Offaly County Council Environment Section

Áras an Chontae, Charleville Road, Tullamore, Co. Offaly

Tel: 057 9357403 Fax: 057 9329230 www.offaly.ie



SITE CHA	RACTERIS	SATION FO	RM						
File Ref	PTT1526	Date Re	ady	27/04/2010	i i	GPS Co- ordinates	235103 220148		
1.0 GENER	AL DETAILS	,	-		•				
Applicant		Glanpower Ltd	j.						
Applicant A	ddress	19 Uisneach Court, Mullingar, Co. Westmeath							
Site Locatio Townland	n and	Derryclure, Tullamore			Site Area 10.05 acres				
Phone No		044 9333831							
Max no. Residents	N/A		Double Irooms	N/A	of USE.	No. Sing bedroon			
Proposed W	ater Supply:	Mains X		Private 🕅		G	Broup Well/ Borehole		
Soil Type	Soils: Cut ove	r peat/made gro	ound Dur	oses die					
Aquifer Cate		egionally mportant	ispection net		tant >	<	Poor		
Vulnerability	High GW νι	ulnerability (
Bedrock Type	Dinantian U	pper Impure Lir	nestone	S					
Public/Group	o water schen	ne within 1km	Non	e within 1k	m				
Groundwater Protection Se	· -	es Ground		otection esponse	R1	Source	Protection N/A Area		
Flood Risk		d in flood risk ar ood hazard map		benefiting	lands, di	rainage distr	ct as per OPW		
	Significant Si II, Natural and		None p	resent.					
Previous Exp	erience in th	e Area	Modera	ate percola	tion char	acteristics.			
	appropriate pe	nlighted during e ercolation on thi may cause una	s site.				_		

2.0 ON SITE ASSESSMENT

Landscape Position	Relatively flat to area.	opography. Prop	osed treatme	ent area located in slightly elevated						
Slope	Steep (>1:5)	Shallow	v (1:5 – 1:20)	Relatively Flat (<1:20)						
Surface Feat	tures within a min	imum of 250m (distance to t	features should be noted in metres)						
Houses	No dwelling wit of proposed site	hin 250m of prop e.	oosed site. La	andfill is located approx 220m to the NE						
Existing Land use	Pasture Land.									
Vegetation Indicators	Vegetative indic	Vegetative indicators in certain areas of the 10.05 acres suggest poor percolation characteristics however this is not the case in vicinity of proposed percolation area.								
Groundwate	r Flow Direction	Westerly direct	tion across th	e site given topography.						
Ground Cond	dition	Dry and firm ur	nderfoot durir	ng testing period.						
Site Boundaries	N80 to the Wes to the South. Both hedge North.	t. Woodland bou ogland to the Eas	ndary/bog st. Mature	Roads N80 runs beside the proposed site to the West.						
Outcrops (Be	edrock and/or sub	soil) None vi	sible within 2	50m.						
Surface wate ponding	r None visible with	hin 250m. Hall	Lakes	None visible within 250m.						
Beaches /Shellfish	N/A	Consent or	Areas/ Wetlands	None visible within 250m.						
Karst Features	None visible with	nin 250m.	Water- courses	No major water courses.						
Drainage ditches	Drainage ditches locality.	s prevalent in	Springs /Wells	None visible within 250m.						
K E Iı t	percolation through also by density of di Extensive drainage owered water table able.	visiting . This is rains in the area. network has bee therefore the mo	indicated by ven carried out	poor due to high water table/slow vegetation in some parts of field and on the site/field and may have ill not be the true winter high water nsitive receptor in this case.						

3.1 TRIAL HOLE (Should be a minimum of 2.1m deep (3m for regionally important aquifers)

To avoid any accidental damage, a trial hole assessment or percolation tests should not be undertaken in areas which are at or adjacent to significant sites (e.g. NHA's SAC's SPA's and/or Archaeological etc.) without prior advice from National Parks and Wildlife Service or the Heritage Service.

Depth o	f Trial ho	ole (m)	1.8m	T -	of water ingress:	1.11	m	Rock	Type	Ilmestone
	•	n Ground drock (m			Surfac			· om Ground er table (m)		1
		d Time o kcavatio		ours		D		nd Time of camination		5.2010
	Depth	Soil/Sub	soil	Plasticity	Soil		Dens	sity	Colou	
	of P/T	texture a		and	Structur	е	/Com	npactness	****	Flowpaths
0.1 m	Test*	Classific Black CL/		dilatancy*** Dilatant	Crumb		Uncor	mpact	Black	N/A
	P test	Topsoil	``	4 ribbons	- Crains					
0.2 m										
0.4 m										
0.5 m		Boulder C	LAY	4 ribbons						
0.6 m				Dilatant	Structurel	less	Soft		Brown	N/A
0.7 m							్డం.			
0.8 m						10e1	4			
0.9 m					27. 4	my ot				
1.0 m		Mottling -			Rose Solly of the Structure					
1.1 m					it Politice					
	T test	SILT		Dilatant (100)	Structure				_	
1.3 m				2 ribbons	Massive	ŀ	Firm		Grey	N/A
1.4 m				Dilatant 2 ribbonsection for the foliation of the foliati						
1.5 m				of cox						
1.6 m				sent						
1.7 m	NA/atas tabl	a wrangent h	<u> </u>			1				[
	vvater tabl	e present h	ere.							
1.9 m 2.0 m				•						
2.0 m										
2.1 m										
2.2 m										
2.4 m										
2.5 m										
2.6 m										
2.7 m										! !
2.8 m										
2.9 m			-							
3.0 m										
Evaluati	on [neans possib ter table.	le slow pe	ercola	ation r	rates. Drain	age im	provements will
Likely T	Value [>50m								
•	ļ	****								

3.2 (a) PERCOLATION ("T") TEST FOR DEEP SUBSOILS AND/OR WATER TABLE

STEP 1: Test Hole Preparation Percolation Test Hole 1 2 3 Depth from ground surface 900 900 900 to top of hole (mm) (A) Depth from ground surface 1300 1300 1300 to base of hole (mm) (B) Depth of hole (mm) [B-A] 400 400 400 Dimensions of hole 300 x 300 300 x 300 300 x 300 [length x breadth (mm)] STEP 2: Pre-soaking Test holes Date and Time 12/05/2010 13.00 12/05/2010 13.00 12/05/2010 13.00 Pre-soaking Started Arrie

Pection purposes only any of a Each hole should be pre-soaked twice before the test is carried out. Each hole should be empty before re-filling. STEP 3: Measuring T₁₀₀ Percolation Test Hole 2 3 Date of Test 13/05/2010 13/05/2010 13/05/2010 Time filled to 400mm 0 0 0 Time water level at 300mm 231 230 245 Time to drop 100mm (T_{100}) 231 230 245

If $T_{100} > 300$ minutes then T value >90 – site is unsuitable for discharge to ground

If $T_{100} \le 210$ minutes then go to STEP 4

Average T₁₀₀

If $T_{100} \ge 210$ minutes then go to STEP 5

235.3

STEP 4: Standard method where $T_{100} \le 210$ minutes

Percolation Test Hole		,	i			;	2				3	
No Fill No.	Start Time	1	nish ime	∆t (min)	Start Time		inish ime	∆t (min)	Start Time		nish ime	∆t (min)
1												
2												
3												1417
Average ∆t Value												
	Averaç Hole N	je ∆t/4= lo. 1	= [rage ∆l ole No.				rage ∆t ole No.		
Result of Te	est T =			(mii	n/25mm)						
Comments												
STEP 5: M	odified	Metho	od whe	re T ₁₀₀	> 210 r	ninutes	other use.					
Percolation Test Hole No			1		aur	oses only o	Somether the control of the control			,	3	1
Fall of water in hole (mm)	Time Factor =T _F	Time of Fall (mins) = T _m	K _{f8} = T _F / T _m	K _{f8} ORY	Time	Time of Fall (mins) = T _m	K _{f8} = T _F / T _m	T- Value =4.45 K _{f8}	Time Factor	Time of Fall (mins) = T _m	K _{f8} = T _F / T _m	T- Value =4.45 K _{f8}
300 – 250	8.1	120	0.0675	65.9	8.1	125	0.0648	68.67	8.1	127	0.0637	69.9
250 – 200	9.7	125	0.0776	57.34	9.7	127	0.0763	58.32	9.7	127	0.0764	58.25
200 – 150	11.9	127	0.0937	47.49	11.9	129	0.0922	48.26	11.9	131	0.0908	49.00
150 - 100	14.1	129	0.1093	40.71	14.1	131	0.1076	41.35	14.1	133	0.1060	41.98
Average T Value	T – Va	lue Hole	1= (t ₁)	52.86	T – Va	lue Hole	e 2= (t ₂)	54.15	T – Va	lue Hole	e 3= (t ₃)	54.78
Result of To	est T =	53.9	93	(mi	n/25mn	٦)						
Comments	Relati	vely slo	w perco	lation r	ate ach	ieved.						

3.2 (b) PERCOLATION ("P") TEST FOR SHALLOW SUBSOILS AND/OR WATER TABLE

STEP 1: Test Hole Prepa	ıration		
Percolation Test Hole	1	2	3
Depth from ground surface to top of hole (mm) (A)	0	0	0
Depth from ground surface to base of hole (mm) (B)	400	400	400
Depth of hole (mm) [B-A]	400	400	400
Dimensions of hole [length x breadth (mm)]	300 x 320	310 x 310	350 x 340
STEP 2: Pre-soaking Tes	t holes		
Date and Time Pre-soaking Started	05/2010 13.00	12/05/2010 13.00	12/05/2010 13.00
Each hole should be pre-soak Each hole should be empty be	ed twice before the test efore re-filling. 1 13/05/2010	t is carried out.	
STEP 3: Measuring P ₁₀₀	zurto.	seried for	
Percolation Test Hole	1 petion for the inspection of	2	3
Date of Test	13/05/2010	13/05/2010	13/05/2010
Time filled to 400mm	Course, 0	0	0
Time water level at 300mm	55	50	49
Time to drop 100mm (P ₁₀₀)	55	50	49
Average P ₁₀₀			51.3

If $P_{100} > 300$ minutes then T value >90 – site is unsuitable for discharge to ground If $P_{100} \le 210$ minutes then go to STEP 4 If $P_{100} \ge 210$ minutes then go to STEP 5

STEP 4: Standard	method v	where P ₁₀₀ ≤	210 minutes
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Test Hole		1				2				3	3	
No Fill No.	Start Time	Fini	1	Δp (min)	Start Time	1	nish me	Δp (min)	Start Time	1	nish me	Δp (min)
1	0	60		60	0		30	60	0	4	19	49
2	0	68	3	68	0	6	31	61	0		55	55
3	0	72	2	72	0	6	38	68	0	(33	63
l Average ∆p Value		<u> </u>		66.7				63				13.93
•	Average Hole No			16.7		age ∆p/ le No. 2		15.75		age ∆p. le No. :		13.93
Result of Te	st P =	15.46)	(min	/25mm)							
Comments	Relative	ely fast	percola	ation rat	e throug ire of so	h uppe	r layer	s as evid	lenced i	y P va	lue acł	ieved.
	Possibi	y aue to) Cfuffii	D SHUCK	116 01 20	ii/topao	ather use	•				
						जीं आप	7					
					<u> د</u> لا	5 digit						
					on purpose	ited for						
STEP 5: M	odified	Metho	d whe	re P ₁₀₀	210 m	inutes						
STEP 5: Me Percolation Test Hole	odified	Metho	d whe	ere P ₁₀₀ 0	210 m	inutes	2				3	
in hole	Time Factor =T _F	Time of Fall (mins)	d whe	P- Value =4.45 Kf8	210 m	Time of Fall (mins)	2 K _{f8} = T _F / T _m	P- Value =4.45 K _{f8}	Time Factor	Time of Fall (mins) = T _m	3 K _{f8} = T _F / T _m	
in hole (mm)	1 aotor	(mins)	IF/	=4.45	Zio m Zio m Zio m Time Factor	(mins)	1 17 7	=4.45		Time of Fall (mins)	K _{f8} =	Value =4.45
in hole (mm)	=T _F	(mins)	IF/	=4.45	Zion m	(mins)	1 17 7	=4.45		Time of Fall (mins)	K _{f8} =	Value =4.45
in hole (mm) 300 – 250	=T _F	(mins)	IF/	=4.45	Zio m	(mins)	1 17 7	=4.45		Time of Fall (mins)	K _{f8} =	Value =4.45
in hole (mm) 300 – 250 250 – 200	8.1 9.7	(mins)	IF/	=4.45	Time Factor	(mins)	1 17 7	=4.45		Time of Fall (mins)	K _{f8} =	Value =4.45
in hole (mm) 300 – 250 250 – 200 200 – 150	8.1 9.7 11.9	(mins)	T _m	=4.45		(mins)	Tm	=4.45 K _{f8}	Factor	Time of Fall (mins)	K _{f8} = T _F / T _m	Value =4.45
300 - 250 250 - 200 200 - 150 150 - 100 Average P	9.7 11.9 14.1 P-Value	(mins) = T _m	T _m	=4.45 K _{f8}		(mins) = T _m	Tm	=4.45 K _{f8}	Factor	Time of Fall (mins) = T _m	K _{f8} = T _F / T _m	Value =4.45

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4. CONCLUSION OF SITE CHARACTERISATION

Integrate the information from the desk study system(s) that is (are) appropriate. The information wastewater.	nd on site assessment above and conclude the type of n to choose the optimum final disposal route of the treated
Not suitable for days	

Not suitable for dev	elopment
Suitable for ¹	Discharge Route
1. Septic tank system	(septic tank and percolation area) Via Ground
2. Secondary Treatme	ent System
a. septic tank ar and polishing f	ilter; or stewater treatment systems and X ION Packaged effluent reatment systems for the system for the system of the system
b. packaged wa polishing filter	ION Tot independent systems of the control of the
5. RECOMMENDAT	ION CHITAGH ONLY
Propose to install	Packaged effluent treatment system followed by an intermittent above ground soil filter.
and discharge to	Ground.
Trench Invert level (m)	Above ground level as per fig. 8.7 Page 32 EPA CoP 2009. Trench invert levell shall be 0.5m above ground level.
Site specific condition	
imported material to be	ment system followed by intermittent soil filter above ground as per fig 8.7. ge 32 EPA CoP 2009 having trench invert level 0.5m above ground level. All of appropriate T value and installed in line with CoP 2009. All material to be ack distances are achievable on site.
BM 13/05/2010	
1 note: more than one option may	be suitable for a site and this should be recorded

6. TREATMENT SYSTEM DETAILS

PRIOR TO SUBMISSION TO THE PLANNING SECTION OF OFFALY COUNTY COUNCIL THE TREATMENT SYSTEM DESIGN DETAILS, INCLUDING DESIGN DETAILS OF THE INFILTRATION SYSTEM PROPOSED FOR THE SITE, MUST BE COMPLETED BY A COMPETENT, SUITABLY QUALIFIED AND PROFESSIONALLY INDEMNIFIED PERSON AND IN ACCORDANCE WITH THE CODE OF PRACTICE: WASTEWATER TREATMENT & DISPOSAL SYSTEMS SERVING SINGLE HOUSES (P.E. < 10).

System T	ype: Secondary	y Treatment Syst	lem				
Filter Syste	ems			Packaç	ge Treatme	ent Systems	
Media Type	Area (m²)	Depth of Filter	Invert Level	Туре	:		
Sand/soil							
				Сара	city PE		
				Sizin	g of Primar	y Compartme	ent (m³)
				15°.			
System Ty	/pe: Tertiary Tr	eatment System	~	4. ny otti			
	Filter: Surface			kage treatmo	ent Systen	n: Capacity (լ	oe)
Or Gravity	Fed:	·	tion puredu				
No. of Trer	nches	A St. CO	* :SP	nstructed W	/etland: Su	ırface Area (r	n²)
Length of T	renches	Consent of C					
Invert Leve	ŀ			•			
DISCHAR	SE ROUTE						
Groundwat	er Hydr	aulic Loading Ra (I/	ate* m²)	Surface Water		Discharge Ra (m³/	ate hr)
TREATME	NT STANDARI	DS					
Treatment	System Perforn	nance Standards	BOD	SS	NH ₃	Total N	Total P
(1)							
QUALITY A	ASSURANCE						
Installation	and Commission	oning		Ongoing M	aintenance)	
				777			

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