmental value and, despite recent disturbance, remains a valuable environmental resource. Hence the attached screening notice was served. This means that permission must be sought from Natural England before any further cultivation or restructuring project.

Natural England considers that the environmental evidence underpinning our action should usefully be recognised as a material consideration in determining this planning application.

Best Regards

Marney Harris

Lead Adviser
Northumbria Team
Natural England
Lancaster House, Hampshire Court
Newcastle upon Tyne
NE4 7YH
Tel: 02080265367

* *You will see within the attached document that names, signatures and contact details of private individuals have been removed as these are defined as personal information. Personal information is exempt from release as it engages Regulation 12(3) of the Environmental Information Regulations 2004. When names are collected from individuals by Natural England we do not inform them that the information will remain confidential or that it may be released, however, we believe that there is an expectation of confidentiality. The release of names and any subsequent contact may cause unnecessary or unjustified distress or damage to the individuals if released, and they have a reasonable expectation of confidence. Natural England is satisfied that the information withheld fits the definition of personal data and that its release would be 'unfair' under the meaning of the first Data Protection Principle and should not be released.*

In an effort to reduce Natural England's carbon footprint, I will, wherever possible, avoid travelling to meetings and attend via audio, video or web conferencing.

Natural England is accredited to the Cabinet Office Customer Service Excellence Standard

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From: Whitehead, Andrew (NE)
Sent: 31 July 2017 14:32
To: developmentcontrol@hartlepool.gov.uk
Cc: Graham Megson; Harris, Marney (NE)
Subject: FAO Helen Heward, Ref: H/2017/0344, Housing at land east of Easington Road

Dear Helen

Please find attached Natural England's response to the above referenced consultation.

<< File: 220748 H_2017_0344 - 45 dwellings at land east of Easington Lane, Hartlepool.pdf >>
Thank you

Regards

Andy Whitehead
Team Leader – Sustainable Development, Marine & Wildlife Licensing
Northumbria Area Team,
Natural England,
Lancaster House,
Hampshire Court,
Newcastle upon Tyne, NE4 7YH

Tel: 0208 0265533 / 07810 830633

Please note I work a 9 day fortnight, with alternate Fridays off.

www.gov.uk/naturalengland; Follow us on Twitter.

We are here to secure a healthy natural environment for people to enjoy, where wildlife is protected and England's traditional landscapes are safeguarded for future generations.

In an effort to reduce Natural England's carbon footprint, I will, wherever possible, avoid travelling to meetings and attend via audio, video or web conferencing.

Northumbria Area Team is accredited to the Cabinet Office Customer Service Excellence Standard.

We now offer free and chargeable advice to land owners and managers planning works on Sites of Special Scientific Interest through SSSI Advice Service.

To help Developers consider the environment Natural England offers two chargeable services:
- the Discretionary Advice Service (DAS) which can provide advice on planning/licensing proposals;
- the Pre-submission Screening Service (PSS) for European Protected Species mitigation licence applications.

SCREENING NOTICE

Environmental Impact Assessment (Agriculture) (England) (No 2) Regulations 2006 (as amended)

SI 2006 NO.2522

NOTICE UNDER REGULATION 6 PROVIDING THAT THRESHOLDS DO NOT APPLY TO "THE LAND"

Name and address of the person on whom the Notice is served:

[redacted]

Date of service: 28 June 2017

1. **THIS SCREENING NOTICE** is served by Natural England, of Foss House, Kings Pool, 1-2 Peasholme Green, York YO17 7PT ("Natural England") in exercise of their power under regulation 6 of the Environmental Impact Assessment (Agriculture) (England) (No 2) Regulations 2006 (as amended) ("The Regulations") to provide that thresholds do not apply to the land.

2. **THE LAND TO WHICH THIS SCREENING NOTICE RELATES**

Land within that known as Hartville Meadow at Hartlepool, Teesside, Grid Reference NZ 482-362 as outlined in red on the enclosed map ("the land"). The notice applies to the land outlined in red for either an uncultivated land project or a restructuring project.

3. **EIA PROJECT TO WHICH THIS SCREENING NOTICE APPLIES**

This Screening Notice applies to:

- both an uncultivated land project and restructuring project as defined in regulation 2(1) of the regulations

4. **REASONS FOR THE SERVICE OF THIS SCREENING NOTICE**

4.1 Natural England reasonably believes at the time of serving this Screening Notice that a project as set out in section 3 of the notice is likely to be carried out on the land. The reasons for this are:

Some work including ploughing has already been carried out on the land, which was hitherto uncultivated, and Natural England reasonably believes that having been ploughed once the land will be ploughed again or receive further treatments either now or in the future and that we are aware, from our correspondence with [redacted] that he may be about to carry out restructuring work on the land.

4.2 Natural England is of the opinion at the time of serving this Screening Notice that the land falls below the relevant threshold for the project detailed in section 3 of this notice, because the area of MG5 /species rich MG6 grassland is 1.359 Ha as shown on the enclosed plan which falls below the threshold for an uncultivated land project (two hectares) or a restructuring project (four kilometres or more of field boundaries; movements of 10,000 m3 or more of earth or other material; or otherwise restructure an area of 100 hectares or more) as set out in the Regulations.

4.3 Natural England considers that if the work were to be carried out, there would likely be significant effects on the environment in destroying species-rich priority grassland which is significant and relatively rare in the region and rare and declining nationally i.e. priority Lowland meadows habitat (MG5 grassland) possibly in a matrix with still species-rich but somewhat semi-improved grassland (species-rich MG6). The evidence for MG5 presence stems from the presence of species which one would not expect to occur in MG6 semi-improved grassland such as Lotus corniculatus, Carex flacca, Linum catharticum and Stachys (Betonica) officinalis. Despite some work already having been carried out, the area remains a valuable resource and capable of regeneration by virtue of plant re-establishment from surviving fragments of roots, rhizomes and from the soil seed bank.

5. THE EFFECT OF THIS SCREENING NOTICE

This screening notice provides that the thresholds set out in section 4 of this notice and detailed in the regulations do not apply to the land. This means that an application for a screening decision must be made to Natural England should an uncultivated land or restructuring project be planned on the land.

Proceeding without a screening decision or consent decision from Natural England is an offence under regulation 22 of the Regulations involving liability on summary conviction to a fine not exceeding the statutory maximum, or on conviction on indictment, to an unlimited fine.

6. WHEN THIS SCREENING NOTICE TAKES EFFECT

This Screening Notice takes immediate effect. The Screening Notice will cease to have effect if:

(a) Natural England removes, or the Secretary of State on appeal revokes the screening notice; or

(b) the expiry date of 28 June 2023 is reached; or

(c) A date, which is not shorter than the date of serving of the notice plus 5 years, is reached.

7. **RIGHT OF APPEAL**

You have the right of appeal against this Screening Notice under Regulation 31 of the Regulations. The grounds on which you can appeal are set out in Annex 1 of this notice. Any appeal against this Screening Notice must be served on the Secretary of State within 28 days of the date of service of this Screening Notice.

Signed:

Lead Adviser, Northumbria
on behalf of the
Area Manager, Northumbria
Natural England

Dated: 28 June 2017

ANNEX 1

APPEALS – HOW TO APPEAL

A person served has a right of appeal against a Screening Notice in accordance with Environmental Impact Assessment (Agriculture) (England) (No 2) Regulations 2006 (as amended).

An appeal under the EIA Regulations should be made to the Secretary of State for Defra, either by:

a) Sending an email to: EIA-Appeals@defra.gsi.gov.uk

b) or by writing to the following postal address:

Secretary of State
Department of Environment Food and Rural Affairs
Nobel House
Smith Square
LONDON SW1P 3JR

The appeal against a notice must be received by the Secretary of State **within 28 days of the date of service of the Screening Notice** and should include the following:

a) Details of the person making the appeal, a contact address and phone number, the address of the site

b) Enclose a copy of the Screening Notice being appealed against

c) State the grounds on which the appeal is being made. You may appeal if you believe any of the following apply:

- Natural England did not have the power to serve the Notice or include a particular requirement in it
- That there has been some material irregularity, defect or error in, or in connection with the notice; or
- Any of the requirements of the relevant notice are unreasonable.

Hartville Meadow

Grid reference: NZ 482 362

Vegetation survey – 7th June 2017

Environmental Impact Assessment (Agriculture) (England) (No. 2) (EIA) Regulations 2006

Reference: EIA TO 2017 05 Hartville Meadow, Hartlepool

A survey of the vegetation of the ploughed section of the field and of the unploughed margins was undertaken by Katherine Tonge and Marney Harris.

Contents

- Summary – Margin vegetation
- Summary – Ploughed area vegetation
- Methodology
- DAFOR scale
- Domin scale
- Results – Full species list and DAFOR for margins
- Results – Quadrats on margins
- Results – Full species list and DAFOR for ploughed area
- Results – Quadrats on ploughed area
- References
- Appendices

Summary

Please read the relevant documents relating to this EIA case for context. These can be found on TRIM http://trim/HPRMWebClientClassic/?uri=3098423&t=record&lang=ln_english&mbd=false.

Margin vegetation

Appendix 1 shows the zonation of vegetation types in the different margin as described in this section.

Significant parts of the northern, eastern and southern margins contain indicators of the MG5 (*Cynosurus cristatus-Centaurea nigra grassland)* found in the 2011 survey. No quadrats have resulted in a "good fit" to MG5 so it is not possible to confirm that this vegetative community was present in the centre of the field, but it would seem likely that indicators and, at the least, vegetation with elements of MG5, were present. The bulk of the alternative communities suggested by quadrat analysis, such as OV23 (*Lolium perenne-Dactylis glomerata* community) and MG1 (*Arrhenatherum elatius* grassland), tend to be communities indicative of neglect. There are two factors which may help to explain this:

- Previous surveys state that the field was grazed whereas a significant amount of *Arrhenatherum elatius* (false oat-grasses), which cannot tolerate grazing, was found, suggesting that there has been some change in the vegetation in recent years. There may have been a relaxation in grazing management either since it was ploughed or possibly beforehand too. However, it may also be the case that this more neglected form of vegetation has been present for a longer period of time.
- In some parts of the field, ploughing has taken place very close to the hedgerows (c30cm in some areas)

whilst 1-2m of vegetation remains in other parts. Because of the proximity to the boundary hedgerow, the vegetation is likely to be in transition to scrub vegetation. In addition, it is possible that the area next to the hedgerow was grazed less than the centre of the field even when grazing was taking place.

These factors also show that caution is required in extrapolating analysis of this margin vegetation at the current time in order to form assumptions about what was in the centre of the field.

There is strikingly different vegetation in the western margin. This margin is used as a vehicle route and therefore it is suspected that the variety between the wetter wheel ruts and the drier vegetation on higher ground prevents and good fit to an NVC community, with OV29 (*Alopecurus geniculatus-Rorippa palustris* community) and OV28 (*Agrostis stolonifera-Ranunculus repens* community) being the closest fit.

Similarly, the MG5 indicators are lost over most of the southern margin and the vegetation here represents a late stage MG1, possibly enriched and in transition to scrub vegetation.

The hedgerow is dominated by hawthorn and with a number of other species mixed in, including elder, crab apple, rose, blackthorn and sycamore.

Ploughed area vegetation

Unsurprisingly, none of the ploughed vegetation fits to any NVC community as it is a collection of plants which have appeared since the field was ploughed just months ago. The pioneer species are largely those which thrive on disturbance, such as *Fumaria officinalis* and *Ranunculus acris,* but some indicators of a meadow grassland community, particularly those found in the margins, are also appearing such as *Plantago lanceolata, Festuca rubra* and *Phleum pratense.* Most of the species occur only sparsely because of the high amount of bare ground still present in this area.

The meadow grassland indicators suggest that a return to grassland vegetation is possible, although the type of vegetation which becomes established will depend on a range of environmental factors (e.g. soil nutrient status, drainage) and management (e.g. whether grazing is re-introduced when vegetation cover is higher or whether species of neglect such as *Arrhenatherum elatius* take over more). There are also questions over whether the "weedy" species such as *Rumex obtusifolius* and *Cirsium arvense* will become dominant.

During the survey, a lapwing was displaying breeding behaviour (alarm calling and distraction behaviour).

Methodology

The Natural England operational guidance for EIA Field Assessments (March 2013) at (http://neintranettechnical/content/technical/docs/docs_13/2013_March_Field_Assessments_Guidance.pdf) was followed.

Ploughed area:

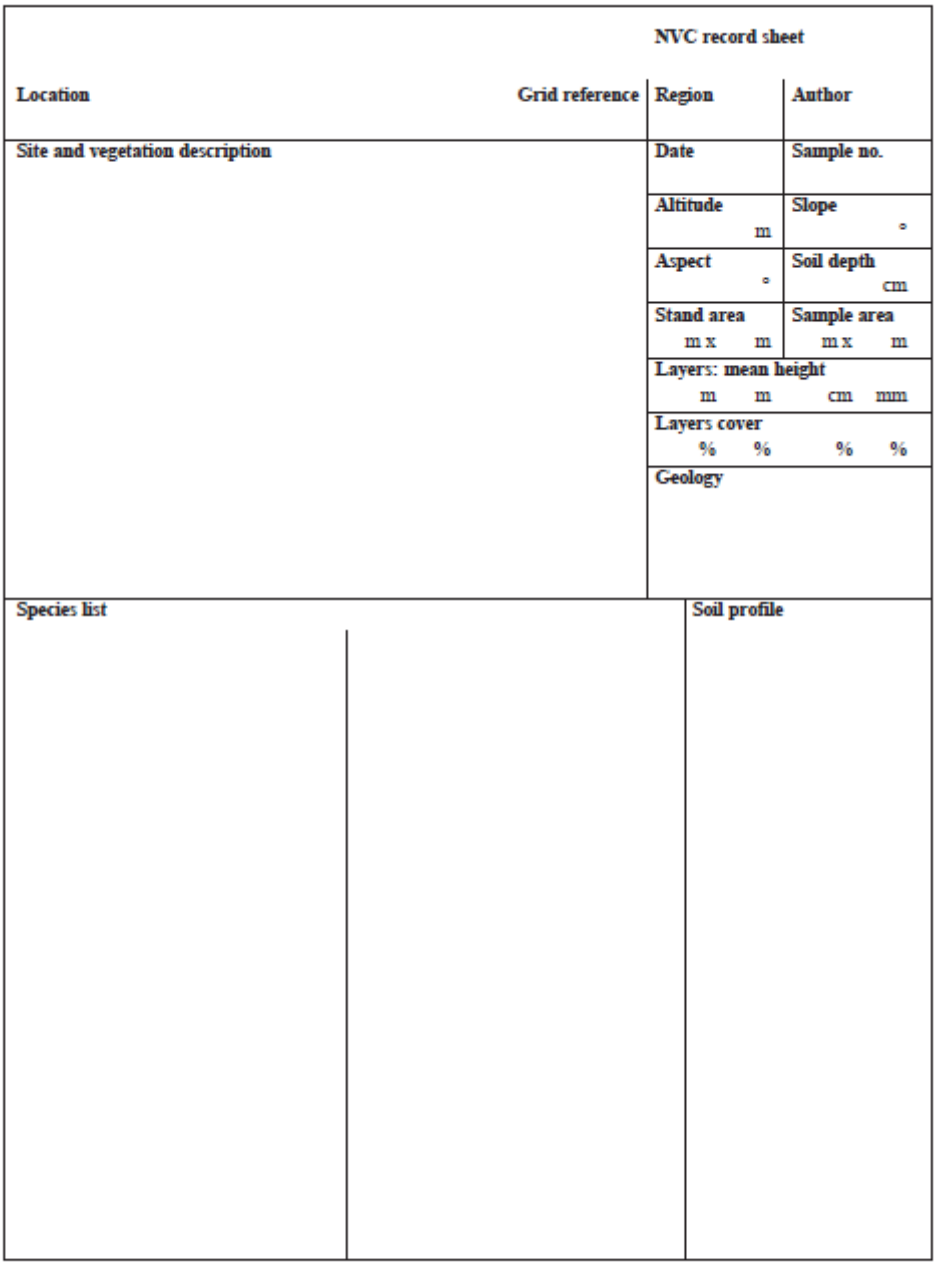
- Surveyors undertook a "W walk" to cover as much of the area as possible. A full list of species found and identified was compiled and the abundance of each species was estimated using DAFOR (see explanation below).
- Within three 2m x 2m quadrats (selected for being broadly representative of the surrounding vegetation), the NVC method of collecting quadrat vegetation was followed, identifying all species within the quadrats and estimating cover using the Domin scale (see explanation below). Sward heights were also taken and cover of bare ground and litter estimated. This was done using the form in Figure 3 in the National Vegetation Classification: Users' handbook (Rodwell 2006). This form is shown below.

Margins:

- The full extent of the margins was covered by a walk around the field. A full list of species found and identified was compiled and the abundance of each species was estimated using DAFOR (see explanation below).
- Within five 1m x 1m quadrats (selected for being broadly representative of the surrounding vegetation), the NVC method of collecting quadrat vegetation was followed, identifying all species within the quadrats and estimating cover using the Domin scale (see explanation below). Sward heights were also taken and cover of bare ground and litter estimated. This was done using the form in Figure 3 in the National Vegetation Classification: Users' handbook (Rodwell 2006). This form is show below. 2m x 2m quadrats were not possible because the margins were less than 2m wide in many areas.

Form used for NVC quadrat data collection (Figure 3 in the National Vegetation Classification: Users' handbook (Rodwell 2006)):

The form shows the information collected, which is included in the tables for quadrats 1-8 through this report. Where the quadrats had enough variation in structure, two average sward heights were recorded to represent the shorter and longer vegetation, and the percentage cover of each sward height estimated.



NVC record sheet

Location / Grid reference	Region	Author
Site and vegetation description	Date	Sample no.
	Altitude m	Slope °
	Aspect °	Soil depth cm
	Stand area m x m	Sample area m x m
	Layers: mean height m m cm mm	
	Layers cover % % % %	
	Geology	

Species list		Soil profile

Figure 3 A blank NVC sample card.

DAFOR scale

The DAFOR scale has no agreed quantitative meaning but was used for the full species lists to give an impression of the relative dominance of the different species present. Estimating percentage covers over such a large area is difficult and therefore becomes inaccurate.

- D = Dominant
- A = Abundant
- F = Frequent
- O = Occasional

- R = Rare

Domin scale

The National Vegetation Classification: Users' handbook (Rodwell 2006) recommends recording cover and abundance in quadrats using the Domin scale.

Cover	Domin
91–100%	10
76–90%	9
51–75%	8
34–50%	7
26–33%	6
11–25%	5
4–10%	4
<4% (many individuals)	3
<4% (several individuals)	2
<4% (few individuals)	1

Results – Full species list and DAFOR for margins

Species (scientific name)	Species (common name)	DAFOR
Achillea millefolium	Yarrow	**R**
Agrostis stolonifera	Creeping bent	**O**
Alopecurus geniculatus	Marsh foxtail	**R**
Alopecurus pratense	Meadow foxtail	**R**
Anthriscus sylvestris	Cow parsley	**R**
Arctium minus	Lesser burdock	**R**
Bellis perennis	Daisy	**R**
Blackstonia perfoliata	Yellow-wort	**R**
Brachypodium sylvaticum	False brome	**R**
Centaurea nigra	Common knapweed	**F**
Cerastium fontanum	Common Mouse-ear	**R**
Cirsium arvense	Creeping thistle	**F**
Cynosurus cristatus	Crested dog's-tail	**O**
Dactylis glomerata	Cock's-foot	**A**
Dactylorhiza fuchsii	Common-spotted orchid	**R**
Equisetum arvense	Field horsetail	**R**
Festuca rubra	Red fescue	**O**
Galium aparine	Goosegrass	**R**
Geranium dissectum	Cut-leaved crane's-bill	**R**
Geranium molle	Dove's-foot crane's-bill	**R**
Heracleum sphondylium	Hogweed	**F**
Holcus lanatus	Yorkshire-fog	**R**
Hypochaeris radicata	Cat's-ear	**R**
Kindbergia praelonga	A moss	**R**
Knautia arvensis	Field scabious	**R**
Lathyrus pratensis	Meadow vetchling	**R**
Leontodon autumnalis	Autumn hawkbit	**R**
Linum catharticum	Fairy flax	**R**
Lolium perenne	Perennial rye-grass	**O**
Lotus corniculatus	Bird's-foot trefoil	**O**
Medicago lupulina	Black medick	**R**
Odontites vernus	Red bartsia	**R**
Phleum pratense	Timothy	**R**
Plantago lanceolata	Ribwort plantain	**A**
Plantago major	Greater plantain	**R**

Poa pratensis	Smooth meadow-grass	**R**
Poa trivialis	Rough meadow-grass	**F**
Polygonum aviculare	Knotgrass	**R**
Potentilla reptans	Creeping cinquefoil	**R**
Primula veris	Cowslip	**R**
Prunella vulgaris	Self-heal	**R**
Ranunculus acris	Meadow buttercup	**O**
Ranunculus repens	Creeping buttercup	**O**
Rubus fruticosa agg.	Bramble	**R**
Rumex acetosa	Common sorrel	**R**
Rumex crispus	Curled dock	**R**
Rumex obtusifolia	Broad-leaved dock	**R**
Sagina procumbens	Procumbent pearlwort	**R**
Schedonorus pratensis	Meadow fescue	**O**
Senecio jacobaea	Common ragwort	**R**
Sonchus asper	Prickley sow-thistle	**R**
Stachys officinalis	Betony	**R**
Taraxacum agg.	Dandelion	**R**
Tragopogon pratensis	Goat's-beard	**R**
Trisetum flavescens	Yellow oat-grass	**R**
Trifolium pratense	Red clover	**F**
Trifolium repens	White clover	**R**
Tripleurospermum inodorum	Scentless mayweed	**R**
Urtica dioica	Stinging nettle	**R**
Veronica chamaedrys	Germander speedwell	**R**
Veronica serpyllifolia	Thyme-leaved speedwell	**R**
Vicia cracca	Tufted vetch	**R**
Vicia sativa	Common vetch	**R**
Vicia sepium	Bush vetch	**R**

Results – Quadrats on margins

Quadrat 1

Location	NZ 48237 36297 (to 3m accuracy)	Slope	5°	Aspect	S
	Average sward height (1)	40cm	Average sward height (1) cover		30%
	Average sward height (2)	7.5cm	Average sward height (2) cover		70%
	Bare ground cover	0.5%	Litter cover		5%
Description of area within and around quadrat: Margin between hedge and ploughed area so some crossover with some transitional vegetation (e.g *Rubus fruticosus agg.*). Herb-rich with constant but sparse *Lolium perenne*. Occasional opens out into a shorter sward with no *Lolium perenne* and an extra suite of species such as *Lotus corniculatus, Linum catharticum* and *Odontites vernus.*					

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	1
Centaurea nigra	Common knapweed	4
Cerastium fontanum	Common Mouse-ear	2
Cirsium arvense	Creeping thistle	1
Cynosurus cristatus	Crested dog's-tail	1
Dactylis glomerata	Cock's-foot	2
Equisetum arvense	Field horsetail	1
Festuca rubra	Red fescue	1
Geranium dissectum	Cut-leaved crane's-bill	1
Heracleum sphondylium	Hogweed	1
Holcus lanatus	Yorkshire-fog	1
Lolium perenne	Perennial rye-grass	5
Phleum pratense	Timothy	1

Plantago lanceolata	Ribwort plantain	5
Plantago major	Greater plantain	1
Poa trivialis	Rough meadow-grass	3
Potentilla reptans	Creeping cinquefoil	5
Ranunculus acris	Meadow buttercup	1
Ranunculus repens	Creeping buttercup	4
Rubus fruticosa agg.	Bramble	1
Senecio jacobaea	Common ragwort	1
Trifolium pratense	Red clover	1
Trifolium repens	White clover	4
Urtica dioica	Stinging nettle	1
Vicia cracca	Tufted vetch	1
Vicia sativa	Common vetch	1

Photo 1. Quadrat 1

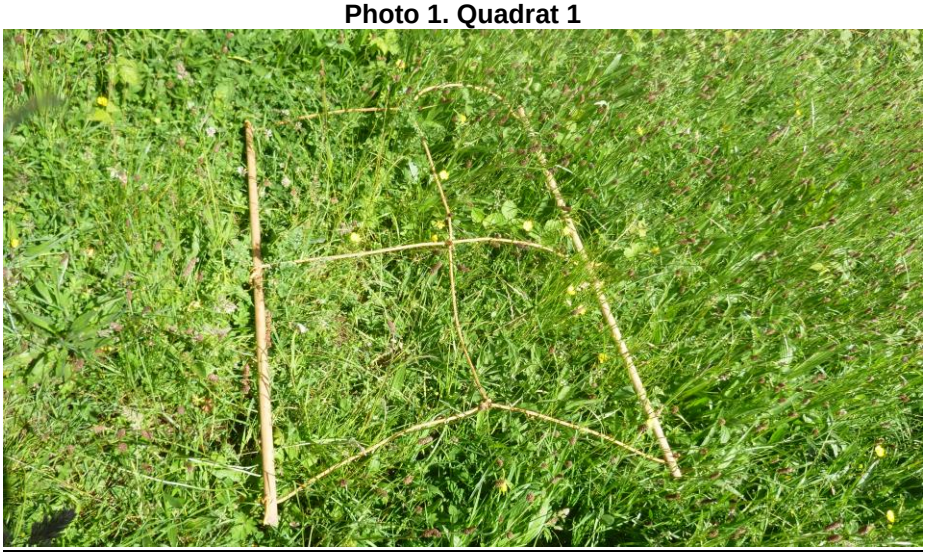


Photo 2. Quadrat 1 location

Quadrat 1 – NVC Assessment

Tablefit suggestions	Goodness of fit	Comments
OV23c *Lolium perenne-Dactylis glomerata* community, *Plantago major-Trifolium repens* sub-community	52 (poor)	The lack of a "good fit" to an NVC community is likely to be reflecting the variation in the vegetation due to its proximity to the hedge line. OV23c is a vegetation type often found on verges or where there is a degree of neglect and more Taraxacum agg. and Poa annua would be
OV23 Lolium perenne-Dactylis glomerata community	46 (very poor)	
MG5a *Cynosurus cristatus-Centaurea nigra*	46 (very poor)	

grassland, *Lathyrus pratensis* sub-community		expected for a better fit. MG5a indicators come in the form of Centaurea nigra, Cynosurus cristatus and Festuca rubra, so the vegetation could potentially represent an MG5 sward which has been impacted by a lack of cutting or grazing management.
MG6a *Lolium perenne-Cynosurus cristatus* grassland, typical sub-community	45 (very poor)	
MG6 *Lolium perenne-Cynosurus cristatus* grassland	44 (very poor)	

Quadrat 2

Location	NZ 48145 36193 (to 4m accuracy)	Slope	5°	Aspect	S
	Average sward height (1)	34cm	Average sward height (1) cover		25%
	Average sward height (2)	3.4cm	Average sward height (2) cover		75%
	Bare ground cover	10%	Litter cover		0%
Description of area within and around quadrat: The western margin has obviously been used as a track in the past and has a higher proportion of "weedy" species or species associated with disturbance as a result. There is an open sward but not the species richness of the northern and eastern margins.					

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	3
Alopecurus geniculatus	Marsh foxtail	5
Cynosurus cristatus	Crested dog's-tail	1
Festuca rubra	Red fescue	2
Kindbergia praelonga	A moss	1
Leontodon autumnalis	Autumn hawkbit	1
Lolium perenne	Perennial rye-grass	2
Odontites vernus	Red bartsia	2
Phleum pratense	Timothy	1
Plantago lanceolata	Ribwort plantain	1
Plantago major	Greater plantain	4
Poa trivialis	Rough meadow-grass	4
Prunella vulgaris	Self-heal	1
Ranunculus repens	Creeping buttercup	5
Rumex acetosa	Common sorrel	1
Rumex crispus	Curled dock	1
Sagina procumbens	Procumbent pearlwort	2
Trifolium repens	White clover	1

Photo 3. Quadrat 2

Photo 4. Quadrat 2 location

Quadrat 2 – NVC Assessment

Tablefit suggestions	Goodness of fit	Comments
OV29 *Alopecurus geniculatus-Rorippa palustris* community	39 (very poor)	The fit to OV29 and OV28a, which are both inundation communities, is most likely to relate to the wheel ruts which were visible all along this margin. The poor fit to any community therefore likely reflects (at least in part) the variety between ruts and drier areas. Indicators for MG grassland types were much sparser and as a long-term vehicle route it is likely that this side of the field has been "weedier" for a longer period of time than the northern margin.
OV28a *Agrostis stolonifera-Ranunculus repens* community, *Polygonum hydropiper-Rorippa sylvestris* sub-community	38 (very poor)	
OV21c *Poa annua-Plantago major* community, *Polygonum aviculare-Ranunculus repens* sub-community	34 (very poor)	
OV28 *Agrostis stolonifera-Ranunculus repens* community	33 (very poor)	
MG10c *Holcus lanatus-Juncus effusus* rush-pasture	31 (very poor)	

Quadrat 3

Location	NZ 48213 36175 (to 4m accuracy)	Slope	0°	Aspect	N/A
	Average sward height (1)	40cm	Average sward height (1) cover		100%
	Bare ground cover	0%	Litter cover		0%
Description of area within and around quadrat: Southern margin. Very tall and rank grassland with a sward indicative of high nutrient levels. *Dactylis glomerata, Cirsium arvense* and *Poa trivialis* are dominant. A much more closed sward than the other margins.					

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	2
Cerastium fontanum	Common Mouse-ear	1
Cirsium arvense	Creeping thistle	5
Cynosurus cristatus	Crested dog's-tail	4
Dactylis glomerata	Cock's-foot	4
Heracleum sphondylium	Hogweed	6
Kindbergia praelonga	A moss	3
Lathyrus pratensis	Meadow vetchling	2
Plantago lanceolata	Ribwort plantain	1
Poa trivialis	Rough meadow-grass	5
Ranunculus repens	Creeping buttercup	4
Schedonorus pratensis	Meadow fescue	2
Taraxacum agg.	Dandelion	1

Veronica chamaedrys	Germander speedwell	1

Photo 5. Quadrat 3

Photo 6. Quadrat 3 location

Quadrat 3 – NVC Assessment

Tablefit suggestions	Goodness of fit	Comments
MG1a *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community	35 (very poor)	Though lacking *Arrhenatherum elatius,* this sward covering the majority of the southern margin may represent a "late stage" version of MG1 habitat where a lack of grazing or cutting has resulted in a dominance of *Heracleum sphondylium* and *Dactylis glomerata.* The sward could also be seen as a transition to the scrub vegetation at the boundary (and visible on the photographs above). The thickness of the sward might have been encouraged by horse manure, with this end of the field being referred to locally as a "horse toilet", but with no grazing this year, it is difficult to know for certain whether this is the case.
MG9a *Holcus lanatus-Deschampsia cespitosa* grassland, *Poa trivialis* sub-community	34 (very poor)	
MG1 *Arrhenatherum elatius* grassland	34 (very poor)	
OV23b *Lolium perenne-Dactylis glomerata* community, *Crepis vesicaria-Rumex obtusifolius* sub-community	31 (very poor)	
MG1c *Arrhenatherum elatius* grassland, *Filipendula ulmaria* sub-community	30 (very poor)	

Quadrat 4

Location	NZ 48329 36237 (to 4m accuracy)	Slope	20°	Aspect	S
	Average sward height (1)	14cm	Average sward height (1) cover		50%
	Average sward height (2)	8cm	Average sward height (2) cover		50%
	Bare ground cover	10%	Litter cover		3%
Description of area within and around quadrat: Similar to quadrat 1 location but an example of the more open swards in the south-eastern corner of the field which form a part of the more species rich sections of the margins (see map – SPECIFY). It is possible that historically this area has been kept open by use of a footpath which used to run through this section of the field.					

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	4
Anthriscus sylvestris	Cow parsley	1
Blackstonia perfoliata	Yellow-wort	1
Centaurea nigra	Common knapweed	1
Cerastium fontanum	Common Mouse-ear	1
Cynosurus cristatus	Crested dog's-tail	4
Dactylis glomerata	Cock's-foot	2
Festuca rubra	Red fescue	4
Heracleum sphondylium	Hogweed	1
Holcus lanatus	Yorkshire-fog	1
Linum catharticum	Fairy flax	3
Lolium perenne	Perennial rye-grass	2
Odontites vernus	Red bartsia	1
Plantago lanceolata	Ribwort plantain	4
Poa pratensis	Smooth meadow-grass	1
Potentilla reptans	Creeping cinquefoil	6
Prunella vulgaris	Self-heal	1
Ranunculus acris	Meadow buttercup	2
Taraxacum agg.	Dandelion	1
Trifolium pratense	Red clover	5

Photo 7. Quadrat 4

Photo 8. Quadrat 4 location

Quadrat 4 – NVC Assessment

Tablefit suggestions	Goodness of fit
MG5a *Cynosurus cristatus-Centaurea nigra* grassland, *Lathyrus pratensis* sub-community	50 (poor)
MG5 *Cynosurus cristatus-Centaurea nigra* grassland	48 (very poor)
MG4 *Alopecurus pratensis-Sanguisorba officinalis* grassland	45 (very poor)
MG5b *Cynosurus cristatus-Centaurea nigra* grassland, *Galium verum* sub-community	44 (very poor)
MG6 *Lolium perenne-Cynosurus cristatus* grassland	38 (very poor)

Quadrat 5

Location	NZ 48324 36266 (to 4m accuracy)	Slope	15°	Aspect	S
	Average sward height (1)	27cm	Average sward height (1) cover		40%
	Average sward height (2)	9.5cm	Average sward height (2) cover		60%
	Bare ground cover	1%	Litter cover		15%
Description of area within and around quadrat: Similar to quadrat 1 location but an example of the longer swards next to the hedgerow. *Lotus corniculatus* was locally frequent along this eastern margin.					

Species (scientific name)	Species (common name)	DOMIN score
Achillea millefolium	Yarrow	2
Agrostis stolonifera	Creeping bent	4
Centaurea nigra	Common knapweed	4
Cerastium fontanum	Common Mouse-ear	1
Dactylis glomerata	Cock's-foot	4
Festuca rubra	Red fescue	4
Heracleum sphondylium	Hogweed	1
Holcus lanatus	Yorkshire-fog	1
Lolium perenne	Perennial rye-grass	3
Lotus corniculatus	Bird's-foot trefoil	2
Medicago lupulina	Black medick	1

Plantago lanceolata	Ribwort plantain	2
Poa trivialis	Rough meadow-grass	3
Potentilla reptans	Creeping cinquefoil	4
Prunella vulgaris	Self-heal	1
Ranunculus acris	Meadow buttercup	2
Rubus fruticosa agg.	Bramble	1
Trifolium pratense	Red clover	4
Trifolium repens	White clover	1
Trisetum flavescens	Yellow oat-grass	3

Photo 9. Quadrat 5

Photo 10. Quadrat 5

Quadrat 5 – NVC Assessment

Tablefit suggestions	Goodness of fit
MG1e *Arrhenatherum elatius* grassland, *Centaurea nigra* sub-community	54 (poor)
MG5 *Cynosurus cristatus-Centaurea nigra* grassland	52 (poor)
MG5a *Cynosurus cristatus-Centaurea nigra* grassland, *Lathyrus pratensis* sub-	52 (poor)

community	
OV23d *Lolium perenne-Dactylis glomerata* community, *Arrhenatherum elatius-Medicago lupulina* sub-community	51 (poor)
MG5b *Cynosurus cristatus-Centaurea nigra* grassland, *Galium verum* sub-community	50 (poor)

Results – Full species list and DAFOR for ploughed area

Species (scientific name)	Species (common name)	DAFOR
Achillea millefolium	Yarrow	**R**
Agrostis capillaris	Common bent	**R**
Agrostis stolonifera	Creeping bent	**O**
Anagallis arvensis	Scarlet pimpernel	**R**
Anthriscus sylvestris	Cow parsley	**R**
Arrhenatherum elatius	False oat-grass	**R**
Bellis perennis	Daisy	**R**
Carex flacca	Glaucous sedge	**R**
Carex nigra	Common sedge	**R**
Centaurea nigra	Common knapweed	**R**
Cerastium fontanum	Common mouse-ear	**R**
Chenopodium album	Fat-hen	**R (LF)**
Cirsium arvense	Creeping thistle	**R**
Cirsium vulgare	Spear thistle	**R**
Crataegus monogyna	Hawthorn	**R**
Cynosurus cristatus	Crested dog's-tail	**R**
Dactylis glomerata	Cock's-foot	**R**
Dactylorhiza fuchsii	Common-spotted orchid	**R**
Epilobium montanum	Broad-leaved willowherb	**R**
Equisetum arvense	Field horsetail	**R**
Euphorbia amygdaloides	Wood spurge	**R**
Festuca rubra	Red fescue	**R**
Fumaria officinalis	Common fumitory	**O (LF)**
Galium aparine	Goosegrass	**R**
Geranium dissectum	Cut-leaved crane's-bill	**R**
Geranium molle	Dove's-foot crane's-bill	**R**
Heracleum sphondylium	Hogweed	**O**
Holcus lanatus	Yorkshire-fog	**R**
Hypochaeris radicata	Cat's-ear	**R**
Lamium purpureum	Red dead-nettle	**R**
Lathyrus pratensis	Meadow vetchling	**R**
Leontodon autumnalis	Autumn hawkbit	**R**
Lolium perenne	Perennial rye-grass	**R**
Lotus corniculatus	Bird’s-foot-trefoil	**R**
Persicaria maculosa	Redshank	**R**
Phleum pratense	Timothy	**R**
Plantago lanceolata	Ribwort plantain	**R**
Poa trivialis	Rough meadow grass	**R**
Polygonum aviculare	Knotgrass	**R (LF)**
Potentilla anserina	Silverweed	**R**
Potentilla reptans	Creeping cinquefoil	**R**
Primula veris	Cowslip	**R**
Prunella vulgaris	Self-heal	**R**
Ranunculus acris	Meadow buttercup	**R**
Ranunculus repens	Creeping buttercup	**R**
Rosa spp.	A rose	**R**
Rubus fruticosus agg.	Bramble	**R**
Rumex acetosa	Common sorrel	**R**
Rumex obtusifolia	Broad-leaved dock	**R**

Schedonorus pratensis	Meadow fescue	**R**
Senecio erucifolius	Hoary ragwort	**R**
Sinapsis arvensis	Charlock	**O**
Sonchus asper	Prickley sow-thistle	**R**
Taraxacum agg.	Dandelion	**R**
Tragopogon pratensis	Goat's-beard	**R**
Trifolium pratense	Red clover	**R**
Veronica chamaedrys	Germander speedwell	**R**
Vicia cracca	Tufted vetch	**R**
	A bindweed	**R**

Results – Quadrats on ploughed area

Quadrat 6

Location	NZ 48240 36235 (to 4m accuracy)	Bare ground cover	60%
Average sward height (not including bare ground)	18cm	Litter cover	0%
Estimated slope	10°	Aspect	South

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	**3**
Arrhenatherum elatius	False oat-grass	**1**
Cirsium arvense	Creeping thistle	**1**
Fumaria officinalis	Common fumitory	**4**
Geranium molle	Dove's-foot crane's-bill	**1**
Heracleum sphondylium	Hogweed	**1**
Phleum pratense	Timothy	**2**
Plantago lanceolata	Ribwort plantain	**1**
Ranunculus acris	Meadow buttercup	**1**
Rumex obtusifolia	Broad-leaved dock	**4**
Taraxacum agg.	Dandelion	**1**

Photo 11. Quadrat 6

Quadrat 6 – NVC Assessment

Tablefit suggestions	Goodness of fit

MG1a *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community	31 (very poor)
MG1 *Arrhenatherum elatius* grassland	24 (very poor)
OV25 *Urtica dioica-Cirsium arvense* community	21 (very poor)
OV23b *Lolium perenne-Dactylis glomerata* community, *Crepis vesicaria-Rumex obtusifolius* sub-community	19 (very poor)
OV23 *Lolium perenne-Dactylis glomerata* community	18 (very poor)

Quadrat 7

Location	NZ 48268 36240	Bare ground cover	80%
Average sward height (not including bare ground)	10cm	Litter cover	0%
Estimated slope	5°	Aspect	S

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	**3**
Cirsium arvense	Creeping thistle	**1**
Dactylis glomerata	Cock's-foot	**1**
Equisetum arvense	Field horsetail	**1**
Fumaria officinalis	Common fumitory	**2**
Heracleum sphondylium	Hogweed	**2**
Phleum pratense	Timothy	**4**
Plantago lanceolata	Ribwort plantain	**1**
Prunella vulgaris	Self-heal	**1**
Ranunculus acris	Meadow buttercup	**1**
Senecio erucifolius	Hoary ragwort	**1**
Sonchus asper	Prickley sow-thistle	**1**

Photo 12. Quadrat 7

Photo 13. Quadrat 7 location

Quadrat 7 – NVC Assessment

Tablefit suggestions	Goodness of fit	Comments
MG1a *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community	21 (very poor)	
OV25 *Urtica dioica-Cirsium arvense* community	20 (very poor)	
OV25a *Urtica dioica-Cirsium arvense* community, *Holcus lanatus-Poa annua* sub-community	17 (very poor)	
W24a *Rubus fruticosus-Holcus lanatus* underscrub	16 (very poor)	
MG1 *Arrhenatherum elatius* grassland	16 (very poor)	

Quadrat 8

Location	NZ 48190 36180 (6m accuracy)	Bare ground cover	90%
Average sward height (not including bare ground)	13cm	Litter cover	0%
Estimated slope	10°	Aspect	South

Species (scientific name)	Species (common name)	DOMIN score
Agrostis stolonifera	Creeping bent	**3**
Anagallis arvensis	Scarlet pimpernel	**3**
Arrhenatherum elatius	False oat-grass	**2**
Cirsium arvense	Creeping thistle	**2**
Crataegus monogyna	Hawthorn	**1**
Cynosurus cristatus	Crested dog's-tail	**2**
Festuca rubra	Red fescue	**2**
Heracleum sphondylium	Hogweed	**4**
Holcus lanatus	Yorkshire-fog	**1**
Hypochaeris radicata	Cat's-ear	**1**
Plantago lanceolata	Ribwort plantain	**1**
Prunella vulgaris	Self-heal	**1**
Ranunculus repens	Creeping buttercup	**1**
Senecio jacobaea	Common ragwort	**1**
Sinapsis arvensis	Charlock	**2**
Taraxacum agg.	Dandelion	**1**

Photo 14. Quadrat 8

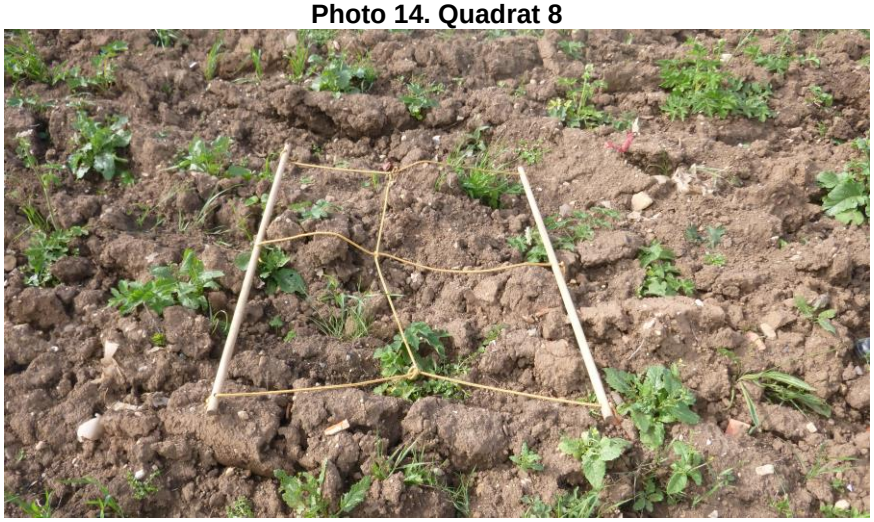


Photo 15. Quadrat 8 location

Quadrat 8 – NVC Assessment

Tablefit suggestions	Goodness of fit
MG1 *Arrhenatherum elatius* grassland	31 (very poor)
MG1a *Arrhenatherum elatius* grassland, *Festuca rubra* sub-community	31 (very poor)
W24a *Rubus fruticosus-Holcus lanatus* underscrub, *Cirsium arvense-Cirsium vulgare* sub-community	26 (very poor)
W24b *Rubus fruticosus-Holcus lanatus* underscrub, *Arrhenatherum elatius-Heracleum sphondylium* sub-community	26 (very poor)
W24 *Rubus fruticosus-Holcus lanatus* underscrub	25 (very poor)

References

HILL, M. 1993 (revised 1996, 2011, 2015). Tablefit Version 2 – A program to identify types of vegetation by measuring goodness-of-fit to association tables

RODWELL, J.S. 2006. National Vegetation Classification: Users' handbook. JNCC [online] URL: http://jncc.defra.gov.uk/pdf/pub06_NVCusershandbook2006.pdf

RODWELL, J.S. and others, 1998. *British Plant Communities.* Vol 3. Grasslands and montane communities. Cambridge University Press.

RODWELL, J.S. and others, 2001. *British Plant Communities.* Vol 5. Maritime communities and vegetation of open habitats. Cambridge University Press.

RODWELL, J.S. and others, 2003. *British Plant Communities.* Vol 1. Woodlands and scrub. Cambridge University Press.

Appendices

Appendix 1 – Map of vegetation zones, ploughed area and quadrat locations

Appendix 2 – Soil sample results

Hartville Meadow

Vegetation survey - 7th June 2017

Appendix 1

Legend

- Quadrats

Margin_Vegetation_Zones

Veg_zone

- Southern margin
- Vegetation containing aspects of MG5
- Western margin
- Ploughedarea

Aerial Photography for Great Britain

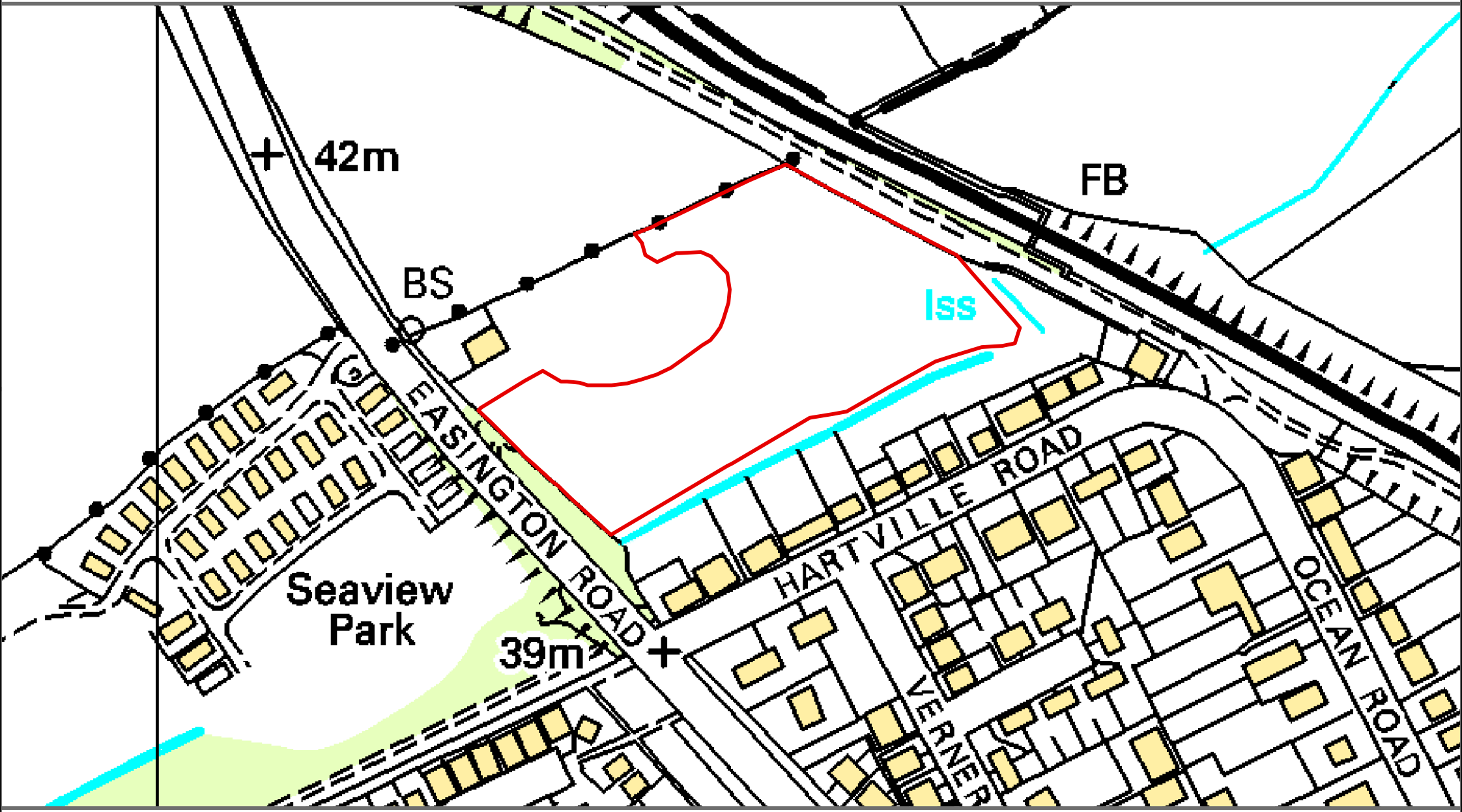
Scale (at A4): 1:1,340

NATURAL ENGLAND

Map produced by Natural England
June 2017

The Environmental Impact Assessment (Agriculture) (England) (No.2) (Amendment) Regulations 2017

Hartville meadow Screening Notice



Screening notice boundary

1:2,000

0 50 100 200 Meters

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