

\\172.26.36.27\6000_Task\2019_Task\X.19.00287.GLA - Zarafshon Wind Farm ESIA Uzbekistan\Modelling\GIS\2021 ArcMap and InDesign documents\43423-WOOD-XX-02-DR-SA-0001_S3_R7.mxd Originator: wilsc03



Key

 Proposed WTG locations

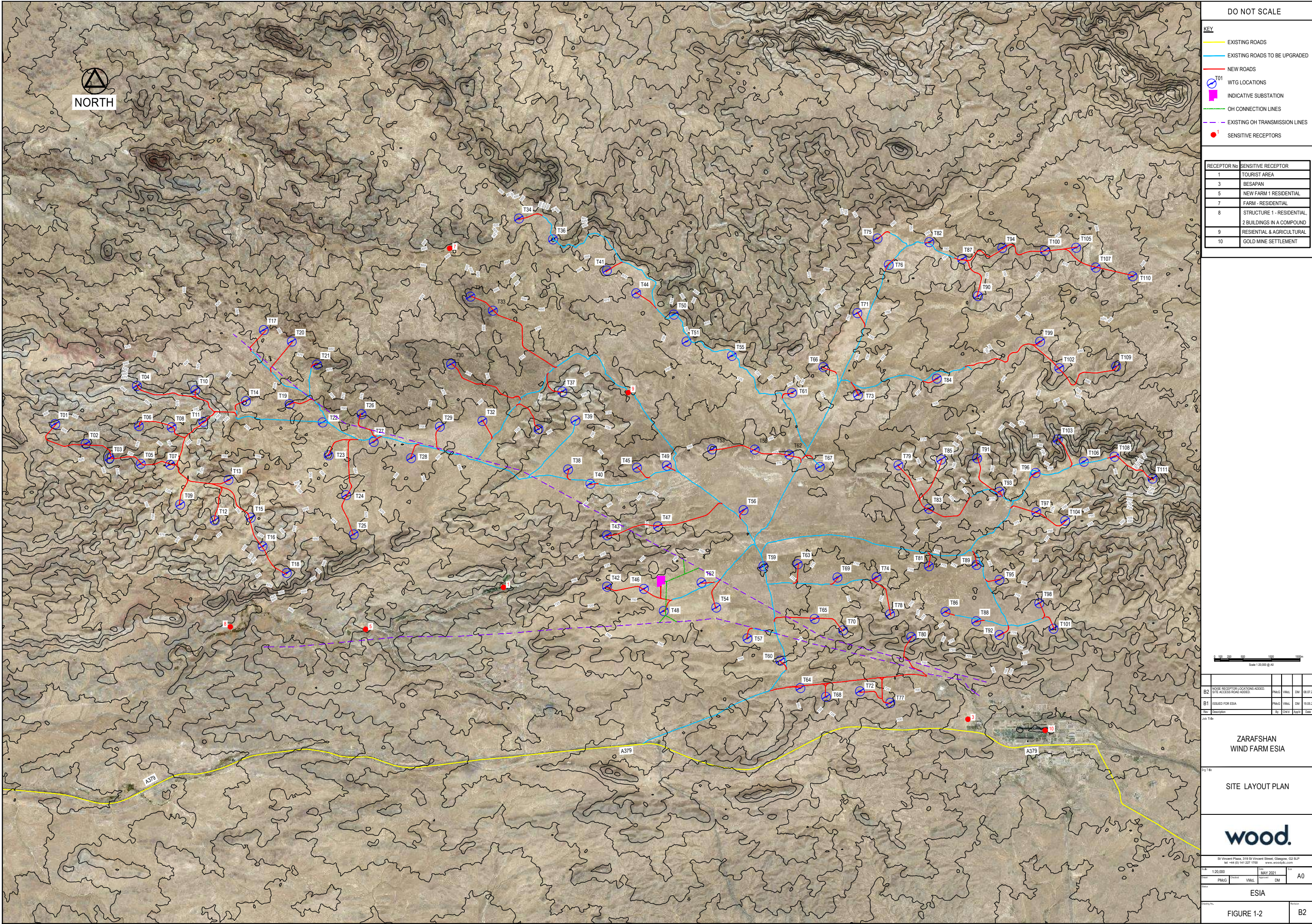
0 2 4 6 8 10 12 km
Scale at A3: 1:200,000

Zarafshan Wind Farm ESIA

Figure 1-1
Site Location

May 2021
  

wood.



DO NOT SCALE

KEY

EXISTING ROADS

EXISTING ROADS TO BE UPGRADED

NEW ROADS

WTG LOCATIONS

INDICATIVE SUBSTATION

OH CONNECTION LINES

EXISTING OH TRANSMISSION LINES

SENSITIVE RECEPTORS

RECEPTOR No	SENSITIVE RECEPTOR
1	TOURIST AREA
3	BESAPAN
5	NEW FARM 1 RESIDENTIAL
7	FARM - RESIDENTIAL
8	STRUCTURE 1 - RESIDENTIAL
9	2 BUILDINGS IN A COMPOUND
10	RESIDENTIAL & AGRICULTURAL

0 100 200 300 400 500 600 700 800 900 1000

Scale 1:20,000 @ A0

B2	NOISE RECEPTOR LOCATIONS ADDED: SITE ACCESS ROAD ADDED:	PMAG	VMAG	DM	08.07.21
B1	ISSUED FOR ESIA:	PMAG	VMAG	DM	15.05.21
Rev	Description	By	Chk'd	App'd	Date

Job Title

ZARAFSHAN
WIND FARM ESIA

Dwg Title

SITE LAYOUT PLAN

wood

St Vincent Plaza, 319 St Vincent Street, Glasgow, G2 8LP
Tel: +44 (0) 141 227 1700
www.woodplc.com

Scale

1:20,000

Project

PMAG

Version

VMAG

Revision

DM

Date

MAY 2021

Sheet

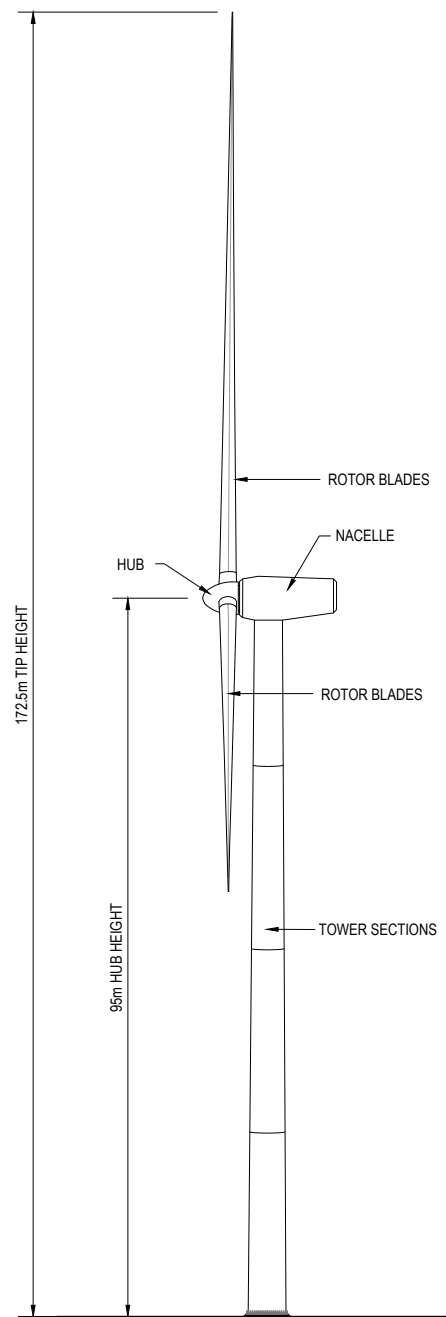
A0

ESIA

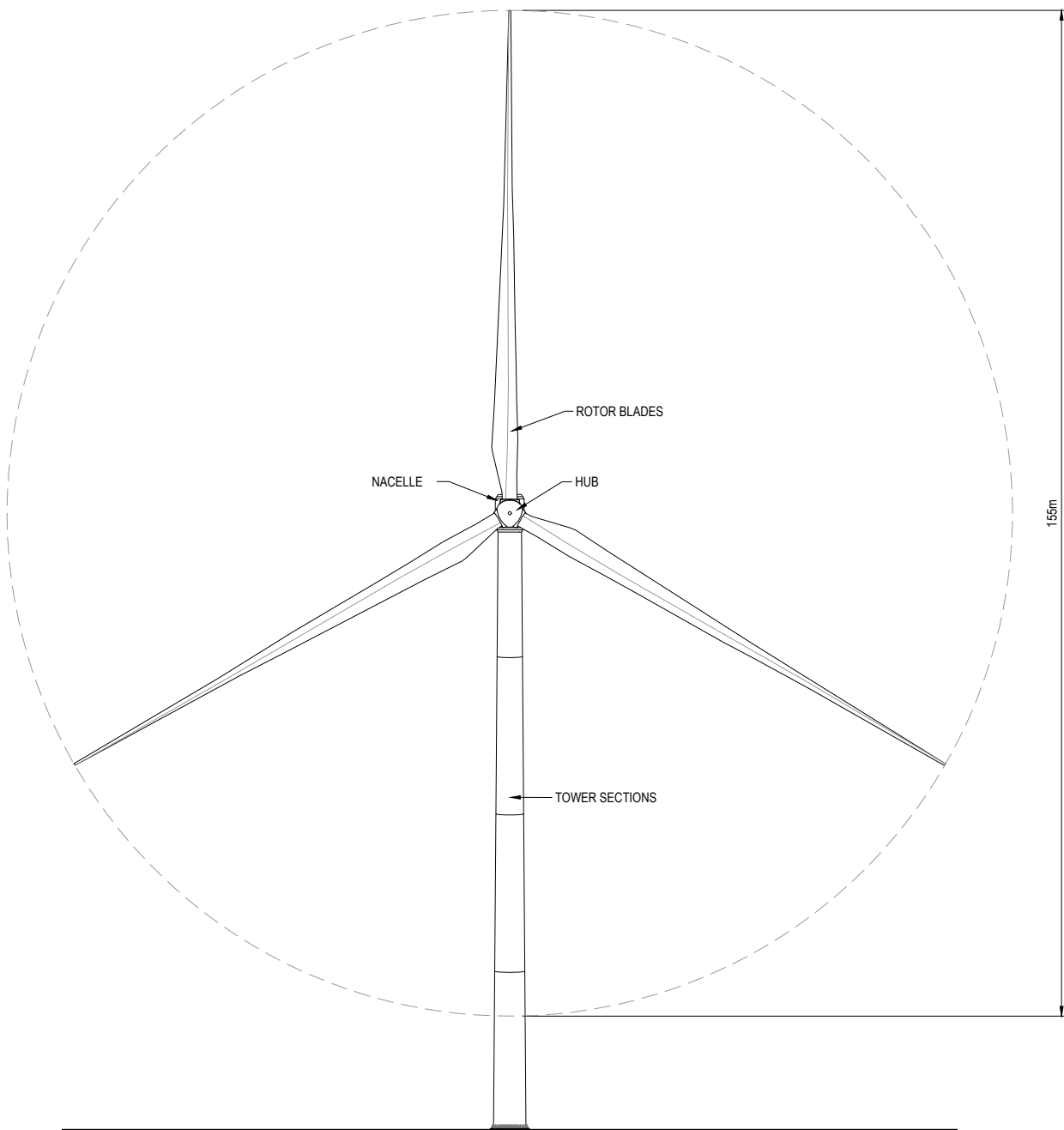
FIGURE 1-2

B2

J:\6000\2121_Tasks\192248A_Zarafshan Wind Farm\ESIA\Figure 1-2 Site Layout-B2.dwg



SIDE ELEVATION



FRONT ELEVATION

DO NOT SCALE

B1	ISSUED FOR ESIA	PMcG	VMcL	VMcL	19.05.21
Rev	Description	By	Chk'd	App'd	Date

Job Title

ZARAFSHAN
WIND FARM ESIA

Org Title

WIND TURBINE GENERATOR
ELEVATIONS

St Vincent Plaza, 319 St Vincent Street, Glasgow, G2 5LP
tel: +44 (0) 141 227 1700 www.woodplc.com

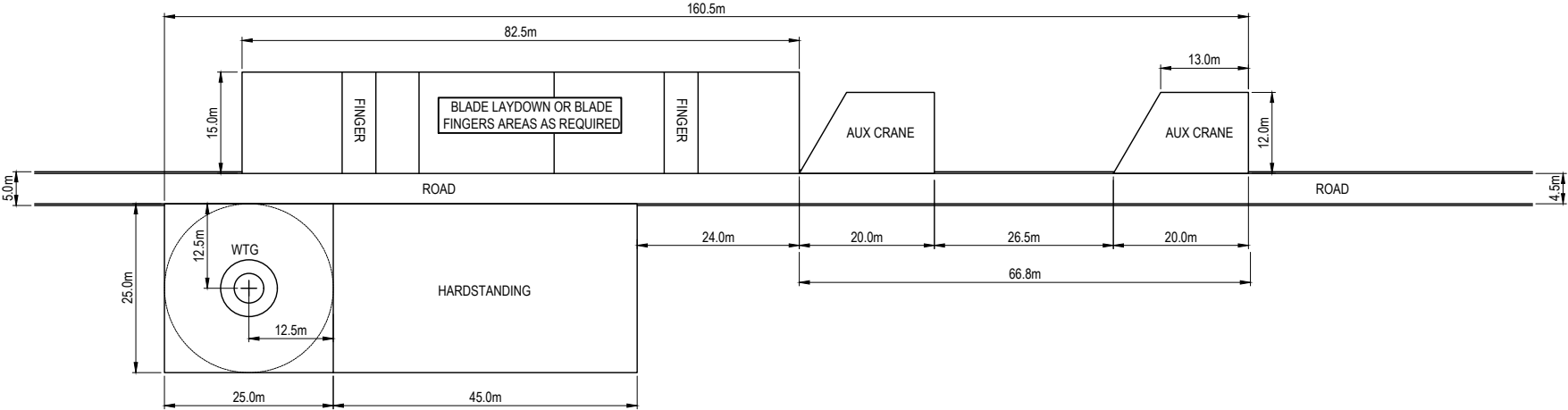
Scale	1:1000	Date	MAY 2021	Size	A3
Drawn	PMcG	Checked	VMcL	Approved	VMcL

Status

ESIA

Drawing No.	FIGURE 2.1	Revision	B1
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DO NOT SCALE



B1	ISSUED FOR ESIA	PMcG	VMcL	VMcL	19.05.21
Rev	Description	By	Chk'd	App'd	Date

Job Title

ZARAFSHAN
WIND FARM ESIA

Typical Hardstanding Area



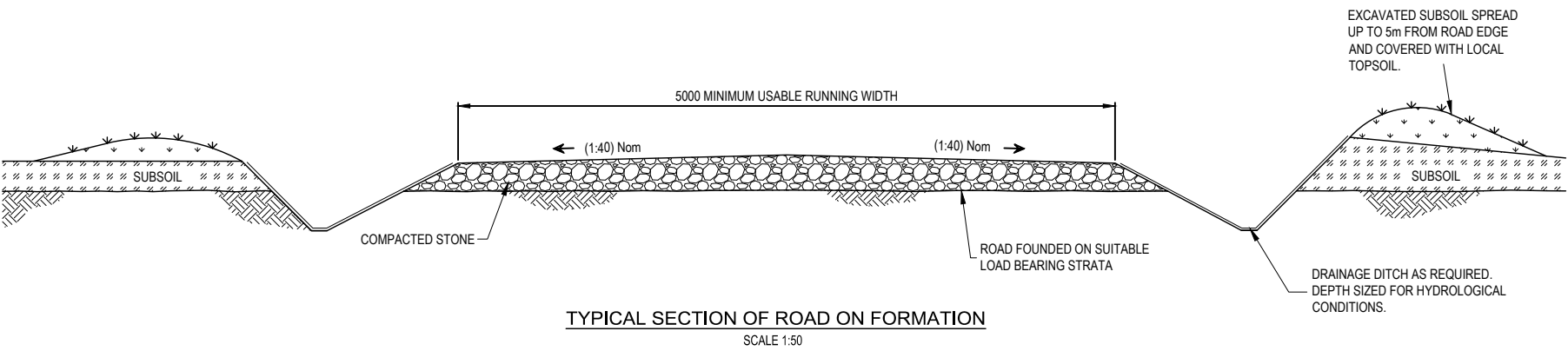
St Vincent Plaza, 319 St Vincent Street, Glasgow, G2 5LP
tel: +44 (0) 141 227 1700 www.woodplc.com

Scale 1:1000		Date MAY 2021	Size A3
Drawn PMcG	Checked VMcL	Approved VMcL	

Status	ESIA
--------	------

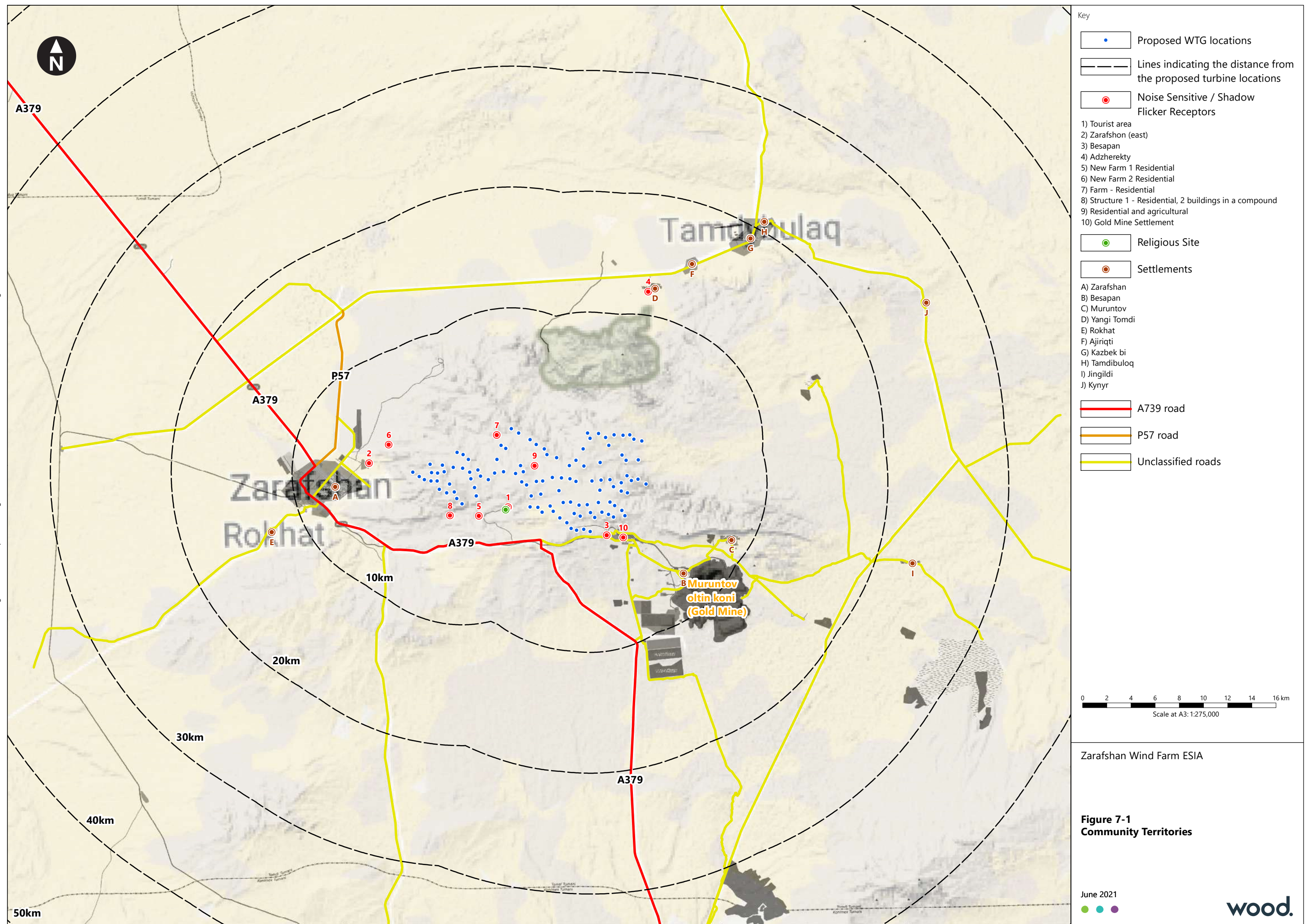
Drawing No.	Revision
FIGURE 2.2	B1

DO NOT SCALE

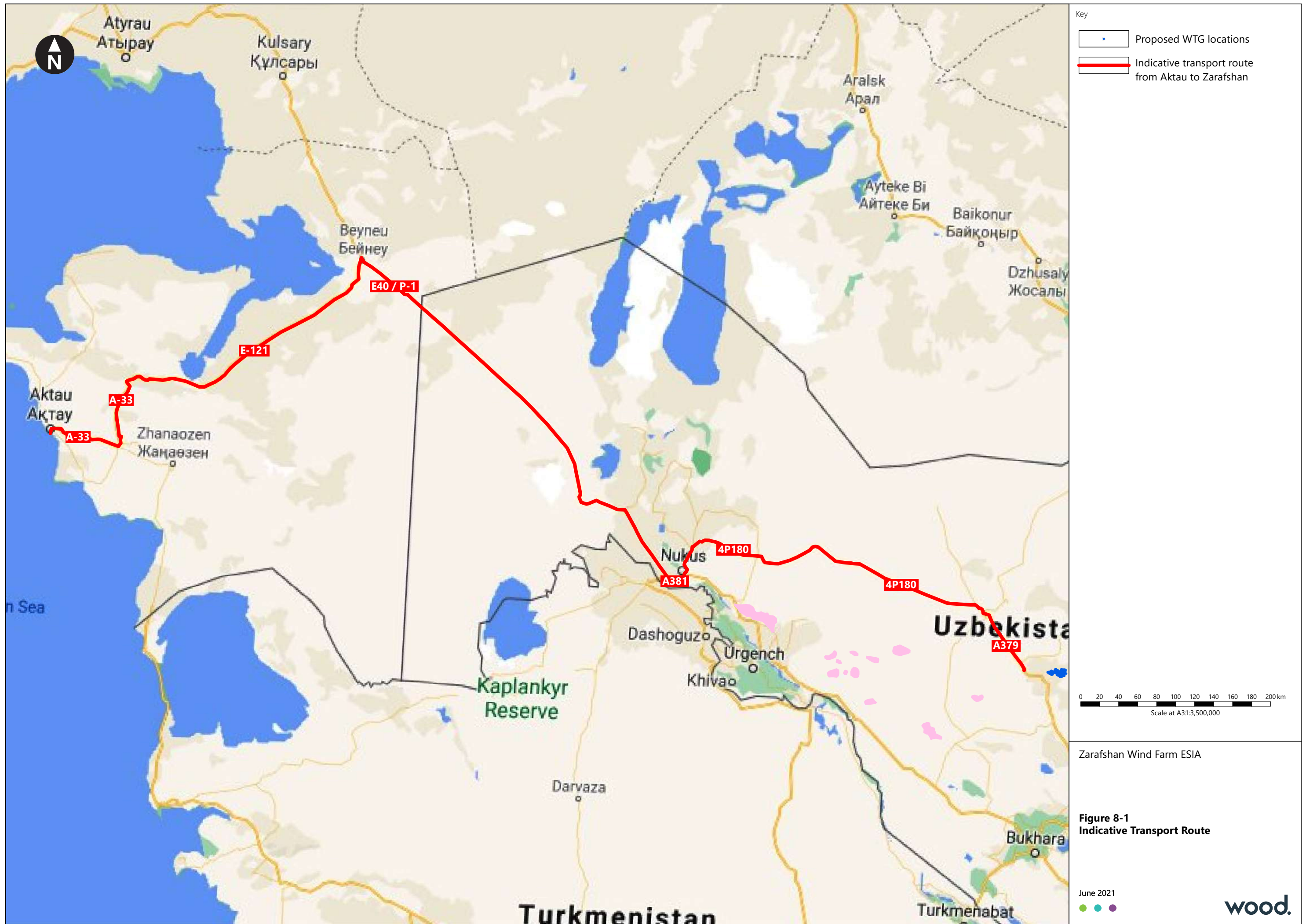


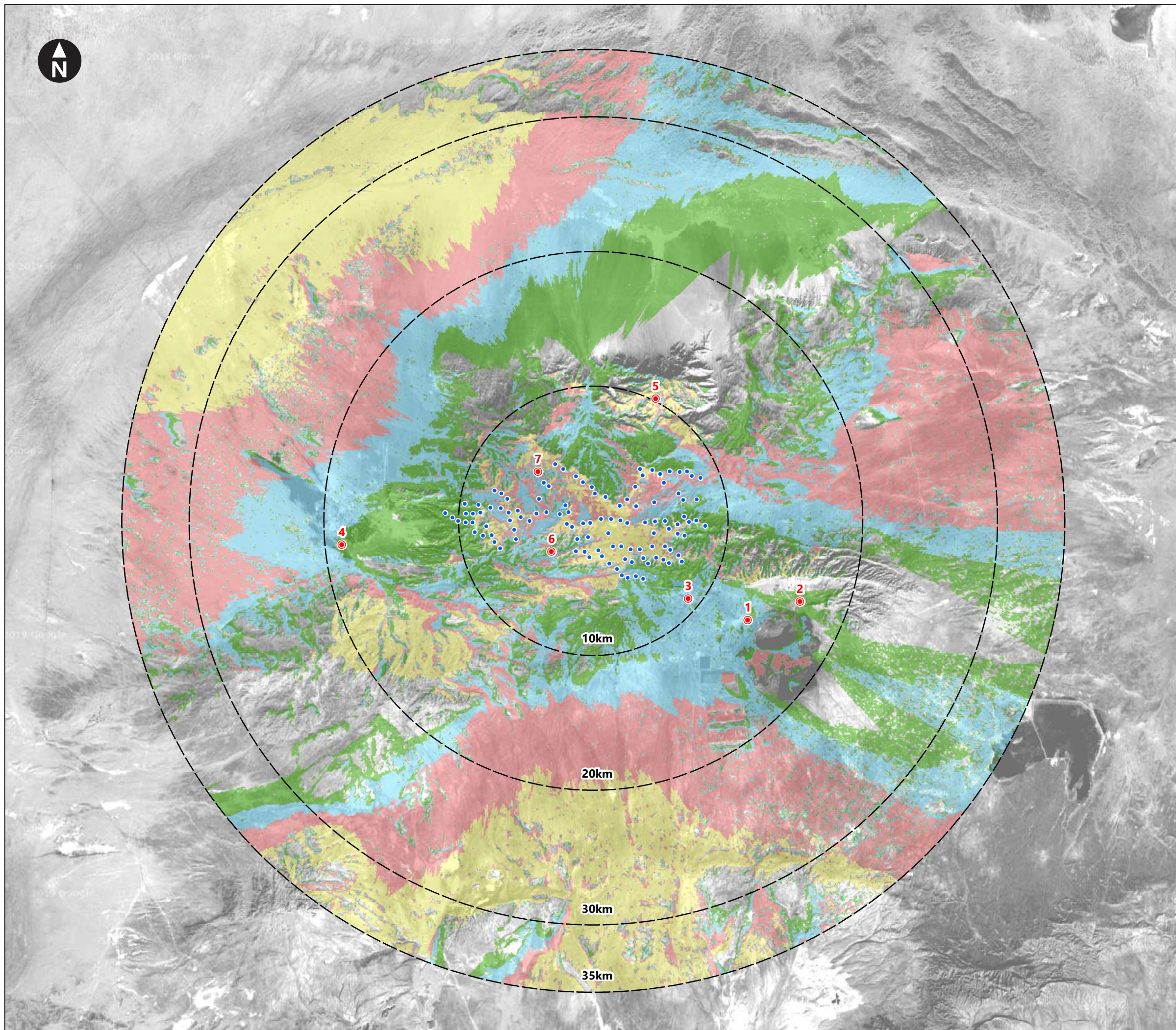
B1	ISSUED FOR ESIA		PMcG	VMcL	VMcL 19.05.21
Rev	Description		By	Chk'd	App'd Date
Job Title					
ZARAFSHAN WIND FARM ESIA					
Org Title					
TYPICAL ROAD SECTION					
St Vincent Plaza, 319 St Vincent Street, Glasgow, G2 5LP tel: +44 (0) 141 227 1700 www.woodplc.com					
Scale	1:50	Date	MAY 2021		Size
Drawn	PMcG	Checked	VMcL	Approved	VMcL A3
Status					
ESIA					
Drawing No.					Revision
FIGURE 2.3					B1

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Key

- Proposed WTG locations
- Lines indicating the distance from the mean site centre
- Viewpoint Locations

1) Road at Besapan
2) South of Muruntov
3) South of Industrial Area/Rail Depot
4) Edge of Zarafshan
5) High Ground to North
6) Tourist Area
7) Farm Shelter

- 1-27 turbines may be theoretically visible
- 28-55 turbines may be theoretically visible
- 56-83 turbines may be theoretically visible
- 84-111 turbines may be theoretically visible

Notes: This drawing is based on a computer generated Zone of Theoretical Visibility (ZTV). The areas shown indicate the maximum theoretical visibility of the proposed turbines and do not take account of any screening from vegetation or built-form. The ZTV also includes an adjustment that allows for the Curvature and Light Refraction of the Earth.

This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
Hub height: 95m
Rotor diameter: 155m
Height to blade tip: 172.5m

0 2 4 6 8 10 12 14 16 km
Scale at A3: 1:275,000

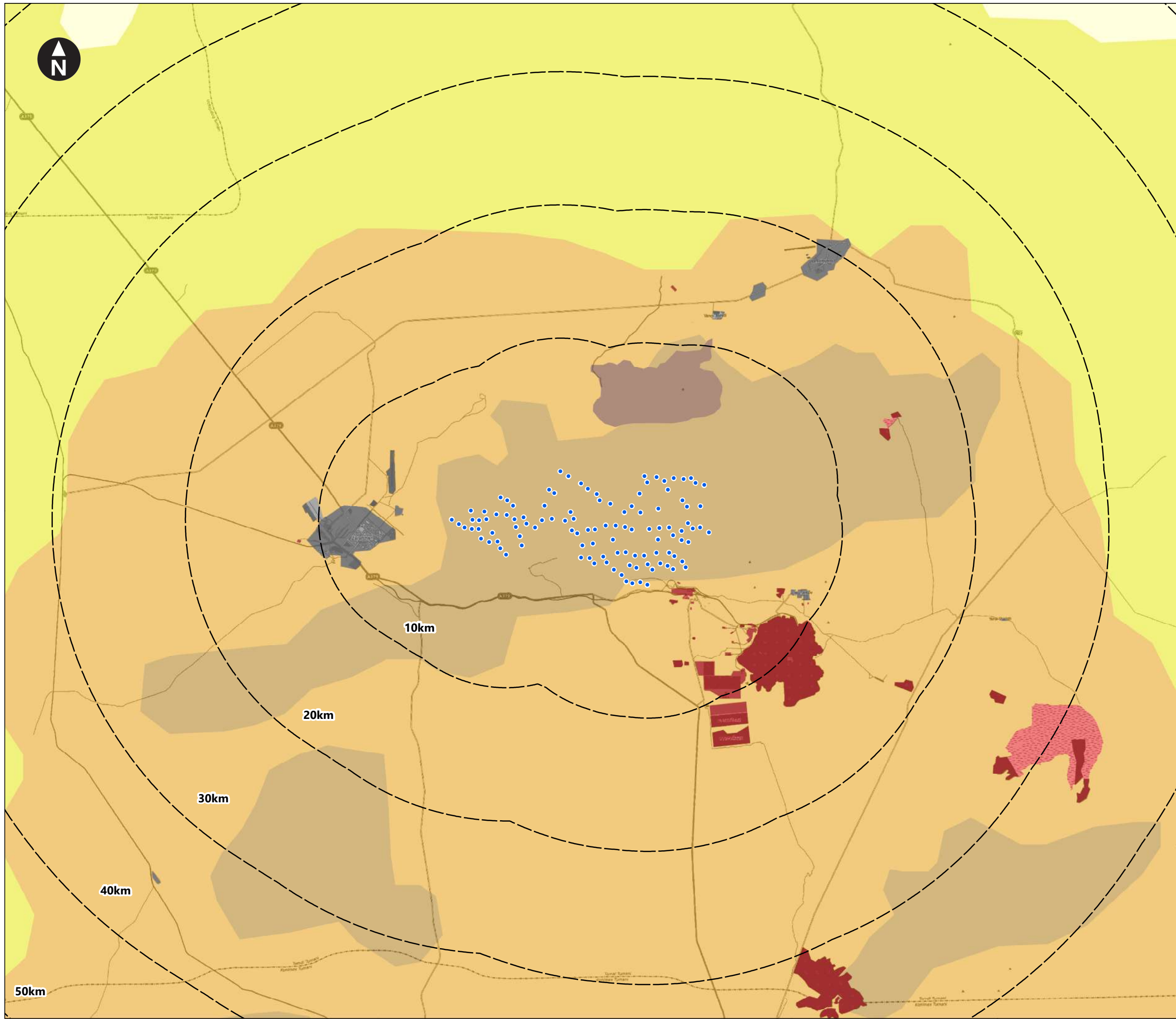
Zarafshan Wind Farm ESIA

Figure 9-1
Zone of Theoretical Visibility
with Viewpoints

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Key

- Proposed WTG locations
- Lines indicating the distance from the proposed turbine locations

Landscape Character Types

- Gypsum Deserts
- Rocky Deserts
- Saline Deserts
- Sand Deserts

Source: The Sixth National Report of the Republic of Uzbekistan on the Conservation of Biological Diversity (p.196)

- Urban
- Mining & Industry
- Tamdytau Mountains

0 2 4 6 8 10 12 14 16 km
Scale at A3: 1:275,000

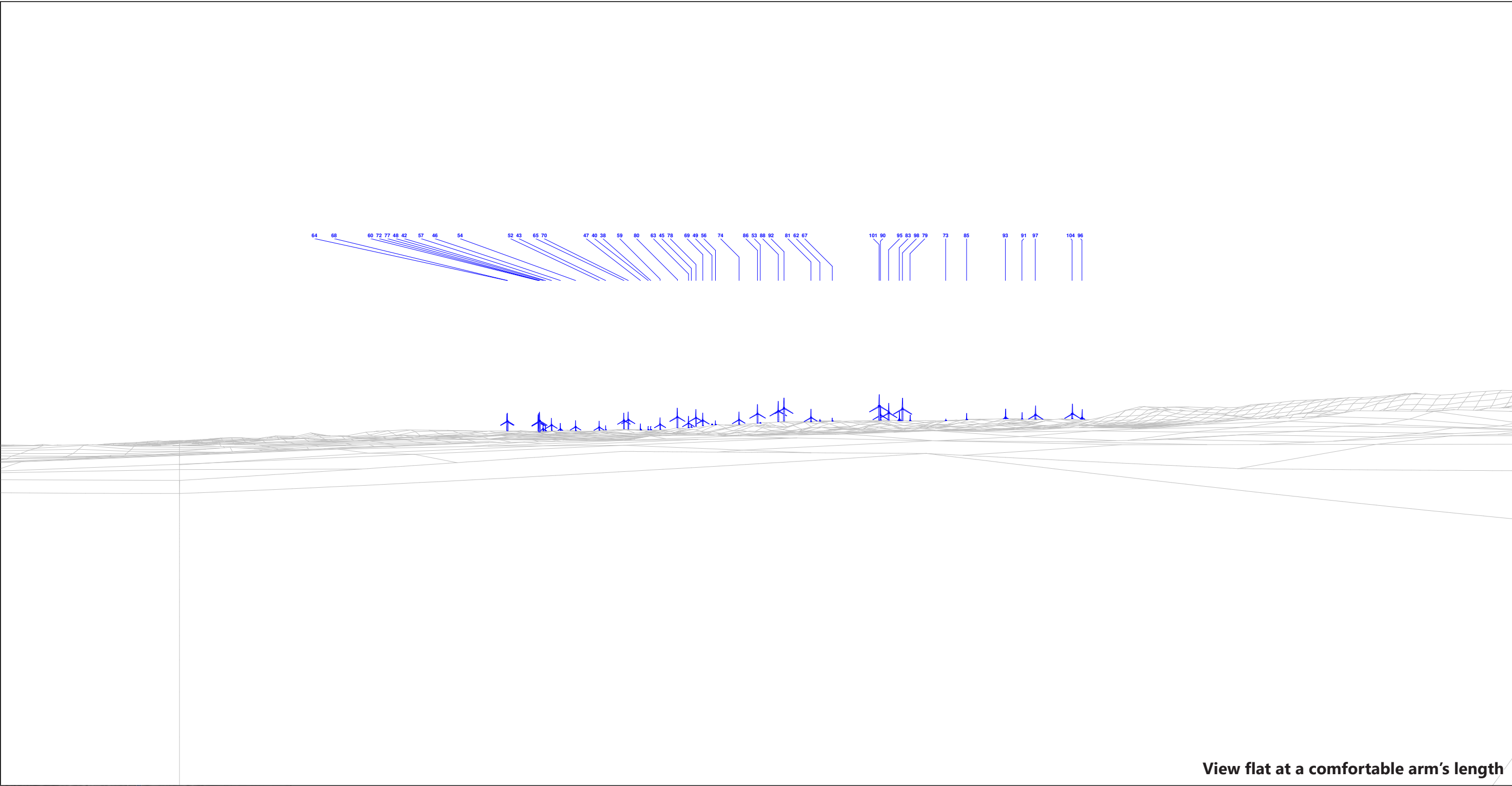
Zarafshan Wind Farm ESIA

Figure 9-2
Landscape Character Types

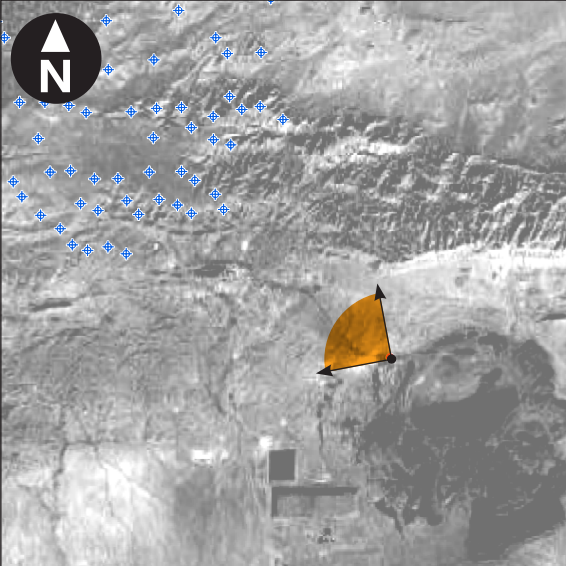
June 2021

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wood.



View flat at a comfortable arm's length



This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

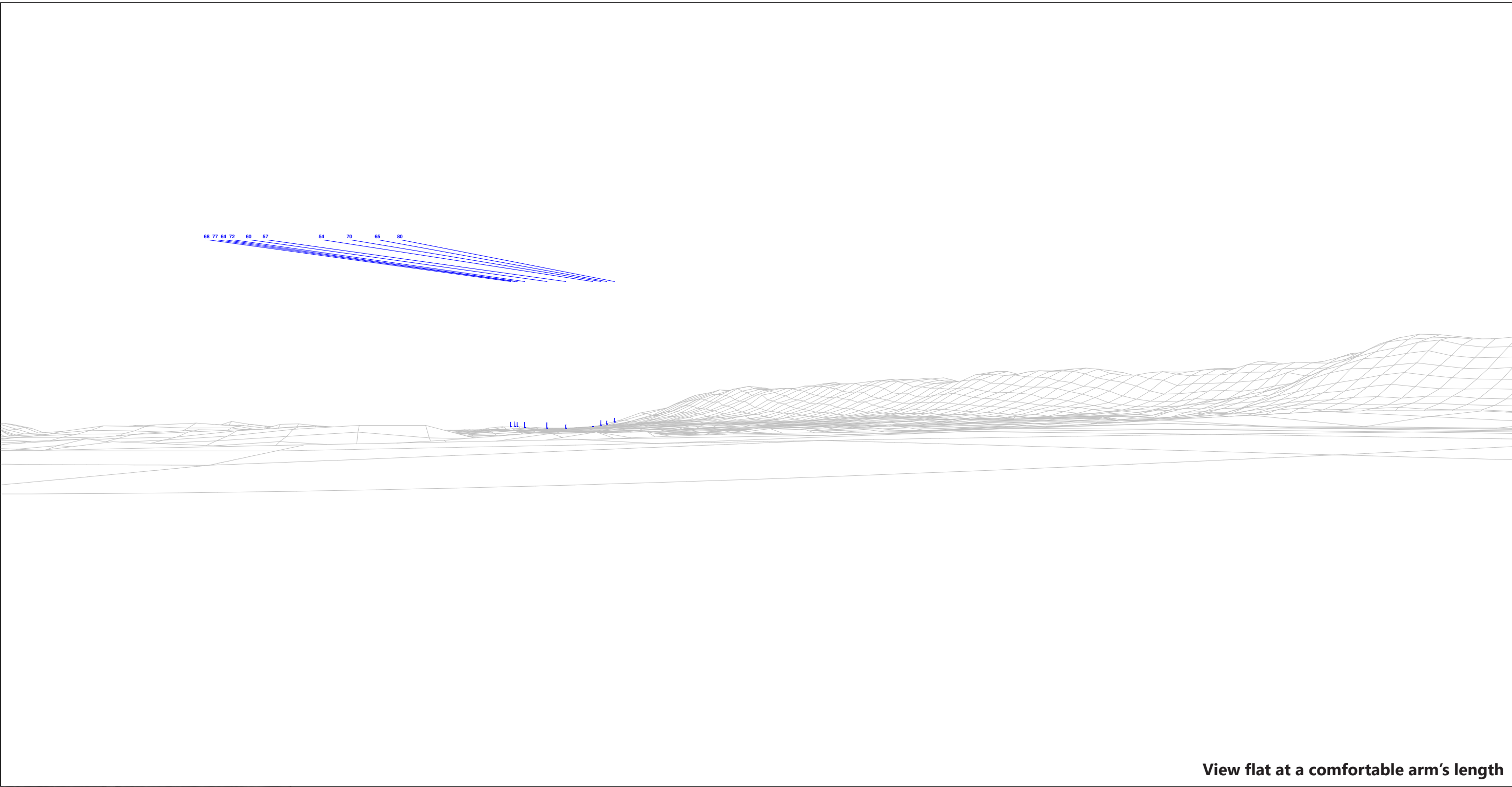
OS reference:	E629 651, N4596 350	Horizontal field of view:	90° (cylindrical projection)
Eye level:	585.5m AOD	Principal distance:	522mm
Direction of view:	304°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	6,553m	Correct printed image size:	390 x 202mm

Zarafshan Wind Farm ESIA

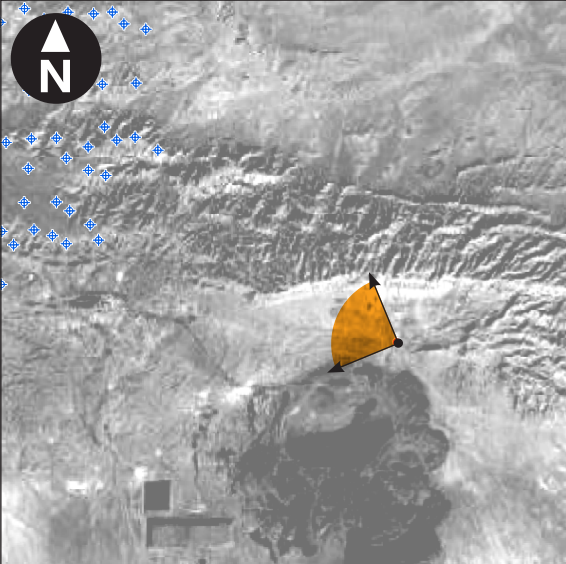
Figure 9-3
Viewpoint 1
Road at Besapan

June 2021





View flat at a comfortable arm's length



This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

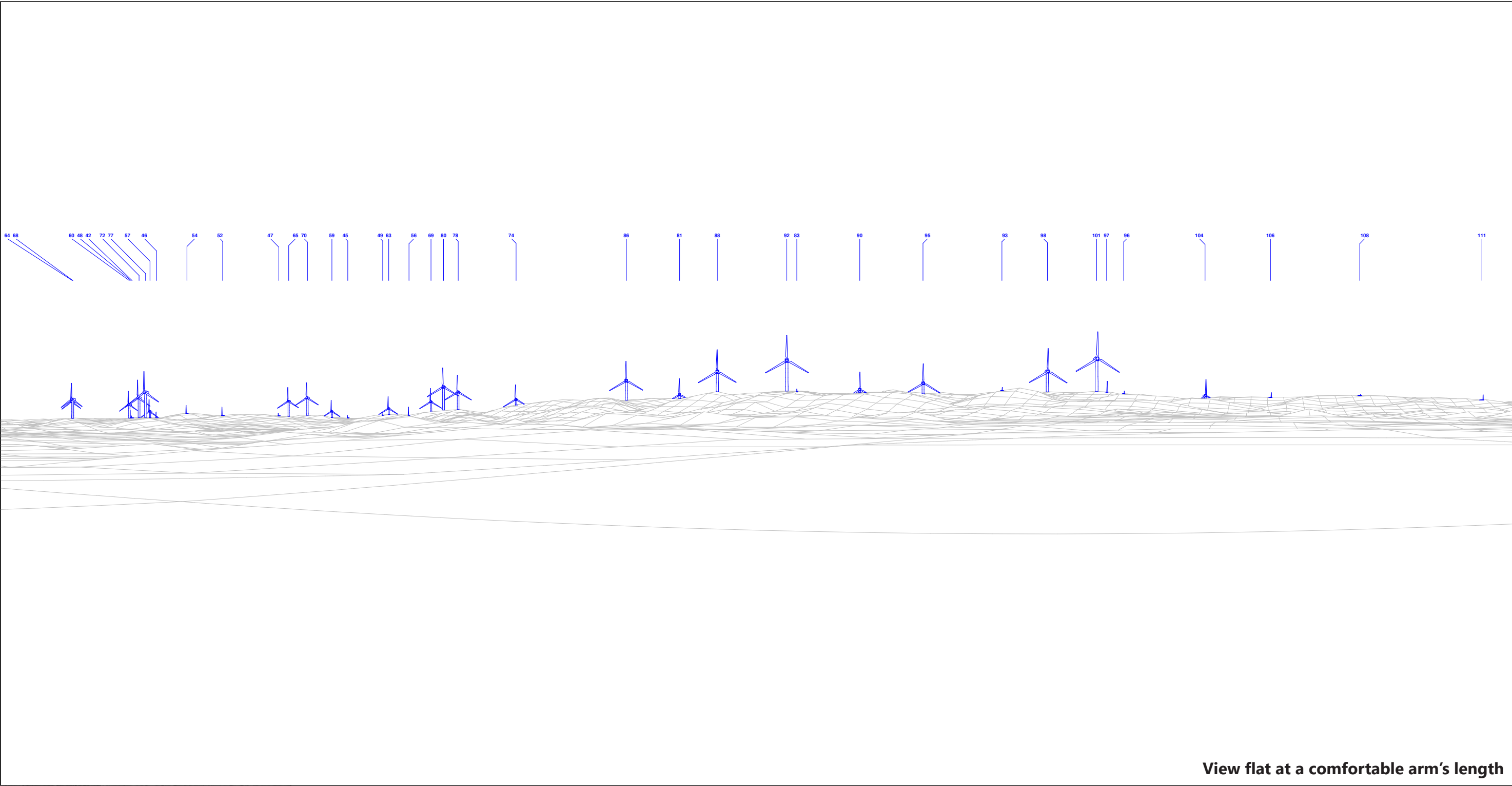
OS reference:	E633 524, N4597 713	Horizontal field of view:	90° (cylindrical projection)
Eye level:	562.5m AOD	Principal distance:	522mm
Direction of view:	293°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	9,006m	Correct printed image size:	390 x 202mm

Zarafshan Wind Farm ESIA

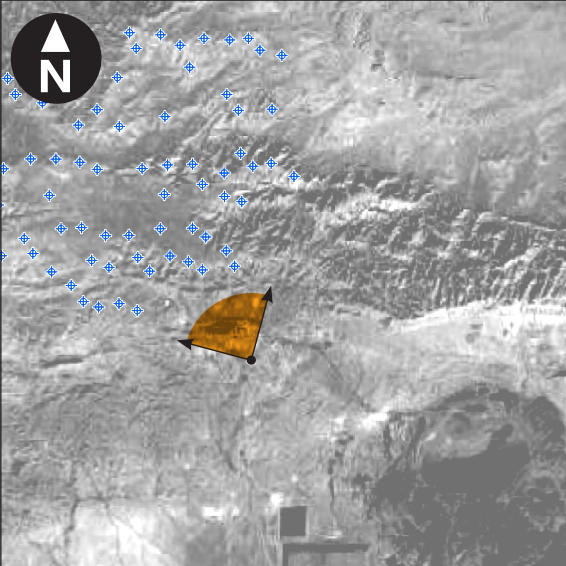
Figure 9-4
Viewpoint 2
South of Muruntov

June 2021





View flat at a comfortable arm's length



This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

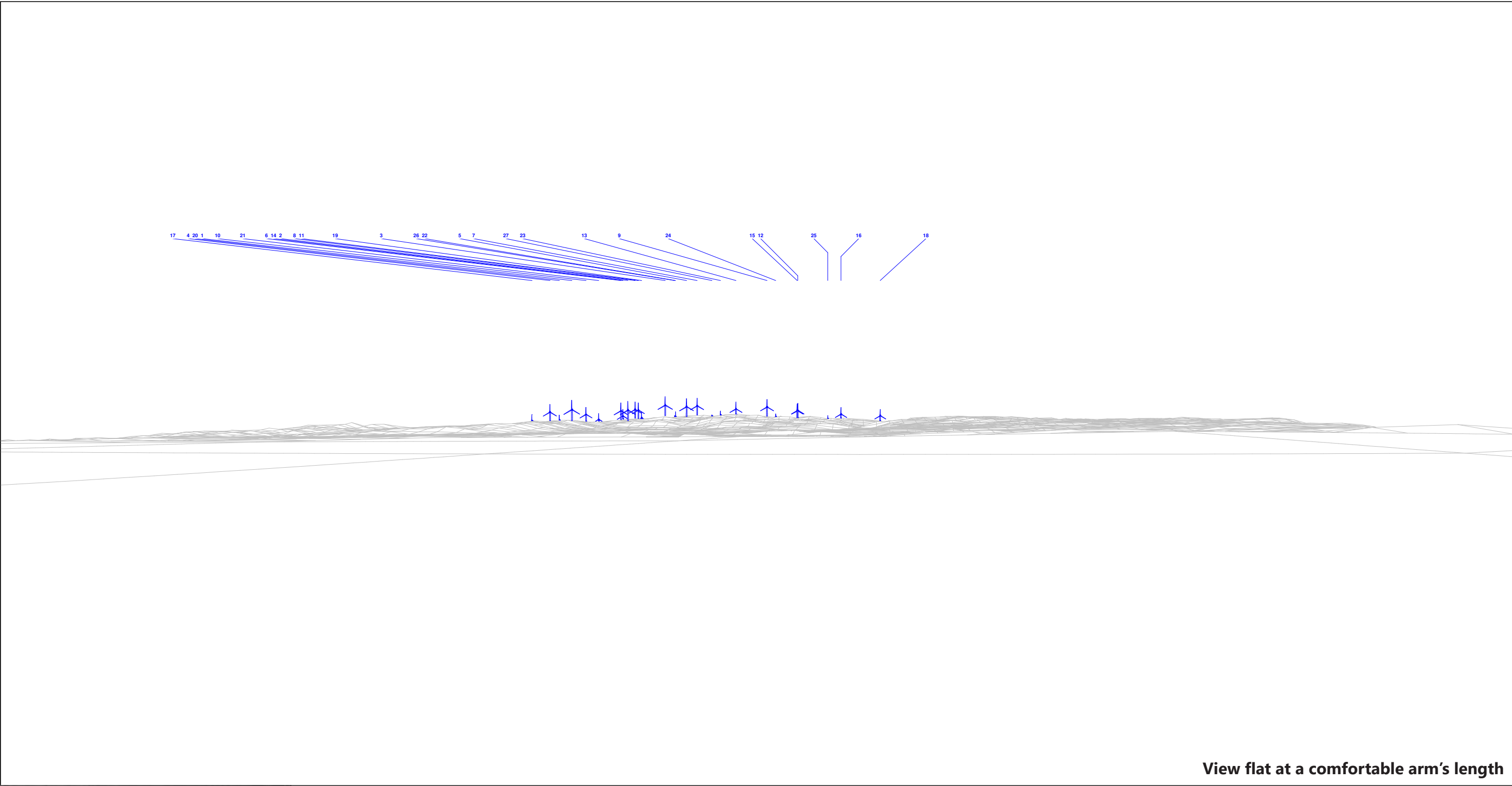
OS reference:	E625 229, N4597 936	Horizontal field of view:	90° (cylindrical projection)
Eye level:	613.5m AOD	Principal distance:	522mm
Direction of view:	330°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	2,808m	Correct printed image size:	390 x 202mm

Zarafshan Wind Farm ESIA

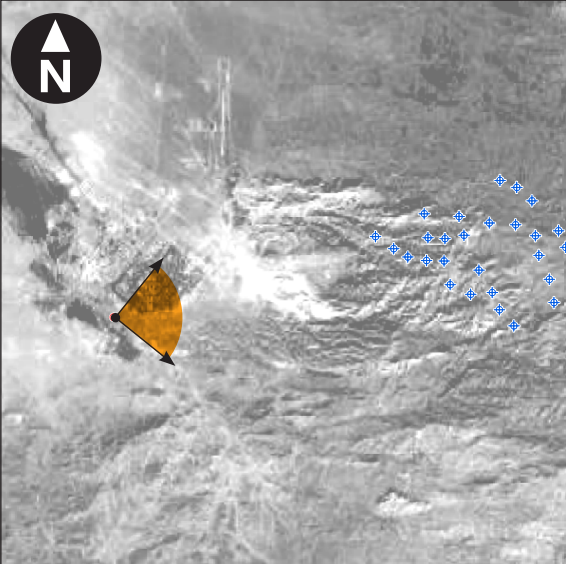
Figure 9-5
Viewpoint 3
South of Industrial Area / Rail Depot

June 2021





View flat at a comfortable arm's length



This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

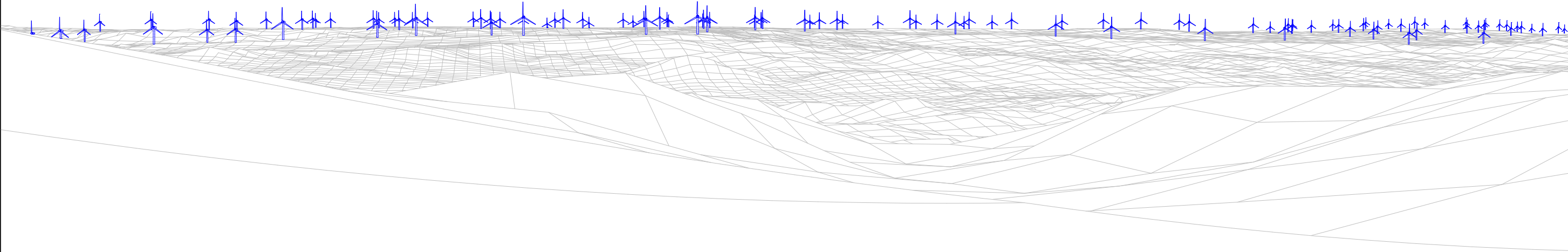
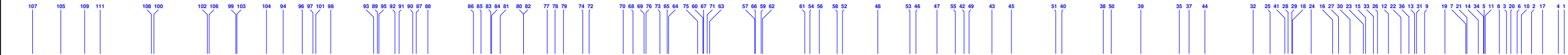
OS reference:	E599 506, N4601 932	Horizontal field of view:	90° (cylindrical projection)
Eye level:	408.5m AOD	Principal distance:	522mm
Direction of view:	84°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	8,051m	Correct printed image size:	390 x 202mm

Zarafshan Wind Farm ESIA

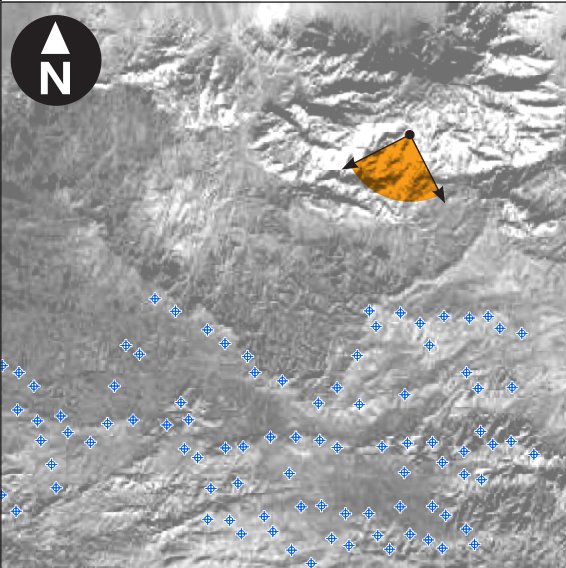
Figure 9-6
Viewpoint 4
Edge of Zarafshan

June 2021





View flat at a comfortable arm's length



This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

OS reference:	E622 812, N4612 770	Horizontal field of view:	90° (cylindrical projection)
Eye level:	830.5m AOD	Principal distance:	522mm
Direction of view:	198°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	5,273m	Correct printed image size:	390 x 202mm

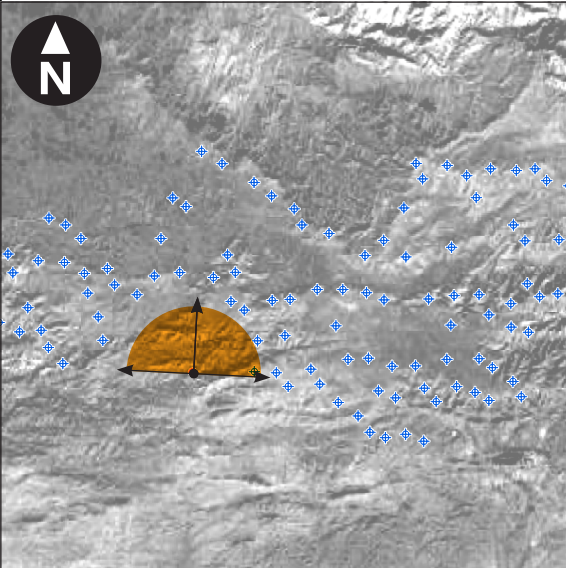
Zarafshan Wind Farm ESIA

Figure 9-7
Viewpoint 5
High Ground to North

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This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

OS reference:	E615 083, N4601 432	Horizontal field of view:	90° (cylindrical projection)
Eye level:	644.5m AOD	Principal distance:	522mm
Direction of view:	318° / 48°	Paper size:	420mm x 297mm (A3)
Nearest consented turbine:	1,820m	Correct printed image size:	390 x 101mm

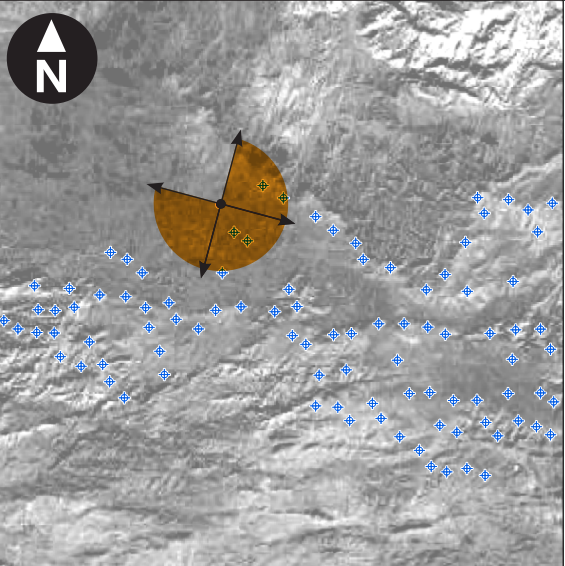
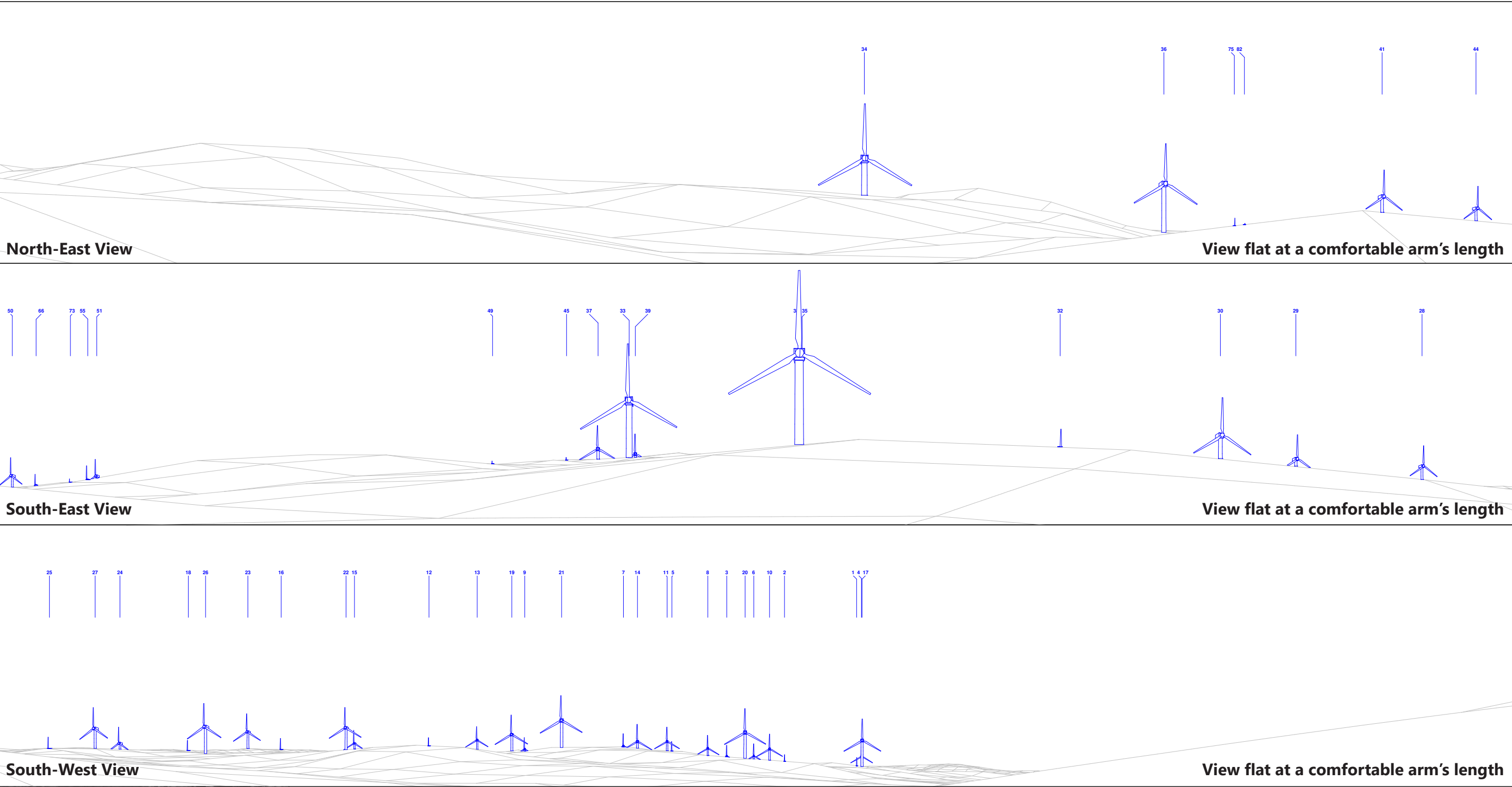
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Figure 9-8
Viewpoint 6
Tourist Area

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This figure has been based on the following parameters:
Turbine layout file: LZARAFSHON004.WFL
• Hub height: 95m
• Rotor diameter: 155m
• Height to blade tip: 172.5m

OS reference: E614 078, N4607 363
Eye level: 593.5m AOD
Direction of view: 60° / 150°/ 240°
Nearest consented turbine: 921m

Horizontal field of view: 90° (cylindrical projection)
Principal distance: 522mm
Paper size: 420mm x 297mm (A3)
Correct printed image size: 390 x 101mm

Zarafshan Wind Farm ESIA

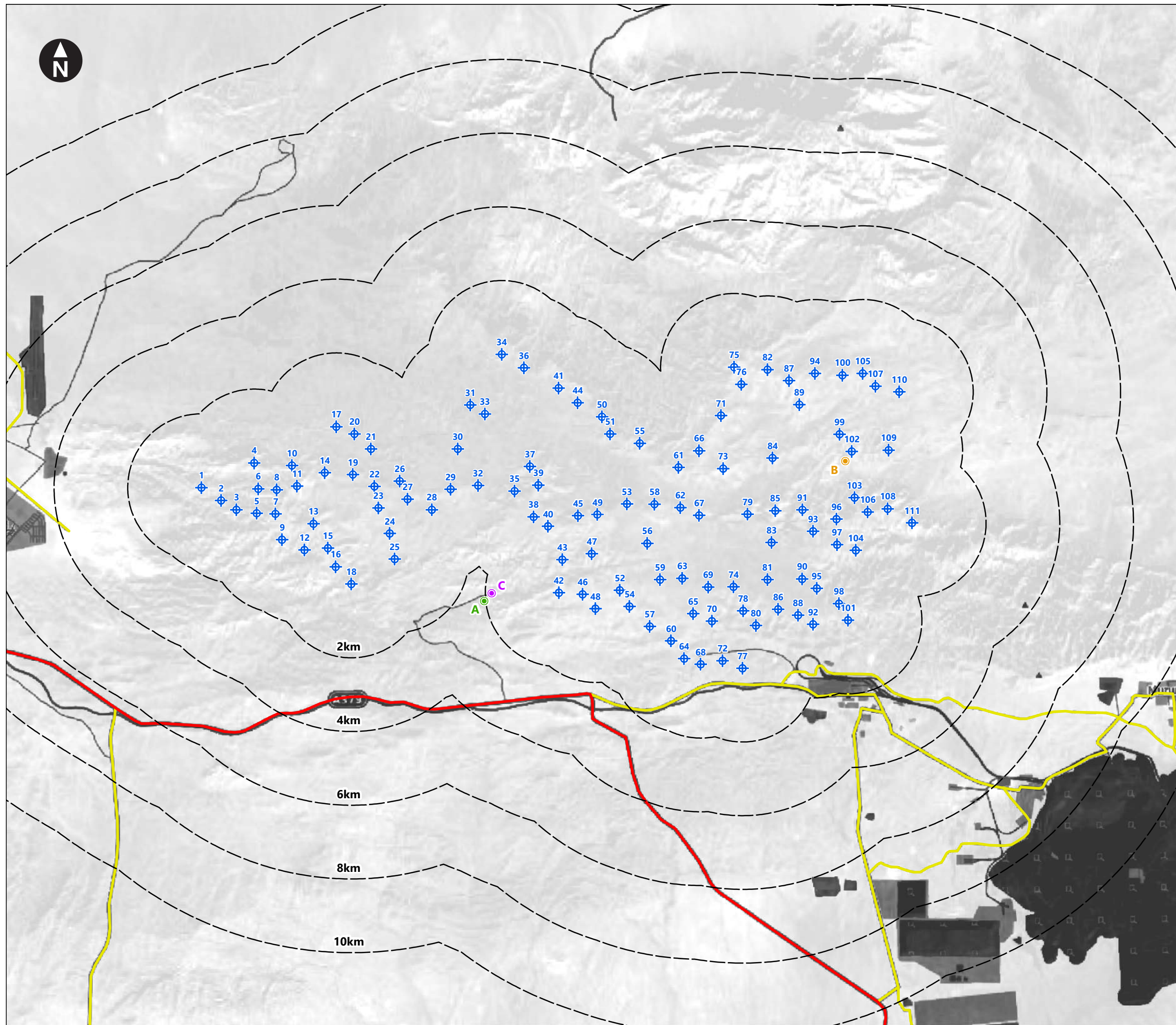
Figure 9-9
Viewpoint 7
Farm Shelter

June 2021

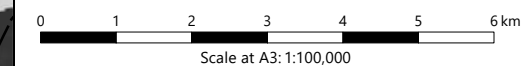


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- Key
- Proposed WTG locations
 - Lines indicating the distance from the proposed turbine locations
 - A) Religious site (Gujumli Arliyo)
 - B) Indicative location of remnants of paleo volcano
 - C) Tourist Area



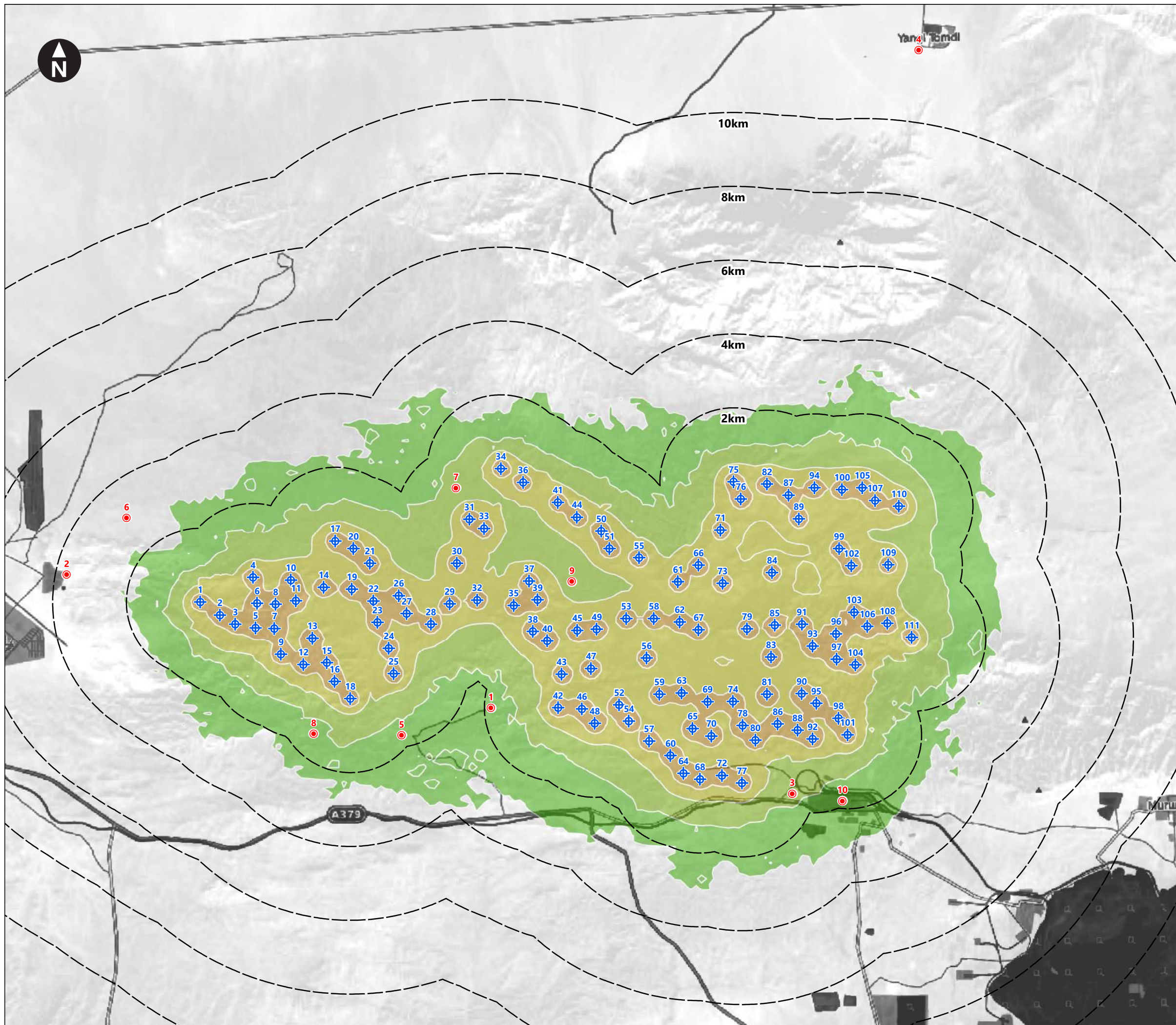
Zarafshan Wind Farm ESIA

Figure 10-1
Archaeology Sites

May 2021

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H:\data\Projects\41917 Garbet Hill Wind Farm (Subfolder)\D Design_Technical\ArcGIS\43423-WOOD-XX-02-DR-SA-0011_S3_R8.mxd Originator: wilsc03



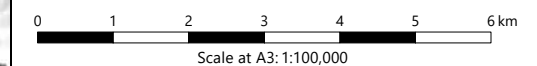
Key

- Proposed WTG locations
- Lines indicating the distance from the proposed turbine locations
- Noise Sensitive Receptors

1) Tourist area
2) Zarafshon (east)
3) Besapan
4) Adzherekty
5) New Farm 1 Residential
6) New Farm 2 Residential
7) Farm - Residential
8) Structure 1 - Residential, 2 buildings in a compound
9) Residential and agricultural
10) Gold Mine Settlement

Noise Contours

- 35 dB (A)
- 40 dB (A)
- 45 dB (A)
- 50 dB (A)
- 55 dB (A)



Zarafshan Wind Farm ESIA

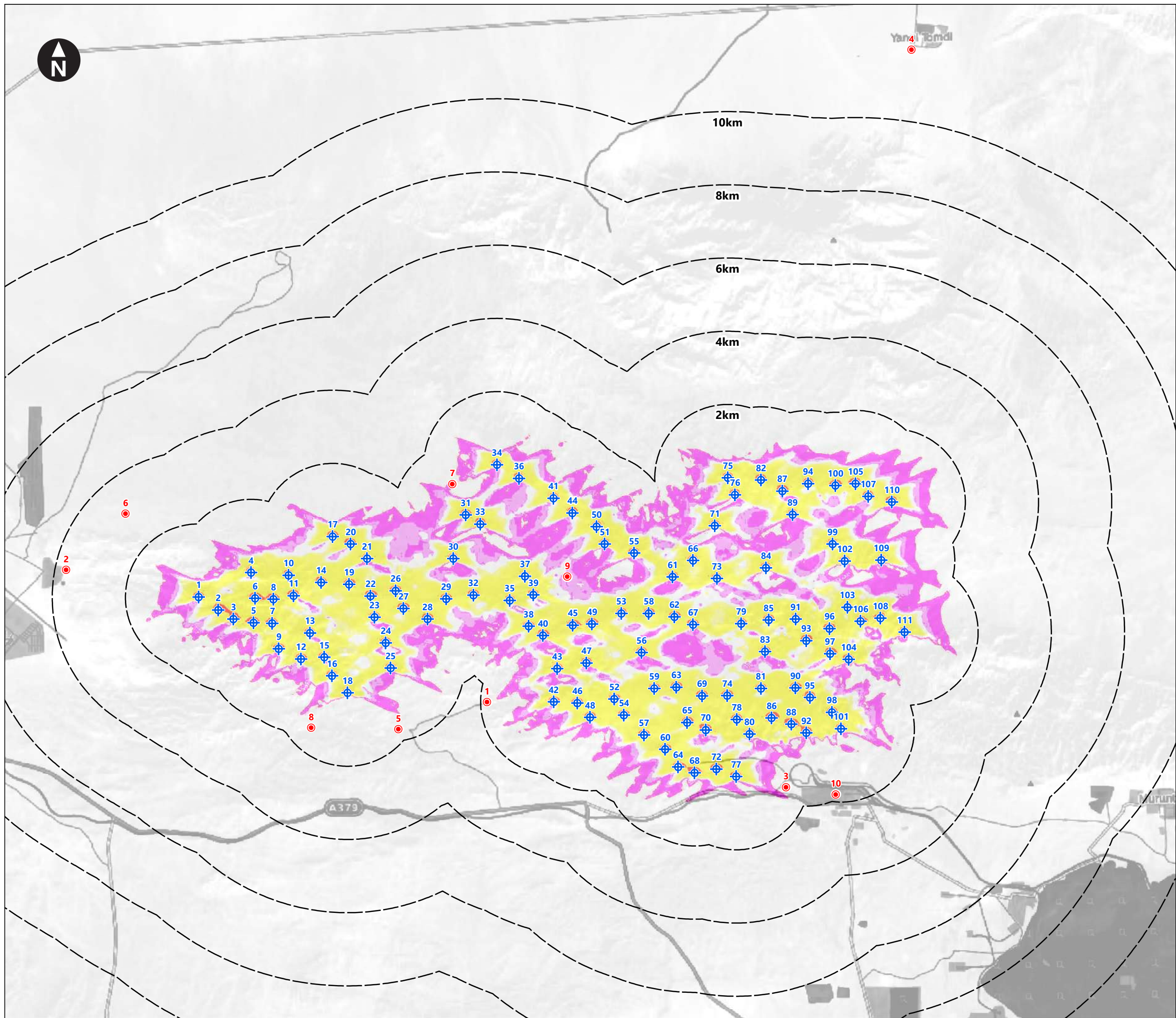
Figure 11-1
Noise Sensitive Receptors

May 2021



wood.

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Key

- Proposed WTG locations
- Lines indicating the distance from the proposed turbine locations
- Shadow Flicker Receptors
- 1) Tourist area
- 2) Zarafshon (east)
- 3) Besapan
- 4) Adzherekty
- 5) New Farm 1 Residential
- 6) New Farm 2 Residential
- 7) Farm - Residential
- 8) Structure 1 - Residential, 2 buildings in a compound
- 9) Residential and agricultural
- 10) Gold Mine Settlement

Note: Shading represents areas predicted to experience over 30 hours of theoretical shadow flicker events per year.

0 1 2 3 4 5 6 km
Scale at A3: 1:100,000

Zarafshan Wind Farm ESIA

Figure 12-1
Shadow Flicker

May 2021

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wood.