3. SCOPE OF STUDY.

This report details the results of our investigations into the mining stability of the above site. Our report and conclusions has been based on a desk study.

It is intended to construct three new dwelling houses within the site boundaries.

4. DESK STUDY.

The desk study comprised an examination and study of the following maps and publications.

1. The Geological Survey of Scotland, Linlithgowshire, Sheet 1 SE, 1 : 10,560, 1909

2. Geology for Land Use Planning : Livingston, British Geological Survey, 1993.

3. The Economic Geology of the Central Coalfield, Area 3, H.M.S.O., 1933.

4. The Carboniferous Limestone Coalfields of West Lothian, H.M.Caddell, T.M.I.S., 1902.

5. GEOLOGY.

The desk study revealed the site to be underlain by approximately 5 metres of boulder clay which rests in turn on rock strata of the Limestone Coal Group.

The strata dip to the north at approximately 11 degrees.

6. FAULTS.

There are no known faults within the site boundaries or influencing distances from them.

7. SHAFTS AND ADITS.

There are no known shafts or adits within the site boundaries, or influencing distances from them.

The nearest known old shaft is situated 45 metres to the north-east of the north-east site corner..

8. OPEN-CAST MINING.

No open-cast mining has taken place within 200 metres of the site boundaries. The reserves of potential open-cast coal which lie beneath the site are insufficient to interest an open-cast contractor.

APPENDIX 7/3

9. REMEDIAL WORKS.

The Client has indicated that no remedial works have been carried out by the Coal Authority within the site boundaries or influencing distances from them.

10. PAST WORKING.

Mining has taken place beneath the site in several seams of coal and an ironstone circa 1814 to 1875.

11. GAS EMISSIONS.

The site is underlain by 5 metres of boulder clay which will prevent migration of mine gases migrating on to the site.

12. PRESENT.

No workings are at present taking place beneath the site.

13. FUTURE.

No economically workable coals now exist beneath the site. It is highly unlikely that any underground working will take place in the future.

14. MINING STABILITY ASPECTS AND FOUNDATION DESIGN.

The general sequence of strata beneath the middle of the site is approximately as given below :-

BOULDER CLAY	5.00
STRATA	9.00
RED COAL (0.91)	9.91
STRATA	40.41
LOWER IRONSTONE AND COAL (0.51)	40.92

(All measurements in metres)

The desk study has revealed that the Lower Ironstone was worked beneath the site circa 1850 by the long wall method (see Appendix). The depth to the old workings, method of working and time that has elapsed since working ceased will have ensured that all subsidence due to the working of this seam will have long since taken place. It is concluded that the site is stable with regards to any old workings in this seam.

APPENDIX 7/4

14. MINING STABILITY ASPECTS AND FOUNDATION DESIGN (continued).

The Red Coal lies at depths of 5 metres along the southern site boundary, to approximately 13 metres along the northern boundary. The coal was worked beneath the site circa 1815 to 1850. No abandonment plans are available for the workings in the coal beneath the site. The desk study has revealed that insufficient rock cover exists over the old workings to ensure stability. We have thus classified the site as unstable. It is almost certain that the site will require to be grouted prior to construction of the houses. It will be necessary to sink 3 rotary bores to ascertain the exact depths to the old workings and to draw up a Bill of Quantities for grouting of the site.

Other coals have been worked beneath the horizon of the Lower Ironstone and Coal, but are deep enough to require no further consideration

15.CONCLUSIONS AND RECOMMENDATIONS.

(1) The site has been classified as unstable due to shallow workings in the Red Coal

(2) There are no known shafts or adits within the site boundaries, or influencing distances from them.

(3) Prior to construction rotary core bores will require to be sunk at ascertain the depth to the old workings and amount of rock cover.

(4) It is considered highly probable that the site will require to be grouted prior to construction of the foundations.

(5) A trial pit investigation will require to be carried out to assess the engineering properties of the superficial deposits.

W SIMPSON B.Sc.(Mining), M.Sc., C. Eng., MICE, MIHT, F.G.S.

APPENDIX 7/5

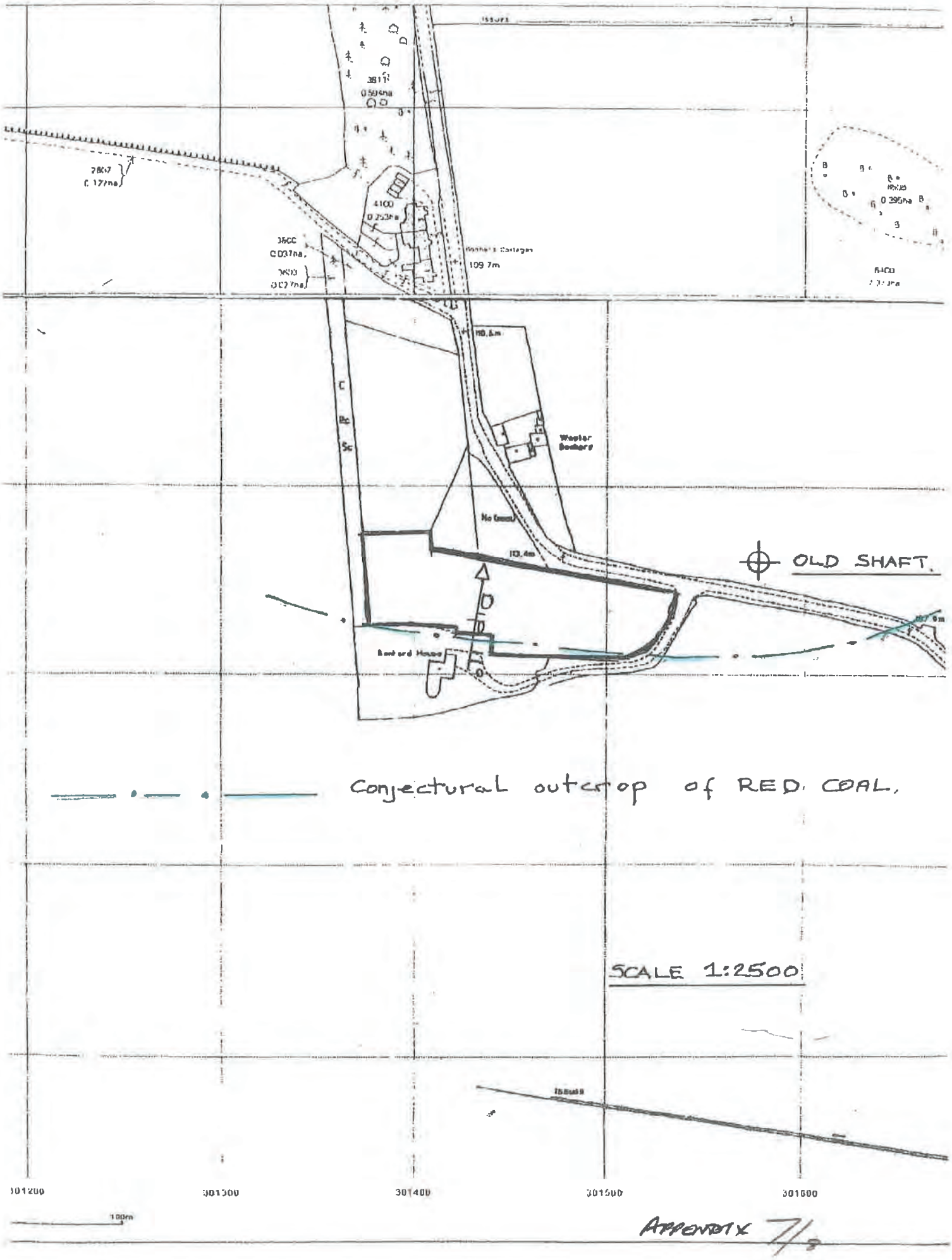
APPENDIX

Appendix 7/6

APPENDIX 1

SOLID GEOLOGY OF SITE AREA

Appendix 7/7


OLD SHAFT.
Conjectural outcrop of RED COAL.
SCALE 1:2500
301200
301300
301400
301500
301600
100m
APPENDIX 7/2

APPENDIX 2

METHODS OF MINING

METHODS OF MINING

Two methods of mining have been used in the past to extract minerals from stratified deposits, namely the stoop and room system, and the longwall system.

STOOP AND ROOM.

In this method, passage ways or rooms are driven, more or less at right angles to each other through the seam which is thus formed into square or rectangular blocks or stoops.

These stoops are formed in the "first" working, the workings being extended to the limit of the royalty. At the limit of the royalty, the stoops or part of the stoops are removed on retreating back to the shaft, this was some times referred to as the "second" working.

Depending on the depth to the mineral being extracted, thickness of mineral, and condition of the roof and floor, extraction rates of up to 80% could be achieved by this method.

The width of the rooms and pillars depended on depth to the mineral, thickness of mineral and condition of the roof and floor.

These stoops may continue to perform their function of supporting superincumbent strata for many years. However, depending on circumstances, the stoops can eventually fail causing subsidence and movement of the ground, and in the case of very shallow workings plump holes may be formed at the surface.

LONGWALL SYSTEM.

In this method the seam is completely extracted by means of dividing the seam into panels. The strata overlying the mined area is allowed to subside, and as a result all subsidence is normally completed shortly after the extraction of the seam.

However in the case where little or no rock cover exists over the workings instability could result due to the presence of old roadways remaining open.

APPENDIX 7/9

Historic Maps

MapsNow

Site Details:

Client Ref: 36160
Report Ref: CMAPS-MNOW-537231-620307-36160-
Grid Ref: 301457, 679843

Map Name: County Series
Map date: 1856
Scale: 1:2,500
Printed at: 1:2,500

N
W
S

Surveyed 1
Revised N/
Edition N/A
Copyright N
Levelled N/

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W: www.groundsure.com

Supplied by:
http://www.mapsnowdirect.co.uk/
support@mapsnow.co.uk

Production date: 15 June 2016

To view map legend click here *Legend*

MapsNow

Site Details:

Client Ref: 36160
Report Ref: CMAPS-MNOW-537231-620307-36160-
Grid Ref: 301457, 679843

Map Name: County Series
Map date: 1896
Scale: 1:2,500
Printed at: 1:2,500

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Surveyed 1
Revised 18
Edition 189
Copyright N
Levelled N/

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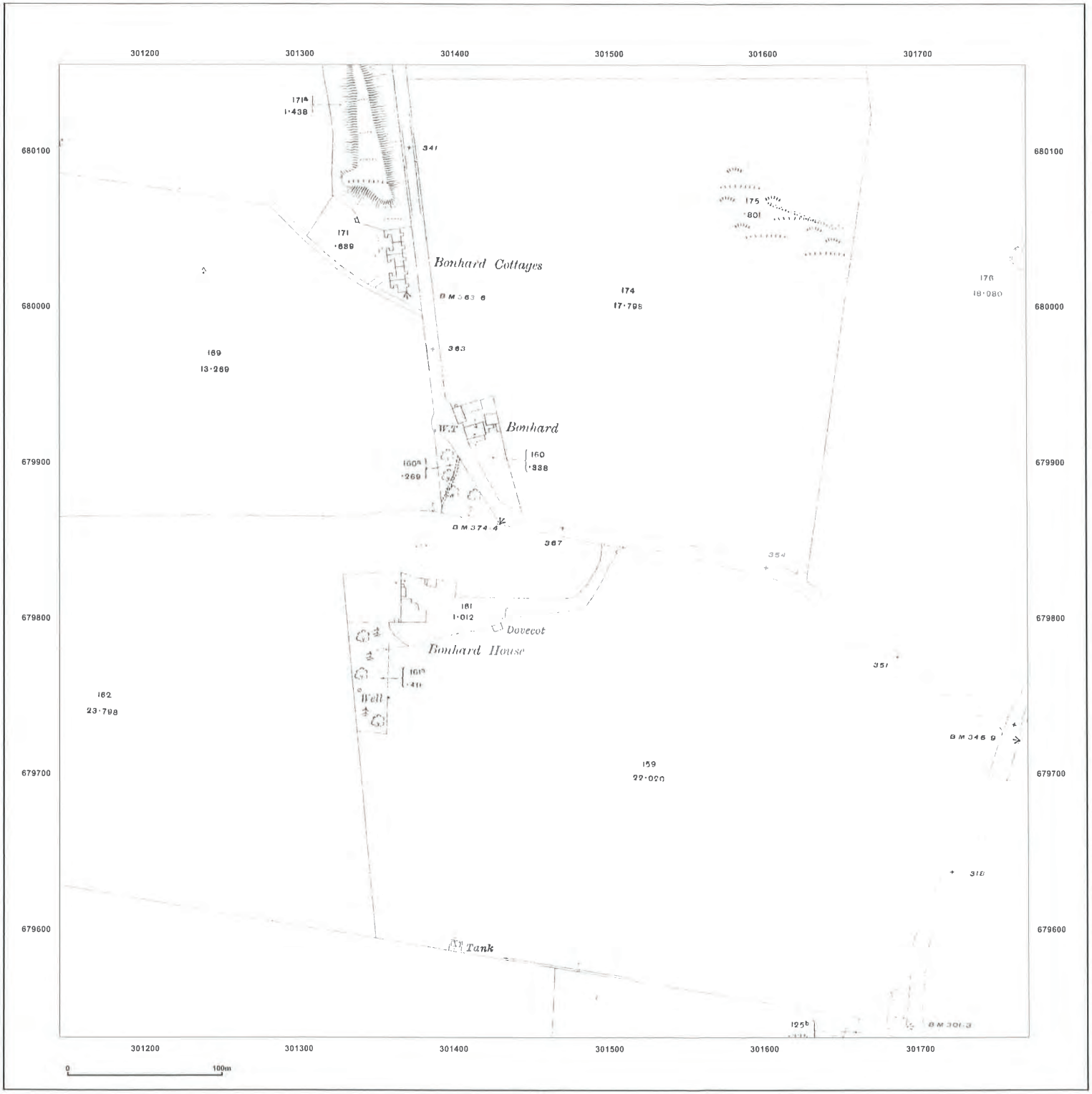
To view map legend click here *Legend*



MapsNow

Site Details:

Client Ref: 36160
Report Ref: CMAPS-MNOW-537231-620307-36160-
Grid Ref: 301457, 679843

Map Name: County Series
Map date: 1916
Scale: 1:2,500
Printed at: 1:2,500

N
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Surveyed 1855
Revised 1913
Edition 1916
Copyright N/A
Levelled 1914

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Production date: 15 June 2016

To view map legend click here *Legend*

MapsNow

Site Details:

Client Ref: 36160
Report Ref: CMAPS-MNOW-537231-620307-36160-
Grid Ref: 301457, 679843

Map Name: National Grid
Map date: 1952-1954
Scale: 1:2,500
Printed at: 1:2,500

N
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Surveyed 1952
Revised 1952
Edition N/A
Copyright N/A
Levelled 1948

Surveyed 1954
Revised 1954
Edition N/A
Copyright N/A
Levelled 1949

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Supplied by:
http://www.mapsnowdirect.co.uk/
support@mapsnow.co.uk

Production date: 15 June 2016

To view map legend click here *Legend*

MapsNow

Site Details:

Client Ref: 36160
Report Ref: CMAPS-MNOW-537231-620307-36160-
Grid Ref: 301457, 679843

Map Name: National Grid
Map date: 1989-1992
Scale: 1:2,500
Printed at: 1:2,500

N
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S

Surveyed N/A
Revised 1989
Edition N/A
Copyright 1991
Levelled N/A

Surveyed N/A
Revised N/A
Edition N/A
Copyright 1992
Levelled N/A

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http://www.mapsnowdirect.co.uk/
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Production date: 15 June 2016

To view map legend click here *Legend*

AERIAL PHOTOS

Google Maps

LAND TO THE SW OF WESTER
ONWARD BUNESS EH51 9RR

Imagery ©2016 Infoterra Ltd & Bluesky, Map data ©2016 Google 20 m

Google Maps

SITE

Imagery ©2016 Infoterra Ltd & Bluesky, Getmapping plc, DigitalGlobe, Map data ©2016 Google 100 m

Google Maps

SITE

Google Maps

SITE

Imagery ©2016 Infoterra Ltd & Bluesky, Map data ©2016 Google 100 m

Google Maps

LAND TO THE SW OF WESTEC BONNARD BO'NESS EH51 9RR.

DECISION / REPORT OF HANDLING

Reference No. P/16/0074/FUL

Town and Country Planning (Scotland) Act 1997 as Amended
Issued under a Statutory Scheme of Delegation.

Falkirk Council

Refusal of Planning Permission

Agent	Applicant
John Watson Architectural Consultant Ltd 11 Market Street Mid Calder Livingston EH53 0AL	Now Holdings Ltd. Beechwood Nurseries 17 Houston Mains Holdings Uphall EH52 6PA

This Notice refers to your application registered on 1 April 2016 for permission in respect of the following development:-

Development Erection of 3 No. Dwellinghouses at

Location Land To The South West Of Wester Bonhard, Bo'ness

The application was determined under Delegated Powers. Please see the attached guidance notes for further information, including how to request a review of the decision.

In respect of applications submitted on or after 1 January 2010, Falkirk Council does not issue paper plans. Plans referred to in the informatives below can be viewed online by inserting your application number at http://eplanning.falkirk.gov.uk/online/

In accordance with the plans docquetted or itemised in the attached informatives as relative hereto, Falkirk Council, in exercise of its powers under the above legislation, hereby

Refuses Detailed Planning Permission

The Council has made this decision for the following

Reason(s):

1. The proposal would represent unacceptable development in the countryside and green belt which is contrary to Policy CG03 - Housing in the Countryside and CG02 - Green Belt of the Falkirk Local Development Plan, Supplementary Guidance SG01 - Development in the Countryside and Scottish Planning Policy (SPP).

2. The proposal fails to demonstrate that an adequate assessment has been carried out in relation to coal mining legacy risks and appropriate mitigation and/or remediation measures cannot therefore be identified to the potential detriment to the safety of future occupants of the proposed dwellings. The proposal is contrary to Policy RW10 - Vacant, Derelict, Unstable and Contaminated Land of the Falkirk Local Development Plan.

3. The proposal would result in the unacceptable permanent loss of prime quality agricultural land to the detriment of the farming industry and is contrary to the terms of Policy RW04 - Agricultural Land, Carbon Rich Soils and Rare Soils of the Falkirk Local Development Plan and Scottish Planning Policy (SPP).

4. The proposal has failed to demonstrate that a sufficient proportion of carbon reductions within the development will be secured by means of low and zero carbon generating technologies to the potential detriment of the environment. The proposal is contrary to the terms of Policy D04 - Low and Zero Carbon Development of the Falkirk Local Development Plan and Supplementary Guidance SG15 - Low and Zero Carbon Development.

5. The proposed accesses to the site do not meet visibility splay requirements and as a result would not be in the best interests of road safety. The proposal is contrary to the terms of Supplementary Guidance SG01 - Development in the Countryside.

Informatives:

1. For the avoidance of doubt, the plan(s) to which this decision refer(s) bear our online reference number(s) 01A, 02, 03, 04, 05.

17 May 2016

[redacted]
Director of Development Services

PLANNING APPLICATION DETERMINED BY DIRECTOR OF DEVELOPMENT SERVICES UNDER DELEGATED POWERS – REPORT OF HANDLING

PROPOSAL	:	**Erection of 3 No. Dwellinghouses**
LOCATION	:	**Land To The South West Of Wester Bonhard, Bo'ness,**
APPLICANT	:	**Now Holdings Ltd..**
APPN. NO.	:	**P/16/0074/FUL**
REGISTRATION DATE	:	**1 April 2016**

1. SITE LOCATION / DESCRIPTION OF PROPOSAL

This detailed application proposes the erection of three detached dwellinghouses within a countryside area to the south west of Bo'ness.

2. SITE HISTORY

None relevant to this application.

3. CONSULTATIONS

The following responses to consultation were received:

Scottish Natural Heritage	No comments.
Roads Development Unit	The proposed development sits on the south side of Borrowstoun Road, which at this location is a derestricted unlit single track road with a number of blind bends and passing places created by default. Neither the proposed new access on the bend or the existing access can meet the required visibility splays which are 2.4 x 215 metres. On the grounds of road safety, it would be inappropriate to create a new access or to increase vehicle use on the existing access.
Scottish Water	No response to consultation.
Environmental Protection Unit	No objections. Contaminated land condition requested.

Where the local Community Council requested consultation, their comments appear above.

4. PUBLIC REPRESENTATION

In the course of the application, 3 contributor(s) submitted letter(s) to the Council. The salient issues are summarised below.

Loss of agricultural land.
Impact upon the greenbelt.
Road safety impacts.
Sanitation concerns.
Water pressure concerns.
Impact on area of great landscape value.
Increased costs for the maintenance of what would become a shared driveway.