



Byers Gill Solar

EIA Scoping Report – Figures 7.1 – 7.8

October 2022

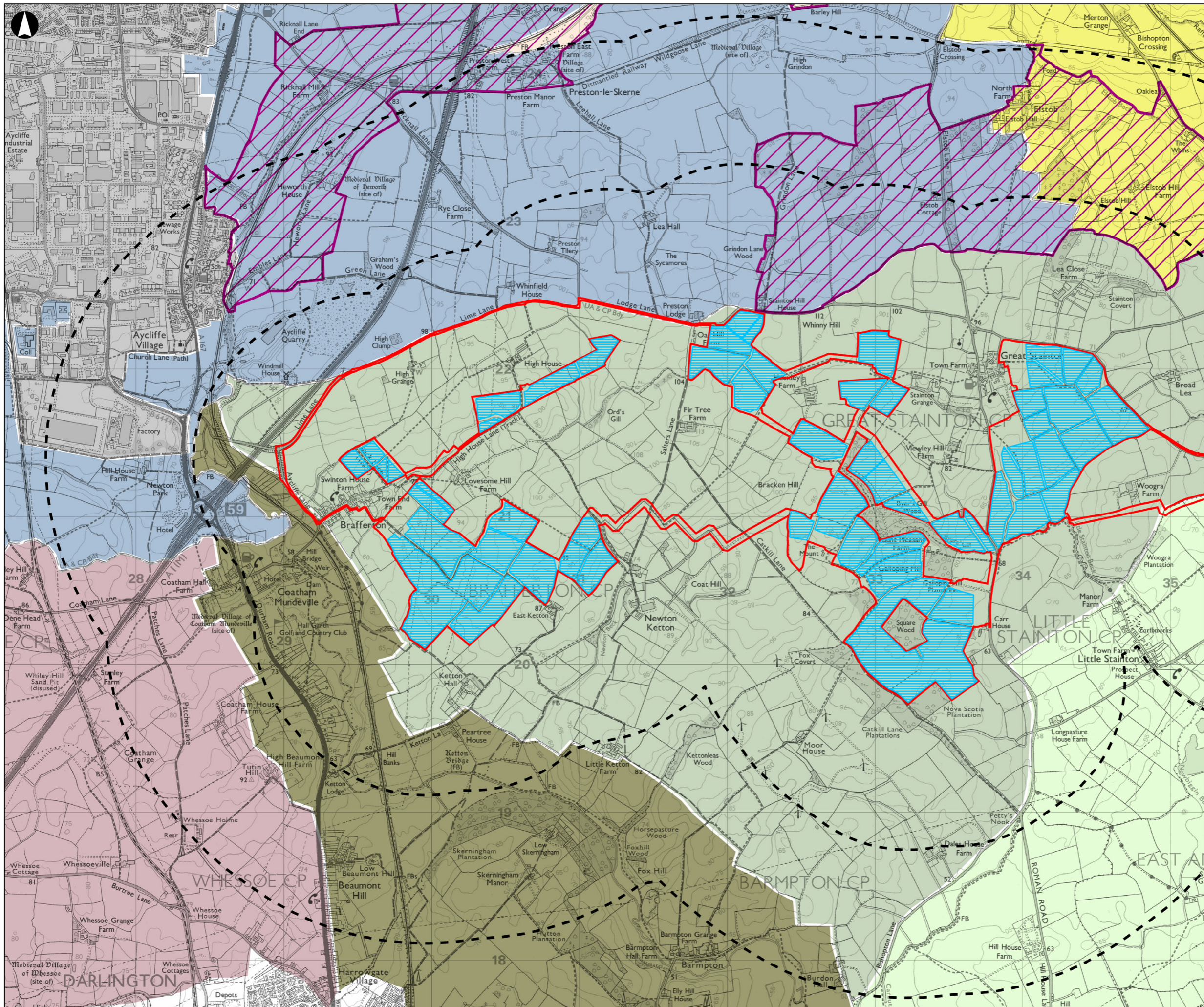
JBM Solar

33 Broadwick St

London

W1F 0DQ





- Legend**
- Site Area
 - Solar PV Module Areas
 - Distance Radii from Panel Areas (1, 2km)
 - Durham Areas of Higher Landscape Value
- Darlington Landscape Character Areas**
Darlington Landscape Character Assessment 2015
- D4 Whesoe & Dene Beck
 - D5 Upper Skerne Valley
 - D6 Great Stainton Farmland
 - D7 Bishopton Vale
- Country Durham Broad Character Areas**
County Durham Landscape Character Assessment 2008
- Bradbury, Preston & Mordon Carrs
 - Butterwick & Shotton
 - Sedgefield, Windlestone & Aycliffe
 - Urban

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd



Project Name
Byers Gill Solar

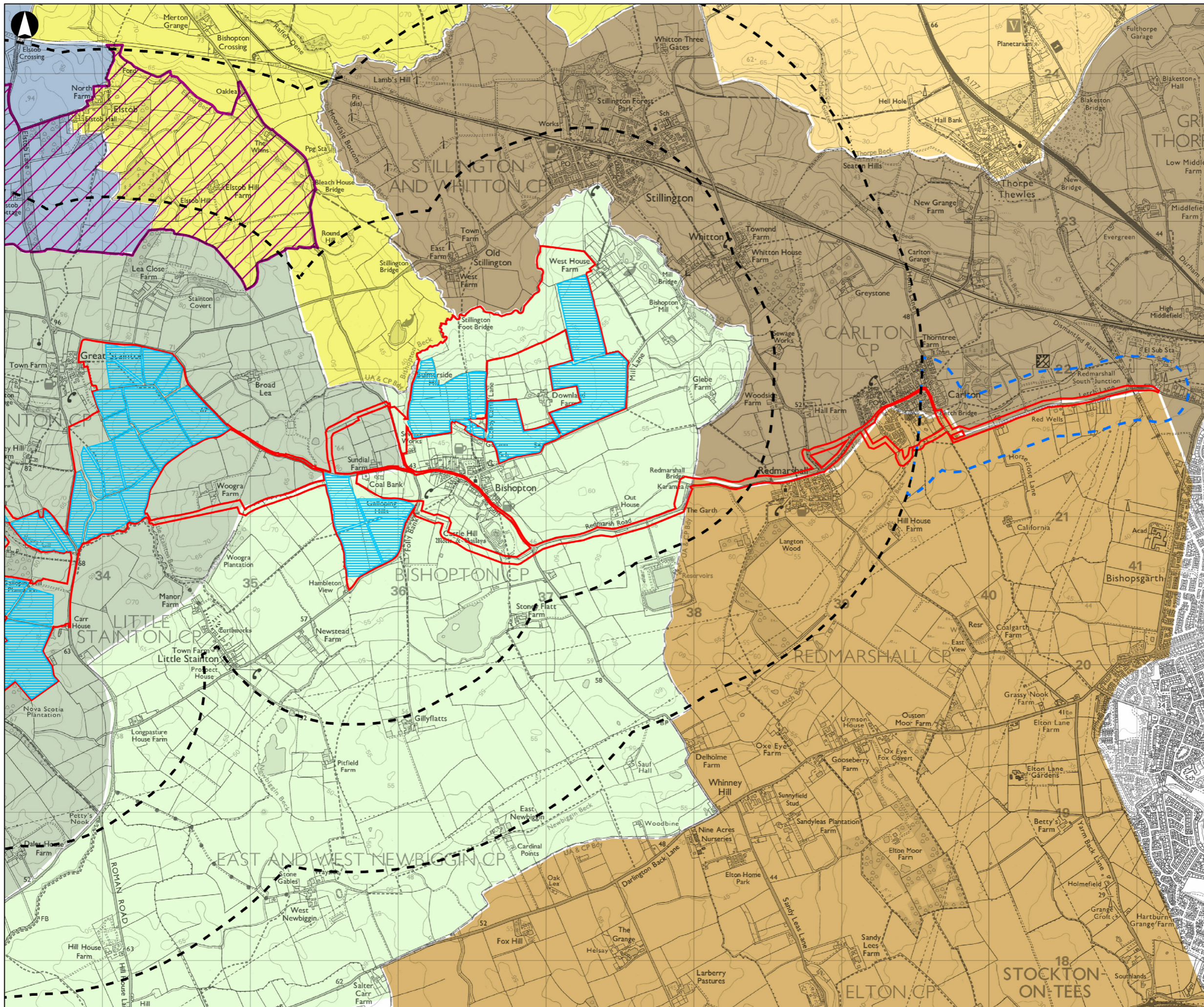
Drawing Title
Local Landscape Character and Designations (A)

Scale at A3
1:25,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
Drawing Number BGS-SR07-00001	
Figure 7.1	



- Legend**
- Site Area
 - Solar PV Module Areas
 - Distance Radii from Panel Areas (1, 2km)
 - Additional Study Area for Grid Connection (200m Buffer)
 - Durham Areas of Higher Landscape Value
- Darlington Landscape Character Areas**
Darlington Landscape Character Assessment 2015
- D6 Great Stainton Farmland
 - D7 Bishopton Vale
- Stockton Landscape Character Areas**
Stockton on Tees Borough Council Landscape Character Assessment 2011
- S1: West Stockton Rural Fringe
 - S3: Billingham & Thorpe Becks
 - S5: Wynyard
- Country Durham Broad Character Areas**
County Durham Landscape Character Assessment 2008
- Butterwick & Shotton
 - Sedgefield, Windlestone & Aycliffe

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

Client

Project Name
Byers Gill Solar

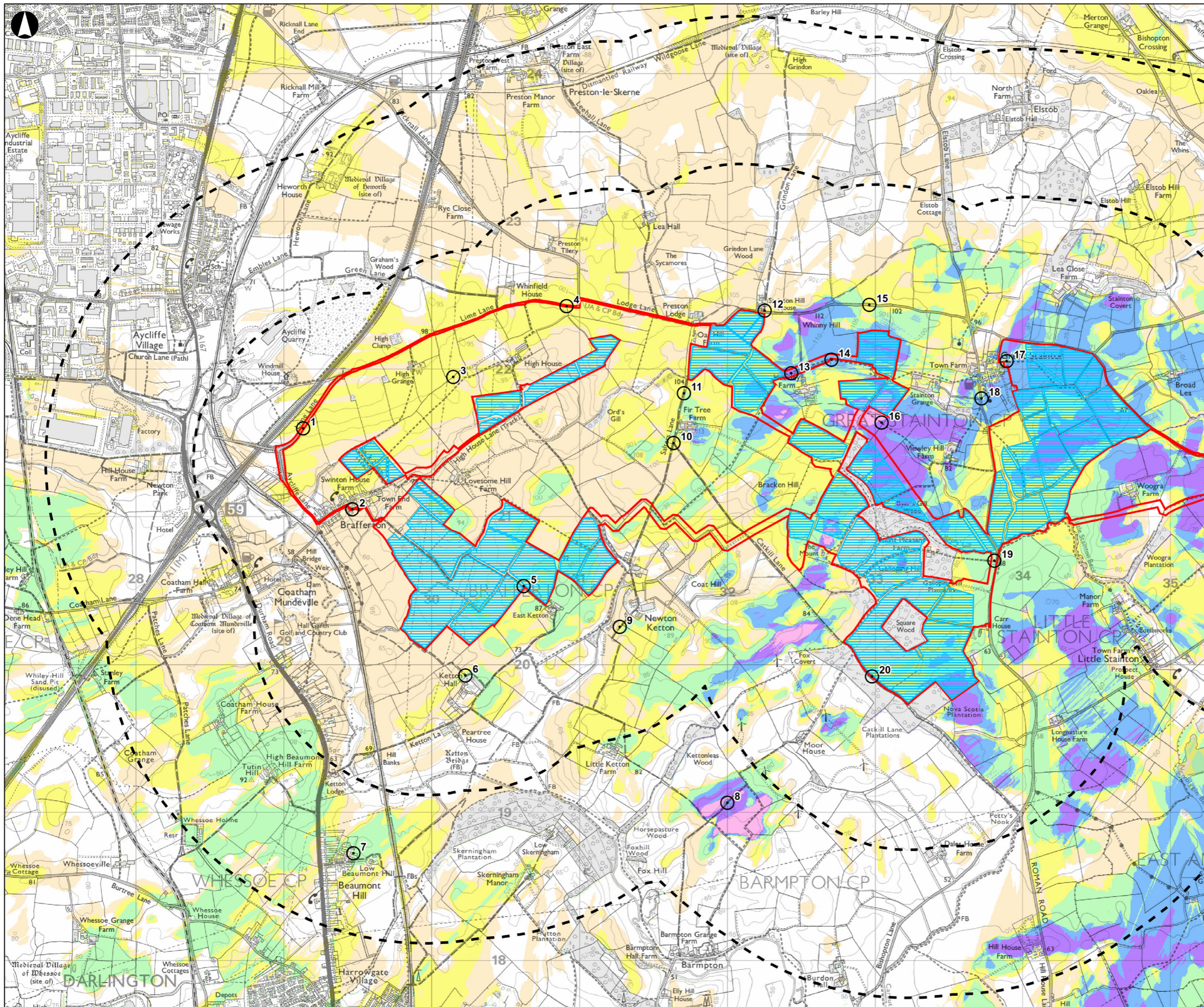
Drawing Title
Local Landscape Character and Designations (B)

Scale at A3
1:25,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
Drawing Number BGS-SR07-00001	
Figure 7.1	



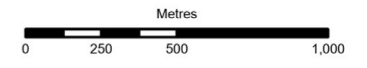
Legend

- Site Area
 - Solar PV Module Areas
 - Distance Radii from Panel Areas (1, 2km)
 - Viewpoints
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- 1 site may be visible
 - 2 sites may be visible
 - 3 sites may be visible
 - 4 sites may be visible
 - 5 sites may be visible
 - 6 sites may be visible

Figure Data:
 This figure has been based on the following data:
 Layout file: D003-obvs-panels-4_35m-LIDAR5m-5km.shp
 Terrain data: LIDAR-2018-DSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

Notes:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m' Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

Client



Project Name
Byers Gill Solar

Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Sites A-F (A)

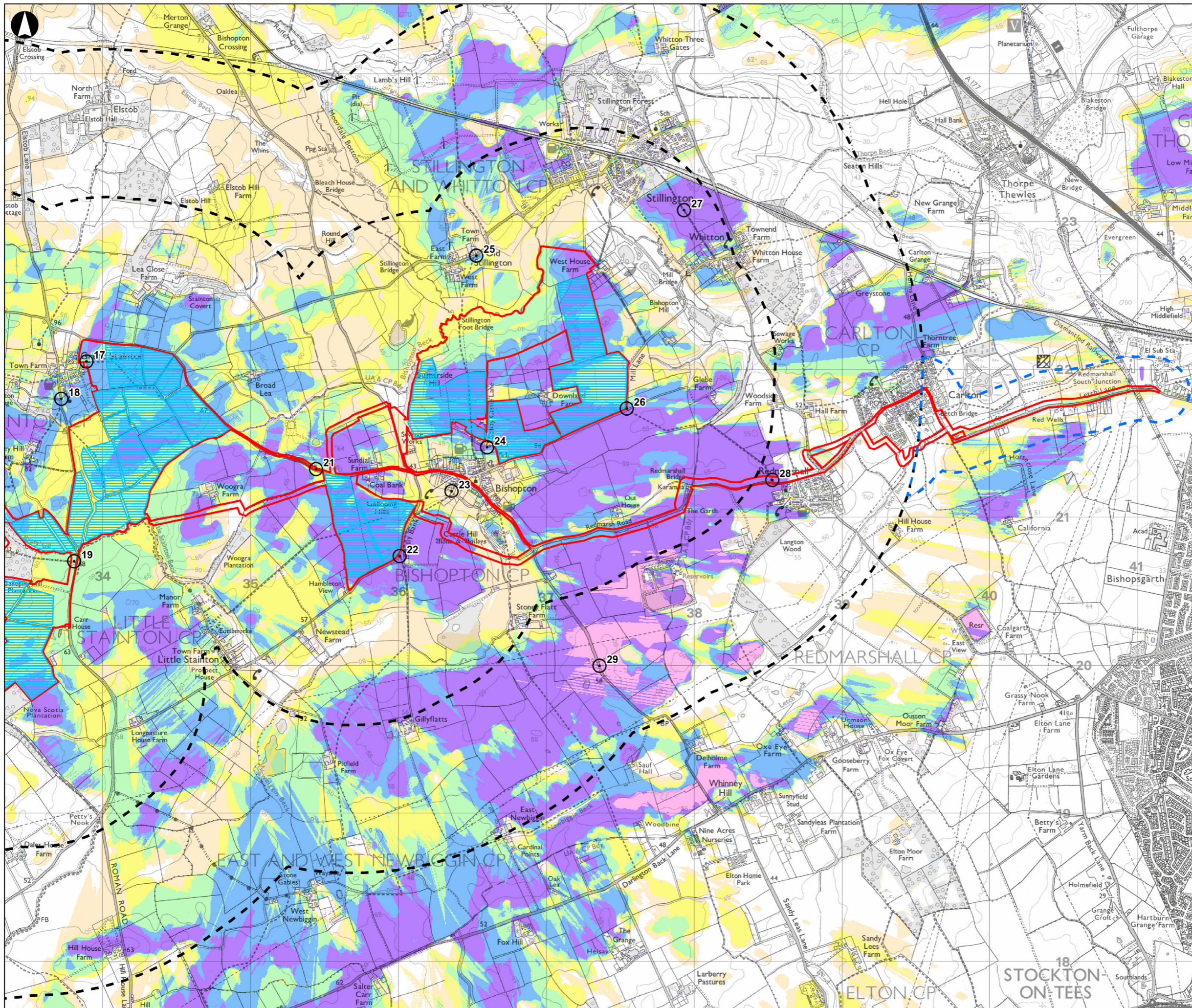
Scale at A3
1:25,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
------------------------------------	-------------------

Drawing Number
BGS-SR07-00002
Figure 7.2



- Legend**
- Site Area
 - Solar PV Module Areas
 - Distance Radii from Panel Areas (1, 2km)
 - Additional Study Area for Grid Connection (200m Buffer)
 - Viewpoints

- Zone of Theoretical Visibility (4.35m to tops of panels)**
- 1 site may be visible
 - 2 sites may be visible
 - 3 sites may be visible
 - 4 sites may be visible
 - 5 sites may be visible
 - 6 sites may be visible

Figure Data:
 This figure has been based on the following data:
 Layout file: D003-obvs-panels-4_35m-LIDAR5m-5km.shp
 Terrain data: LIDAR-2018-DSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

Notes:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.
 The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.
 A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.
 The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.
 The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m' Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

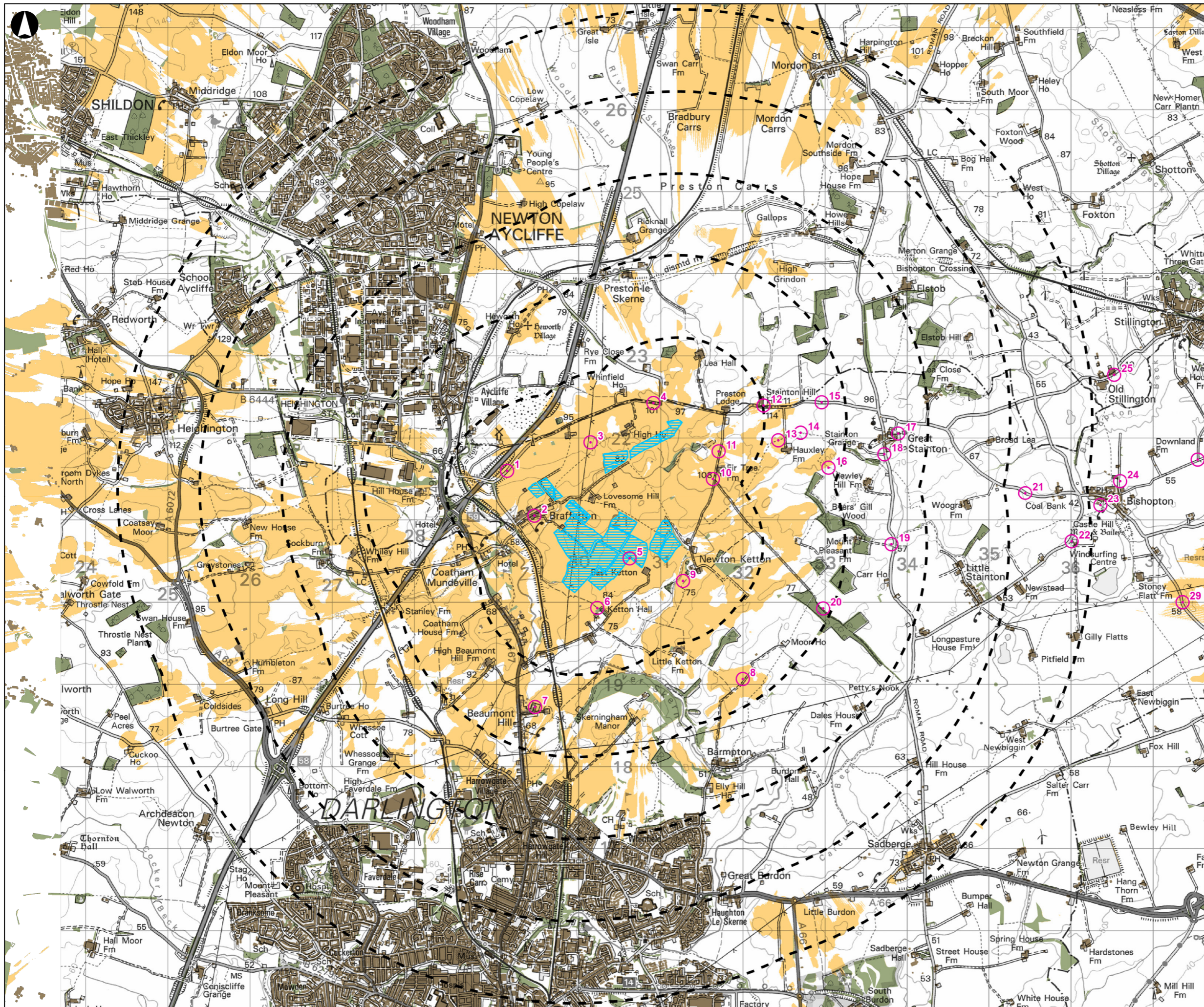
Client

Project Name
Byers Gill Solar

Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Sites A-F (B)

Scale at A3
1:25,000
 Role
Issue to client
 Suitability
Scoping Report
 Project Number
286386-00
 Drawing Number
BGS-SR07-00002
Figure 7.2

Rev	P01
-----	-----



Legend

- Solar PV Module Areas
- Distance Radii from Solar PV Module Areas (1, 2, 3, 4, 5km)
- Viewpoints
- Woodland (modelled at 10m)
- Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- Panels may be visible

Figure Data:
 This figure has been based on the following data:
 Layout file: D003-obsv-panels-4_35m-LIDAR5m-5km.shp
 Terrain data: LIDAR-2018-DSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

Notes:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

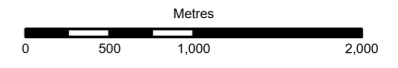
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

Client



Project Name
Byers Gill Solar

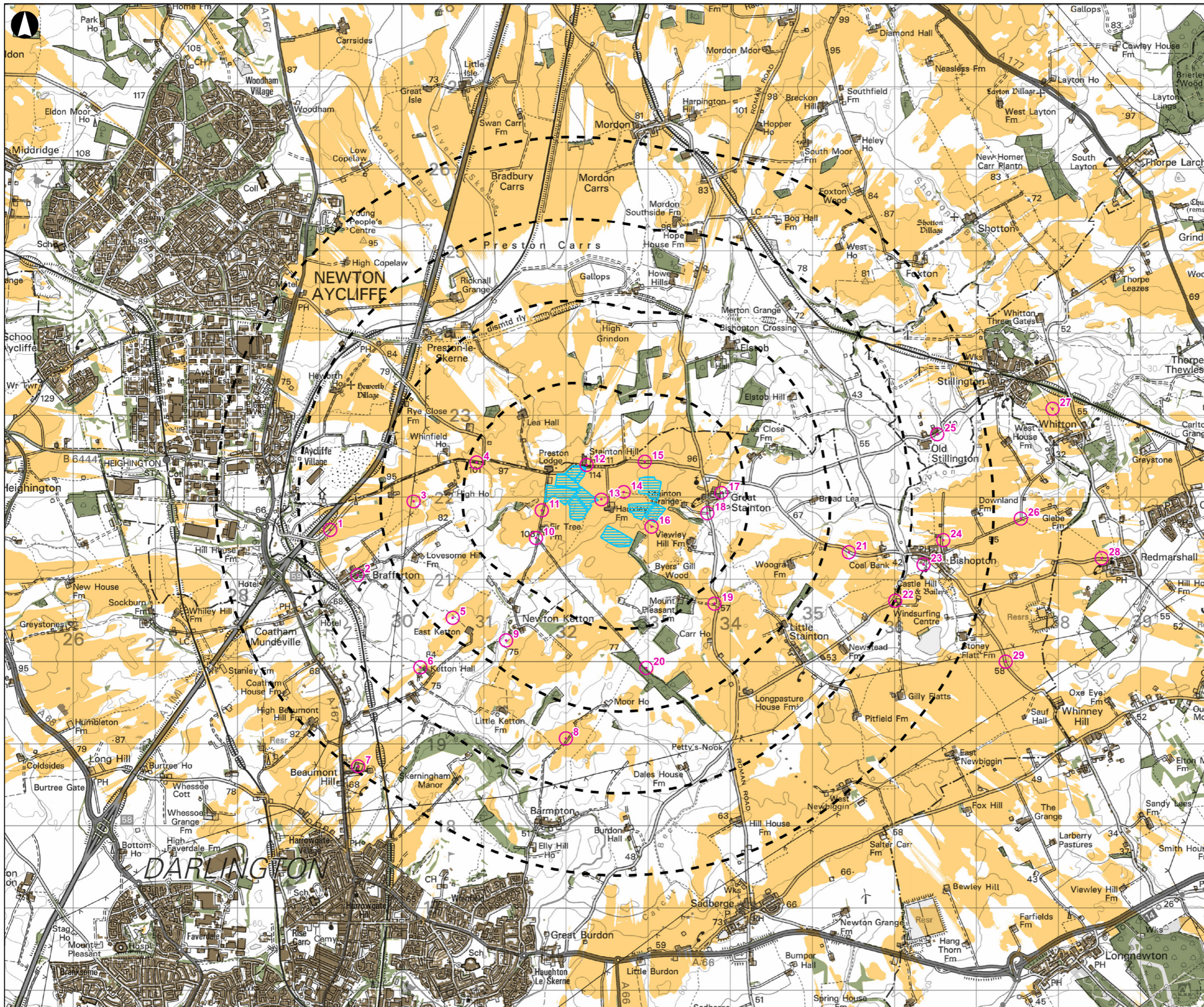
Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site A: Brafferton

Scale at A3
1:45,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
Drawing Number BGS-SR-00003	
Figure 7.3	



- Legend**
- Solar PV Module Areas
 - Distance Radii from Solar PV Module Areas (1, 2, 3, 4, 5km)
 - Viewpoints
 - Woodland (modelled at 10m)
 - Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- Panels may be visible

Figure Data:
 This figure has been based on the following data:
 Layout file: D003-obsv-panels-4_35m-LIDAR5m-5km.shp
 Terrain data: LIDAR-2018-DSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

Notes:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

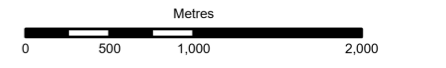
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd



Project Name
Byers Gill Solar

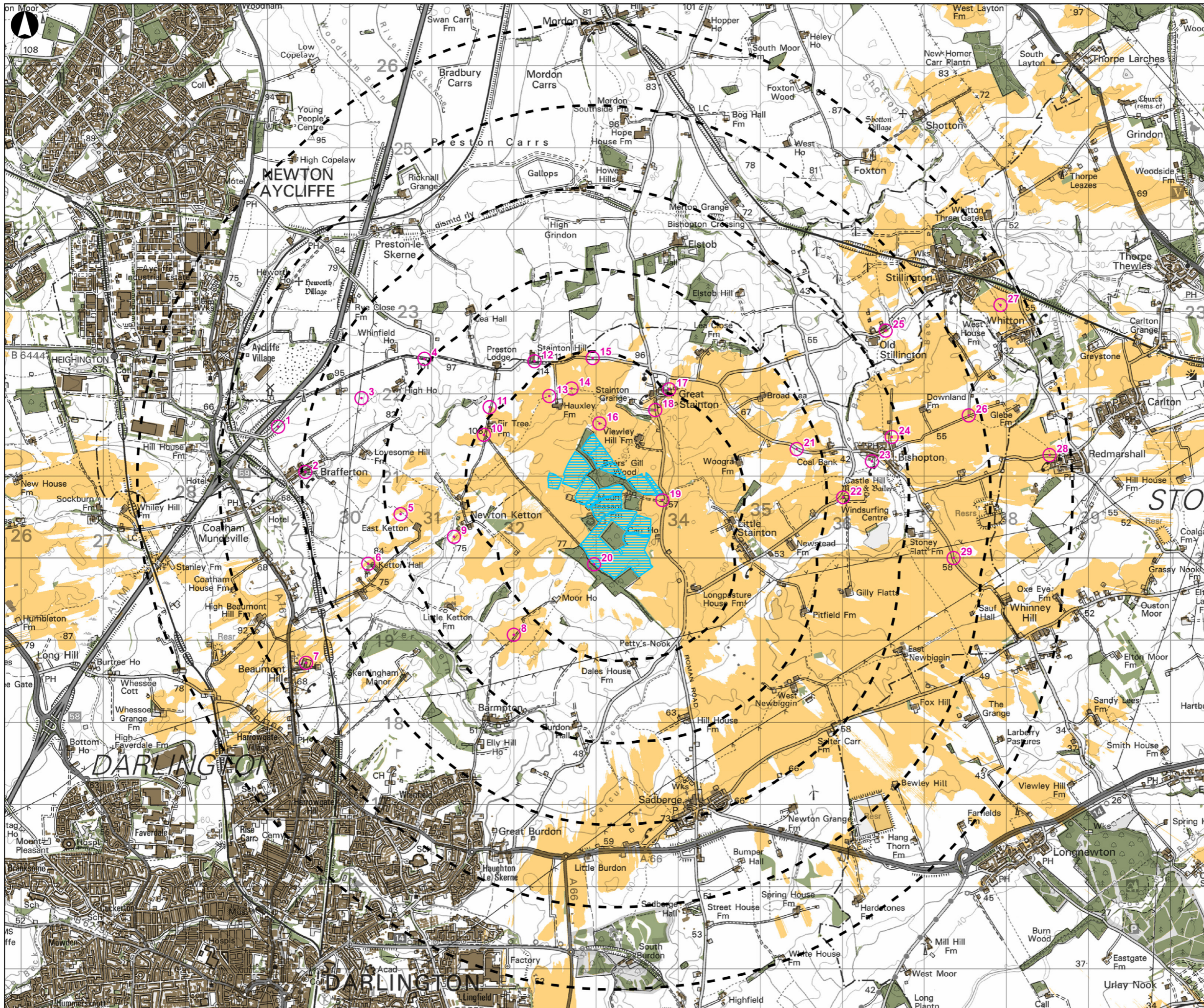
Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site B: Hauxley Farm

Scale at A3
1:45,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
Drawing Number BGS-SR-00004	
Figure 7.4	



Legend

- Solar PV Module Areas
- Distance Radii from Solar PV Module Areas (1, 2, 3, 4, 5km)
- Viewpoints
- Woodland (modelled at 10m)
- Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- Panels may be visible

Figure Data:
This figure has been based on the following data:

Layout file: D003-obsv-panels-4_35m-LIDAR5m-5km.shp
Terrain data: LIDAR-2018-DSM-5m.asc
Viewer's eye height: 2m above ground level
Calculation grid size: 5m

Notes:
This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

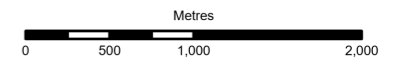
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
-----	----------	----	----	----	----

Rev	Date	By	Chkd	Appd	Authd
-----	------	----	------	------	-------

Client



Project Name
Byers Gill Solar

Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site C: Byers Gill Wood

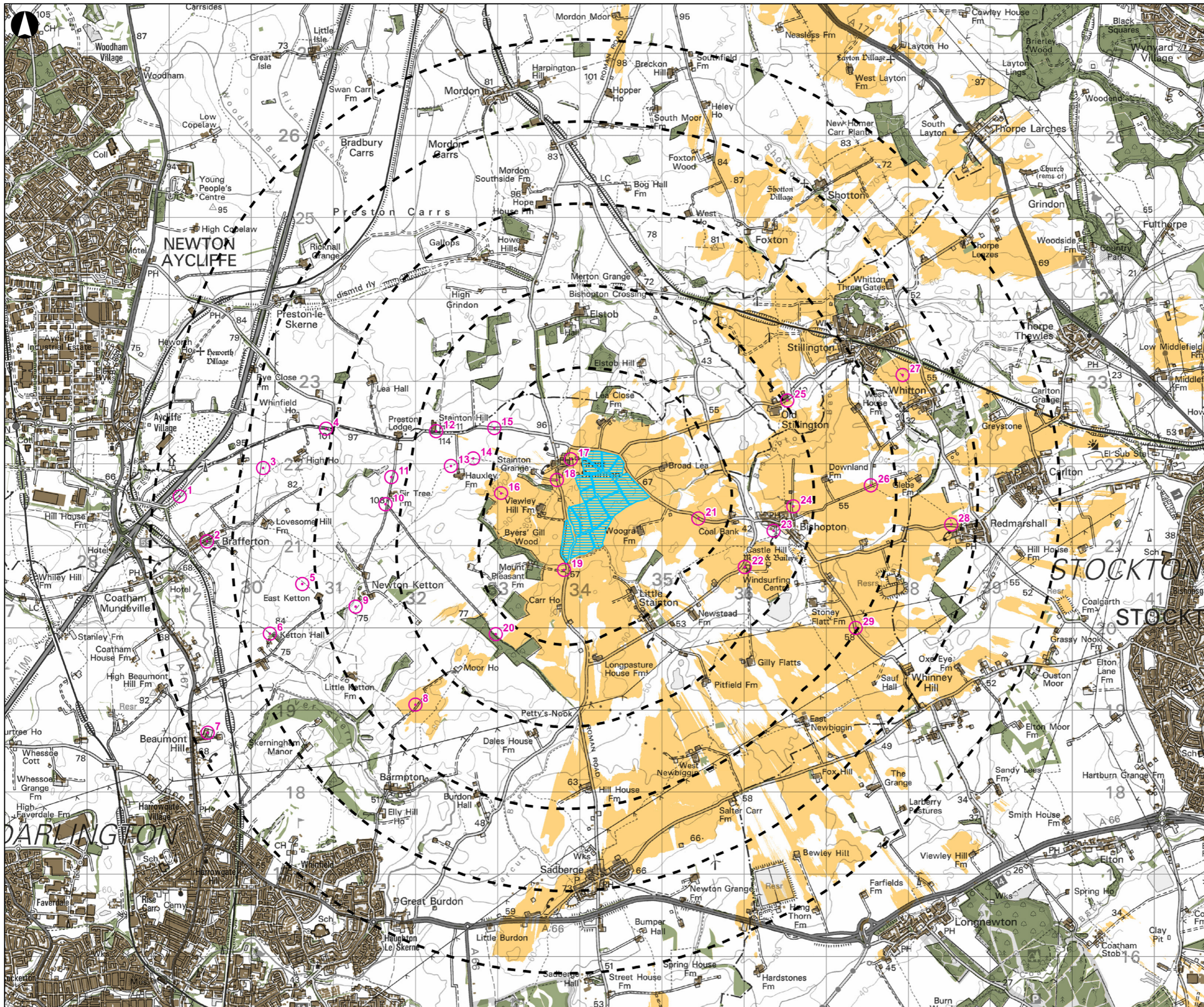
Scale at A3
1:45,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
------------------------------------	-------------------

Drawing Number
BGS-SR-00005
Figure 7.5



Legend








-  Solar PV Module Areas
-  Distance Radii from Solar PV Module
-  Areas Panels (1, 2, 3, 4, 5km)
-  Viewpoints
-  Woodland (modelled at 10m)
-  Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
-  Panels may be visible

Figure Data:
 This figure has been based on the following data:
 Layout file: D003-obsv-panels-4_35m-LIDAR5m-5km.shp
 Terrain data: LIDAR-2018-DSM-5m.asc
 Viewer's eye height: 2m above ground level
 Calculation grid size: 5m

Notes:
 This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

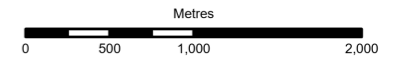
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

Client



Project Name
Byers Gill Solar

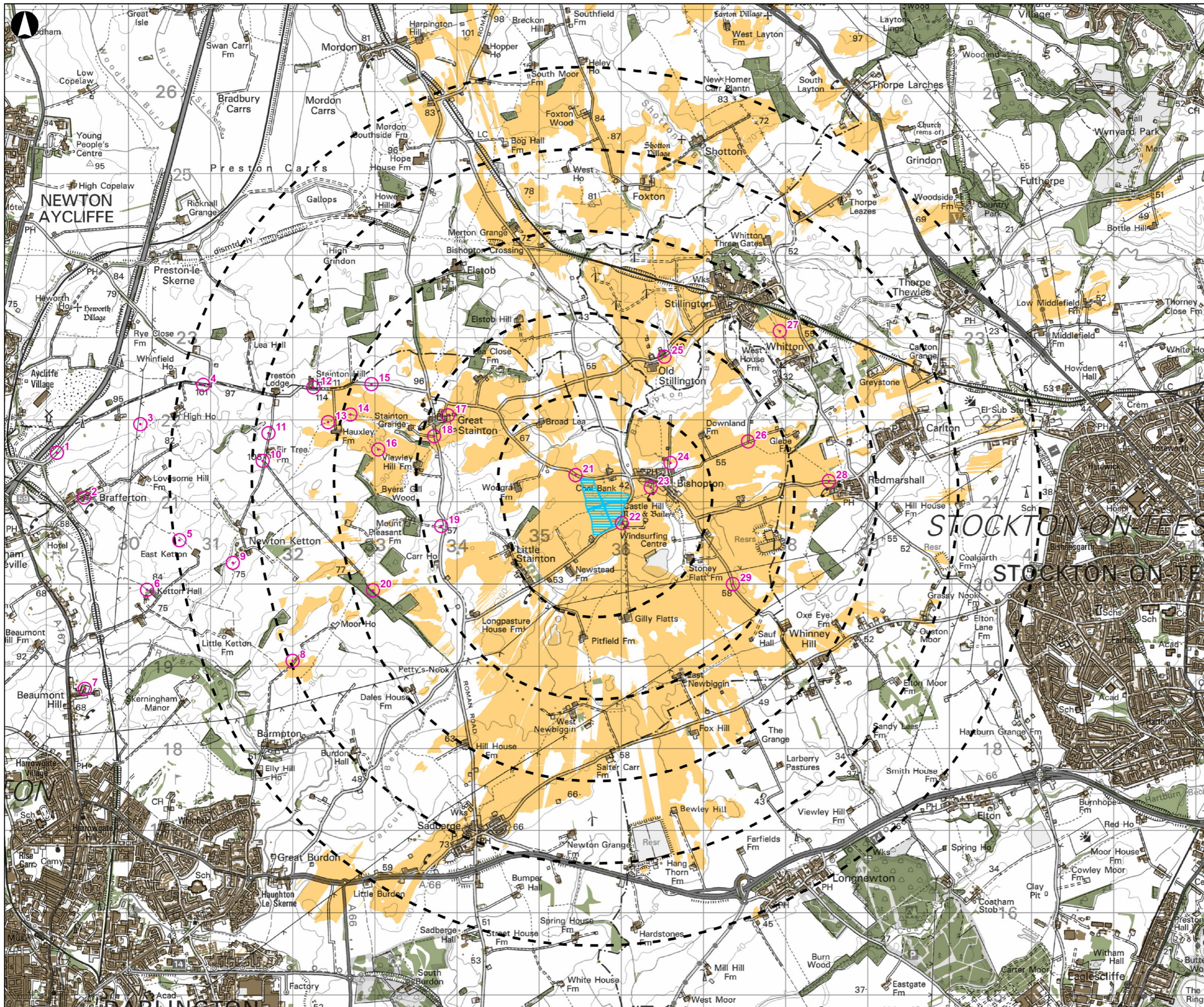
Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site D: Great Stainton

Scale at A3
1:45,000

Role
Issue to client

Suitability
Scoping Report

Project Number 286386-00	Rev P01
Drawing Number BGS-SR-00006	
Figure 7.6	



Legend

- Solar PV Module Areas
- Distance Radii from Solar PV Module Areas (1, 2, 3, 4, 5km)
- Viewpoints
- Woodland (modelled at 10m)
- Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- Panels may be visible

Figure Data:
This figure has been based on the following data:

Layout file: D003-obs-panels-4_35m-LIDAR5m-5km.shp
Terrain data: LIDAR-2018-DSM-5m.asc
Viewer's eye height: 2m above ground level
Calculation grid size: 5m

Notes:
This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

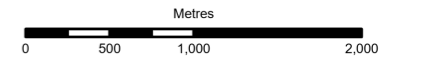
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
Rev	Date	By	Chkd	Appd	Authd

Client

Project Name
Byers Gill Solar

Drawing Title
Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site E: West of Bishopton

Scale at A3
1:45,000

Role
Issue to client

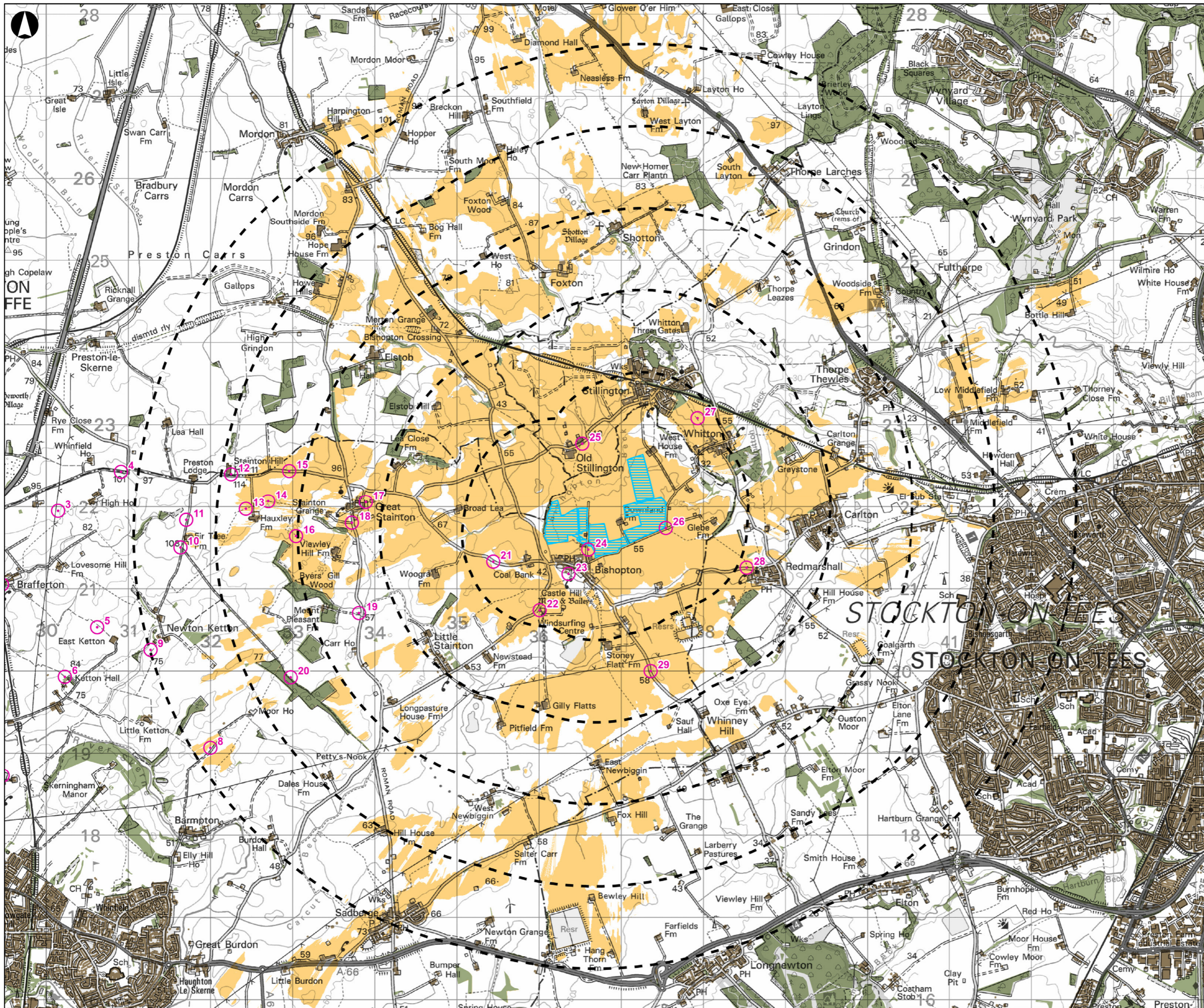
Suitability
Scoping Report

Project Number
286386-00

Rev
P01

Drawing Number
BGS-SR-00007

Figure 7.7



Legend

- Solar PV Module Areas
- Distance Radii from Solar PV Module Areas (1, 2, 3, 4, 5km)
- Viewpoints
- Woodland (modelled at 10m)
- Buildings (modelled at 7.5m)
- Zone of Theoretical Visibility (4.35m to tops of panels)**
- Panels may be visible

Figure Data:
This figure has been based on the following data:

Layout file: D003-obsv-panels-4_35m-LIDAR5m-5km.shp
Terrain data: LIDAR-2018-DSM-5m.asc
Viewer's eye height: 2m above ground level
Calculation grid size: 5m

Notes:
This drawing is based upon computer generated Zone of Theoretical Visibility (ZTV) studies produced using the Viewshed routine in the Visibility Analysis plugin for QGIS.

The areas shown are the maximum theoretical visibility, taking into account topography, principal woodlands and buildings.

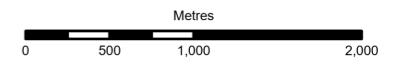
A digital surface model (DSM) has been derived from OS Terrain 5 height data with the locations of woodland and buildings taken from the OS Open Map Local dataset. Buildings have been modelled with an assumed height of 7.5m and woodland an assumed height of 10m, representing a conservative estimate of average heights within the study area.

The model does not take into account some localised features such as small copses, hedgerows or individual trees and therefore still gives an exaggerated impression of the extent of visibility. The actual extent of visibility on the ground will be less than that suggested by this plan.

The ZTV includes an adjustment that allows for Earth's curvature and light refraction. It is based on a derived DSM and has a 5m² resolution.

Coordinate System: British National Grid

© Crown copyright. All rights reserved. 2022 License number 100020565 | Contains Ordnance Survey data © Crown copyright and database right 2022



P01	17/10/22	MP	MF	DB	DB
-----	----------	----	----	----	----

Rev	Date	By	Chkd	Appd	Authd
-----	------	----	------	------	-------

Client



Project Name

Byers Gill Solar

Drawing Title

Zone of Theoretical Visibility with Screening Effect of Woodland and Settlement - Site F: North of Bishopton

Scale at A3

1:45,000

Role

Issue to client

Suitability

Scoping Report

Project Number

286386-00

Rev

P01

Drawing Number

BGS-SR-00008

Figure 7.8