336-009-RP02

Drainage Impact Assessment

New Deer 2 BESS

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Appendix E - Site Investigation

1 Introduction

Haydn Evans Consulting Ltd (HEC) has been commissioned by Field New Deer Ltd (hereafter referred to as the Client) to carry out a Drainage Impact Assessment (DIA) to support a planning application for the construction and operation of a Battery Energy Storage System (BESS) of up to 400 megawatts (MW) with associated infrastructure (including cable route to substation), access and ancillary works (the Proposed Development) on land approximately 1.5 kilometres (km) south of Cuminestown, Turriff, Aberdeenshire, AB53 8JJ (the BESS Site). Although the Planning Boundary for the application comprises approximately 129 ha, this DIA assesses the western land parcel, also known as the 'BESS Site'.

1.1 Limitation

This document has been prepared for the sole use of the Client. The copyright of this report is vested in HEC and the Client. HEC accepts no responsibility whatsoever to other parties to whom this report, or any part thereof, is made known. Any such other parties that rely upon the report do so at their own risk.

The DIA should be read in conjunction with the Flood Risk Assessment (FRA) which has been prepared for this site; HEC document reference 336-011-RP01.

1.2 Site Proposal

The Planning Boundary comprises approximately 129 ha. The BESS Site comprises approximately 33 ha with the BESS Compound comprising 9.4 ha.

The Proposed Development comprises a BESS with a generation capacity of 400 megawatts (MW) of electricity, which will charge and discharge from the adjacent proposed Greens (New Deer 2) substation. The Proposed Development includes:

- Battery storage units / containers arranged into rows.
- Medium-voltage (MV) skids and ancillary low-voltage (LV) equipment.
- High-voltage (HV) grid transformers.
- Air insulated switchgear.
- A substation building comprising welfare facilities, a switch room and control room.
- An underground 400 kV grid connection cable; and
- Site-wide supporting infrastructure including cabling, access tracks, fencing, attenuation basins, and landscaping measures.

Whilst the exact specifications are subject to detailed design, the principal components described form the basis of the planning application to allow environmental assessments and mitigation to be appropriately scoped.

2 Location & Existing Conditions

2.1 Site Location

The BESS Site (herein referred to as 'the Site') is located to the south of Cuminestown and west of New Deer, on approximate Ordnance Survey (OS) grid reference NJ 80816 48145 (see red line boundary on Figure 1).



The Site is predominately surrounded by greenfield land.

There is an unclassified road to the southern boundary and a private access road to the southwest boundary. The remainder of the Site borders onto agricultural land either used for forestry, arable crops, or grazing.

The access to the Proposed Development is located on the southern boundary off the unclassified road; there is an existing vehicular access at this location. This access will be used for all construction and maintenance traffic.

2.2 Existing Topography

A topographic survey has been produced for the Site. The survey shows ground levels to generally fall from south, towards the north. Ground levels in the south are circa 175 metres Above Ordnance Datum (mAOD), falling to circa 158 mAOD in the north. There is an existing vehicular access track running through the development site which is raised above surrounding ground levels.

2.3 Existing Sewer Assets

The utilities search report and drawings does not show any Scottish Water (SW) foul or surface sewers within the vicinity of the site (see Appendix B).

2.4 Existing Drainage Regime

There is no formal drainage system located within the BESS Site therefore it is assumed the surface water runs-off would flow overland following the topography to the Burn of Greens or infiltrate into the underlying soils.

2.5 Ground Conditions

British Geological Survey (BGS) mapping confirms the Site to have a bedrock geology of Macduff Formation (Micaceous psammite, Semipelite, and Pelite) (see Figure 2).

The superficial deposits for the Site are shown to comprise of Peat (see Figure 3, shading brown). The remainder of the Site is shown to have no superficial deposits.



Figure 2: BGS Mapping - Bedrock geology

Figure 3: BGS Mapping - Superficial deposits

The Phase 1 Desk Study, prepared by RSK Environment Limited on behalf of the Client (Ref: 340617) provides similar findings regarding the geology. The report recommends that further investigation is required to confirm groundwater depths.

3 Planning Policy Context

3.1 National Planning Framework 4 (NPF4 Adopted 2023)

The National Planning Framework 4 (NPF4, 2023) includes government policy for developments and meeting the challenges of climate change and flood risk.

The Policy 22 guidance states "Development proposals at risk of flooding or in a flood risk area will only be supported if they are for essential infrastructure, water compatible uses, redevelopment of an existing building or site for an equal or less vulnerable use, or redevelopment of previously used sites in built up areas."

The protection offered by an existing formal flood protection scheme or one under construction can be considered when determining flood risk. All risks of flooding are understood and addressed; there is no reduction in floodplain capacity, increased risk for others, or a need for future flood protection schemes; the development remains safe and operational during floods; flood resistant and resilient materials and construction methods are used; and future adaptations can be made to accommodate the effects of climate change.

Development proposals will not increase the risk of surface water flooding, manage all rain and surface water through sustainable urban drainage systems (SUDS), and seek to minimise the area of impermeable surface. These proposals will be supported if connecting to public water mains; however, if not feasible the applicant will need to demonstrate that water for consumption is sourced from a sustainable source. Proposals which create, expand or enhance opportunities for natural flood risk management, including blue and green infrastructure, will be supported."

3.2 Scottish Environment Protection Agency (SEPA)

SEPA is an independent advisor on flood risk, providing flood risk advice for certain consultations. SEPA document '*Technical Flood Risk Guidance for Stakeholders*' outlines the information required to be submitted a part of a FRA.

3.3 Aberdeenshire Local Development Plan (LDP)

The Aberdeenshire LDP sets out a vision for helping develop a strong and resilient economy, maintaining a high quality of life and exceptional environment. The LDP seeks to

- Promote sustainable mixed communities with the highest standards of design;
- Take on the challenges of sustainable development and climate change;
- Protect and improve assets and resources;
- Increase and diversify the economy;
- Protect, enhance and promote blue-green networks within and between settlements; and
- Make efficient use of the transport network, reduce the need to travel and promote walking, cycling, wheeling and public transport.

Section 13 of the LDP sets out policies in relation to climate change.

- Policy C2 Renewable Energy supporting renewable energy developments; and
- Policy C4 Flooding sets out requirements for Flood Risk Assessments to be undertaken as part of planning application process and sets requirements relating to impact of development on flood risk

4 Surface Water Drainage

4.1 Proposed Surface Water Drainage Strategy

The surface water drainage strategy has been designed based on the requirements of CIRIA 753 (C753) dated March 2015 and the Water Assessment and Drainage Assessment Guide produced by the Sustainable Urban Drainage Scottish Working Party (SUDSWP).

The surface water drainage strategy is focused on the Proposed Development areas only, namely the BESS Compound (see Appendix A). The remainder of the area within the Planning Boundary (see Drawing 002.1 'Site Location Plan' within the application pack) will drain as existing.

4.1.1 SuDS Hierarchy

Surface water drainage should be managed in a way that replicates the natural drainage processes for the site as closely as possible. The proposals should follow the hierarchy outlined in C753 and should be disposed of to a receptor in the order of preference described below:

- 1. Into the ground;
- 2. To a surface water body e.g. watercourse;
- 3. To a surface water, highway drain, or another drainage system; or lastly
- 4. To a combined sewer.

4.1.2 SuDS Selection

Into the Ground

Geological assessment from the Phase 1 desk study, including data from the BGS geological maps, indicate low soil permeability, resulting in minimal water infiltration into the ground. Soakaway testing may be required at the Site to confirm infiltration is not viable.

RSK Geosciences undertook intrusive site investigations in March 2025, see Appendix B. The window samples shown ground conditions across the site are generally peat overlying fine to coarse sand. The trial pit logs show a mixture of peat and made ground overlying fine to coarse sands and gravels, with cobbles and boulders in places.

Water was encountered in window sample 3 at a depth of 0.5m. Water was not encountered in any other window samples or trial pits.

Soakaway testing was undertaken at 5 locations across the site including 2 in the north where the attenuation basin is shown. SA1 returned at permeability of 8.33x10⁻⁶ m/s, however SA2 located close to SA 1 failed to achieve an infiltration rate. All other infiltration tests either failed or returned results below a rate suitable for the use of infiltration. Due to this the use of infiltration at the site has been discounted although some infiltration may naturally occur from the attenuation basin due to the positive result from SA1.

To a surface water body

It is proposed to discharge surface water run-off from the BESS compound to a mapped watercourse.

The Burn of Greens is the closest mapped watercourse (on OS mapping) to the BESS Compound. From the northern boundary, it is approximately 400m to the watercourse. The watercourse proceeds to the east before turning south approximately 1.3km from the Site. The proposed strategy therefore mimics the Site's existing drainage regime.

4.2 Greenfield run-off rates

The greenfield run-off discharge rates have been calculated using the HR Wallingford IH124 method and are based on the area comprising of the BESS Compound. The greenfield rates are summarised in Table 1 below (see Greenfield Calculations in Appendix A).

Rainfall Event	Contributing Area - 11.38 ha (l/s)
	Soil classification 3
1:1 year	21.85
Qbar	25.71
1:30 year	50.13
1:100 year	63.75
1:200 year	73.01

4.3 Surface water drainage strategy

The surface water generated by the BESS Compound would be intercepted by filter drains positioned periodically across the contributing area. The filter drains would collect and direct the surface water through a network of pipes to the attenuation pond and the outfall. The drainage system would discharge surface water at a restricted rate to the Burn of Greens located approximately 400m to the north of the BESS Compound. The surface water drainage drawings and supporting calculations are provided in Appendix A.

The discharge of surface water run-off from the BESS Compound would be restricted to the Qbar greenfield rate (25.7 l/s) in line with Aberdeenshire Council guidance. Discharge would be controlled by a flow control device, hydrobrake or similar, which would be installed on the outfall from the attenuation basin.

Attenuation has been sized using FEH data and Causeway Flow software to accommodate the temporary run-off for rainfall events up to and including the 1:200-year event inclusive of 37% climate change. The volume of storage provided in the attenuation basin for the whole of the BESS Compound in a 200-year event plus climate change is 16240m³ with a maximum water level of 160.675 mAOD. The proposed top of bank level for the basin is 161.000 mAOD allowing for sufficient freeboard. The basin has been designed with 1:3 side slopes.

The attenuation basin drains to less than 50% of its volume within 24 hours, therefore; the attenuation basin meets half drain requirements and has sufficient capacity for the required volume of surface water.

4.4 Pollution Mitigation

The above proposals ensures that surface water is managed 'at source'. To mitigate against pollution all surface water from the Proposed Development would pass through filter drains and an attenuation basin. This type of development has 'Low' pollution hazard level, as shown in table 26.2 of C753. The relevant land use is tabled below, with the SuDS pollution indices tabled (as per table 26.3 of C753).

Pollution hazard indices for different land use classifications								
Land Use	Total Pollution suspended Hazard solids Level pollution index		Metals	Hydrocarbons (HC)				
Individual property driveways, residential car parks, low traffic roads (e.g. cul de sacs, home zones and general access roads) and non-residential car parking with infrequent change (e.g. schools, offices) i.e., 300 traffic movements/day	Low	0.5	0.4	0.4				
Indicative SuDS mitigation indices for discharges to surface waters								
Filter Drain		0.4	0.4	0.4				
Detention Basin (secondary i	ndices halved)	0.5 (0.25)	0.5 (0.25)	0.6 (0.3)				
Total		0.65	0.65	0.7				

Table 2: SuDS Pollution Assessment

The required indices for pollutants at a low hazard level (TSS 0.5, Metals 0.4 & HC 0.4) are exceeded by the mitigation indices provided by the filter drain and detention basin (TSS 0.65, Metals 0.65 & HC 0.7). Therefore, the mitigation techniques provided exceed the required level of treatment for surface water run-off.

Consideration has been given to the risk of a fire and need to attenuate fire water run-off. A penstock valve will be provided downstream of the attenuation basin, which can be manually shut off in case of a fire or pollution incident. This will prevent any contaminated water from entering the wider environment.

4.5 Management and Maintenance

The surface water drainage system should be maintained to ensure the system operates at its maximum capacity for the lifetime of development. A management and maintenance plan are provided in Appendix C.

5 Summary and Conclusion

5.1 Summary

HEC has been commissioned by the Client to carry out a Drainage Impact Assessment to support a planning application for the construction and operation of a 400 MW BESS with associated infrastructure, access and ancillary works on land south of Cuminestown, Turriff, Aberdeenshire.

Infiltration drainage is assumed not to be feasible due to the impermeable soils present. It is therefore proposed to discharge surface water to the Burn of Greens, mimicking the BESS Site's existing drainage regime.

Attenuation has been provided for the 1 in 200-year event inclusive of 37% climate change with a restricted discharge matching the Qbar greenfield run-off rate.

The use of filter drains, and an attenuation basins provide the appropriate mitigation for the pollutants likely for this type of development. A penstock valve would be provided on the attenuation basin outfall to allow closure of the system in the event of fire water being collected within the basin.

The surface water drainage system should be maintained to ensure the system operates at its maximum capacity for the lifetime of development in line with the management and maintenance plan provided.

5.2 Conclusion

The drainage strategy complies with the relevant guidance; surface water generated by the Proposed Development can be attenuated within the BESS Site, even during extreme events, and discharged at a greenfield rate to a watercourse. The Proposed Development does not increase on or off-site flood risk and are therefore considered acceptable.

Appendix A Site Overview Plan

Field Drawing BTGBNDE02 001.1 03 - Site Overview Plan



+ ma	Drawing Note 1. All dime otherwi 2. Do not 3. Refer to for furth	ensions are se. scale from o drawing (ner informa	e shown in metres unless this drawing. 001.1.1 - Detailed Site La tion on the BESS site.	s noted iyout Pl	an
Arraw • 100 • 100 • 100 • 100		Planning I SSE's Pro Substatio Cable Ro Palisade I 4.5m Aco Stock Pro Attenuatio Access R Access R Landscap Plan (100 Existing F	Boundary oposed Greens (New Dee n Boundary (APP/2024/1 ute Fencing ustic Fencing of Fencing on Basin oad - Unbound Finish oad - Bound Finish ing Bunds ing - refer to Landscape 5-SHRSK-XX-XX-DR-L- orestry (to be retained)	er 2) 927). Mitigati 1000)	on
550					
La Las					
Green					
	03 01.04.2025 02 27.03.2025 01 21.03.2025 00 25.02.2025 REV DATE	Acce Point of connect Amendments to	ss bellmouth amended for AIL's. ion, Greens Substation boundary and stock proof fence added. planning boundary, drainage, cable route, landscaping and fencing. Site Layout Plan - Original DESCRIPTION	JH JH JH BY	AP AP AP AP CHK'D
	PROJECT	D	Field Fora Montacute Y 186 Shoreditch High London E1 6HU	ards Street	
	New D تتلك Site O	eer Overview I	Plan		
3m 4m 5m 6m 7m 8m 9m 10m 5m 10m 15m 20m 20m 20m 20m 25m 20m 25m 20m 25m 20m 25m 20m 30m 40m 50m 20m 30m 40m 50m 200m 200m 30m 40m 50m 100m 150m 200m 200m 30m 400m 500m 100m 150m 200m 250m 30m 400m 500m 300m 400m 5	DISCIPLINE DRAWING STATUS SCALE 1:5,000 @A1 PROJECT NO. BTGBNI	FC DATE 25.02.2025 DE02	PLANNING PR PLANNING DRAWN BY JH CHECKED BY AP DRAWING NO. 001.1	APPR	oved by RS REV. 03

Appendix B Surface Water Drainage

Haydn Evans calculations ref: 336-011-CA01 - Greenfield Calculation

Haydn Evans calculations ref: 336-011-CA03 - SWDS Calculations

Haydn Evans drawing ref: 336-011-D010 - Surface Water Drainage Strategy



Tayler Evans

Calculated by:

Greenfield runoff rate estimation for sites

www.uksuds.com | Greenfield runoff tool

Site Details

		once bertails	
Site name:	New Deer	Latitude:	57.52186° N
Site location:		Longitude:	2.32088° W
This is an estimatic criteria in line with	on of the greenfield runoff rates that Environment Agency guidance "Rainfi	are used to meet normal best practice Reference:	2270012939
standards for SuDS	030219 (2013) , the SuDS Manual C753 (Defra, 2015). This information on gre	Ciria, 2015) and the non-statutory eenfield runoff rates may be the basis Date .	Mar 11 2025 14:29

standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis Date: for setting consents for the drainage of surface water runoff from sites.

Runoff estimation	approach	IH124	
Site characteristic	cs		Notes
Total site area (ha): ^{11.380})		(1) Is Q _{BAR} < 2.0 l/s/ha?
Methodology			
Q _{BAR} estimation method:	Calculate from S	PR and SAAR	When Q _{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.
SPR estimation method:	Calculate from S	OIL type	
Soil characteristic	S Default	Edited	(2) Are flow rates < 5.0 l/s?
SOIL type:	2	2	Where flow rates are less than 5.01/2 sensent
HOST class:	N/A	N/A	for discharge is usually set at 5.0 l/s if blockage
SPR/SPRHOST:	0.3	0.3	from vegetation and other materials is possible. Lower consent flow rates may be set where the
Hydrological characteristics	Default	Edited	blockage risk is addressed by using appropriate drainage elements.
SAAR (mm):	841	841	
Hydrological region:	1	1	(3) Is SPR/SPRHOST ≤ 0.3?
Growth curve factor 1 year.	0.85	0.85	Where groundwater levels are low enough the
Growth curve factor 30 years:	1.95	1.95	use of soakaways to avoid discharge offsite
Growth curve factor 100 years:	2.48	2.48	surface water runoff.
Growth curve factor 200 years:	2.84	2.84	

Q _{BAR} (I/s): 25.71 25.71
1 in 1 year (l/s): 21.85 21.85
1 in 30 years (I/s): 50.13 50.13
1 in 100 year (l/s): 63.75 63.75
1 in 200 years (I/s): 73.01 73.01

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement , which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

Design Settings

FEH-13	Minimum Velocity (m/s)	1.00
100	Connection Type	Level Soffits
0	Minimum Backdrop Height (m)	0.200
1.000	Preferred Cover Depth (m)	1.200
5.00	Include Intermediate Ground	\checkmark
30.00	Enforce best practice design rules	\checkmark
50.0		
	FEH-13 100 0 1.000 5.00 30.00 50.0	FEH-13Minimum Velocity (m/s)100Connection Type0Minimum Backdrop Height (m)1.000Preferred Cover Depth (m)5.00Include Intermediate Ground30.00Enforce best practice design rules50.0

<u>Nodes</u>

Name	Area (ha)	T of E (mins)	T of E Cover Diameter Easting (mins) Level (mm) (m)		Northing (m)	Depth (m)	
			(m)				
MH1	0.491	5.00	169.400	1200	380947.304	847948.654	0.700
MH2	0.491	5.00	169.400	1200	380839.587	848002.796	1.500
MH3	0.278	5.00	169.300	1200	380955.710	847969.684	0.900
MH4	0.278	5.00	169.300	1200	380709.350	848093.362	0.900
MH5	0.279	5.00	169.300	1200	380832.538	848031.519	1.750
MH6	1.309	5.00	167.700	1200	381017.589	848092.904	0.950
MH7	1.309	5.00	167.700	1200	380771.273	848216.709	0.950
MH8	1.309	5.00	167.700	1200	380894.431	848154.806	1.950
MH9	1.314	5.00	166.100	1200	381065.781	848224.208	1.100
MH10	1.314	5.00	166.100	1200	380843.498	848335.800	1.100
MH11	1.315	5.00	166.100	1200	380956.751	848278.944	1.850
Basin	1.590	5.00	161.000	1800	380958.639	848443.110	1.500
Outfall	0.000		148.000	2100	381278.643	848964.562	1.500

<u>Links</u>

Name	US	DS	Length	ks (mm) /	US IL	DS IL	Fall	Slope	Dia	T of C	Rain
	Node	Node	(m)	n	(m)	(m)	(m)	(1:X)	(mm)	(mins)	(mm/hr)
1.000	MH1	MH2	120.558	0.600	168.700	168.350	0.350	344.5	450	6.84	50.0
1.001	MH2	MH5	29.575	0.600	167.900	167.550	0.350	84.5	900	6.99	50.0
3.000	MH3	MH5	137.822	0.600	168.400	168.000	0.400	344.6	450	7.11	50.0
2.000	MH4	MH5	137.840	0.600	168.400	168.000	0.400	344.6	450	7.11	50.0
1.002	MH5	MH8	137.951	0.600	167.550	166.050	1.500	92.0	900	7.81	50.0
5.000	MH6	MH8	137.840	0.600	166.750	166.050	0.700	196.9	900	6.03	50.0
4.000	MH7	MH8	137.840	0.600	166.750	166.050	0.700	196.9	900	6.03	50.0
1.003	MH8	MH11	138.903	0.600	165.750	164.250	1.500	92.6	1200	8.41	50.0
7.000	MH9	MH11	121.998	0.600	165.000	164.550	0.450	271.1	900	6.07	50.0
6.000	MH10	MH11	126.724	0.600	165.000	164.550	0.450	281.6	900	6.13	50.0

Name	Vel	Сар	Flow	US	DS	Σ Area	Σ Add	Pro	Pro
	(m/s)	(I/s)	(I/s)	Depth	Depth	(ha)	Inflow	Depth	Velocity
				(m)	(m)		(I/s)	(mm)	(m/s)
1.000	1.089	173.3	88.7	0.250	0.600	0.491	0.0	228	1.095
1.001	3.409	2169.0	177.4	0.600	0.850	0.982	0.0	171	2.101
3.000	1.089	173.2	50.2	0.450	0.850	0.278	0.0	166	0.949
2.000	1.089	173.2	50.2	0.450	0.850	0.278	0.0	166	0.949
1.002	3.268	2078.7	328.3	0.850	0.750	1.817	0.0	240	2.423
5.000	2.229	1418.0	236.5	0.050	0.750	1.309	0.0	247	1.678
4.000	2.229	1418.0	236.5	0.050	0.750	1.309	0.0	247	1.678
1.003	3.888	4397.2	1037.9	0.750	0.650	5.744	0.0	393	3.216
7.000	1.898	1207.3	237.4	0.200	0.650	1.314	0.0	269	1.493
6.000	1.862	1184.4	237.4	0.200	0.650	1.314	0.0	271	1.472

Flow v14.0 Copyright © 1988-2025 Causeway Technologies Ltd

Name US DS				1ayler Ev 14/03/20	vans 025		3	36-011-CAC	12
Nama LIS DS			<u>Lin</u>	<u>lks</u>					
NodeNode1.004MH111.005BasinOutfal	Length k (m) 131.483 482.845	s (mm) / n 0.600 0.600	US IL (m) 164.250 159.500	DS IL (m) 159.50 146.50	Fa (n 00 4.1 00 13.0	all Slop n) (1:X) 750 27. 000 37.	e Dia) (mr 7 120 1 120	aT of Cm)(mins)008.720010.03	Rain (mm/hr) 50.0 50.0
Name (n 1.004 7. 1.005 6.	Cap n/s) (I/s) 122 8055.1 147 6951.8	Flow (I/s) 1750.4 2037.8	US Depth (m) 0.650 0.300	DS 2 Depth (m) 0.300 0.300 1	Σ Area (ha) 9.687 11.277	Σ Add Inflow (I/s) 0.0 0.0	Pro Depth (mm) 376 443	Pro Velocity (m/s) 5.764 5.384	
			Simulatio	n Settings					
Rainfall Methodolog Rainfall Even Summer (Winter (gy FEH-13 ts Singular V 1.000 V 0.840	Draiı Additic	Analy Skip Ste n Down Tip onal Storag	ysis Speed eady State me (mins) ge (m³∕ha)	l Norn e x) 240) 20.0	nal Cł Ch	Sta neck Dis eck Dis	arting Level (scharge Rate charge Volu	m) e(s) x me x
60 120	180 360 240 480	600 720	Storm D 960 1440	urations 2160 2880	43 57	20 720 60 864	00 40	10080	
F	eturn Period	Climate	Change	Additiona	al Area	Addition	al Flow		
	(years) 30	(CC	%) 0	(A %	6) 0	(Q %	6) 0		
	200		0		0		0		
	200		37		0		0		
	<u>N</u>	ode Basin	<u>Online H</u>	ydro-Brak	ke [®] Cont	<u>trol</u>			
F Replaces Downstr Invert Design Design	lap Valve x eam Link √ Level (m) 159 Pepth (m) 1.20 Flow (l/s) 25.	9.500 00 7	Min Out Min Node	Ot Sump Av Product N let Diame e Diamete	ojective vailable Jumber eter (m) er (mm)	(HE) Min ✓ CTL-SHE- 0.300 1500	imise u •0219-2	pstream sto 570-1200-2	rage 570
	<u>Nc</u>	ode Basin	Depth/Ar	rea Storag	e Struct	<u>ture</u>			
Base Inf Coefficier Side Inf Coefficier	t (m/hr) 0.00 t (m/hr) 0.00	000	Safety Fac Poros	tor 2.0 sity 0.95	5 Ti	Inv me to half	vert Lev empty	rel (m) 159 (mins)	9.500
Depth Ar (m) (n 0.000 136	ea Inf Area 1 ²) (m ²) 34.0 0.0	Dep (m) 1.50	th Are) (m² 00 1589	a Inf A 2) (m 7.0	Area 1 ²) 0.0	Depth (m) 1.501	Area (m²) 15897.0	Inf Area (m²) 0 0.0	
		Node MH	11 Carpark	<u>Storage</u>	Structur	<u>re</u>			
Base Inf Coefficient Side Inf Coefficient Safet	(m/hr) 0.000 (m/hr) 0.000 Factor 2.0 Porosity 0.30	000 T 000	ime to ha	nvert Leve If empty (Widt Lengt	el (m) mins) :h (m) :h (m)	168.700 7 0.750 120.600	S [Inf [lope (1:X) Depth (m) Depth (m)	344.5

😭 Causeway	Haydn Evans Consulting Ltd			File: 336-011-C. Network: Storm Tayler Evans 14/03/2025	A03-SWDS.pfd n Network	Page 3 Initial Basin 336-011-CA	Sizing 02
		Node	MH3 Carpark	Storage Structu	ire	·	
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	I Time to ha	nvert Level (m) If empty (mins) Width (m) Length (m)	168.400 0 0.750 137.800	Slope (1:X) Depth (m) Inf Depth (m)	344.6
		<u>Node</u>	VH4 Carpark	Storage Structu	ire		
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	ا Time to ha	nvert Level (m) If empty (mins) Width (m) Length (m)	168.400 0 0.750 137.800	Slope (1:X) Depth (m) Inf Depth (m)	344.6
		<u>Node</u>	MH6 Carpark	Storage Structu	<u>ire</u>		
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	l Time to ha	nvert Level (m) If empty (mins) Width (m) Length (m)	166.750 3 0.900 137.800	Slope (1:X) Depth (m) Inf Depth (m)	344.6
		<u>Node</u>	MH7 Carpark	Storage Structu	ire		
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	ا Time to ha	nvert Level (m) If empty (mins) Width (m) Length (m)	166.750 3 0.900 137.800	Slope (1:X) Depth (m) Inf Depth (m)	344.6
		<u>Node</u>	MH9 Carpark	Storage Structu	ire		
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	ا Time to ha	nvert Level (m) If empty (mins) Width (m) Length (m)	165.000 3 1.050 122.000	Slope (1:X) Depth (m) Inf Depth (m)	406.7
		<u>Node N</u>	/H10 Carpar	k Storage Struct	ure		
Base Inf Coefficient (Side Inf Coefficient (Safety F Po	m/hr) (m/hr) (Factor 2 rosity (0.00000 0.00000 2.0 0.30	l Time to ha	nvert Level (m) lf empty (mins) Width (m) Length (m)	165.000 3 1.050 127.000	Slope (1:X) Depth (m) Inf Depth (m)	422.0



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Results for 30 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event		US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (I/s)	Node Vol (m³)	Flood (m³)	Status
60 minute summe	r	MH1	34	168.973	0.273	123.6	7.0526	0.0000	ОК
60 minute summe	r	MH2	33	168.112	0.212	232.6	1.6303	0.0000	ОК
60 minute summe	r	MH3	34	168.593	0.192	70.0	2.8574	0.0000	ОК
60 minute summe	r	MH4	34	168.593	0.192	70.0	2.8575	0.0000	ОК
60 minute summe	r	MH5	34	167.828	0.278	426.8	1.1996	0.0000	ОК
60 minute summe	r	MH6	34	167.042	0.292	329.4	12.3625	0.0000	ОК
60 minute summe	r	MH7	34	167.042	0.292	329.4	12.3625	0.0000	ОК
60 minute summe	r	MH8	34	166.208	0.458	1379.3	6.6604	0.0000	ОК
60 minute summe	r	MH9	33	165.323	0.323	330.6	14.7715	0.0000	ОК
60 minute summe	r	MH10	33	165.326	0.326	330.6	15.1802	0.0000	ОК
60 minute summe	r	MH11	33	164.879	0.628	2351.5	9.6454	0.0000	ОК
10080 minute sum	nmer	Basin	6480	160.049	0.549	96.0	7340.3550	0.0000	ОК
60 minute summe	r	Outfall	1	146.500	0.000	24.0	0.0000	0.0000	ОК
Link Event	US	Li	ink	DS	Outflow	Velocity	Flow/Cap	Link	Discharge
(Upstream Depth)	Node			Node	(I/s)	(m/s)		Vol (m³)	Vol (m³)
60 minute summer	MH1	1.000		MH2	114.1	1.242	0.659	11.1340	
60 minute summer	MH2	1.001		MH5	231.7	1.680	0.107	4.1339	
60 minute summer	MH3	3.000		MH5	64.5	1.065	0.372	8.3729	
60 minute summer	MH4	2.000		MH5	64.5	1.065	0.372	8.3741	
60 minute summer	MH5	1.002		MH8	423.9	2.630	0.204	22.3123	
60 minute summer	MH6	5.000		MH8	321.5	1.849	0.227	23.9695	
60 minute summer	MH7	4.000		MH8	321.5	1.849	0.227	23.9695	
60 minute summer	MH8	1.003		MH11	1384.2	2.915	0.315	68.8113	
60 minute summer	MH9	7.000		MH11	326.9	1.642	0.271	25.2591	
60 minute summer	MH10	6.000		MH11	326.6	1.624	0.276	26.3683	
60 minute summer	MH11	1.004		Basin	2397.8	8.406	0.298	42.4348	
10080 minute summer	Basin	Hydro	-Brake®	Outfall	25.6				10605.5



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Results for 200 year Critical Storm Duration. Lowest mass balance: 99.91%

Node Event		US	Peak	Level	Depth	Inflow	Node	Flood	Status
60 minuto summor	· ·		(mins) 24	(m) 160.095	(m) 0.295	(I/S) 105 1	11 5400	(m ²)	OK
			24	109.000	0.365	195.1	11.5499	0.0000	OK
60 minute summer	r I		33	168.178	0.278	363.0	2.1338	0.0000	UK OK
60 minute summer	r I	VIH3	34	168.654	0.254	110.5	4.3724	0.0000	OK
60 minute summer	r I	MH4	34	168.654	0.254	110.5	4.3726	0.0000	OK
60 minute summer	r I	MH5	34	167.907	0.357	670.1	1.5410	0.0000	OK
60 minute summer	r I	MH6	33	167.128	0.377	520.2	17.4772	0.0000	OK
60 minute summer	r I	MH7	33	167.128	0.377	520.2	17.4772	0.0000	OK
60 minute summer	r I	MH8	34	166.363	0.613	2184.1	8.9271	0.0000	OK
60 minute summer	r I	MH9	33	165.420	0.420	522.2	20.8700	0.0000	ОК
60 minute summer	r I	MH10	33	165.423	0.423	522.2	21.4938	0.0000	ОК
60 minute summer	r I	MH11	33	165.055	0.805	3726.2	12.3553	0.0000	ОК
10080 minute sum	mer I	Basin	7020	160.297	0.797	126.7	10803.2100	0.0000	ОК
60 minute summer	r (Outfall	1	146.500	0.000	25.5	0.0000	0.0000	ОК
Link Event	US	1	Link	DS	Outflow	Velocity	Flow/Cap	Link	Discharge
(Upstream Depth)	Node			Node	(I/s)	(m/s)		Vol (m³)	Vol (m³)
60 minute summer	MH1	1.000)	MH2	176.0	1.370	1.016	15.3546	
60 minute summer	MH2	1.001	L	MH5	361.1	1.832	0.166	5.9036	
60 minute summer	MH3	3.000)	MH5	102.2	1.207	0.590	11.7295	
60 minute summer	MH4	2.000)	MH5	102.2	1.207	0.590	11.7312	
60 minute summer	MH5	1.002	<u>)</u>	MH8	669.2	2.965	0.322	31.2160	
60 minute summer	MH6	5.000)	MH8	510.7	2.090	0.360	33.6872	
60 minute summer	MH7	4.000)	MH8	510.7	2.090	0.360	33.6872	
60 minute summer	MH8	1.003	3	MH11	2196.2	3.328	0.499	95.9906	
60 minute summer	MH9	7.000)	MH11	521.4	1.752	0.432	40.0033	
60 minute summer	MH10	6.000)	MH11	520.3	1.732	0.439	41.7444	
60 minute summer	MH11	1.004	ŀ	Basin	3816.2	9.004	0.474	59.3138	
10080 minute summer	Basin	Hydro	o-Brake®	Outfall	25.6				10747.8



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Results for 200 year +37% CC Critical Storm Duration. Lowest mass balance: 99.91%

Node Event	U	S Peak	Level	Depth	Inflow	V	Node	Flood	S	tatus
60 minute summer	MH	1 35	169 292	0 592	267 3	v	20 3033	0 0000	FLO	
60 minute summer	MH	2 33	168 233	0 333	481 7		2 5560	0.0000	OK	
60 minute summer	MH	3 34	168 714	0.333	151 3		6 1491	0.0000	ОК	
60 minute summer	MH	4 34	168 714	0 314	151 3		6 1 4 9 4	0.0000	ОК	
60 minute summer	MH	5 33	167.966	0.416	899.9		1.7962	0.0000	OK	
60 minute summer	MH	6 33	167.212	0.462	712.6		22.9951	0.0000	OK	
60 minute summer	MH	7 33	167.212	0.462	712.6		22.9951	0.0000	OK	
60 minute summer	MH	8 34	166.528	0.778	3023.1		11.3256	0.0000	OK	
60 minute summer	MH	9 33	165.507	0.507	715.3		26.4448	0.0000	OK	
60 minute summer	МН	10 33	165.512	0.512	715.3		27.2709	0.0000	OK	
60 minute summer	MH	11 34	165.235	0.985	5127.5		15.1157	0.0000	OK	
10080 minute summe	er Basi	in 7380	160.675	1.175	173.9	162	240.6500	0.0000	OK	
60 minute summer	Out	fall 1	146.500	0.000	25.6		0.0000	0.0000	ОК	
Link Event	US	Link	DS	Outflo	ow Vel	ocity	Flow/Ca	p Lir	k	Discharge
(Upstream Depth)	Node		Node	(I/s)) (r	n/s)		Vol (m³)	Vol (m³)
60 minute summer	MH1	1.000	MH2	227	7.7	L.488	1.31	4 17.2	228	
60 minute summer	MH2	1.001	MH5	480	0.0	L.929	0.22	1 7.3	828	
60 minute summer	MH3	3.000	MH5	139	9.3	L.306	0.80	4 14.7	271	
60 minute summer	MH4	2.000	MH5	139	9.3 2	L.306	0.80	4 14.7	292	
60 minute summer	MH5	1.002	MH8	904	4.6 3	8.083	0.43	5 43.2	640	
60 minute summer	MH6	5.000	MH8	708	3.6 2	2.179	0.50	0 45.6	556	
60 minute summer	MH7	4.000	MH8	708	3.6 2	2.179	0.50	0 45.6	556	
60 minute summer	MH8	1.003	MH11	3038	3.2 3	3.597	0.69	1 122.4	673	
60 minute summer	MH9	7.000	MH11	713	1.3 1	L.826	0.58	9 53.6	531	
60 minute summer	MH10	6.000	MH11	709	9.7 1	L.807	0.59	9 56.0	173	
60 minute summer	MH11	1.004	Basin	5194	4.5 9	9.232	0.64	5 75.4	550	
10080 minute summer	Basin	Hydro-Brak	e [®] Outfall	25	5.6					11903.7



	 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ENGINEERS, ARCHITECTS AND SPECIALISTS DRAWINGS AND THE SPECIFICATION. THIS DRAINAGE STRATEGY DRAWING SHOWS HOW SURFACE WATER RUN-OFF
OUTFALL TO BURN OF GREENS CL: 148.000 (TAKEN FROM ONLINE MAPPING)	COULD BE MANAGED ON SITE WITH A RESTRICTED OFF-SITE DISCHARGE, FOR ALL RAINFALL EVENTS UP TO AND INCLUDING THE 200 YEAR RETURN PERIOD PLUS 37% CLIMATE CHANGE EVENT TO ENSURE NO INCREASED FLOOD RISK TO OTHERS AS A
163 ⁵⁵ Bunh of Greens ¹⁴²	THIS IS NOT INTENDED TO BE A DETAILED DESIGN AT THIS STAGE. PLEASE NOTE THAT THE FINAL LAYOUT MAY BE SUBJECT TO REFINEMENT TO MEET
	 CERTAIN TECHNICAL CRITERIA. 3. SITE LAYOUT BASED ON FIELD ENERGY SITE LAYOUT PLAN, DRAWING REF. BTGBNDE02-005,1 REV. 7, DATED 21/02/2024 TOPOGRAPHICAL SUBVEY EDOM
	 HIGHLAND SURVEYORS LTD, DRAWING REF. 24074, UNDERTAKEN 14/02/2025. 4. DRAINAGE LEVELS ARE BASED ON COMPOUND LEVELS PROVIDED BY FIELD.
	KEY
	PROPOSED ATTENUATION BASIN
	CUT GRADING
	SURFACE WATER MANHOLE
	PLANNING BOUNDARY
	OVERLAND FLOW ARROWS
	IMPERMEABLE CATCHMENT AREAS
Τα	
	P04 22.04.2025 PLANNING BOUNDARY UPDATED BP JC JC
	P03 27.03.2025 UPDATES TO CLIENT COMMENTS JC . JC P02 24.03.2025 LAYOUT UPDATED JC . JC
	P01 14.03.2025 PRELIMINARY ISSUE TE JC JC Rev'n Date Description Drawn Chk'd Appr
	PRELIMINARY
	HAYDN
	LVANS
	01473 236550Second Floor, Hyde Park Housewww.haydnevans.co.ukCrown Street, Ipswich, IP1 3LGmail@haydnevans.co.uk
	Client
	Project
	NEW DEER 2 BESS
	Drawing title
	SURFACE WATER DRAINAGE STRATEGY
	Scale Drawn Checked Approved Date I:1000 @ A1 TE JC JC JC MARCH 20:
	Drawing no.
	336-011-D010 P04

Appendix C Utilities Search

Underground Utilities Search Page 1 of 2 - Site ref: BTGBNDE02 - Cornerstone Projects Ltd



 NOTES: 1. Ot not scale from this drawing. 1. Vility connections to individual properties / buildings are often not shown on the utility plans but it should be assumed that such itwe utility connections exist. Connections to street lighting and other road furniture / signage may also not be shown but should be considered to exist until proven ortherwise. 2. Any utility apparatus shown outside the search boundary may be included to drawing (and any pdf prints of the same) is based on the original utility plans contained within the Utility Search Report (USR) which must be terefored to prior to any work. This drawing is intended to be indicative only and must not be relied to a to proviee confirmation of the type, location, status, presence or absence of any utility apparatus. This CAO frawing should not be used an sporpoints. 2. The actual type, location, status, presence or absence of all utility apparatus. This CAO frawing should be used as a sporpoints. 3. The actual type, location, status, presence or absence of all utility plans. This CAO frawing should be used as a sporpoints. 4. The actual type, location, status, presence or absence of all utility plans. Prese utility plans the drawing is labed on the original utility plans. This CAO frawing should be used as a sporpoints. 5. The actual type, location, status, presence or absence of all utility plans. Prese utility plans this drawing is based on are only valid for three months from the date of issue of the USR for these details. 6. The size and type of each utility is not denoted on this drawing and the functioner solution which must be reperted the (Colour and Scalay Paratus), the date of issue of the USR for these details. 6. The size and type of each utility is not denoted on the original utility plans. This Grawing is based the (Ordinance Survey OS) mapping then it is to long each withing is drawing and the use accuracy in the OS mapping. c. Cornerstone
SEARCH BOUNDARY
REV: DESCRIPTION: BY: DATE:
91 Market Street, Hoylake, Wirral, CH47 5AA 0151 632 5142 enquiries@cornerstoneprojects.co.uk www.cornerstoneprojects.co.uk VAT REG NO. 8514941 19 COMPANY NO. 5132353
UNDERGROUND UTILITIES SEARCH
CLIENT NAME: Virmati Energy
SITE NAME:
New Deer
SITE REFERENCE: SHEET NO: BTGBNDE02 10F 2
SCALE: DATE: DRAWN: CHECKED: 1:2000 11/02/2025 HE FC



Appendix D Management and Maintenance Plan

Haydn Evans document ref : 336-011-RP3 - SuDS Management & Maintenance Plan



336-011-RP03

400 MW BESS, New Deer SuDS Management & Maintenance Plan

1 Introduction

Sustainable Drainage Systems (SuDS) features are utilised to manage rainfall and use landscape features to deal with surface water. SuDS control the flow rate and volume of water leaving the development area and reduce pollution by intercepting silt and cleaning run-off from hard surfaces.

Like all aspects of drainage systems, SuDS components should be regularly inspected and maintained. This ensures efficient operation and reduces the likelihood of failure. The level of inspection and maintenance will vary depending on the type of SuDS component. Further information on maintenance can be found in The SuDS Manual (CIRIA publication C753).

The SuDS and drainage features for the Proposed Development are to be maintained by the site owner/occupant.

This Plan should be updated following any changes to the proposed drainage design at detailed design stage.

2 Managing SuDS

The SuDS features have been designed for easy maintenance and comprise:

- Regular maintenance litter collection and checking the inlets and outlets where water enters or leaves the SuDS feature.
- Occasional tasks removing any silt that builds up, cutting back and clearing excessive vegetation growth, inspection of outlets, manholes and flow controls.
- Remedial work repairing damage where necessary.

3 Contact

In the event of concern over any matter to do with the SuDS, please contact the site owner/occupant.

4 SuDS Maintenance

The surface water drainage system includes filter drains, an attenuation basin, flow control, pipes and manholes.

Surface water is collected by filter drains and directed to the attenuation basin via a piped network. Surface water is then directed to the outfall ditch via a flow control.

Table 1 below provides a breakdown of general maintenance requirements to be undertaken, appropriate to the types of SuDS and surface water drainage systems proposed at this site.



Reg	gular Maintenance	Frequency
1	Litter Management Check for and pick up litter around the entire site.	Monthly
2	Inlets and Outlets Remove silt and debris from inlets and outlets.	Quarterly
3	Respond to reported blockages, etc.	As required
Oco	casional Maintenance	Frequency
4	Inspection of Control Chamber Inspection of chambers for silt build up and visually check pipes appear clear and free flowing. Remove silt as required. Jetting as required.	Annually
5	Inspection of Attenuation Check for blockages within the connecting pipes.	Quarterly and following heavy storms
Rer	nedial Work	Frequency
6	Inspect SuDS systems to check for damage or failure Undertake remedial work as required.	Annually
7	Silt control and removal Wash or replace filter medium when required.	As required

Table 1: SuDS General Maintenance Requirements

Tables 2 to 6 below provides a breakdown of typical maintenance requirements appropriate to the types of SuDS proposed at this site.



Operation and Maintenance Requirements for Attenuation Basin							
Responsible for Maintenance	Site Owner/Occupier						
Maintenance Schedule	Required Action	Typical Frequency					
	Remove litter and debris.	Monthly					
	Cut grass - for spillways and access routes.	Monthly (during growing season)					
	Cut grass - meadow grass in and around basins.	Half yearly (spring - before nesting season, and autumn)					
	Manage other vegetation and remove nuisance plants.	Monthly (at start), then as required					
	Inspect inlets, outlets and overflows for blockages, and clear if required.	Monthly					
Regular maintenance	Inspect banksides, structures, pipework etc for evidence of physical damage.	Monthly					
	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	Monthly (for first year), then annually					
	Check any penstocks and other mechanical devices.	Annually					
	Tidy all dead growth before start of growing season.	Annually					
	Remove sediment from inlets, outlets and forebay.	Annually					
	Manage wetland plants in outlet pool, where provided.	Annually					
	Reseed areas of poor vegetation growth	To be reviewed every 2 years					
Occasional	Prune and trim any trees and remove cuttings	Every 2 years					
maintenance	Remove sediment from inlets, outlets, forebay and main basins when required	Every 5 years (likely to be minimal requirements where effective upstream source control is provided)					
	Repair erosion or other damage by reseeding or re- turfing.	As required					
Remedial actions	Realignment of rip-rap.	As required					
	Repair/rehabilitation of inlets, outlets and overflows.	As required					
	Relevel uneven surfaces and reinstate design levels.	As required					
	Table 2: Site specific maintenance requirements Att	onuation Basin					

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Operation and Maintenance Requirements for Pipes, Manholes and Gullies						
Responsible for Maintenance	Site Owner/Occupier					
Maintenance Schedule	Required Action	Typical Frequency				
Regular inspections	Remove cover and inspect, ensuring that water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.	Annually and after leaf fall in autumn				
Remedial action	Repair physical damage if necessary.	As required				
Monitoring	Inspect for evidence of poor performance. CCTV survey to investigate poor performance.	As required				

Table 3: Site specific maintenance requirements - Pipes, manholes and gullies

Operation and Maintenance Requirements for Flow Control							
Responsible for Maintenance	Site Owner/Occupier						
Maintenance Schedule	Required Action	Typical Frequency					
Routine maintenance	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly					
	Remove sediment, oil, grease and floatables	As necessary - indicated by system inspections or immediately following significant spill					
Remedial actions	Replace malfunctioning parts or structures	As required					
	Inspect for evidence of poor operation	Six monthly					
Monitoring	Inspect sediment accumulation rates and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months					

Table 4: Site specific maintenance requirements - Flow control

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	Operation and Maintenance Requirements for Filter Drains			
Responsible for Maintenance	Site Owner/Occupier			
Maintenance Schedule	Required Action	Typical Frequency		
	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly, or as required		
Regular	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly		
maintenance	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly		
	Remove sediment from pre-treatment	Six monthly, or as required		
Occasional	Remove or control tree roots where they are encroaching the sides of the filter drain, using recommended methods (eg NJUG, 2007 or BS 3998:2010)	As required		
Occasional	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required		
	Clear perforated pipework of blockages	As required		

Table 5: Site specific maintenance requirements - Filter drain

	Operation and Maintenance requirements for Pipes & Manhole	es
Responsible for Maintenance	Management & Maintenance Company	
Maintenance Schedule	Required Action	Typical Frequency
Regular	Remove cover and inspect, ensuring that water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt.	Annually and after leaf fall in autumn
inspections	Jetting pipes or poor performance to assess requirements for CCTV survey and potential replacement pipes.	Annually or as required
Remedial action	Repair physical damage if necessary.	As required

Table 6: Site specific maintenance requirements - Pipes and Manholes

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Appendix E Site Investigation

RSK Window Sample and Trial Pit Logs

RSK Soakaway Test Logs





Contract:					Client: Win					<i>w</i> Sampl	e:
	Ne	w D	eer			V	irmati En	ergy Ltd (Field Energy)			WS1
Contract Ref:			Start:	04.03.25	Grou	nd Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
3	40617		End:	04.03.25		162	.13	E:381038.1 N:848488.4		1	of 1
Progress		San	nples / Te	ests		fill & ru- ation		Decembration of Otroche		Depth	Material
Window Run	Depth	No	Туре	Results	10/01	Back Inst menta		Description of Strata		(Thick ness)	Legend
-	0.10-0.30	1	ES				Spongy da sandy claye	rk brown organic rich slightly gravelly ey fibrous PEAT. Sand is fine to coarse.	slightly Gravel	(0.35)	1/
_	_					59 ¥	is angular ∖chert.	to subrounded fine to coarse sandstor	ne and	- 0.35	b
_	-						(TOPSOIL)	nown gravelly fine to coarse SAND wit	h hiah	-	
_	-						cobble con	tent. Gravel is angular to subangular	fine to	(0.85)	0.000
	-						sandstone.	idsione. Cobbles are angular to suba	angular	-	0,0
	1.10-1.55 1 SPT N=10 1.10-1.55 1 D						(TILL)	.90 m depth - Becomes slightly clayey.		1.20	0.000
	1.10-1.55 1 D 1.00 - 2.00 (101/mm dia)						Greenish y gravelly SIL	sandy gular to	-	*•• • × • × •× • × • × × •× • ×	
1.00 - 2.00 (101mm dia)	1.00 - 2.00 (101mm dia) 100% rec						rounded fin	e to medium quartz and flint.		-	*•ו• ×
	100% rec					()			-	× × • × ×	
- V									_	$\begin{array}{c} \circ \times \circ & \times \circ \\ \times & \circ & \times \\ \circ & \times & \circ & \times \end{array}$	
	2.00-2.45 2 SPT N=13 2.00-2.45 2 D						-	× · ·× × · × ×			
	_						2				* * • × * * * • ×
2.00 - 3.00 (101mm dia)	-						From	2.50 m depth - Becomes bluish and	slightly		*•• • × • × •× • × • × × •× • ×
	_						gravelly.			-	× · · × · ×
- V	-									-	× × × × ×
	3.00-3.45 3.00-3.45	3 3	SPT D	N=20			2				$\overset{\circ}{\times}\overset{\circ}{\cdot}\overset{\times}{\cdot}$
	-						2			_ (4.25)	ו•ו ו•ו
3.00 - 4.00 (101mm dia)	-										* * • × * * * • ×
	-									-	×o × ·× ·× × ·×
<u> </u>	3.80	2	ES							-	*•× * * *
	4.00-4.45 4.00-4.45	4 4	SPT D	N=21						-	× × • × ×
-	-									-	ו• × ×
4.00 - 5.00 (101mm dia)	-									-	ו•וו
	-						2 2			-	× × × ×
- V	-									-	
_	5.00-5.43 5.00-5.45	5 5	SPT D	N:50 for 280n	nm					-	ו· × •ו ו
_	-									- 5 4 5	×ו××
-	-						Window sa	mple hole terminated at 5.45 m depth.			וו
_	_									-	
-	-									-	

		Drilling Pro	ogress and	Water 0	Observation	IS								
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	eral	Remarks			
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 m cover depth	on scanne ction pit ha oundwate m diamete installed t	ed with a CAT a and dug to 1.10 r encountered. r gas/groundwa o 5.00 m depth	and Ger) m depi ater mor 1 on con	nny prior to excava th. nitoring well compl npletion. Respons	ation. ete with flus e zone 1.00	h protec m to 5.	ctive 00 m
2							A	All dimensi	ons in metres		Scale:	1:33		
100107	Method Used:	Tracke san	d windo npling	W Pla Us	ant sed: P	remier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:										w Samp	le:
	Ne	w D	eer			Vi	irmati En	ergy Ltd (Field Energy)			WS2
Contract Ref:			Start:	05.03.25	Groun	d Level	(m AOD):	National Grid Co-ordinate:	Sheet		
3	40617		End:	05.03.25		162.	.57	E:381066.7 N:848417.7		1	of 1
Progress		Sam	ples / Te	ests	1.	≪ . 5				Donth	Matorial
Window Run	Depth	No	Туре	Results	Water	Backfill Instru- mentatio		Description of Strata		(Thick ness)	Graphic
-	-						Spongy da clayey fibro angular to s and chert. (TOPSOIL)	rk brown organic rich slightly grave ous PEAT. Sand is fine to coarse. subrounded fine to coarse quartzite, s	lly sandy Gravel is andstone	(0.30) 0.30	
-	- 0.50-0.80 - - - -	1	ES			°.° 1 .°.	Yellowish b cobble con coarse sar sandstone ((TILL)	rown gravelly fine to coarse SAND tent. Gravel is angular to subangul ndstone. Cobbles are angular to su (up to 250 mm).	with high ar fine to ubangular	-	
	- 1.20-1.65 - 1.20-1.65 - -	1 1	SPT D	N=12						- - - - (2,50)	
1.20 - 2.00 (87mm dia) 100% rec	- - 1.65-2.00 -	1	В							(2.50) - -	
2.00 - 3.00	2.00-2.45 - 2.00-2.45 - - -	2 2	SPT D	N=20			From 2	.20 m depth - becomes slightly clayey			
- (77mm dia) - 100% rec 	- - 2.70	2	ES				Cream sligh	ntly sandy clayey SILT. Sand is fine to	coarse.	2.80	
	- 3.00-3.45 - 3.00-3.45 - -	3 3	SPT D	N=14			(TILL)	.20 m depth - becomes light grey.		 [(0.75)	
3.00 - 4.00 (77mm dia) 100% rec	- - - 3.55-4.00 - -	2	В				Yellowish b Gravel is ar (TILL)	prown slightly gravelly fine to coars ngular to subangular fine to coarse sa	e SAND. ndstone.	- - <u>3.55</u> - -	
- V - - -	- 4.00-4.30 - 4.00-4.30 - -	4 4	SPT D	N:50 for 170mm	n		Windows	mple hole terminated at 4.20 m dowth		- (0.75) 4.30	0.0
-	-						window sai	mple note terminated at 4.50 m depth.		-	

		Drilling Pro	ogress and	Water C	bservations	6			Can	متحا	Domoriko			
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erar	Remarks			
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 mi cover depth	on scanne ction pit h oundwate n diamete installed t	ed with a CAT a and dug to 1.20 r encountered. r gas/groundwa o 4.00 m depth	and Ger) m depi ater mor i on con	nny prior to excava th. hitoring well compl npletion. Respons	ation. ete with flus e zone 1.00	sh prote) m to 4	ctive .00 m
2							l A	All dimensi	ons in metres		Scale:	1:25		
12000	Method Used:	Tracke san	d windo npling	w Pla Us	nt ^{ed:} Pr	remier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:					Client:					Window Sample:		
	Ne	w D	eer			Vi	irmati En	ergy Ltd (Field Energy)			WS3	
Contract Ref:			Start:	06.03.25	Grou	nd Level	(m AOD):	National Grid Co-ordinate:	Sheet:			
3	40617		End:	06.03.25		167.	90	E:380940.8 N:848064.1		1	of 1	
Progress		San	nples / Te	ests	r	rill & ru- ntion				Depth	Material	
Window Run	Depth	No	Туре	Results	+6///	Backf Insti menta		Description of Strata		(Thick ness)	Graphic Legend	
-	0.10-0.30 	1	ES				Spongy da fibrous PEA subrounded subangular \(PEAT)	k brown organic rich slightly gravelly T with low cobble content. Gravel is ang I fine to medium quartzite. Cobble to subrounded quartzite up to 155 mm.	clayey jular to es are	(0.40) 0.40		
0.60 - 1.00 (87mm dia) 100% rec	0.60-1.00 	1	В				Yellowish liq Gravel is ar (TILL)	ht brown gravelly clayey fine to coarse s gular to subangular fine to medium sanc	SAND. Istone.	-		
	- 1.00-1.45 1.00-1.45 -	1 1	SPT D	N=16			From 1	20 m depth - Becomes fine SAND.		-	# # #	
1.00 - 2.00 (87mm dia) 100% rec	- - 1.45-2.00 - - -	2	В							-		
	 2.00-2.45 2.00-2.45 -	2 2	SPT D	N=14			From	230 m denth - Becomes cream to light	brown	-		
2.00 - 3.00 (77mm dia) 80% rec	- - 2.45-3.00 - - -	3	В				streaked or	ange.	brown	- - - - - (5.05)		
	3.00-3.45 3.00-3.45	3 3	SPT D	N=18						-		
3.00 - 4.00 (77mm dia) 90% rec	- - 3.45-4.00 - - -	4	В							-		
- 4.00 - 5.00 (67mm dia)	4.00-4.45 4.00-4.45	4 4	SPT D	N=32						- - - -		
90% rec	- 4.70 -	2	ES							-		
	5.00-5.45 5.00-5.45 - -	5 5	SPT D	N=31						- - - - 5.45		
- - -	- - - -						Window sai	nple hole terminated at 5.45 m depth.		- - - -		

	Drilling Pro	ogress and	Water Ob	servations					I				
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)			Gen	erai	Remarks			
06/03/25	e Time Depin Depin (m) Diameter (mm)					 Positi Inspe Groui 50 mi cover depth 	on scanne ction pit ha ndwater se m diameter installed t	ed with a CAT a and dug to 0.60 epage at 0.50 r gas/groundwa o 5.00 m depth	and Ger) m dep m depth ater mor on con	ny prior to excava th. i in inspection pit. nitoring well compl npletion. Response	ation. ete with flus e zone 1.00	h protec m to 5.0	tive 20 m
						ŀ	All dimensi	ons in metres		Scale:	1:33		
Method Tracked window Plant Used: sampling Used: Prem				emier 11	0	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS	



Contract:						Client:					Window Sample:		
	Ne	w D	eer				V	'irmati Er	ergy Ltd (Field Energy)			WS4	
Contract Ref:			Start:	05.03.25	Gr	ound	l Level	(m AOD):	National Grid Co-ordinate:	Sheet:			
3	40617		End:	05.03.25			167	.82	E:380904.7 N:848076.3		1	of 1	
Progress		San	nples / Te	ests		er	fill & ru- ation		-		Depth	Material	
Window Run	Depth	No	Туре	Results		Wat	Backt Insti		Description of Strata		(Thick ness)	Graphic Legend	
-	-							Spongy da PEAT. Sa	rk brown slightly gravelly slightly sandy nd is fine to coarse. Gravel is ang fine to coarse quartzite	fibrous ular to	(0.40)	$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}$	
-	-										0.40	××	
	- _ 0.50-0.80 - - -	1	ES					Light brow Sand is fine (TILL)	n locally mottled orange sandy clayey e to medium.	/ SILT.	-		
	- - - 1.20-1.58 - 1.20-1.65 -	1 1	SPT D	N=11				a a a a			-		
(101mm dia) 100% rec	- - - 2.00-2.45 2.00-2.45	2 2	SPT D	N=19				o o o o o			-		
- 2.00 - 3.00 (101mm dia) 100% rec	- - - - -							From and brown and	2.20 m depth - Becomes greenish mottl orange.	ed light	-		
	- 3.00-3.45 - -	3	SPT	N=19				0 0 0 0 0			- (5.05) - - -		
3.00 - 4.00 (101mm dia) 100% rec	- 3.50-4.00 -	2	ES					a a a a a			-	$ \begin{array}{c} $	
	4.00-4.45 4.00-4.45 	3 4	D SPT	N=25				At 4.30) m depth - Band of light orangish browr	n fine to	-		
(101mm dia) (101mm dia) 100% rec	- - - - 5.00-5.45 - 5.00-5.45 - -	4 5	D SPT	N=45				coarse SAN	ND.		- - - - - -		
- - - - -	- - - -							* Window sa	mple hole terminated at 5.45 m depth.		- <u>5.45</u> - - - -	•× • ×	

		Drilling Pro	ogress and	Water 0	Observation	iS			Car					
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	eral	Remarks			
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr 4. 50 mr cover depth	on scanne ction pit ha oundwate n diamete installed t	ed with a CAT a and dug to 1.20 r encountered. r gas/groundwa o 5.00 m depth	and Ger) m depi ater mor i on con	nny prior to excava th. hitoring well compl npletion. Respons	ation. ete with flus e zone 1.00	h prote m to 5.	ctive .00 m
2							A	All dimensi	ons in metres		Scale:	1:33		
	Method Tracked window Used: sampling			W Pla Us	ant sed: P	remier 11	10	Drilled By:	Central Alliance	Logge By:	d HGildersleeves	Checked By:		AGS



Contract:					Client:					Window Sample:		
	Ne	w D	eer			V	irmati En	ergy Ltd (Field Energy)			WS5	
Contract Ref:			Start:	06.03.25	Grou	und Level	(m AOD):	National Grid Co-ordinate:	Sheet:			
3	40617		End:	06.03.25		168	.41	E:380767.9 N:848266.4		1	of 1	
Progress		Sam	ples / Te	ests		Er Fill & ru- ation				Depth	Material	
Window Run	Depth	No	Туре	Results		Wat Backi Inst menta		Description of Strata		(Thick ness)	Legend	
-	0.10-0.30	1	ES				Spongy da fibrous PE/ subangular (TOPSOIL)	k brown slightly gravelly slightly sandy \T. Sand is fine to coarse. Gravel is ang fine to coarse quartzite.	clayey jular to	(0.40)	$\frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}}{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n} \frac{1}{i_{i}}} \cdot \frac{\sum_{i=1}^{n}$	
0.60 - 1.00 (87mm dia) 100% rec	- - - - - 0.60-1.05 - - -	1 1	SPT D	N=22			Cream slig angular to s (TILL)	htly gravelly fine to coarse SAND. Graubangular fine to coarse sandstone.	avel is	(1.20)	с. 	
-	 - 1.05-1.60 - - -	1	В							- - - - -		
1.60 - 2.60	- 1.60-2.05 - 1.60-2.05 - -	2 2	SPT D	N=18			Cream sligh (TILL)	tly sandy SILT. Sand is fine to medium.		- - -		
 (87mm dia) 100% rec 	- 2.20 -	2	ES							-		
-	- 2.60-3.05 2.60-3.05 - -	3 3	SPT D	N=14						-	* ^ * * * * * * * * * * * * * * * * *	
2.60 - 3.60 (77mm dia) 90% rec	 - 3.05-3.60 - - -	2	В				From 3	.20 m depth - Becomes light brown.		- - (3.05) - -		
3.60 - 4.20 (67mm dia) 100% rec	- 3.60-4.05 - 3.60-4.05 - - -	4 4	SPT D	N=37						-	* *	
- - - -	- 4.20-4.65 - - -	5	SPT	N=37						- - - - 4.65	· · · · · · · · · · · · · · · · · · ·	
-	-						Window sa refusal.	mple hole terminated at 4.65 m depth	due to	-		

ļ		Drilling Pr	ogress and	Water Ob	servations	ا د			Car	anal !			
ļ	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gene	erai	Remarks		
			(m)	(m) (mm)		(m)	 Position Inspective No grim 50 mrim covering depth 	on scanne ction pit ha oundwater n diameter installed t	d with a CAT a and dug to 0.60 r encountered. r gas/groundwa o 4.20 m depth	and Gen) m dept ater mor 1 on con	iny prior to excava th. nitoring well comple npletion. Response	ıtion. ete with flush prot e zone 1.00 m to∍	tective 4.20 m
		1	1	Í	1		A A	All dimensi	ons in metres		Scale:	1:28	
	Method Used:	Tracke sar	d windo [,] npling	w Plan User	t d: Pr	remier 11	0	Drilled By:	Central Alliance	Logged By:	d HGildersleeves	Checked By:	AGS



Contract:						CI	ient:			Window	w Sampl	e:
	Ne	w D	eer				Vi	rmati En	ergy Ltd (Field Energy)			WS6
Contract Ref:			Start:	06.03.25	Grou	nd L	evel (m AOD):	National Grid Co-ordinate:	Sheet:		
34	40617		End:	06.03.25		1	69.	79	E:380676.7 N:847939.4		1	of 1
Progress		Sam	nples / Te	ests	r	ت	u- tion				Depth	Material
Window Run	Depth	No	Туре	Results	Wote	Backf	Instr menta		Description of Strata		(Thick ness)	Graphic Legend
								Firm dark	brown slightly gravelly slightly sandy	clayey	-	<u></u>
								subangular	fine to medium quartzite and sandstone		0.25	
								(TOPSOIL)	alightly grouply alightly alovey find to	/	-	
	-					*. •		SAND. Gra	avel is angular to subangular fine to	nedium	(0.55)	
	0.50-0.80	1	ES			** **	H.	sandstone.			- (0.00)	
						。 。					- 0.00	
						•	•日.•.	Window sa	mple hole terminated at 0.80 m depth	due to	0.80	<u></u>
								access issu	les.		-	
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	Drilling Pro	ogress and	Water O	bservation	s			Can	متحا	Domoriko			
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erari	Remarks			
		(m)	(m)	(mm)	(m)	 Positi Inspe No gr S0 mi cover depth 	on scanne ction pit ha oundwater m diameter installed t	ed with a CAT a and dug to 0.80 r encountered. r gas/groundwa o 0.80 m depth	nd Gen) m dept ater mor on con	nny prior to excava th. hitoring well compl npletion. Respons	ation. ete with flus e zone 0.40	sh protec) m to 0.	ctive 80 m
						A	All dimensi	ons in metres		Scale:	1:25		
 Method Used:	Inspection window	pit + Tracl sampling	ked Plai Use	nt ed: P	remier 11	0	Drilled By:	Central Alliance	Logged By:	d HGildersleeves	Checked By:		AGS



Contract:						(Client:			Window	w Sampl	e:
	Ne	w D	eer				V	irmati Er	ergy Ltd (Field Energy)			WS7
Contract Ref:			Start:	06.03.25	Gro	bund	Level	(m AOD):	National Grid Co-ordinate:	Sheet:		
34	40617		End:	06.03.25			167	.60	E:380846.7 N:848216.2		1	of 1
Progress		San	nples / Te	ests		er	kfill				Depth	Material
Window Run	Depth	No	Туре	Results		Wat	Bac		Description of Strata		(Thick ness)	Legend
-	- 0.20-0.40	1	ES					Spongy da fibrous PE/ subrounded (TOPSOIL)	rk brown slightly gravelly slightly sandy AT. Sand is fine to coarse. Gravel is any d medium to coarse quartzite.	clayey gular to	0.15	
0.40 - 1.00 (87mm dia) 100% rec	- 0.40-1.00 - - -	1	В					Yellowish I coarse SA medium sa (TILL)	prown slightly gravelly slightly clayey ND. Gravel is angular to subangular ndstone.	fine to fine to	- [(0.85) - -	
	- - 1.00-1.45 - 1.00-1.45 - -	1 1	SPT D	N=18				Slightly or subangular fine to coar (TILL)	angish yellowish brown sandy ang fine to coarse sandstone GRAVEL. S se.	ular to Sand is	1.00	
1.00 - 2.00 (87mm dia) 100% rec	- 1.45-2.00 - - -	2	В								_ [(1.35) _	
	2.00-2.35 - 2.00-2.35 - -	2 2	SPT D	N:50 for 200m	nm						- - - 2.35	
								Window sa refusal.	imple hole terminated at 2.35 m depth	due to		

		Drilling Pr	ogress and	Water O	bservations	ذ			Con	arali	Demerke		
	Date	Time	Borehole Depth	Casing Depth	Borehole Diameter	Water Depth			Gen	erali	Remarks		
			(m)	(m)	(mm)	(m)	1. Positi 2. Inspe 3. No gr	on scanne ction pit ha oundwater	d with a CAT a and dug to 0.40 encountered.	and Gen) m dept	ny prior to excava	ition.	
				i.			A	All dimension	ons in metres		Scale:	1:25	
_	Method Used:	Tracke sar	d windo npling	w Plar Use	nt ed: Pr	remier 11	0	Drilled By:	Central Alliance	Logged By:	d HGildersleeves	Checked By:	AGS



Contract:								Client:						Trial Pi	it:	
		Ne	w De	er				Virma	iti Ei	nergy l	Ltd (Field	Energ	gy)			TP2
Contract Re	f:			Start:	06.0	3.25	Groun	d Level (m AC	DD):	Nationa	al Grid Co-ordi	nate:		Sheet:		
	3406	17		End:	06.0	3.25		169.02		E:3	80720.2 N	l:8482	20.3		1	of 1
Sam	ples ar	nd In-sit	tu Tests	14	Vater	ackfill				Descript	tion of Strata				Depth (Thick	Material Graphic
		гуре	Res	uits	>					k condu		- L with	modium	oobblo	ness)	
0.00-0.20		D					MAC conte to c subre MAC angu MAC Yello matri quari suba (TILL	PE GROUND ant. Sand is fir barded quartz is banded quartz is GROUND: lar to subangu is GROUND: wish brown C x of silty grave zite and me ngular quartzit .)	t: Black ite and Black ular qu Brown COBBI el. Gra etapeli te and	k sandy coarse. Gr d granite/ g granite/ g cOBBLI lartzite. In fine to co LES with avel is any te. Cobb metapelit	silty GRAVE avel is angula //psammite. C osammite up to ES with a little oarse SAND. moderate bo gular to subar oles and bo le up to 300 m	L with a root of the subrection of the subrectio	medium punded m are angu n rix. Cobble Intent and edium to d are angu	cobble ledium llar to es are some coarse lar to ditions:	0.10 0.20 0.25 (0.75) 1.00	
Plan (Not to	Scale)							(Gonor	al Rema	arke				
		, 2.5	0>	-	1. F 2. T 3. T 4. T	Position Trial pit Trial pit	n scanr t remain t was ur t backfil	ed with a CAT ed dry during stable during led with arising	T and excav excav gs in r	Genny pri ration. ration. everse ord	ior to excavati	on. pletion.				
							All d	mensions in n	netres		Scale:			1:8		
Method Used:	Mac	hine c	lug	Plant Used	t d: 5'	Ton	Track	ed Excava	tor	Logged By:	HGildersle	eves	Checke By:	d		AGS



Term Used To The Control Level (m ACOL) Term Unitary Control Level (m ACOL) Stratt: 06.03.25 (TO.01) E:380668.7 N:848047.4 Term to 1 Stratt: 06.03.25 (TO.01) E:380668.7 N:848047.4 Term to 1 Stratt: 06.03.25 (TO.01) E:380668.7 N:848047.4 Term to 1 Stratt: 06.03.25 (TO.01) E:380668.7 N:848047.4 Term to 1 Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" Colspan="2" <th <="" colspan="2" th=""><th>Contract:</th><th></th><th>Nic</th><th></th><th>or</th><th></th><th></th><th>Client:</th><th>norav I t</th><th>d (Field Eper</th><th>an ()</th><th>Trial Pi</th><th>t:</th><th>TDA</th></th>	<th>Contract:</th> <th></th> <th>Nic</th> <th></th> <th>or</th> <th></th> <th></th> <th>Client:</th> <th>norav I t</th> <th>d (Field Eper</th> <th>an ()</th> <th>Trial Pi</th> <th>t:</th> <th>TDA</th>		Contract:		Nic		or			Client:	norav I t	d (Field Eper	an ()	Trial Pi	t:	TDA
Subject of 0.6.3.2.2 The 0.6.3.2.2 The 0.6.3.2.2 Somples and In-thit Tests B The colspan="2">Subject of Strate Open Mater (The K Gright Mater	Contract Re	ef:	INE	w De	er Start:	06.03	3 25	Ground Level (m AOD) [.]	National C	u (Fielu Eller) Grid Co-ordinate:	yy)	Sheet:		184		
Samples and In-situ Tests g<	Contracting		617		End:	06.0	3.25	170.01	E:380)668.7 N:8480	47.4	ericet.	1	of 1		
Depth No Type Results S S Description of Striat Integrit	San	nples a	nd In-sit	u Tests		ter	kfill		Decembration	o f Otrocho			Depth	Material		
0.50-1.00 1 ES Dark brown silly CLAY with high fibrous content, note and note to 200 mm. (CPSOL) 0.10 0.10 0.50-1.00 1 ES Image: Content and some matrix of autority in	Depth	No	Туре	Res	ults	Ma	Bac		Descriptior	1 of Strata			(Thick ness)	Legend		
Plan (Not to Scale)		1	ES					Dark brown silty CLA' Occasional cobbles are (TOPSOIL) Light brown COBBLES slightly gravelly silt. Gra quartzite. Cobbles are an Occasional gravel of version of the second gravel of the s	f with high f angular to sub s with low bo vel is angular angular to sub gular to sub ry weak siltsto 1.60 m dept gress.	ibrous content, roo bangular quartzite u oulder content and to rounded medium bangular quartzite u one lithorelicts in the th due to hard gro	pund condi	tions:	0.10			
All dimensions in metres Scale: 1:11 Method Plant Logged Checked Used: Nachine dum By: By:) —•	-	1. P 2. T 3. T	ositio rial pit rial pit	n scanned with a CAT and remained dry and stable (backfilled with arisings in	Genny prior during excava reverse order	to excavation. tion. upon completion.						
Method Plant Logged Checked By:								All dimensions in metre	S	Scale:		1:11				
	Method	N-2			Plan	t d·	-		Logged		Checked					



Contract.		Ne	w De	er			Virmati F	nerav I to	(Field Energy	v)	1 IL.	TP
Contract Re	f:	110		Start:	06.03	.25	Ground Level (m AOD):	National Gr	id Co-ordinate:	Shee	et:	
:	3406	617		End:	06.03	.25	167.82	E:380	580.0 N:84796	8.0	1	of 1
Sam	ples a	and In-situ	u Tests		ter	cfill					Depth	Mater
Depth	No	Туре	Res	ults	Wat	Bac		Description	of Strata		(Thick ness)	Grapi Lege
0.10-0.50		ES					Dark brown silty CLAY rootlets. Roots up to 50 (TOPSOIL) Light brown COBBLES silt. Gravel is angular to and boulders are angul frequent reddish brown (TILL) Trial pit terminated at excavator could not prove	with high fib mm diameter. and BOULD subangular m lar to subang surface stainir	rous content, abund ERS with some mat edium to coarse quar ular quartzite up to ig.	ant roots and rix of gravelly tzite. Cobble 350 mm with	ness) d 0.10 y s 1 (1.10) - - - 1.20 : -	
Plan (Not to		e) 3.20]	1. Pc 2. Tr 3. Tr	ositior ial pit ial pit	n scanned with a CAT and remained dry and stable of backfilled with arisings in	Genny prior ta during excavati reverse order	Remarks o excavation. on. upon completion.			
									1			
							All dimensions in metre	S	Scale:	1:8		



Contract:								Client:						1	Frial Pit	t:	
		Ne	w De	er				Vir	mati E	nergy	Ltd (F	ield E	inerg	y)			TP6
Contract Re	f:			Start:	06.0	3.25	Groun	d Level (r	n AOD):	Nation	al Grid C	o-ordinat	ie:	5	Sheet:		
	3406	617		End:	06.0	3.25		166.3	57	E:3	380864	4.4 N:8	34838	5.2		1	of 1
Sam	ples a	nd In-sit	u Tests		/ater	ackfill				Descrip	otion of S	Strata				Depth (Thick	Material Graphic
Depth	No	Туре	Res	sults	5					-			<u> </u>			ness)	
0.50-0.60	2	ES					MAD 200 r MAD Sanc quart suba Light suba (TILL Trial exca	DE GROU mm squar DE GROU d is fine t tzite with ingular qu c brown C Cobbles nmite. -) pit termi vator coul	ND: Grey e. ND: Grey o coarse, minor med artzite up OBBLES and bould nated at d not proc	v sandy silt sammite s appears dium to c to 200 m and BO ders are 0.70 m gress.	ility GRA ashy. G oarse ch m. ULDERS angular depth du	VEL with apelite up VEL with ravel is a arcoal. C S with sc to suba	h high c angular cobbles	obble cor to suban are angul	Intent. gular lar to avelly and	(0.50) (0.50) (0.10) 0.60 (0.10) 0.70	
0.70		2.5() — •		1. F 2. T 3. T 4. T	Position Trial pit Trial pit Trial pit	n scann : remain : was ur : backfil	ned with a ned dry du nstable du led with a	CAT and iring excav iring excav risings in r	Genny p vation. vation. reverse o	rior to ex	cavation.	tion.				
							اہم ۸۱۱	imonoiora	in metro						1.6		
Method				Plan	t		All di	Intensions	s in metres		S	cale:		Checked	1:0		
Jsed:	Mac	hine d	lua	Use	d: 5	Ton	Track	ed Exc	avator	By:	HGild	ersleev	ves	By:			AG



Contract:							Client:		Trial P	it:	
		Ne	w De	er			Virmati E	nergy Ltd (Field Energy)			TP9
Contract Re	ef:			Start:	05.0	3.25	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet:		
:	3406	617		End:	05.0	3.25	166.04	E:380935.0 N:848143.)	1	of 1
Sam	ples a	nd In-sit	u Tests		ater	ckfill		Description of Strata		Depth (Thick	Material Graphic
Depth	No	Туре	Res	ults	ŝ	Ba		Description of orland		ness)	Legend
0.00-0.10 - - -	1	ES					Firm dark brown silty cla Cobbles are relict branch (PEAT) Dark greyish brown si medium. Gravel is grey a (TILL) Light brown friable SI	ayey fibrous PEAT with medium cobb nes, wood and roots up to 20-30 mm of ightly gravelly sandy CLAY. Sand angular fine to coarse chert and metap LT. Occasional cobbles are grey	le content. iameter. is fine to elite.	0.20	<u> (1)</u> (1) (1)
0.50 - - -	1	D					(TILL)	a psammite, 120 mm.		(0.70)	
- - - 1.50	2	ES					Light yellowish brown SI (TILL)	LT with frequent reddish brown planar	staining.	- (1.20)	
- 1.80 - -	2	D					Proup and vallouish br	our mottled SII T with occosional rad	tich brown	2.20	× ×
- 2.50-2.60 -	1	В					planar staining, <1 mm v	vide.		- (0.60)	
-							2 Trial pit terminated at 2.8	30 m depth.		-	
Plan (Not to	Scale	e)						General Remarks			
0.45		3.7()>		1. P 2. T 3. T	Position Trial pit	n scanned with a CAT and remained dry and stable d backfilled with arisings in r	Genny prior to excavation. uring excavation. reverse order upon completion.			
							All dimensions in metres	S Scale:	1:19		
Method Used:	Мас	hine d	lug	Plan Usec	t ^{1:} 5	Ton [·]	Tracked Excavator	Logged Che By: HGildersleeves By:	ecked		AGS



Contract:						Client:		Trial P	Pit:	
		Nev	w Deer			Virmati E	nergy Ltd (Field Ener	gy)		ΤI
Contract Re	ef:		Start:	05.0	3.25	Ground Level (m AOD):	National Grid Co-ordinate:	Sheet		
	340	617	End:	05.0	3.25	167.11	E:380965.1 N:8480	90.9	1	of
Sam	ples a	and In-situ	Tests	- L					Depth	М
Depth	No	Туре	Results	Wate	Backt		Description of Strata		(Thick	G
		51				Plastic dark brown silty	clayey fibrous PEAT with high	cobble content.		0
						Cobbles are angular gro	ey metapelite and white quartzit	e, 150-200 mm.	(0.25)	4
						(PEAT)	es up to 50 min diameter.		0.25	\hat{O}_{1}^{i}
						Light grey and light yel	lowish brown mottled dry friable	SILT. Reddish	0.25	×
0.30-0.50	1	ES				brown staining on 1 mm	planar surfaces.			×
									-	×
0.50-0.80	1	D							-	×
									(0.75)	×
									(0.1.0)	×
										×
									-	ľ
i.									-	×
-						Slightly light grove mottle	d vollowich brown SILT		1.00	×
						(TILL)	น yellowian มเบพท อเปา.		_	×
										×
1.20-1.50	2	D							-	×
									-	×
									-	Â
									(1.00)	×
										×
									-	×
									-	× ;
									-	Â
									-	×
1.90-2.00	1	в							2.00	×
-						Trial pit terminated at 2.0	00 m depth.			
									-	
,									-	
									-	
									-	
									-	
•									-	
									F	
<u> </u>						l				
Plan (Not to	Scale	e)					General Remarks			
				1.1	Position	n scanned with a CAT and	Genny prior to excavation			
		2.10	>	2.	Trial pit	remained dry and stable d	luring excavation.			
55				3.	ı rıal pit	backfilled with arisings in I	reverse order upon completion.			
0										
						All dimensions in metres	s Scale:	1:17		



New Deer Virmati Energy Ltd (Field Energy) TP11 Contract Rei: Stat: 05.03.25 Ground Level (m.AOD) National Grid Co-ontractic: Stat: Stat: 1 or 1 1 or 1 1 or 1 1 0<	Contract:							Client:			Trial P	'it:	
Contract Ref: Start 05.03.25 Contract were (m AOD): National Conditions: Start 05.03.25 I or 1 I or 1 Samples and In-situ Tests Samples and In-situ Tests Samples and In-situ Tests Description of Strats 0.40.060 1 ES Plastic dark torwn sity clayery fibrous PEAT. 0.00			Ne	w De	er			Virmati E	inergy L	td (Field Energ	gy)		TP11
340617 End: 0.0.0.2.5 166.99 E:380918.8 N:848095.5 1 of 1 Samples and In-situ Tests 3 3 0 Description of Strats 0.00.01 Description strats 0.00.01 Description of Strats <	Contract Re	ef:			Start:	05.03	3.25	Ground Level (m AOD):	National	Grid Co-ordinate:	Sheet		
Samples and In-titu Teals by any and the source of the		3400	617		End:	05.03	3.25	166.99	E:38	80918.8 N:8480	95.5	1	of 1
Depth No Type Results Image: Second Strate The Critical Cables brown silty clayer, fitnous PEAT with medium cables in contrast. Cables are reliably strates from solar and wood up to 100 mm Contrast. Cables are reliably strates are reliably are r	San	ples a	and In-si	tu Tests		er	cfill					Depth	Material
0.40-0.00 1 ES Plastic dek brown silly clayer (Brous PEAT. 0.20	Depth	No	Туре	Res	ults	Wat	Back		Descripti	on of Strata		(Thick ness)	Graphic
0.40.060 1 ES 0.40.060 1 ES 0.40.060 1 D 0.40.100 1 D 0.40.100 1 D 1.30.150 1 B 1.30.160 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Plastic dark brown si</td> <td>lty clayey</td> <td>fibrous PEAT with</td> <td>medium cobble</td> <td>,</td> <td></td>								Plastic dark brown si	lty clayey	fibrous PEAT with	medium cobble	,	
0.40.0.00 1 E5 0.60-1.00 1 D 1 D D 0.60-1.00 1 D 1 D D 1.30-1.50 1 B 1.30-1.50 1 B 1 D D 1.30-1.50 1 B 1.30-1.50<	-							diameter. Cobbles are i	elict branch	nes, roots and wood	up to 100 mm	- (0.20)	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
0.40-0.60 1 ES 0.40-0.60 1 D 0.60-1.00 1 D 1.30-1.50 1 B	-							(PEAT)				0.20	\mathbb{C}
0.40-0.00 1 ES 0.60-100 1 D 1.30-150 1 B 1.30-150 1 Interview SILT with frequent reddish brown planar staining. Itig transition in metrics 1.100 mm pocket of pinkish cream coloured 1.30-150 1 1.100 mm pocket of pinkish cream coloured 1.100 mm pocket of pinkish cream coloured 0.200 1.100	-							(PEAT)	I Silly Clayey	IDIOUS PEAT.	/	0.30	/, <u>, , , , , , ,</u> × ×
0.60-1.00 1 D 0.60-1.00 1 D 0.000 0.000 1.30-1.50 1 B 1.20 1.20 1.20 1.20 1.30-1.50 1 B Image: Control of the state state of the state of the state of the state		1	FS					Light greyish brown S	LT with oc	casional <1 mm wide	e reddish brown	-	
0.50-1.00 1 D 1.30-1.50 1 B 1.30-1.50 1 Trial pit terminated at 2.00 m depth. 1.10 1 Childring escawalion. 1 1.10 1 Childrensions in metres <td< td=""><td>- 0.40-0.00</td><td> '</td><td>23</td><td></td><td></td><td></td><td></td><td>(TILL)</td><td></td><td></td><td></td><td>_</td><td>$\times \times \times$</td></td<>	- 0.40-0.00	'	23					(TILL)				_	$\times \times \times$
0.60-1.00 1 D 0.90 0.90 1.30-1.50 1 B 1.20 1.20 1.30-1.50 1 B 1.10 1.100 mm pocket of pinkish cream coloured 0.80 1.30-1.50 1 B 1.100 1.100 mm pocket of pinkish cream coloured 0.80 1.30-1.50 1 Trial pit terminated at 2.00 m depth 2.00 1.20 1.20 1.30-1.50 1 Feature Cameral Remarks 2.00 1.20 1.100 1.100 1.100 mm pocket of pinkish cream coloured 1.20 1.20 1.100 1.100 1.100 mm pocket of pinkish cream coloured 1.20 <	_											_	x x x
1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 1.30-1.50 1 B , At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) , At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured 0.80) , At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured 0.80) Plan (Not to Scale) Trial pit terminated at 2.00 m depth. 2.00 , At 1.60 - 1.70 m depth. Plan (Not to Scale) Image: Colored col	0.60-1.00	1	D										
1.30-1.50 1 B 1.20 1.30-1.50 1 B 1.20 1.30-1.50 1 B 1.20 Image: Constraint of the state												(0.90)	$\times \times \times$
1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 1.20 1.20 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 1.20 1.20 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 1.20 1.20 At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) 2.00 1.20 1.20 SILT. Trial pit terminated at 2.00 m depth. 2.00 2.00 1.20 1.20 Plan (Not to Scale) Ceneral Remarks 1.00 1.00 1.00 1.00 1.00 9	-											-	x x x
1.30-1.50 1 B 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) SILT. At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) Plan (Not to Scale) Trial pit terminated at 2.00 m depth. 2.00 Plan (Not to Scale) Image: Constraint of the scale state of	-											-	
1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 1.20 1.30-1.50 1 B Image: Control of the state of th	-											-	××××
1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 × × × 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 × × × 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 × × × 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.20 × × × 1.30-1.50 1 B Light grey SILT with frequent reddish brown planar staining. 1.00 × × × 1.10-1.70 mdepth - 100 mm pocket of pinkish cream coloured (0.80) × × × × × × SILT. Trial pit terminated at 2.00 m depth. 2.00 × × × Plan (Not to Scale) Trial pit terminated at 2.00 m depth. 1 1 9 2.20 × 1 Position scanned with a CAT and Genny prior to excavation. 1 1. Position scanned with a CAT and Genny prior to excavation. 1 1 1 1. Position scanned with a CAT and Genny prior to excavation. 1 1 1 1. Position scanned with a CAT and Genny prior to excavation. 1 1	-											-	
1.30-1.50 1 B B Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. 1.30-1.50 1 B Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. 1.30-1.50 1 B Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. 1.30-1.50 1 B Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. 1.30-1.50 1 Final bit terminated at 2.00 m depth - 100 mm pocket of pinkish cream coloured (0.80) 2.00 Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. Image: Control by Start with induction brown partial starting. Plan (Not to Scale) Image: Control by Start with a CAT and Genny prior to excavation. Image: Control by Start with a CAT and Genny prior to excavation. 1.10-0sition scanned with a CAT and Genny prior to excavation. Image: Control by Start with a CAT and Genny prior to excavation. 2.117 Image: Control by Start with a CAT and Genny prior to excavation. Image: Control by Start with a CAT and Genny prior to excavation. 3.118	-							Light group CIL Twith free	au cast na dalia	h huaum ulan au atainii		1.20	\times \times \times \times \times \times
1.30-1.50 1 B At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) SiLT. At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) 2.00 Trial pit terminated at 2.00 m depth. At 1.60 - 1.70 m depth - 100 mm pocket of pinkish cream coloured (0.80) Plan (Not to Scale) Trial pit terminated at 2.00 m depth. • • • • • • • • • • • • • • • • • • • • • • • • • • •			_					(TILL)	quent redais	sh brown pianar stainii	ng.	_	×××
Plan (Not to Scale) 	1.30-1.50	1	В										× × ×
Plan (Not to Scale) 													$\times \times \times$
Plan (Not to Scale) 	-											-	××××
Plan (Not to Scale) Image: Sill T. 2.00 Image: Sill T. Plan (Not to Scale) Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Sill T. Image: Si	-							At 1.60 - 1.70 m d	epth - 100	mm pocket of pinkish	cream coloured	- (0.80)	
Plan (Not to Scale) Image: stable during excavation. • 2.20 • 1.0000000000000000000000000000	-							SILT.				-	× × ×
Plan (Not to Scale) Image: Scale in the stable of the	-											-	x x x
2.00 × × × Trial pit terminated at 2.00 m depth. 0 Image: Second sec	-											-	
Plan (Not to Scale) 	_							T	00 1 11			2.00	× × × ×
Plan (Not to Scale) Plan (Not to Scale)	_							I rial pit terminated at 2.	00 m deptn.			_	
Plan (Not to Scale) Plan (Not to Scale)													
Plan (Not to Scale) Plan (Not to Scale)													
Plan (Not to Scale) Plan (Not to Scale)	-											-	
Plan (Not to Scale) Plan (Not to Scale)	-											-	
Plan (Not to Scale) General Remarks • 2.20 • 2.20 • 2.20 • 2.20 • 1:17 • 1. Position scanned with a CAT and Genny prior to excavation. 2. Trial pit remained dry and stable during excavation. 3. Trial pit backfilled with arisings in reverse order upon completion. • 1. Position scanned with a CAT and Genny prior to excavation. 2.1 Trial pit remained dry and stable during excavation. 3. Trial pit backfilled with arisings in reverse order upon completion. • All dimensions in metres Scale: 1:17 Checked	-											-	
Plan (Not to Scale) Plan (Not to Scale)	-											-	
Plan (Not to Scale)	-											-	
Plan (Not to Scale) General Remarks • 2.20 • 1. Position scanned with a CAT and Genny prior to excavation. • 2.20 • 1. Position scanned with a CAT and Genny prior to excavation. • 2.20 • 1. Position scanned with a CAT and Genny prior to excavation. • 1. Position scanned dry and stable during excavation. • 3. Trial pit backfilled with arisings in reverse order upon completion. • All dimensions in metres Scale: 1:17 Method Plant Logged Checked	-											_	
General Remarks Plan (Not to Scale) I. Position scanned with a CAT and Genny prior to excavation. 2.20 I. Position scanned with a CAT and Genny prior to excavation. 2.1 rial pit remained dry and stable during excavation. I. Position scanned with a resings in reverse order upon completion. 3. Trial pit backfilled with arisings in reverse order upon completion. All dimensions in metres Scale: 1:17 Method Plant Logged Checked IIII													
General Remarks Image: Plan (Not to Scale) Image: Plant Not to Scale) Image: Plant Not to Scale) Image: Plant Not to Scale N													
Plan (Not to Scale) General Remarks • 2.20 • 1. Position scanned with a CAT and Genny prior to excavation. • 2.20 • 1. Position scanned with a CAT and Genny prior to excavation. • 1. Trial pit remained dry and stable during excavation. • 3. Trial pit backfilled with arisings in reverse order upon completion. • All dimensions in metres • Scale: • 1:17 Method Plant Logged Checked													
 2.20 1. Position scanned with a CAT and Genny prior to excavation. 2. Trial pit remained dry and stable during excavation. 3. Trial pit backfilled with arisings in reverse order upon completion. 	Plan (Not to	Scale	e)						Genera	al Remarks			
2.20 2.20 2. Trial pit remained dry and stable during excavation. 3. Trial pit backfilled with arisings in reverse order upon completion. All dimensions in metres Scale: 1:17 Method Plant Logged Checked				-		1. P	ositior	n scanned with a CAT and	Genny pric	or to excavation.			
All dimensions in metres All dimensions in metres Scale: 1:17 Method Plant Logged Checked		▲ ▲ □	2.2	0 —→	► ר	2. T	rial pit	remained dry and stable	during exca	/ation.			
All dimensions in metres Scale: 1:17 Method Head	.55	[3.1	nai pit	Dacknied with ansings in	reverse ord	er upon completion.			
All dimensions in metres Scale: 1:17 Method Plant Logged Checked	Ó												
All dimensions in metres Scale: 1:17 Method Plant Logged Checked Image: Checked													
All dimensions in metres Scale: 1:17 Method Plant Logged Checked													
Interior Plant Loggea Checkea	Mothad				DIarr	+		All dimensions in metre	S	Scale:	1:17		
Usea: Machine dug Usea: 5 Ton Tracked Excavator By: HGildersleeves By: Machine dug	Used:	Mac	chine c	lua	Used	d: 51	Ton ⁻	Fracked Excavator	By:	HGildersleeves	By:		AGS



Contract:							Client:			Tri	al Pit:	
		Ne	w De	er			Virmati E	nergy Lte	d (Field Energ	gy)		TP12
Contract Re	ŧ:			Start:	05.03.2	25 Gro	und Level (m AOD):	National G	rid Co-ordinate:	Sh	eet:	
	3400	617		End:	05.03.2	25	168.42	E:380	980.6 N:8480	41.6	1	of 1
Sam	iples a	and In-sit	u Tests		- La						Depth	Materia
Depth	No	Type	Res	ults	Wate	Backt		Description	of Strata		(Thick	Graphic
0.00-0.25	1	ES					astic dark brown silty	clayey fibrou	s PEAT. Fresh roo	ts up to 20 n	nm	<u>\\</u>
						di	ameter. Relict roots an	id branches u	p to 30 mm diamete	er.	(0.25)	1/ 1/ 1/
						× ×					0.25	
						Li	ght yellowish brown sl	ightly silty sa	ndy GRAVEL. San	d is fine. Gra	vel	px .
						m 🐹 m	etapelite.	nded coarse	e naro crystalline	quarizite a		Q.
						т) 🎆	ILL)				_	
												×. ×.
0.60-0.80	1	В									(0.75)	X C
											-	
											-	6.80
											-	
						В	own friable slightly o	ravelly sand	/ CLAY. Sand is f	ine to mediu	<u> 1.00</u> ım.	×
						Ğ	ravel is angular to sul	prounded me	dium to coarse qua	rtzite, chert a	ind _	
						т) 🎆	ILL)					
											(0.50)	
											_	- <u>°</u>
1.40	1	D									1.50	· · · · ·
						W N	hite and grey angula	r to rounded	COBBLES with m	ninor silt mat	rix.	0.0
						si	Ze.			100 200 1		00
						()	ILL)				- (0.40)	0000
											-	00
						TI	ial pit terminated at 1.9	90 m depth du	ie to hard ground co	onditions.	1.90	
											-	
											-	
											-	
											-	
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											Ē	
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											F	
	<u> </u>											
Plan (Not to	Scale	 э)						General	Remarks			
, ···						ition - ·		Conmunit				
	-	2.20) — ►	-	2. Tria	l pit rem	anned with a CAT and ained dry and stable d	Genny prior i luring excaval	ion.			
2 0					3. Tria	ll pit bac	kfilled with arisings in	reverse order	upon completion.			
 0	┢└											
						A	Il dimensions in metres	3	Scale:	1:1	17	
Method				Dian	t			Loggod	1	Checked		



Contract:						Client:				Trial Pit	:	
		Ne	w Deer			Virmati E	nergy Lte	d (Field Energ	y)			TP13
Contract Ref	f:		Start	05.03	.25	Ground Level (m AOD):	National G	rid Co-ordinate:		Sheet:	_	_
3	3406	617	End:	05.03	.25	170.07	E:380	917.6 N:8479	69.6			of 1
Sam Depth	oles a	nd In-situ Type	u Tests Results	Water	Backfill		Description	of Strata			Depth (Thick ness)	Material Graphic Legend
						Dark brown slightly gr. rootlets. Sand is fine medium chert and coars (TOPSOIL) Plastic dark brown to bla (PEAT)	avelly slightly to coarse. (se angular gra ack silty claye	sandy silty CLAY Gravel is subround nite, quartzite and sa y fibrous PEAT.	with abu ed to rou andstone.	undant unded	0.10	
0.50-0.60 0.50-0.60	1	ES D				Light brown very grave coarse white quartzite, p (TILL)	lly SILT. Grav osammite and	vel is angular to sub sandstone.	oangular f	fine to	(0.25)	× × × × × × × × × × × × ×
						Brown very gravelly SIL subangular fine to coa angular to subangular w (TILL)	T with high c rse white qua hite quartzite	obble content. Grav rtzite and psammit and psammite up to	el is ang e. Cobble 200 mm.	ular to es are	(0.50)	0° ×0 × 0° × 0° × 0° × 0° × 0° × 0°
1.20-1.40	1	В				Grey silty GRAVEL wit Gravel is angular to s siltstone lithorelicts and psammite. (TILL)	th high cobble subangular m angular to su	e content and low b edium to coarse vo pangular coarse whit	oulder co ery weak te quartzi	ontent. grey te and	1.20 (0.20) 1.40	
						coarse siltstone lithorelie (TILL)	cts.				(0.60)	
						Trial pit terminated at 2.	00 m depth.				2.00	× × ×
										-		
										-		
Plan (Not to 99 0	Scale	») — 3.00		1. Po 2. Tr 3. Tr	osition ial pit ial pit	scanned with a CAT and remained dry and stable o backfilled with arisings in	General Genny prior t during excavat reverse order	Remarks o excavation. ion. upon completion.				
						All dimensions in metre	s	Scale:		1:17		
			Pla	nt				•	Chockor	J		



Contract:							Client:			Т	rial Pit	:	
		Ne	w De	er			Virmati E	nergy Lte	d (Field Energ	gy)			TP14
Contract Re	ef:			Start:	05.03	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	S	Sheet:		
	3406	617		End:	05.03	3.25	171.03	E:380	756.2 N:8478	52.1		1	of 1
Sam	ples a	and In-si	tu Tests		ter	ćfill						Depth	Material
Depth	No	Туре	Res	ults	Na Ma	Bacl		Description	of Strata			(Thick ness)	Legend
-	Start: 05.03.25 Ground Level (m AOD): National Grid Co-ordinate: Start: 05.03.26 111.03 End: 05.03.26 No Type Results Big Big Description of Strata No Type Results Big Big Big Description of Strata 1 ES 1 D Dark brown slightly gravely slightly sandy slit/L. Sand is 1 1 ES 1 D Carse. Gravel is angular to rounded fine to coarse quartitle, ohe metapelitle, (TOPSOIL) 1 ES 1 D Vellowish brown and grey slightly sitly sandy GRAVEL. Sand is 1 1 ES 1 D Vellowish brown and grey slightly sitly sandy GRAVEL. Sand is 1 1 B Vellowish brown stained faces. (TILL) Vellowish brown stained faces. (TILL) Vellowish brown stained faces. Trial pit terminated at 2.00 m depth. Trial pit terminated at 2.00 m depth. Intermined dry and stable during excande. Intal pit backfilled with arisings in reverse orde	Sand is fir rtzite, chert Sand is fir	ne to and ne to	(0.20) 0.20	$\frac{1}{2} \frac{1}{2} \frac{1}$								
0.40-0.60	1	ES D			Street: Sheet: Street: Sheet: Image: Street: Close Created is angular to rounded fine to coarse quartize, chert and relapelite. Close Created is angular to rounded fine to coarse quartize, chert and relapelite. Close Created is angular to rounded fine to coarse quartize, chert and relapelite. Close Created is angular to rounded fine to coarse quartize, chert and relapelite. Close Created is angular to rounded fine to coarse quartize, chert and relapelite. Close Created is angular to rounded fine to coarse gilts one lithorelicts with reddish brown and grey slightly slity sandy GRAVEL. Sand is fine to coarse. Close fine to coarse gilts one lithorelicts with reddish brown stained faces. Close fine to coarse sitistone lithorelicts with reddish brown stained faces. Trial pit terminated at 2.00 m depth. Close for the coarse colspan="2">Close for the coarse colspan="2">C								
-										Iteraction (g)//iteraction (g)/	* * * * * * * * * * * * * * * * * * *		
-											-	-	
-							Vollowich brown and g	ov clightly o	ilty condy CRAVE	Sond is	fino	1.40	
- - - -	1	В					Gravel is angular to su with reddish brown stain (TILL)	ey siighty si bangular med ed faces.	dium to coarse silts	stone lithore	elicts	- (0.60)	
_							Trial pit terminated at 2.0	00 m depth.				2.00	ĕ Ç č
-											-	-	
-											-	-	
-											-	-	
Plan (Not to	Scale	e)					1	General	Remarks				
0.50		2.3	0>	•	1. P 2. Ti 3. Ti	ositio rial pit rial pit	n scanned with a CAT and remained dry and stable d backfilled with arisings in r	Genny prior f uring excavat everse order	to excavation. tion. upon completion.	GRAVEL. Sand is fine. oarse siltstone lithorelicts (0.60) 2.00 2.00 arks tion. npletion.			
							All dimensions in metros		Scale:	4	•17		
Method				Plant				, Logged	Scale.	Checked	/	ni annar	
Used:	Mac	chine c	lug	Used	: 51	Γon [·]	Tracked Excavator	By: H	Gildersleeves	By:			AGS



Contract:								Client:					Trial P	it:	
		Ne	w De	er				Virmat	i En	ergy Lt	td (Field	Energy)			TP15
Contract Re	ef:			Start:	06.0	3.25	Ground	Level (m AOE	D):	National (Grid Co-ordin	ate:	Sheet:		
	3406	617		End:	06.0	3.25		168.87		E:38	0634.6 N	847899	.3	1	of 1
Sam	ples a	and In-si	tu Tests		/ater	ackfill				Descriptio	on of Strata			Depth (Thick	Material Graphic
Depth	No	Туре	Res	ults	5		Dorle	hanne ereeni			and aits C		high fibraria	ness)	
0.20-0.30	1 1	ES D					Grey	very silty GRA	and is	s fine. Occa	asional 10 mr	n diameter	roots.	0.10 (0.30) 0.40	
- - - - - - - - -	1	в					quartz (TILL)	ite up to 100 n	nm.	arse quart	ZILE. CODDIES	are anguna	n to rounded	- - (0.80) -	
-														1 20	50 2 E
-	2	D					Grey occas stainir quartz typica 300 m (TILL)	COBBLES wit ional boulders ng and mottlin itte. Cobbles a lly 100-180 mr nm with reddish	th me s. Silt ng. Gr are an m. Bo h brow	dium grav t matrix is avel is an gular to si ulders are vn stained	el content wi grey with gular to rour ubrounded qu angular to su surfaces.	th much sil orangish b ded mediu Jartzite 60-1 bangular qu	t matrix and rown planar m to coarse 200 mm but lartzite up to	(0.70)	
-														1.90	
-									a. 1.90	, maepin (aue to naro g		uUI 15.	-	
Plan (Not to	Scale	e)							C	Genera	l Rema	rks			
		2.1	0	-]	1. F 2. T 3. T	Position Trial pit	n scanne t remaine t backfille	ed with a CAT ed dry and stab ed with arisings	and G ole du s in re	Genny prior ring excav verse orde	r to excavatio ation. er upon comp	n. etion.			
							All dir	nensions in me	etres		Scale:		1:17		
Method Used:	Мас	chine c	lug	Plan Usec	t d: 5'	Ton	Tracke	ed Excavato	or	Logged By: F	Gildersle	eves By	necked /:		AGS



Contract:							Client:		Image: state stat	Pit:		
		Ne	w Dee	r			Virmati E	nergy Lte	d (Field Energ	gy)		TP16
Contract Re	ef:		S	Start: (06.03	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	Shee	et:	
	3406	17	E	nd: (06.03	3.25	163.40	E:380	528.1 N:8480	61.0	1	of 1
Sam	nples ar	nd In-sit	u Tests		ter	kfill		Description	of Observe		Depth	Material
Depth	No	Туре	Resu	lts	Wa	Bac		Description	l of Strata		ness)	Legend
0.00-0.10		ES					Dark brown slightly gra content, high fibrous co fine to coarse. Gravel quartzite. Cobbles are Tree stumps up to 300 to (TOPSOIL) Light brown COBBLES sandy silty gravel. Sa subrounded medium subrounded quartzite subrounded quartzite up (TILL)	Avelly slightly ontent and ab is angular to summ trunk widt angular to summ trunk widt and is fine to coarse qu up to 200 to 200 mm, to 00 m depth du	sandy silty CLAY pundant roots and ro to subrounded mea bangular quartzite h, 2.00 m root zone. DERS with a little n to medium. Gravel uartzite. Cobbles a recovered up to 380 ue to hard ground co	with low cobble potlets. Sand is dium to coarse up to 200 mm natrix of slightl is angular to are angular to mm.	e 0.10 0.10 (0.90) - - - - - - - - - - - - -	$ = \begin{bmatrix} & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & \\ & & & & & \\ & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & & \\ & & & & & \\ & & & & & \\ & & & & & \\ & & & & & & \\ & & & & &$
Plan (Not to Scale) Plan (Not to Scale)												
							All dimensions in metre	S	Scale [.]	1.8		
Method				Plant				Logged		Checked		
Used:	Mac	hine d	ug	Used:	5	Γon [·]	Tracked Excavator	By: H	Gildersleeves	By:		AGS



Contract:							Client:			Tria	l Pit:	
		Ne	w De	er			Virmati E	nergy Ltd	l (Field Ener	gy)		TP17
Contract Re	ef:			Start:	06.03	3.25	Ground Level (m AOD):	National Gr	id Co-ordinate:	She	et:	
	3406	617		End:	06.03	3.25	162.78	E:380	614.8 N:8482	76.7	1	of 1
San	nples a	and In-si	tu Tests		ter	kfill		D : "			Depth	Material
Depth	No	Туре	Res	ults	Ma	Bac		Description	of Strata		ness)	Legend
Depth 0.50-1.00 0.50 1.50 2.00-2.50 -	No 1 1	Type ES D B	Res	ults	M.	Ba	Dark brown organic ri abundant roots and roo with up to 2.00 m wide re (TOPSOIL) Light brown slightly sam content. Sand is fine. Gi quartzite. Cobbles are a Boulders are angular to (TILL) Pinkish brown SILT. (TILL)	ch silty CLA tlets. Roots up bot zone. dy very silty gr ravel is angula angular to sub rounded quart	Y with high fibroi to 30 mm diamet avelly COBBLES r to subrounded m prounded quartzite zite up to 300 mm.	us content an rer. Tree stump with low bould redium to coars up to 200 mr	(1116) (1116) (0.20) 0.20 er ie - (0.80) - (0.80) - (0.80) - - (0.80) - - (0.80) - - - (0.80) - - - (0.80) - - - - - - - - - - - - -	Legend
-							Trial pit terminated at 2 6	50 m depth			2.60	<u>^ × ^ ×</u>
Plan (Not to	Scale	ə) — 3.0	0>	-]	1. P 2. T 3. T	Positior rial pit	n scanned with a CAT and remained dry and stable d backfilled with arisings in t	General Genny prior to uring excavati reverse order t	Remarks o excavation. on. upon completion.		-	
Mathad				Plan	+		All dimensions in metres	Loggod	Scale:	1:1	/	
Used:	Mac	chine c	lua	Use	d: 5	Ton ⁻	Tracked Excavator	By: HC	Gildersleeves	By:		AGS



Contract:		Ne				Client:			Trial I	Pit:	TD40
Contract Re	f:	Ne	w Deer Start	06.0	3 25	Ground Level (m AOD):	National G	id Co-ordinate:	y) Shee	t:	1910
	3406	617	End [.]	06.0	3.25	165.91	E:380	719.2 N:84849	1.9		of 1
Sam	nles a	and In-situ	ı Tests		=					Depth	Materia
Depth	No	Туре	Results	Wate	Backfi		Description	of Strata		(Thick ness)	Graphi
Sam Depth 0.40-0.60 0.50	I I I I I	nd In-situ Type D ES B	u Tests Results	Water	Backfill	Dark brown silty CLAY rootlets. Roots are up to (TOPSOIL) Yellowish brown sandy angular to subrounded f (TILL) Light brown sandy gra angular to subrounded f (TILL) Light grey gravelly SIL boulders. Gravel is ar sandstone and psamm quartzite, up to 450 mm (TILL)	Description with high fib 20 mm diame gravelly SILT fine to coarse of avelly SILT. So fine to coarse of T with mediu ngular to subles an ite, up to 12	of Strata rous content, abund ter. Sand is fine to co quartzite. The cobble content a rounded fine to co re angular to suban 0 mm. Boulders a	dant roots and arse. Gravel is rse. Gravel is und occasional arse quartzite, gular quartzite, re subangular	Depth (Thick ness) 0.10 (0.20) 0.30 (0.30) 0.60	Materizing Materizing
Plan (Not to S ö	Scale	⇒) 3.00		1.1 2 3	Positio Trial pit	Trial pit terminated at 2.	50 m depth. General I Genny prior t during excavat reverse order	Remarks		2.50	
						All dimensions in metre	s	Scale:	1:17		
			Dia	nt			· · ·		<u> </u>		



Contract:							Client:			Trial I	Pit:	
		Ne	ew De	er			Virmati E	nergy L	td (Field Ener	gy)		SA1
Contract Re	f:			Start:	04.0	3.25	Ground Level (m AOD):	National	Grid Co-ordinate:	Shee	t:	
	340	617		End:	04.0	3.25	161.63	E:38	1078.4 N:8485	604.7	1	of 1
Sam	ples a	and In-si	tu Tests		er	ţ					Depth	Material
Depth	No	Туре	Res	ults	Wat	Back		Descriptic	on of Strata		(Thick ness)	Graphic Legend
							Firm dark brown slight	y gravelly s	slightly sandy clayey	fibrous PEAT.		<u></u>
-							Sand is fine to coarse sandstone and chert.	. Gravel is	angular to rounded	fine to coarse	- (0.20)	$\frac{1}{1}\cdot\frac{1}{2}\cdot\frac{1}$
-							(TOPSOIL)				0.20	
0 30-0 60	1	FS					Greenish yellow locally sandy clayey SILT. S	mottled or and is fine	rangish red slightly e to medium. Grave	gravelly slightly I is angular to	-	
-	'	LU					subrounded fine to med	um quartz a	and flint.		-	
-							()				_	
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-											-	
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-							× • •				-	<u> </u>
1.00	1	D					•				-	
- 1.00	'	D					° °				(1.80)	
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		-									-	- <u>·</u> ···
1.50-2.00	1	В						- becomes s	sandy.			
							•					<u> </u>
-							•				-	
-							× • •				-	
-							•				-	
_						•••••	 Trial pit terminated at 2.0 	00 m depth.			2.00	<u> </u>
-							·····				-	
-											-	
_												
-											-	
_											-	
-											-	
-											-	
-												
-											-	
Plan (Not to	Scale	e)						Genera	al Remarks			
		4.0	0		1. F	ositio	n scanned with a CAT and	Genny prio	r to excavation.			
		- 1.6	0	-	2. T	rial pit	remained dry and stable of	uring excav	ration.			
.50	•				3. I 4. Iı	nai pli nfiltrati	on testing conducted within	ansings up h trial pit foll	owing backfill.			
° 1												
Method				Plant		\.	All dimensions in metre	S Logged	Scale:	1:17		
Used:	Мас	chine c	gut	Used	:	vvr	excavator	By: F	lGildersleeves	By:		AGS



Contract:							Client:			Т	Frial Pit:		
		Ne	ew De	er			Virmati E	nergy Lto	d (Field Energ	av)			SA2
Contract Re	ef:			Start:	05.03	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	557	Sheet:		-
	3400	617		End:	05.0	3.25	162.59	E:381	062.5 N:8484	14.8		1	of 1
Sam	ples a	and In-si	tu Tests		er	till						Depth	Material
Depth	No	Туре	Res	ults	Wat	Back		Description	of Strata			(Thick ness)	Graphic Legend
0.10-0.40	1	ES					Spongy dark brown slig with frequent wood frag coarse. Gravel is angu	htly gravelly s ments up to ilar to subro	slightly sandy claye 370 mm diameter. ounded fine to coa	ey fibrous P Sand is fir arse quartz	PEAT ne to and		<u>17</u> · <u>1</u> 4 · <u>17</u> · <u>1</u> 17 · <u>14 · <u>17</u> · <u>14 · 17</u> 11 · <u>14 · 17</u> · <u>14 · 17</u></u>
-							sandstone. (TOPSOIL)				-	(0.40)	<u> </u>
-							Dark yellow locally mott Sand is fine to medium. quartz and sandstone. (TILL)	led orange s Gravel is an	lightly gravelly sand gular to subangular	dy clayey S fine to me	SILT. dium	0.40	
0.70-1.20	1	В									-		
-											-	(1.60)	
-							- - - - - - - - - -				-		
-							9 9 9 9 9				-		
1.90	1	D					9 9 9				-	2.00	
_							Trial pit terminated at 2.0	0 m depth.				2.00	
-											-		
-											-		
-											-		
-											_		
Plan (Not to	Scale	э)						General	Remarks				
0:30		1.7	5>]	1. P 2. T 3. T 4. Ir	ositior rial pit rial pit filtration	n scanned with a CAT and remained dry and stable d backfilled with gravel then on testing conducted withir	Genny prior t uring excavat arisings upor n trial pit follow	to excavation. tion. n completion. wing backfill.				
							All dimensions in metres	3	Scale:	1	:17		
Method Used:	Мас	chine c	lug	Plant Used	:	Wh	eeled backhoe excavator	Logged By: H (Gildersleeves	Checked By:	_		AGS



Contract:								Client:				Trial Pi	t:	
		Ne	w De	er				Virmati E	nergy L	Ltd (Field Ene	rgy)			SA3
Contract Re	ef:			Start: (05.0	3.25	Groun	d Level (m AOD):	National	l Grid Co-ordinate:		Sheet:		
	340	617		End:	05.0	3.25		167.76	E:38	80839.7 N:848	227.5		1	of 1
San	nples a	and In-sit	tu Tests		ter	kfill							Depth	Material
Depth	No	Туре	Res	ults	Ma	Bac			Descripti	ion of Strata			(I hick ness)	Legend
-							Spon conte to 30 (PEA	gy dark brown s ent. Cobbles are re 0 mm diameter. T)	ilty clayey lict roots u	fibrous PEAT with p to 100 mm diamete	n medium o er with stun	cobble nps up	- (0.20) 0.20	
- - - -	1	ES					Light conte and angu staini (TILL	brown gravelly SI ent. Gravel is angu- light grey crystalli lar quartzite and m ing on clast surface .)	LT with me lar to suba ne rock. C etapelite u ss.	cd (Field Energy) Image: Sheet: 3839.7 N:848227.5 1 n of Strata Depth (Thick ness) ibrous PEAT with medium cobble to 100 mm diameter with stumps up gular medium to coarse light prown bbles and boulders are light grey to 300 mm. Frequent reddish brown c (0.60) 0.20 Image:				
-							Light grey are a (TILL Trial	grey silty GRAVE angular to subangul ngular to subangul .) pit terminated at	L with mec ular mediu ar crystallin 1.90 m de	dium to high cobble of im to coarse crystalli ne rock up to 150 mm	content. Gr ne rock. C n.	avel is obbles	0.80 - - - - - - - - - - - - - - - - - - -	
-													-	
Plan (Not to	Scale	e) 2.5	0>		1. P 2. T 3. T 4. Ir	Position Trial pit Trial pit	n scann t remain t backfill ion testi	ed with a CAT and ed dry and stable o led with gravel then ng conducted withi	Genera Genny prio luring exca arisings u n trial pit fo	al Remarks or to excavation. vation. pon completion. llowing backfill.				
							All di	mensions in metre	5	Scale:		1:17		
Method				Plant	I				Logged		Checke	d 📕		
Used:	Мас	chine c	lug	Used	5	Ton	Track	ed Excavator	By:	HGildersleeves	By:		3	AGS



Contract:							Client:			Trial I	Pit:	
		Ne	ew De	er			Virmati E	nergy Lt	d (Field Energ	gy)		SA4
Contract Re	ef:			Start:	05.0	3.25	Ground Level (m AOD):	National G	rid Co-ordinate:	Shee	t:	
	3400	617		End:	05.0	3.25	167.37	E:380	903.3 N:8480	91.5	1	of 1
Sam	nples a	and In-si	tu Tests		er	qfill					Depth	Material
Depth	No	Туре	Res	ults	Wat	Bact		Descriptior	of Strata		(Thick ness)	Graphic Legend
							Spongy dark brown org	anic rich sli	phtly gravelly slightl	y sandy clayey		<u>x¹ 1_x: x¹ 1_z:</u>
-							is fine to coarse. Gra	th frequent wi vel is angul	ood fragments up to ar to subrounded	fine to coarse	- (0.20)	17. 11. 14
-							quartzite.				Sheet: 1 of Depth Ma (Thick Gr. ness) Le (0.20) V 0.20 V 0.20 V (1.30) V (1.30) V (1.30) V (1.30) V V V V V V V V V V V V V V	× ··· × ··
-							Yellowish brown slightly	sandy clayey	SILT. Sand is fine t	to medium.	-	××
-							(TILL)				-	× × ×
-											-	* * * *
-											-	
-											-	$\frac{\mathbf{x}}{\mathbf{x}} \mathbf{x} \mathbf{x} \mathbf{x}$
		50									-	
0.80-1.00	1	ES					•				(1.30)	× · × · ×
							0 0					
							•					×****
							•					· _ × · × × · _ × ·
							。 。 。					$\frac{\times}{\cdot}$ $\frac{\times}{\cdot}$ $\frac{\times}{\cdot}$ $\frac{\times}{\cdot}$
1.30	1	D					• •				-	$\frac{1}{x}$ $\frac{1}{x}$ $\frac{1}{x}$ $\frac{1}{x}$
-							•				1 50	x × ×
1.50-2.00	1	В					Yellowish brown slight	y gravelly fi	ne to medium SA	ND. Gravel is	1.50	
-							1 subangular fine quartz. ↓ (TILL)				-	0e
-							•				-	
-							•				- (0.60)	0
-							•				-	0.0
_							* • •				-	.o.
-						• • • • • • • • • • • • • • • • • • •	* • • Trial pit torminated at 2 /	10 m donth			2.10	
-								ro maepin.			-	
-											-	
_												
-												
-											-	
-											-	
-											-	
L												
Plan (Not to	Scale	e)						General	Remarks			
			_		1. P	ositio	n scanned with a CAT and	Genny prior	to excavation.			
	▲ □	1.6	0>	•	2. T	rial pit	remained dry and stable d	uring excava	tion.			
).30	T				3. I 4. Ir	nai pli nfiltrati	on testing conducted within	n trial pit follo	wing backfill.			
	♥ ∟]								
							All dimensions in metros		Sealer	1.17		
Method				Plant		Wr	eeled backhoe	Logged		Checked		
Used:	Мас	chine c	dug	Used	:		excavator	By: H	Gildersleeves	By:		AGS



							Client:			Tri	ial Pit:		
		Ne	w Deer				Virmati E	inergy Ltd	l (Field Energ	ay)			,
Contract Re	ef:		Sta	art: 0	5.03.2	5 Grou	nd Level (m AOD):	National Gr	id Co-ordinate:	Sh	neet:		-
	3406	617	En	id: 0	5.03.2	5	171.70	E:380	813.4 N:8478	53.6	1	o	of
Sam	nples a	and In-site	u Tests		ier.						Dep	th	Ν
Depth	No	Туре	Results	5	Wat			Description	of Strata		(Thion ness	ck (s) ∣	L
0.00-0.20	1	ES				Pla up sub (PE	stic dark brown silty to 20 mm diameter. rounded to rounded AT)	clayey slightly . Occasional f medium chert	r fibrous PEAT with ine to coarse sand and metapelite.	n frequent ro d and grave	oots l of (0.24	4) ^{1/2}	<u>'</u>
0.50-1.00 1.90-2.00	1	В				Gre (TIL Ver (TIL Tria	y and light brown fria L) . From 1.50 m - freq y weak siltstone litho y weak light brown S L) al pit terminated at 2.0	able SILT. quent angular relicts.	to subangular coar	se gravel siz	zed	6) * * * * * * * * * * * * * * * * * * *	
Plan (Not to	Scale	2)			1. Posit	tion scar	ned with a CAT and		Remarks				_
Plan (Not to Scale)	3.10)		2. Trial 3. Trial 4. Infiltr	pit rema pit backt	ined dry and stable c illed with gravel then ting conducted withi	during excavati a arisings upon in trial pit follow	on. completion. ing backfill.					
						١١	dimensions in metro	<u>s</u>	Scale	1.	17		_



KEY TO EXPLORATORY HOLE LOGS - SUMMARY OF ABBREVIATIONS

SAMPLING

Sample type codes:

- B = Bulk disturbed sample.
- D = Small disturbed sample.
- ES = Soil sample for environmental testing.

IN-SITU TESTING

SPT = Standard Penetration Test using split spoon sampler. ((NR) indicates 'No Sample Recovery').

ADDITIONAL NOTES

1. All soil and rock descriptions and legends in general accordance with BS EN ISO 14688-1:2018, 14688-2:2018, 14689:2018, and BS5930:2015+A1:2020.

2. Material types divided by a broken line (- - -) indicates an unclear boundary.

3. Fracture spacings (If) quoted in the Description of Strata for specific strata or specific fracture sets are also quoted in mm, e.g. (25/80/230) referring to (Min/Avg/Max).

4. The data on any sheet within the report showing the AGS icon is available in the AGS format.

5. Weathering desciptions in accordance with CIRIA Report C570 Engineering in Mercia Mudstone, CIRIA Report C574 Engineering in Chalk (2002), London Clay (King 1981), BS 5930:2015+A1:2020 Code of practice for ground investigations - Figure 9 - Approach 2, BS 5930:2015+A1:2020 Code of practice for ground investigations - Figure 9 - Approach 4, BS EN ISO 14689:2018 Geotechnical Investigation and testing - Identification, Description and Classification of Rock - Table 13.











New Deer

340617





