



February 8th 2011

Ms. Sonja Smith
Office of Climate, Licensing & Resource Use
Environmental Protection Agency
Regional Inspectorate
PO Box 3000
Johnstown Castle Estate
Co. Wexford

Our Ref: 1182 Westland Horticulture

Your Ref: P0914-01

**Re: Article 11 Request for Further Information in support of Application for
IPPC Licence (21.September. 2010)**

Dear Ms Smith,

Further to your recent request for additional information under Article 11 (2)(b)(ii) of the EPA (Licensing) Regulations 1994 to 2008, (dated 21st September, 2010) please find set out below responses to the items raised in that request.

Section B.1

Submit the following item as part of attachment B1:

- 1. Certified copy of the company's registration in the Overseas Companies Registration Office (Dublin).**

Westland have companies registered in the UK (Westland Horticulture Ltd.) and Ireland (Westland Peat Ltd.).

Please find attached a Certificate of Incorporation for Westland Peat Ltd. The company was registered as Hinterville Ltd. on the 7th of July 2009. The name of Hinterville Ltd. changed to Westland Peat Ltd. on the 14th of October 2010.

The application for the IPPC Licence to the EPA is being made under Westland Horticulture Ltd. which has its headquarters in Northern Ireland and is not considered to be an Overseas company. The Certificates of Incorporation are appended as Attachment B.1. of the letter.

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Section B.2

- 1. Submit maps identifying the ambient monitoring locations included in Table F3 as well as those requested below (Section F.) Geo-referenced digital drawing files (e.g. AutoCAD files) in Irish Grid projection of the site boundary and overall site plan, including labelled emission, monitoring and sampling points, are also required. This data should be provided to the Agency on a separate CD-Rom containing sections B.2., E.6 and F.3.**

A map containing all of the site boundary and emission points to water is provided on CD-ROM with this submission. A separate map has been prepared for each of the peat abstraction sites. A location file created in ArcGIS format is also provided on the CD-ROM. Hard copy maps are also included as Appendix B.2.

- 2. Re-submit Table E6 and include data for silt trap #5 at Clonsura accordingly.**

Table E6 is appended in Appendix E.6 of the response. Sedimentation Basin #5 has not been constructed to date, construction of same is proposed for 6 months after grant date of the IPPC Licence.

Section B.5

- 1. Submit confirmation in writing from the planning authority that the activity has full planning permission or is an exempt development.**

A letter confirming our planning status as exempted development is appended will be issued within the next week as Appendix B.5.

- 2. Submit confirmation in writing from the planning authority in relation to the requirement for an Environmental Impact Statement (EIS) in respect of the activity. If they identify that an EIS is required please submit a complete EIS in support of the licence application.**

A letter confirming that there is no requirement for an Environmental Impact Statement will be issued within the next week as Appendix B.5.

Section D

- 1. Confirm that the silt pond cleaning procedure (WI 2003) requires that excavated sludge is spread at least 3 m away from the silt ponds.**

We would like to confirm that as per WI 2003 of our EMS, that excavated sludge will be spread at least 3 meters from the silt ponds.

The procedure is updated to reflect this as outlined below:

"The silt pond will then be dredged with mechanical digger with the excavated sludge being spread at least 3 meters away from the silt ponds onto production fields and allowed to dry out or used for maintenance and bulldozed over cut away bog and stabilised."

Section E

- 1. Review the data in tables E.2(ii) and E.2(i) and confirm that the flow rates (m³/sec) and mass emission rates (kg/hr) are consistent, or revise and resubmit corrected tables as necessary.**

A review has been undertaken of the data used to compile Tables E.2.(i) and E.2.(ii), this document contains updated information.

- 2. Redo the waste assimilative capacities using the proposed emission limit values as opposed to measured data. Waste assimilative capacity calculations should be based on the normal flow rate at the discharge and the 95%ile flow in the receiving water. Confirm the levels of ammonia and BOD in Tables E.2(ii) and carry out waste assimilative capacity calculations for these parameters accordingly. Background levels of ammonia, suspended solids and BOD should be used in the waste assimilative capacity calculations. Results of assimilative capacity calculations should be compared against the standards specified in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, S.I. No. 272 of 2009.**

Surface runoff from Westland Horticulture and the flow rate in the River Inny are both directly related to precipitation. As a result, the probability of a discharge from Westland Horticulture during 95%ile flow conditions is quite low. In contrast to a Waste Water Treatment Plant at a processing facility which discharges at a constant flow rate at all times, discharges from Westland Horticulture facilities only occur after precipitation events. Using the 95%ile flow for the receiving water presents a highly conservative scenario.

However, as requested, the assimilative capacity equations have been undertaken based on a typical daily discharge from the sedimentation basins and 95%ile flow conditions in the receiving water. The River Inny was assumed as the receiving water body for all discharges as there was no long term physiochemical data available upstream of the two discharge points to the River Glore. However samples taken by Westland Horticulture at upstream and downstream locations along the River Glore and analysed for Suspended Solids, Ammonia, Orthophosphate and Nitrate. The results of analysis suggest an improvement in water quality downstream of the site.

Using the River Inny as the receiving watercourse is very conservative as any assimilative capacity in the River Glore has not been taken into consideration. It is noted that the typical daily discharge from Westland Horticulture to the River Glore is circa 1.17% of the total flow at 95%ile flow conditions in the receiving water.

The assimilative capacity of the River Inny has been calculated on the basis that 95%ile flow conditions exist in the receiving water. Background suspended solids concentrations have been determined using long term monitoring data gathered at local authority and EPA monitoring stations. In the absence of target levels for suspended solids in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, (S.I. No. 272 of 2009), values set out in S.I. No. 293/1988 — European Communities (Quality of Salmonid Waters) Regulations, 1988 have been used as an alternate.

With respect to the assimilative capacity equations, suspended solids is the only parameter included in Table E.2 (ii) as the sedimentation basins can not control BOD or Ammonia concentrations in the discharge as both may be of soluble nature and cannot be removed through sedimentation. Determining the assimilative capacity of the receiving water based on 95%ile flow conditions is also extremely conservative as the probability of a significant discharge from the Westland Facility during low flow conditions is low.

Although not included in Table E.2, assimilative capacity equations have been developed on the basis of typical emission limit values. The assimilative capacity has been determined at both 95%ile flows and median flows, a table of these calculations is presented in Appendix E.2.1.

3. Submit Table E.2(ii) for silt trap #5 at Clonsura.

Table E.2.(ii) is appended as Appendix E.2. of the response. Silt trap #5 has not been built yet, however data has been entered based on the design principles of the installed silt traps.

4. Submit Tables E.2(i) for silt trap #4 at Coole and silt trap #12 at Clonsura. Confirm the flow rates for silt traps #8, 9, 10 and 11 are all the same (i.e. 547 m³/day).

Tables E.2.(i) is appended as Appendix E.2. of the response. Please note that a table has not been completed with respect to silt trap #12 (Sedimentation Basin 5) that it is proposed this on receipt of the IPPC Licence.

5. Clarify the receiving water bodies specified in Tables E.2(i), River Inny, tributary of River Inny, River Glore, etc., confirm the flow rates for the receiving waters and re-submit the tables accordingly.

There are currently 7 sedimentation basins located at the Lower Coole, Mayne and Ballinaeloe harvesting sites, and 4 sediment ponds located in the Clonsura with the proposed installation of another sedimentation basin after 6 months of granting the licence.

Five of the sedimentation basins (No.'s 1-5) at Mayne discharge to the River Inny post treatment, while two of the sedimentation basins (No.'s 6-7) discharge into small tributary of the Inny which is maintained by the Office of Public Works (OPW), before entering the River Inny. The OPW drain has an extremely low flow and the two discharges are circa. 40 metres and 400 metres from the confluence point with the River Inny.

Two of the sedimentation basins (No.'s 1 and 2) at Clonsura discharge to the River Inny post treatment, while two other sedimentation basins (No.'s 3, and 4) discharge to the River Glore above the point of confluence with the River Inny. Owing to the close proximity of the Glore to the River Inny, the receiving water has been considered to be the River Inny.

Section F

- 1. Submit full details of the program of works for the installation of the silt ponds and related drainage work, with timeframes for completion. This should identify what works have already been completed, as well as remaining tasks and the date such tasks are due for completion. This should also include comprehensive proposals on plans to plant reed beds for polishing effluent post the silt ponds.**

All silt ponds/sedimentation basins have been installed with the exception of sedimentation basin #5 at Clonsura. The table below sets out the status of all sedimentation control basins at Westlands. It is proposed to install this sedimentation basin within 6 months of the grant of the IPPC licence.

| S. Basin ID | Location | Installed | Weir |
|-------------|----------|-----------|------|
| S. Basin 1 | Clonsura | Yes | Yes |
| S. Basin 2 | Clonsura | Yes | Yes |
| S. Basin 3 | Clonsura | Yes | Yes |
| S. Basin 4 | Clonsura | Yes | Yes |
| S. Basin 5* | Clonsura | No | No |
| S. Basin 1 | Coole | Yes | Yes |
| S. Basin 2 | Coole | Yes | Yes |
| S. Basin 3 | Coole | Yes | Yes |
| S. Basin 4 | Coole | Yes | Yes |
| S. Basin 5 | Coole | Yes | No |
| S. Basin 6 | Coole | Yes | Yes |
| S. Basin 7 | Coole | Yes | Yes |

*To be constructed, flow is currently routed through S.Basin 4 at Clonsura, which has sufficient capacity.

All of the silt ponds/sedimentation basins have adjustable weirs with the exception of basin #5 at Ballinealoe, where the discharge is currently via a pipe. It is proposed to install an adjustable weir at sedimentation basin 5 within 6 months of grant date of the IPPC licence.

At this stage, Westland do not have detailed plans to develop reed beds for post settlement treatment of surface water runoff.

Although some reed beds have development has naturally occurred post settlement, the performance of these beds has not been determined.

Westland propose to investigate the feasibility of installing reed beds post settlement and this feasibility will be based on a determination of performance of the reed beds and there impact on the quality of surface water discharge.

Reed beds have naturally developed on the discharge drains post settlement. We propose to undertake a monitoring programmed to review the benefits of these in relation to water quality standards and based on whether there is an improved performance plan to introduce these to other silt ponds within the area.

2. Submit data for the maximum water levels in the River Inny, including the dimensions of the weirs, and justify the assertion that the adjustable weirs at the settlement ponds can address rising water levels.

A review of all available data was undertaken with a view to determining the maximum water levels in the River Inny. Unfortunately the Office of Public Works (OPW) do not operate any gauging stations on the River Inny between Lough Kinale and Lough Derravaragh. In order to obtain information on the water level, a staff gauge would need to be installed and checked during periods of high rainfall.

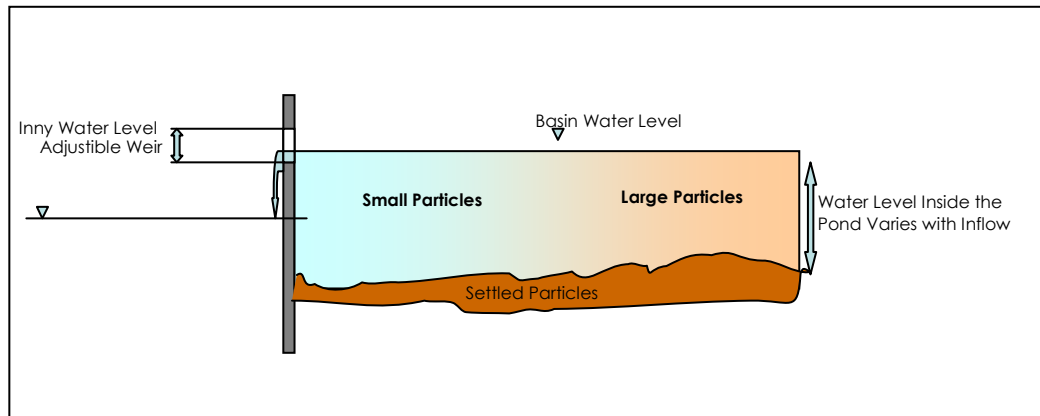
The outlets of all of the weirs installed at the site have the same dimensions, they are 150mm high and 320mm wide. A diagram of the weirs is appended as Appendix F.2.1. As illustrated in the drawing, the discharge point can be adjusted to allow for the 'stage' in the Inny, the weir can also be adjusted as the water level of the basin rises and falls.

Once the peat harvesting season has ceased, the weir is placed at its highest position, this allows the pond to operate at its maximum capacity outside of the harvesting season.

During excessive rainfall over the winter period, the Inny can overtop some of the sedimentation basins, causing drains and field ditches to dam up, which effectively stops surface water discharging from the harvesting area into the sedimentation basin. This does not impact upon the control of sediment runoff. Once the level in the Inny recedes, surface water from the sedimentation basin can flow through the Weir.

3. Determine the potential for settlement pond flow to pass under the adjustable weirs and thereby avoid settlement. Justify you answer by way of engineering details and drawings as appropriate.

The discharge from the sedimentation basins is designed to flow over the settlement basin weir once the water reaches a certain level inside the basin, as illustrated in the sketch below.



If the flow into the pond is greater than that exiting over the weir, an adjustment can be made to increase the storage volume. The adjustment to the weir is made by moving the 150mm timber blocks up or down. Losses of silt through the gaps in the timber blocks are considered to be negligible as water at the weir interface will be at its lowest suspended solids concentration, as the larger silt particles settle out first as illustrated above. In addition, the total surface area between the timber blocks is circa 0.00075m², this space will not permit any water of significance to be discharged.

Increasing the height of the weir has a dual effect on the performance of the weir as increasing the storage volume also increases the cross sectional area, which reduces the flow velocity across the pond and improves settlement of suspended particles.

The sedimentation basins are of 'wet' design, where a minimum water level always remains inside the basin, this prevents scouring of silt out of the basin into the receiving water after a dry period.

Potential for washout of residual silt into the receiving water exists if the basin is not adequately maintained and fills with sludge. Regular inspections and scheduled emptying of basins prevents these type of incidents occurring at Westlands.

- 4. Explain the contingency measures in the event of potential rainfall and justify they are adequate to prevent washout of silt ponds and achievement of the emission limit values during such events. Reference can be made to the methods and data included in the application for waste licence Reg. No. W0199-02 in this regard.**

The method used at the Shrahmore Peat Deposition Site (W0199-02) to control sediment laden runoff has been reviewed. The control mechanism is based on allowing flows greater than the inflow capacity of the sediment basins back up along swales and discharge by gravity to an overflow area.

With regard to Westlands, surface water collected from the field drains flows to the sedimentation basins via large open channel drains. Water from the perimeter drains flows into the sedimentation basins at Clonsura via a 305mm pipe. Three of the inlets to the sedimentation basins at the Coole harvesting site are via a 305mm diameter pipe and the remainders are via an open drain. The maximum inflow rate through the piped inlets is 0.142m³/sec, determined using the Hazen Williams formula. The velocity in all of the ponds with piped discharges is significantly less than the 10cm/sec design capacity.

Essentially, the contingency measures at Westland are based on similar a principle to those in place at the Shrahmore Peat Deposition Site, where, during extreme rainfall events, water backs up into the perimeter drains when runoff rates exceed the capacity through the pipe discharging to the sediment basin.

Owing to the topography at Westland's it is not possible to have a separate overflow area for excess runoff conveyed by gravity; however allowing the perimeter drains to back up allows surface water to be stored on the peat harvesting area and in field ditches and effectively utilizes the site itself as a containment and retention area during flood periods.

On grant of the IPPC Licence, a programme will be put in place to ensure that all inlets to the sedimentation basins are via a pipe.

5. **Correct the grid reference co-ordinates for the river monitoring point on the River Glore. Submit details of river monitoring data in the River Inny (upstream and downstream of the Clonsura site), the River Inny (downstream of the Coole site) and the River Glore (upstream and downstream of silt ponds # 3 and 4). Re-submit table F.2.**

Table F.2. is appended as Appendix F.2. of the response.

Section I

1. **Advise on the detection limit for ammonia measurements in the receiving waters. Re-analyse the receiving waters for ammonia using a detection limit consistent with the standards included in European Communities Environmental Objectives (Surface Waters) Regulations 2009, S.I. No. 272 of 2009. Clarify the grid reference locations for points on the river Inny monitored. Assessment of the impact of on water quality must be made by comparing water quality in the Rivers Inny and Glore upstream and downstream of the silt pond discharges and by comparison against the standards specified in the European Communities Environmental Objectives (Surface Waters) Regulations 2009, S.I. No. 272 of 2009. In addition consideration of the results of biological quality monitoring conducted by the Agency should be made.**

The European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. 272 of 2009) sets out the acceptable nutrients levels indicators for 'Good' and 'High' status water bodies. The values for ammonia range between 0.04-0.140mg/l. In order to compare surface water quality to the concentrations set out in the Regulations, all testing undertaken for ammonia will use an analysis method with a Limit of Detection (LOD) of 0.02mg/l.

The grid references for water monitoring points upstream and downstream will be consistent with those set out in table F 2. Background physiochemical water monitoring was undertaken on behalf of Westlands in the River Glore and River Inny at points upstream and downstream of surface water discharges from the peat harvesting sites.

In order to determine the background physiochemical concentration with reasonable confidence, a comprehensive data set is required. The Agency have monitoring points at points in the River Inny which are upstream and downstream of the peat harvesting sites, the data from these monitoring points has been compared against the current surface water Regulations. Tables 1 & 2 below present upstream water samples taken downstream at Shrubbywood and upstream at Camagh.

Table 1 Orthophosphate-River Inny

| Sample Location | Mean (mg/l) | Orthophosphate(mg/l)* |
|-------------------------------|-------------|-----------------------|
| 0600-Camagh Bridge | 0.009 | 0.035 |
| 0700-Bridge Near Shrubby Wood | 0.011 | |

* Mean Orthophosphate for 'Good Status' River

Table 2 Total Ammonia-River Inny

| Sample Location | Mean (mg/l) | Ammonia (mg/l)* |
|-------------------------------|-------------|-----------------|
| 0600-Camagh Bridge | 0.054 | 0.065 |
| 0700-Bridge Near Shrubby Wood | 0.066 | |

* Mean Total Ammonia for 'Good Status' River

The data used to determine the mean concentrations was determined from >35 individual samples recorded over the past 4 years. As can be seen from the table above the background concentrations are broadly in line with the European Communities Environmental Objectives (Surface Waters) Regulations 2009 (S.I. 272 of 2009).

Unfortunately, there is no data available on the River Glore to determine the physiochemical status at upstream and downstream locations. The water monitoring results obtained from analysis carried out on behalf of Westlands was determined to be <0.2mg/l both upstream and downstream of the discharge from the Westland peat harvesting sites.

There is only one biological water monitoring point currently in use by the Agency between Lough Kinale & Lough Derravaragh, which is downstream of both Westland Facilities (Ref. 261010700-Bridge at Shrubbywood). A map showing the locations of the monitoring points is appended as Appendix I.2. A second point at Camagh bridge between the Clonsura and Coole sites has not been use since 2005.

The most recent monitoring undertaken at the operational monitoring point was carried out in 2008 and returned a score of Q3 (doubtful/poor water quality). However the nutrient conditions support a good status watercourse, which suggests that the nutrient loading from Westland is not causing an impact on downstream water quality.

With respect to the River Glore, two monitoring points upstream of the Westland harvesting facility at Clonsura suggests an improvement in biological water quality as the stream flows toward the Inny.

Section L

1. ***Carry out an Appropriate Assessment of the effects of the proposed development on all relevant European site(s) where European site is defined in S.I. 272 of 2009 (European Communities Environmental Objectives (Surface Waters) Regulations 2009) in accordance with Article 6 of the Habitats Directive. Reference should be made to Appropriate Assessment Plans and Projects in Ireland, Guidance for Planning Authorities, available on the website of the National Parks and Wildlife Service (www.npws.ie) in completing this task. An assessment of "in combination effects" should also be made in line with Circular Letter NPWS 1/10 (also available on www.npws.ie).***

OES undertook an Appropriate Assessment (AA) Screening Report and Natura Impact Statement of Westland Horticulture Ltd. operations to assess the potential impacts, if any, on nearby sites with European Conservation designations (i.e. Natura 2000 sites) in accordance with Article 6 of the Habitats Directive.

The screening assessment was undertaken on all Natura 2000 sites located within a 15km radius of the proposed works. The screening assessment identified 1 site, Lough Derravaragh, which could potentially be impacted by Westland Horticultures site operations.

A Natura Impact Statement (NIS) was prepared to assess the potential impacts from Westland Horticulture Ltd. operations on Lough Derravaragh both on their own and in combination with other plans and projects. The assessment particularly focused on water quality, and disturbance associated with dust and noise emissions.

The NIS concludes that, given the scale and nature of Westland's operations, they will not have any significant negative impacts on their own, or in combination with other plans and projects on Natura 2000

sites site or annexed species if proposed control measures are implemented.

A copy of the above is appended as Appendix L.1.1 of the response.

- 2. Re-submit the site surveys for the two bogs (Ref. drawing files 17674-09.dwg and 17685-09.dwg). The drawings should be on A3 paper and clearly legible in accordance with the IPPC licence application guidance notes. Re-submit the electronic versions of the drawings, revised as necessary, in A3/pdf format.**

Please A3 site surveys of the two bog sites appended as Appendix L.1.2 of the response.

- 3. Complete the assessment of 'fit and proper' person with respect to the legal aspects for Westland Horticulture Limited (the organisation, as opposed to the personnel).**

An assessment of 'fit and proper' person with respect to legal aspects of Westland Horticulture Limited is appended as Appendix L.2 of the response.

In addition to the above please also provide an updated non-technical summary to reflect the information provided in your reply. Please refer to the IPPC licence application form and associated guidance notes in the preparation of the non-technical summary.

An updated non technical summary to reflect the attached information is appended as Appendix A.1. of the letter.

Trusting the enclosed information is to your satisfaction.

Yours sincerely,


Peadar O'Loughlin
Managing Director
For & on behalf of Westland Horticulture
CC Mark Hamill, Westland Horticulture Ltd.