

1a. Main land use(s)	Green planted crop field 26	W	
5c. Buried and overhead services	Manholes in road between fields	N	
1a. Main land use(s)	Field 46 green crop	N	

1a. Main land use(s)	Filed 70 plowed	SW	
5c. Buried and overhead services	Oil pipe into field not part of development off the road	N	
5c. Buried and overhead services	Oil pipe field 70	SW	

5c. Buried and overhead services	End of power line into underground cable, likely going into filed 70 to the south	S	
1a. Main land use(s)	Filed 65 pasture	NE	
1a. Main land use(s)	Corn crop harvested field 73	NE	

1a. Main land use(s)	Filed 70 plowed	SE	
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I. Other Observations & Sketches

Include Sketches	[]
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1 record

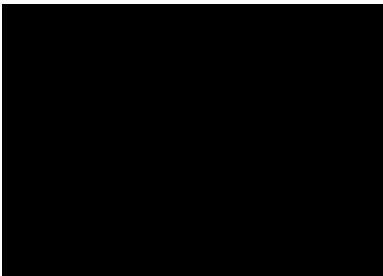
Notes / Observations

Sign-Off

RSK Representative

 Euan Gray-Stephens  [@rsk.co.uk](mailto:[redacted]@rsk.co.uk)

RSK Representative Signature



Basic Details

Site Walkover Questionnaire.



Date	14/03/2024
Project Name	One earth solar
Project No.	323323
Site Name	Route 6:
GPS Location	53° 14' 8.362" N 0° 45' 14.955" W
Site Engineer	Euan gray-stephens
Accompanied by	
Site Engineer Arrival Time	14/03/2024, 14:21
Site Engineer Departure Time	
Other RSK Staff On Site	
Weather Conditions	☐ Heavy Rain ☐ Rain ☐ Drizzle ☐ Overcast ☒ Cloudy ☐ Sunny Spells ☐ Sunny ☐ Fog ☐ Snow ☐ Thunder ☐ Hail

A. Current Site Use

Question	Combined Response
A1. What are the main land uses on site?	:
A2. What are the current land uses NORTH of the site?	:
A3. What are the current land uses EAST of the site?	:
A4. What are the current land uses SOUTH of the site?	:
A5. What are the current land uses WEST of the site?	:

A6. Current Site Activities

A7. Current Site Activities -
Adjacent Sites

A8. Site Boundaries

B. Access Constraints

B1. General Access Constraints?

(X) No

() Yes

Question	Combined Response
B4. Are there any access constraints for the SI phase?	:

C. Physical Characteristics

Question	Combined Response
C1. Is the Site level?	-- :
C2. Is there any evidence of subsidence, landslip or slope erosion?	-- :
C3. Are there any changes in level between the site and adjacent sites?	-- :

Enter percentage of site coverage by buildings / roads / hardstanding etc. (Soft cover is automatically calculated)

C4. Percentage Hard Cover

C5. Percentage Soft Cover100

C6. Cover Details

D. Environmental Characteristics

Question	Combined Response
D1. Is there any vegetation on site?	Grasses;Hedges;Shrubs;Trees : All on boundaries. Far, land including potatoes mid harvest. Likely corm or cereals too. Turf grass laid in some areas

D2. Evidence of Vegetation Stress	No
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Question	Combined Response
D3. Is there any evidence of invasive species being present on site?	No Invasive Species Observed :
D4. Is there any evidence of invasive species being present on adjacent sites (within 10m of site boundary?)	No Invasive Species Observed :

D5. Site visit in dormancy period? ☐ Yes ☒ No

Question	Combined Response
D6. Are there any surface water features on site?	Yes : Ditches along field boundaries
D7. Are there any surface water features within 250m off site?	Yes : Ditches, few ponds are shown on mapping

Question	Combined Response
D8. Visual evidence of contamination of surface waters	Cloudy Water;Discoloured Sediment;Discoloured Water : Ditches ar typically murky, with build up and discolouration

Drainage could be to ground, surface water sewer, foul sewer, watercourse, SuDS etc.

Include visual observations and any anecdotal information from site representatives. Obtain or consult copies of drainage plans where possible.

D9. Where does the site drain to? Various

D10. Site Drainage Information

D11. Site Outfall Information

D12. Site Waterlogging or Flooding	Few instances
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E. Structures and Services

Question	Combined Response
E1. Are there any buildings on site?	No :

Question	Combined Response
E2. Any evidence of gas protection measures in buildings?	No :

Question	Combined Response
E3. Are there any buried services present?	Yes : Oil pipeline tracked where possible
E4. Are there any overhead services present on or adjacent to site?	Yes : Small power lines

Question	Combined Response
E5. Are there any underground structures present on or adjacent to site?	No :

E6. Phone Signal	Reasonable Signal, Over Most of the Site
E7. Cellular Providers Tested	O2, vodafone
E8. Data Connectivity	Good 4G or 5G

F. Geotechnical Considerations

<i>Question</i>	<i>Combined Response</i>
F2. Is there any evidence of damage to existing building structures on site?	No :
F3. Are there any remains of building structures present on or adjacent to site?	No :
F4. Are there any retaining walls present on or adjacent to site?	No :
F5. Are there any abrupt changes in ground level present on or adjacent to site?	No :
F6. Are there any potentially unstable slopes/ exposed ground present on or adjacent to site?	No :
F7. Are there any mature trees on site?	Yes : Around field boundaries
F8. Is there any visual evidence of infilled basements on site?	No :

G. Potential Evidence for Contamination

<i>Question</i>	<i>Combined Response</i>
G1. Is there any potentially hazardous materials storage and use on site?	Yes : Farms may house fertiliser and chemicals
G2. Is there any waste storage on site?	No :
G3. Is there any fly tipping / litter on site?	No :
G4. Are there any electricity sub stations/ transformers on or near site?	No :

<i>Question</i>	<i>Combined Response</i>
G5. Is there any evidence for ACM on site?	None Observed :

<i>Question</i>	<i>Combined Response</i>
G6. Is there any visual evidence of potential contamination on site?	Leachate : Hay or silage dump in field 80. Decaying naturally but some leaching,
G7. Is there any visual evidence of potential contamination on adjacent sites?	None Observed :

H. Pictures

29 records

Select Feature	Description	Direction Taken	
1a. Main land use(s)	Filed 77, plowed and muck spreading	N	
1a. Main land use(s)	Green crop, field 81	S	
5c. Buried and overhead services	Oil pipeline into field 81	S	

3a. Site Topography	Low point and dipping in centre of field 81	SE	
1a. Main land use(s)	Field hgý93 plowed	SE	
1a. Main land use(s)	Field 87 plowed	NE	

5c. Buried and overhead services	Oil pipe into field 94/95	S	
1a. Main land use(s)	Field 93/91 plowed	N	
1a. Main land use(s)	Field 94/95 with crop in, turnip or potatoes likely.	SE	

1a. Main land use(s)	Field 92 plowed	N	
1a. Main land use(s)	Field 90 shaved	N	
4d. Surface waters on site	Ditches drain with dark brown colour and build up beside field 92 and 90	N	

1a. Main land use(s)	Field 80 being turfed	NW	
1a. Main land use(s)	Field 80 being turfed	NE	
4i. Waterlogging or flooding	Flooding in centre of field 80	NW	

1a. Main land use(s)	Field 80 shaved	N	
1a. Main land use(s)	Field 88 shaved	W	
4f. Visual evidence of contamination of surface waters	Ditches foaming beside field 88	E	

1a. Main land use(s)	Field 84 shaved	NW	
1a. Main land use(s)	Field 84 shaved	NW	
1a. Main land use(s)	Turf north west field 80	NE	

1a. Main land use(s)	Crop north field 84	NW	
1c. Adjacent land use(s)	Public footpath east	E	
1c. Adjacent land use(s)	Public footpath west	W	

1c. Adjacent land use(s)	Poultry Houses, silos and gas tanks on site.	W	
4f. Visual evidence of contamination of surface waters	Silt/leach trap in ditches in field 82. Green algae (?) Build up behind it	W	
1a. Main land use(s)	Field 80 turf	N	

7f. Evidence of possible
land contamination on-site

Silage or hay bays
decaying in field 80

E



7f. Evidence of possible
land contamination on-site

Hay or silage bales
decaying in field 80

E



I. Other Observations & Sketches

Include Sketches	[]
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1 record

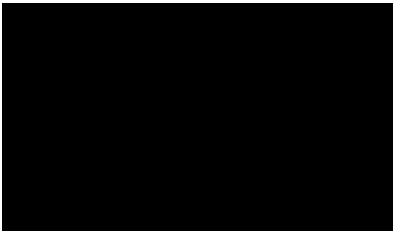
Notes / Observations

Sign-Off

RSK Representative

 Euan Gray-Stephens  [@rsk.co.uk](mailto:[redacted]@rsk.co.uk)

RSK Representative Signature



Basic Details

Site Walkover Questionnaire.



Date	15/03/2024
Project Name	One earth solar
Project No.	323323
Site Name	Route 7: one earth solar
GPS Location	53° 14' 25.439" N 0° 47' 6.863" W
Site Engineer	Euan Gray-Stephens
Accompanied by	
Site Engineer Arrival Time	15/03/2024, 09:07
Site Engineer Departure Time	
Other RSK Staff On Site	
Weather Conditions	☐ Heavy Rain ☐ Rain ☐ Drizzle ☐ Overcast ☒ Cloudy ☐ Sunny Spells ☐ Sunny ☐ Fog ☐ Snow ☐ Thunder ☐ Hail
Any Other Details	
Due Diligence report?	☒ No ☐ Yes

A. Current Site Use

Question	Combined Response
A1. What are the main land uses on site?	Arable (Agricultural) ;Pasture (Agricultural) : Arable mostly, come crop and an area of root vegg in northwest
A2. What are the current land uses NORTH of the site?	Arable (Agricultural) ;Houses with gardens : Dunham town o the north, after more agricultural land
A3. What are the current land uses EAST of the site?	Arable (Agricultural) ;Other : River treent, then more agricultural
A4. What are the current land uses SOUTH of the site?	Arable (Agricultural) ;Industrial : Substation to the south, mostly arable agricultural
A5. What are the current land uses WEST of the site?	Arable (Agricultural) ;Pasture (Agricultural) : Agricultural

A6. Current Site Activities	Agricultural, mostly arable with some pasture
A7. Current Site Activities - Adjacent Sites	Agricultural, electrical substation to the south
A8. Site Boundaries	Hedges, tres shrubs, with ditches and streams. Some fences. Some bounded by roadways. River trent to the east

B. Access Constraints

B1. General Access Constraints?

(X) No

() Yes

Question	Combined Response
B4. Are there any access constraints for the SI phase?	Gates / Fences;Overhead Power Lines;Protected Trees / Hedges;Soft Ground;Surface Water :

C. Physical Characteristics

Question	Combined Response
C1. Is the Site level?	Yes : Very level area of thr site.
C2. Is there any evidence of subsidence, landslip or slope erosion?	No :
C3. Are there any changes in level between the site and adjacent sites?	No :

Enter percentage of site coverage by buildings / roads / hardstanding etc. (Soft cover is automatically calculated)

C4. Percentage Hard Cover0

C5. Percentage Soft Cover100

C6. Cover Details

D. Environmental Characteristics

Question	Combined Response
D1. Is there any vegetation on site?	Grasses;Hedges;Shrubs;Trees : All of thr above on the boundaries. Agricultural fields with crops too is main land use.

D2. Evidence of Vegetation Stress	No
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Question	Combined Response
D3. Is there any evidence of invasive species being present on site?	No Invasive Species Observed :
D4. Is there any evidence of invasive species being present on adjacent sites (within 10m of site boundary?)	No Invasive Species Observed :

D5. Site visit in dormancy period? ☐ Yes ☒ No

Question	Combined Response
D6. Are there any surface water features on site?	Yes : Streams and ditches
D7. Are there any surface water features within 250m off site?	Yes : Bounded by the river trent to the east

Question	Combined Response
D8. Visual evidence of contamination of surface waters	Cloudy Water;Discoloured Water : Murky green dotch water tracked from the church pump ststi9n to the westward fields in southwest sector of site.

Drainage could be to ground, surface water sewer, foul sewer, watercourse, SuDS etc.

Include visual observations and any anecdotal information from site representatives. Obtain or consult copies of drainage plans where possible.

D9. Where does the site drain to? Various, mostly to the trent

D10. Site Drainage Information

D11. Site Outfall Information

D12. Site Waterlogging or Flooding	Few local areas, mostly dry
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E. Structures and Services

Question	Combined Response
E1. Are there any buildings on site?	No :

Question	Combined Response
E2. Any evidence of gas protection measures in buildings?	No :

Question	Combined Response
E3. Are there any buried services present?	Yes : Likely drainage across site but in the north east to drain into sluices
E4. Are there any overhead services present on or adjacent to site?	Yes : Small power lines, medium and large pylons

Question	Combined Response
E5. Are there any underground structures present on or adjacent to site?	No :

E6. Phone Signal	Reasonable Signal, Over Most of the Site
E7. Cellular Providers Tested	Vodafone, o2
E8. Data Connectivity	Good 4G or 5G

F. Geotechnical Considerations

<i>Question</i>	<i>Combined Response</i>
F2. Is there any evidence of damage to existing building structures on site?	No :
F3. Are there any remains of building structures present on or adjacent to site?	No :
F4. Are there any retaining walls present on or adjacent to site?	No :
F5. Are there any abrupt changes in ground level present on or adjacent to site?	No :
F6. Are there any potentially unstable slopes/ exposed ground present on or adjacent to site?	No :
F7. Are there any mature trees on site?	Yes : Around field boundaries
F8. Is there any visual evidence of infilled basements on site?	No :

G. Potential Evidence for Contamination

<i>Question</i>	<i>Combined Response</i>
G1. Is there any potentially hazardous materials storage and use on site?	Yes : Agricultural land uses and buildings. Fertiliser and chemicals
G2. Is there any waste storage on site?	No :
G3. Is there any fly tipping / litter on site?	No :
G4. Are there any electricity sub stations/ transformers on or near site?	Yes : South sector of the site is a large subsation

<i>Question</i>	<i>Combined Response</i>
G5. Is there any evidence for ACM on site?	None Observed :

<i>Question</i>	<i>Combined Response</i>
G6. Is there any visual evidence of potential contamination on site?	None Observed :
G7. Is there any visual evidence of potential contamination on adjacent sites?	None Observed :

H. Pictures

71 records

Select Feature	Description	Direction Taken	
1a. Main land use(s)	Green crop and power lines near church	NW	
1a. Main land use(s)	Green crop and power lines west of church	W	
4e. Surface waters adjacent (within 250m)	Adjacent ditch flowing to trent. Murky discoloured	W	

4i. Waterlogging or flooding	Local surface flooding	NW	
1c. Adjacent land use(s)	Pump station and sluice	E	
1c. Adjacent land use(s)	Pump stationn info	S	

1c. Adjacent land use(s)	Pump in use and flooding east of site	E	
1c. Adjacent land use(s)	Power pylons and viaduct in distance	SE	
1d. Site boundaries.	Appreciate 4m tall bund Eastern boundary	N	

1a. Main land use(s)	Bare crop and pylons	N	
1a. Main land use(s)	Bare crop	NW	
1c. Adjacent land use(s)	Bare adjacent field	N	

4i. Waterlogging or flooding	Local surface flooding	NW	
1d. Site boundaries.	Field 35 east boundary	S	
1d. Site boundaries.	Boundary and ditch	NE	

1a. Main land use(s)	Field 35 bare	W	
1a. Main land use(s)	Field 35 recently plowed or drilled and planted, some bare some green	NE	
1a. Main land use(s)	Recently plowed or drilled field 35	NE	

4e. Surface waters adjacent (within 250m)	Green algae in ditches	SW	
3a. Site Topography	Dipping field adjacent to the Reservoir	E	
1a. Main land use(s)	Field 35 recently plowed and planted	W	

1a. Main land use(s)	Field 35 green crop	N	
1c. Adjacent land use(s)	Detour - Dunham pipeline bridge	NE	
1b. Current site activities.	Dunham pipeline bridge	E	

1c. Adjacent land use(s)	Detour - Dunham, pipeline bridge	SE	
1c. Adjacent land use(s)	Detour - unkmo2n infrastructure. Large pipeline, generations or electrical boxes and very tall barbed fence, east side of trent	E	
4e. Surface waters adjacent (within 250m)	Pond immediately adjacent to to north Eastern sector	W	

1a. Main land use(s)	North East corner of field 35	SW	
4d. Surface waters on site	Culvert into ditches	SW	
4g. Site drainage	Sluice	N	

4g. Site drainage	Sluice gates	N	
4g. Site drainage	Likely drainage system subsurface running south, flowing north jnto the sluice gates	S	
1a. Main land use(s)	Field 35 green crop	SW	

4d. Surface waters on site	Clear water in drainage ditches northern boundary	N	
1d. Site boundaries.	Northern boundary	W	
1a. Main land use(s)	Turnips or root veg field 24	W	

1a. Main land use(s)	Pasture in field 14	N	
1a. Main land use(s)	Field 35 and 24 boundary with drainage, clear water.	SW	
4d. Surface waters on site	Filed 24 dritche	SW	

1a. Main land use(s)	Field 35 bare area, centre west	SW	
1a. Main land use(s)	Bare and plowed area of field 35	S	
1a. Main land use(s)	Turnips or root veg in field 24 & pylons	W	

4d. Surface waters on site	Deep ditches throughout this sector, approx 2-3m at points	SW	
2a. Access constraints - general.	For access - culverts over deep ditches into field 24 and 35	SW	
1a. Main land use(s)	Field 24 veg, many rotten.	N	

1a. Main land use(s)	Filed 35 west sector bare and plowed	S	
4d. Surface waters on site	Surface ditches deep and wide, water mostly clear	N	
5c. Buried and overhead services	Pylons going north field 24	N	

5c. Buried and overhead services	Pylons south filed 335	S	
2a. Access constraints - general.	Culvert and access into field 35 over ditches	W	
1a. Main land use(s)	Field 29 shaved with some green crop	NW	

1a. Main land use(s)	Filed 29 green crop	SW	
4d. Surface waters on site	5m wide 4 m deep ditcheswith bridge between field 42 and 35	S	
1a. Main land use(s)	Field 35 plowed and bare east	E	

4d. Surface waters on site	Ditches between field 42 and 52	W	
1a. Main land use(s)	Filed 52 plowed	SW	
1a. Main land use(s)	Filed 35 and 52 surface water near boundary	N	

4i. Waterlogging or flooding	Field 33 nearly all flooded	S	
1a. Main land use(s)	Field 35 west sector bare	E	
1a. Main land use(s)	Field 63 bare shaved	SW	

4f. Visual evidence of contamination of surface waters	Murky green water beside field 63	SW	
4i. Waterlogging or flooding	Flooding west sector field 35, low spot	E	
4f. Visual evidence of contamination of surface waters	Green murky water in ditches	S	

1a. Main land use(s)	Field 72 green crop	S	
1a. Main land use(s)	Field 75 bare	W	
1a. Main land use(s)	Field 76 green crop	SW	

5c. Buried and overhead services	Medium and large pylons, several lines over field 72	E	
4d. Surface waters on site	Filed 72 and 76 ditch	S	
1a. Main land use(s)	Field 79 bare (far filed no access)	SW	

4i. Waterlogging or flooding	Local surface water on field 76	S	
1a. Main land use(s)	Field 13 pasture (100m in or so not immediately)	E	

I. Other Observations & Sketches

Include Sketches	[]
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1 record

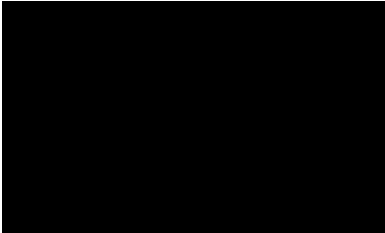
Notes / Observations
Very flat area, water courses and ditches were significantly cleaner than area east of the trent.

Sign-Off

RSK Representative

 Euan Gray-Stephens  [@rsk.co.uk](mailto:[redacted]@rsk.co.uk)

RSK Representative Signature



APPENDIX F TECHNICAL BACKGROUND

Desk Study

Aquifer designation and Source protection zones

Principal aquifer: layers of rock or drift deposit that have high intergranular and/or fracture permeability (usually providing a high level of water storage). They may support water supply and/or river base flow on a strategic scale.

Secondary A aquifer: permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.

Secondary B aquifer: predominantly lower permeability layers that may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering.

Secondary undifferentiated aquifer: it has not been possible to attribute either a category A or B to a rock type. In most cases this means that it was previously designated as both a minor and non-aquifer in different locations owing to the variable characteristics.

Unproductive strata: low permeability with negligible significance for water supply or river base flow.

The EA generally adopts a three-fold classification of source protection zones (SPZ) surround abstractions for public water supply. The Site is situated in an area defined as follows:

- Zone 1 or the 'inner protection zone' is located immediately adjacent to the groundwater source and is based on a 50-day travel time from any point below the water table to the source. It is designed to protect against the effects of human activity and biological/chemical contaminants that may have an immediate effect on the source
- Zone 2 or the 'outer protection zone' is defined by a 400-day travel time from a point below the water table to the source. The travel time is designed to provide delay and attenuation of slowly degrading pollutants
- Zone 3 or the 'total catchment' is the area around the source within which all groundwater recharge is presumed to be discharged at the source.

Preliminary risk assessment methodology

LCRM outlines the framework to be followed for risk assessment in the UK. The framework is designed to be consistent with UK legislation and policies including planning. An outline conceptual model should be formed at the preliminary risk assessment stage that collates all the existing information pertaining to a site in text, tabular or diagrammatic form. The outline conceptual model identifies potentially complete (termed possible) contaminant linkages (contaminant–pathway–receptor) and is used as the basis for the design of the site investigation. The outline conceptual model is updated as further information becomes available, for example as a result of the site investigation.

Production of a conceptual model requires an assessment of risk to be made. Risk is a combination of the likelihood of an event occurring and the magnitude of its consequences. Therefore, both the likelihood and the consequences of an event must be taken into account when assessing risk. RSK has adopted guidance provided in CIRIA C552 for use in the production of conceptual models.

The likelihood of an event can be classified on a four-point system using the following terms and definitions based on CIRIA C552:

- highly likely: the event appears very likely in the short term and almost inevitable over the long term or there is evidence at the receptor of harm or pollution
- likely: it is probable that an event will occur or circumstances are such that the event is not inevitable, but possible in the short term and likely over the long term
- low likelihood: circumstances are possible under which an event could occur, but it is not certain even in the long term that an event would occur and it is less likely in the short term
- unlikely: circumstances are such that it is improbable the event would occur even in the long term.

RSK also adopt a 'very unlikely' probability to account for where there may be increased certainty over whether an event is probable in the long term.

The severity can be classified using a similar system also based on CIRIA C552. The terms and definitions relating to severity are:

- severe: short term (acute) risk to human health likely to result in 'significant harm' as defined by the Environment Protection Act 1990, Part IIA. Short-term risk of pollution of sensitive water resources. Catastrophic damage to buildings or property. Short-term risk to an ecosystem or organism forming part of that ecosystem (note definition of ecosystem in 'Draft Circular on Contaminated Land', DETR 2000)
- medium: chronic damage to human health ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000), pollution of sensitive water resources, significant change in an ecosystem or organism forming part of that ecosystem
- mild: pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in 'Draft Circular on Contaminated Land', DETR 2000). Damage to sensitive buildings, structures or the environment
- minor: harm, not necessarily significant, but that could result in financial loss or expenditure to resolve. Non-permanent human health effects easily prevented by use of personal protective clothing. Easily repairable damage to buildings, structures and services.

Once the probability of an event occurring and its consequences have been classified, a risk category can be assigned according to the table below.

		Consequences			
		Severe	Medium	Mild	Minor
Probability	Highly likely	Very high	High	Moderate	Moderate/low
	Likely	High	Moderate	Moderate/low	Low
	Low likelihood	Moderate	Moderate/low	Low	Very low
	Unlikely	Moderate/low	Low	Very low	Very low

	Very Unlikely	Low	Very Low	Negligible	Negligible
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Definitions of these risk categories are as follows together with an assessment of the further work that may be required:

- very high: there is a high probability that severe harm could occur or there is evidence that severe harm is currently happening. This risk, if realised, could result in substantial liability; urgent investigation and remediation are likely to be required
- high: harm is likely to occur. Realisation of the risk is likely to present a substantial liability. Urgent investigation is required. Remedial works may be necessary in the short term and are likely over the long term
- moderate: it is possible that harm could arise, but it is unlikely that the harm would be severe and it is more likely that the harm would be relatively mild. Investigation is normally required to clarify the risk and determine the liability. Some remedial works may be required in the longer term
- low: it is possible that harm could occur, but it is likely that if realised this harm would at worst normally be mild
- very low: there is a low possibility that harm could occur and if realised the harm is unlikely to be severe.



one earth
solar farm