

**APPENDIX B**

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# **Agronomy Report**

on

## **LAND RECLAMATION ACTIVITY**

at

### **TALLAGH, BELMULLET Co. MAYO**

Dated

7<sup>th</sup> January 2011

On Behalf of:

Lennon Quarries Ltd.

Subject Matter

Appraisal of Agricultural Impact of Land Reclamation Activity as part of Application for Waste Licence for Lennon Quarries Ltd. at Tallagh Belmullet Co. Mayo

**Application for Waste Licence for Lennon Quarries Ltd. at Tallagh Belmullet Co. Mayo**  
**Agricultural Statement of Evidence**

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## 1. Carton Rural Consultants Profile

- 1.1. I James Carton am a director of Carton Rural Consultants, an agricultural and environmental consultancy firm based in Mullingar Co. Westmeath. I hold a degree in Agricultural Science from University College Dublin together with a Diploma in Environmental Assessment. I have been working as an Agricultural Consultant for 14 years.
- 1.2. As an agricultural consultancy group, we have wide experience in assessing the impact of major infrastructural projects on agriculture, both at an individual farm level and at a regional and national level. In this regard we have carried out studies on behalf of many Local Authorities in relation to major road development projects. We have also carried out studies on behalf of private individuals and companies in relation to industrial projects and land reclamation projects for the consequential benefit to agriculture. In addition we have carried out assessments on the effect of infrastructural projects on behalf of the ESB, the NRA and Iarnrod Eireann.

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## 2. Methodology

- 2.1 Carton Rural Consultants was contracted by Lennon Quarries Ltd. in December 2010 to assess the site and environs of an existing land reclamation activity at Tallagh Co. Mayo. The site has operated since 2006 as a land reclamation activity under a waste permit from Mayo County Council (PER 144). The existing available documentation and correspondence relating to the application was reviewed at our offices in Mullingar Co. Westmeath. The site was visited on 29<sup>th</sup> December 2010. The entire site area was walked with photographs taken and information recorded on the topography, drainage on the site, soil type and vegetation currently growing on the site together with type and quantity of livestock present. An assessment was made on the current agricultural potential of the site based on agricultural infrastructure present and availability of forage on the site.
- 2.2 The land in the surrounding area was visually assessed from the local roads network and land use, stock type and farming activity in the area recorded. Statistics from the Central Statistics Office Ireland (CSO) were obtained to give us a picture of farming activity for the DED that the site is located in and also for County Mayo as a whole.
- 2.3 The soils in the vicinity of the site were identified using data from the Geological Survey of Ireland (GSI), An Foras Taluntais, National Soil Survey of Ireland-Soil Map of West Mayo, scale 1:(126,720).
- 2.4 The Auctioneers in the area were contacted to ascertain the demand for rented land in the area and confirm the demand for reclaimed land such as that proposed on the site. This was for the purposes of establishing that there is a clear consequential benefit to agriculture from the existing and proposed works (see **Appendix 4 and 5**).

### 3. Description of Site and Environs.

#### 3.1 Proposed Land Reclamation Site

3.1.1 The land reclamation site is a 27.22 hectare area of land situated at Tallagh Belmullet Co. Mayo. The site is predominately made up of drained, cut-away peat land with the soil recorded as Blanket Peat - soil series Glenamoy Cutover on the soil maps for the area. The cut-away peat land has been recolonised naturally with mosses, rushes, knot grass and other herbaceous weed species. The site is currently used as part of waste permit (PER 144) for a class 10 activity (land reclamation activity for the consequential benefit to agriculture) and has been in operation since January 2006. A small portion of the site has been infilled satisfactorily as part of this process, and the remainder of the area is currently been used to graze a low number of sheep. The subject lands have little or no agricultural benefit at present due to the poor nutritional value of the grass present on the site and the fact that historic peat extraction on the site has left the topography of the ground uneven and unsuitable for agricultural machinery.

3.1.2 Since the site is not currently used for intensive agriculture, there will be no negative agricultural impact of the land reclamation activity on the immediate site area. In fact since the land reclamation activity involves land levelling, reinstatement of topsoil and reseeded with a good quality grass seed mixture, the end result will be beneficial to the area from an agronomy perspective.

### 3.2 Soil Type in the Surrounding Area of the Proposed Site.

- 3.2.1 The most extensive soil types that feature in the area are Blanket Peats, Gleys and Dry Podzols. Moisture holding capacity in the soils is good. **A number of field units in the surrounding area have been reclaimed and improved in the past as evidenced during our site visit.** The use range of these soils depends largely on slope and altitude but generally they are most suitable for grazing stock and production of hay and silage.

### 3.3 Land Use in the Surrounding Area of the Proposed Site.

- 3.3.1 The climate at the site is typical of west Connaught with no great extremes of temperature and high levels of rainfall. The land in the District Electoral Division (DED) is most suitable for grazing and hay or silage production. Most of the surrounding area is presently under grass with approximately 3% of the available land area used for non-grass production. **A number of field units in the surrounding area have been reclaimed and improved in the past as evidenced during our site visit.**

- 3.3.2 There were 12,493 farms identified in Co. Mayo from the 2000 Census of Agriculture\* with the average farm size of 21.9 hectares Agricultural Area Used (AAU) being used which is smaller than the national average of 31.4 hectares AAU. The average farm size of the 156 farms identified in the Belmullet DED area is 14.6 hectares. Agriculture in this part of Mayo is predominantly grassland based in nature with cows and cattle making up 64% of the livestock unit equivalents in the DED and sheep accounting for 36% of the total livestock units. Dairy cows account for 17% of the total cattle numbers in the Belmullet DED but no dairy units were evident on the day of the site visit. Horses were not evident in the area on the day of the site visit. Farms in this part of County Mayo are operated as family run businesses with non-family workers representing less than 2% of the total labour input on farms in the area.

\* Figures from the 2000 Census of Agriculture.

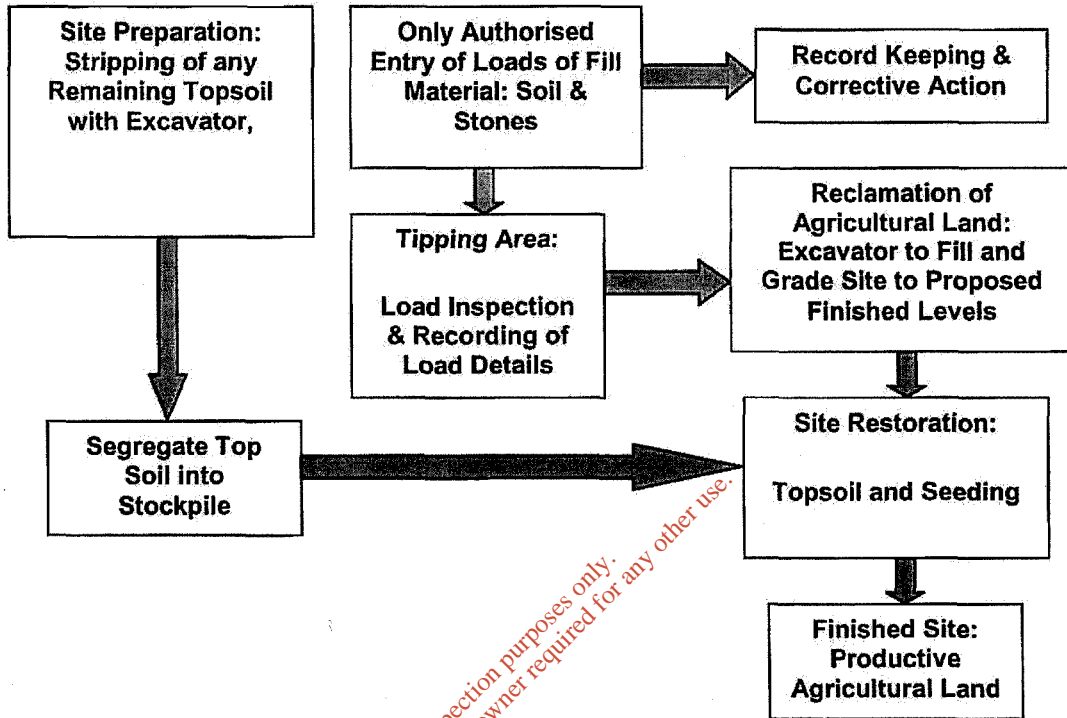
#### 4. Works Required to Optimise Agricultural Use of Site in the Future.

- 4.1 The reclaimed area should be returned to grassland agricultural production once infilling is completed. Due to the long time scale of the project, it is recommended that the site will be divided into 3 no. Phases, as proposed in the Waste Licence Application, with a no. of subplots and that the site will then be filled and recovered in a structured fashion with no more than one subplot being reclaimed at any one time. Each subplot will be fully restored and reseeded prior to filling commencing in the next subplot. The individual area infilled and reclaimed each year is to be reseeded with a good quality grass seed mixture, suitable for grazing sheep and cattle and the land returned to full agricultural production as soon as possible the following Spring.
- 4.2 Any remaining topsoil present on site should be stripped from the area to be reclaimed and stored separately for reuse after each area is filled. The infilled area should be overlain with a layer of topsoil ca. 300mm deep, harrowed and sown with a suitable grazing grass-seed mixture with lime and fertiliser applied as required. Animals should be excluded from the reseeded area until the grass is established and growing well. Animals should also be excluded from surface water drains on the site and from the unloading area and the area of the site currently being infilled during that grazing season. The external boundary of the land owned by the applicant at this location is to be fenced to ensure stockproofness and an animal handling facility (holding pen and handling race) is to be provided to facilitate loading/unloading of animals.

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Flow-Chart of On-Site Processes



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## 5. Possible Impacts of Land Reclamation Activity.

5.0.1 In order to assess the impact that any major development may have on agriculture either at individual farm level or at a local, regional or national level it is necessary to:

- ◆ Define the possible impacts
- ◆ Assess when these impacts may occur during the recovery operation or upon completion of the land reclamation works.
- ◆ Assess what mitigation measures will be provided to prevent and reduce any possible impacts.

5.0.2 The impact on agriculture and farming generally of any substantial development will vary from farm to farm and from development to development depending on a number of factors. The relevant potential impacts are as follows: -

- ◆ Noise during construction, operation and upon completion of project.
- ◆ Dust during construction, operation and upon completion of project.
- ◆ Impact on surface water construction, operation and upon completion of project.
- ◆ Impact on groundwater construction, operation and upon completion of project.
- ◆ Effect in Agricultural Output construction, operation and upon completion of project.

### 5.1 Noise

5.1.1 Noise is of significance for certain farm animals with horses more sensitive to noise than other farm animals. Noise will be generated from lorry deliveries to the site and the use of a track machine on the site to move the delivered materials. Grazing cattle and sheep are largely unaffected by noise as they become accustomed to traffic and construction sounds. This is evident from the fact that animals graze contently in fields along busy roads. The site is surrounded by good quality land with well-managed farms adjacent to the site, which do contain farm animals.

5.1.2 The current road network in the area carries heavy goods vehicles as well as domestic car traffic. Modern agricultural machinery generates a variable level of noise that farm animals are exposed to. The animals moved onto the site and on the farms in the area will have grown accustomed to machinery noise and road traffic noise as a result. The impact of noise on farming in the area during operation will therefore be insignificant.

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**Potential Impacts (cont.)**

**5.2 Dust**

5.2.1 The proliferation of dust during operation has a potential nuisance value. If produced in high volumes near milking parlours or on-farm bulk milk storage tanks may constitute a risk as a source of contamination in the milk. Dairy cows constitute 17% of the total bovine numbers in the Belmullet DED.

5.2.2 The mitigation measures to reduce the production of dust have been detailed in the original waste licence application to the EPA. The site will be filled and recovered in a structured fashion with no more than one subplot being filled at any one time and then that phase subplot restored to full agricultural production when infilling goes on to the next subplot. The reseeded to grass of individual reclaimed areas as soon as possible after infilling will minimise any longer-term dust issues. In practice all dairies are now required to have sealed entrances and so dust contamination of the milk during operation of the site should not be an issue, particularly given the fact that there appears to be no dairy farms directly adjacent to the site.

**5.3 Impact on Surface Water**

5.3.1 Surface water from the site is collected via open drains on the boundary of the site and from open drains that intersect the site. These surface water drains discharge into the River Clooneen, which borders the north of the site, with its waters flowing in an easterly direction away from site. In addition to the mains water supply in the area, a high proportion of farm animals depend on surface waters for drinking. Furthermore, consumer demands and quality assurance schemes dictate that high standards of purity be maintained in surface waters.

5.3.2 Buffer zones and settlement ponds are the proposed mitigation measures outlined in the original waste licence application to the EPA to ensure that no contamination of surface waters occurs during the operational phase of the site. Given the operational mitigation measures outlined, the impact on surface waters during operation will be negligible.

**5.4 Impact on Groundwater**

5.4.1 Any contamination of the groundwater from the operational phase could have a serious effect on farming in the area particularly farm homes and farmyards that receive their water supplies from local groundwater sources. As with surface waters, consumer demands and quality assurance schemes dictate that the highest standards of purity are maintained in groundwater.

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**Potential Impacts (cont.)**

5.4.2 The measures to ensure that no contamination of groundwater occurs are outlined in the original waste licence application to the EPA. The material to be accepted at the site is inert waste soil and stones. No groundwater wells were identified in close proximity to the site supplying water for domestic and animal needs. Given that the materials to be deposited are non-leachate forming and given the mitigation measures proposed, the impact of groundwater contamination on farming in the area during operation and upon completion of the project will be negligible.

**5.5 Impact on Agriculture Locally and Nationally.**

5.5.1 The reclamation of this site will have **positive and beneficial impacts upon agriculture and agronomy** and will provide additional grazing area for stock in the Belmullet area. Local auctioneers have confirmed the strong demand for grazing land for rental in the area, particularly for improved reseeded land (this is outlined in letters contained within **Appendix 4** and **Appendix 5**).

**A number of field units in the surrounding area have been reclaimed and improved in the past as evidenced during our site visit.** The use range of these soils depends largely on slope and altitude but generally they are most suitable for grazing stock and production of hay and silage. The existing and proposed land reclamation works will blend in with the existing local landscape.

Farming and agriculture production nationally is carried out over 3,500,000 hectares on in excess of 200,000 farm units. This activity will cause no loss of agricultural production but rather will result in greater farming activity in this immediate area. The impact on agriculture locally and nationally will be positive.

The existing and proposed land reclamation works will have a three fold beneficial impact upon agriculture:

1. The lands will be reclaimed to more productive agricultural lands which will result in a higher potential stocking rate of livestock; greater grass yields and therefore greater potential agricultural benefit.
2. The rental value of the land will increase as a consequence of the improvements to the terrain, soils and drainage, which will therefore have a consequential benefit to agriculture.
3. The vale of the reclaimed land as good agricultural grazing lands will increase as a consequence of the recovery activity, which will have a long-term agricultural benefit. This is independently confirmed by the two separate auctioneers in **Appendix 4** and **Appendix 5**.

## 6. Monitoring

- 6.1 In recognition of the importance of farming and agriculture to the local economy it is important that detailed monitoring procedures as recommended in the original waste licence application to the EPA is to be carried out on the site, in the adjacent Clooneen river

## 7. Conclusion

- 7.1 This site at Tallagh Belmullet Co. Mayo has operated since January 2006 as a land reclamation activity under a waste permit from Mayo County Council. The site was used historically for peat extraction. The lands of the proposed deposition site are currently unsuitable for economic agricultural production, as the land is not level; the soil type is poor; and the current forage species present have poor nutritional value. Farming is the principle activity in the surrounding area and there is widescale evidence of other lands in the vicinity of this site having been reclaimed in the past to productive grazing plots. The farms in the area generally concentrate on dry stock production with dairy farming also carried out in the DED but not evident in the immediate area of the proposed site.
- 7.2 The site will be filled and recovered in a structured fashion with no more that one plot being infilled at any one time and then that plot being restored to full agricultural production before filling commences in the next plot.
- 7.3 The potential impacts on agriculture have been identified as a potential increase in noise, dust, and potential impacts on surface or groundwater.
- 7.4 Mitigation measures to cope with all of the potential impacts have been detailed in the original waste licence application to the EPA, and as the site will not be allowed to operate without these safe guards being put in place, the impact of the proposed activity will be insignificant on farming and agriculture generally in the area.
- 7.5 The existing and proposed land reclamation works will have a three fold **beneficial impact upon agriculture**: Firstly, the lands will be reclaimed to more productive agricultural lands which will result in a higher potential stocking rate of livestock; greater grass yields and therefore greater potential agricultural benefit. Secondly, the rental value of the land will increase as a consequence of the improvements to the terrain, soils and drainage, which will therefore have a consequential benefit to agriculture. Thirdly, the value of the reclaimed land as good agricultural grazing lands will increase as a consequence of the recovery activity, which will have a long-term agricultural benefit.

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7.6 I am satisfied that the works carried out to date are recovery works for the benefit to agriculture and that the proposed works (i.e. the filling of the rest of the site as proposed in the waste licence application) will in my professional opinion have a consequential benefit to agriculture by virtue of the improved land and its increased agronomic value, as it is progressively reclaimed.

Signature  \_\_\_\_\_

Date 07-01-2010

James Carton B.Agr.Sc., Dip EIA (mgmt.), MACA

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## Appendix 1      Details of my Qualifications and Experience

2.1 Honours Degree in Agricultural Science B.Agr.Sc., from University College Dublin in 1992

NUI Diploma in Environmental Impact Assessment, from University College Dublin in 1998

NUI Certificate in Sustainable Rural Development, from National University of Ireland Maynooth in 2000.

Working as an Agricultural Consultant since January 1996 providing Agricultural, Environmental and Rural Consultancy advice to individuals, corporate sector and government agencies

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## Appendix 2                      References

An Foras Taluntais, National Soil Survey of Ireland-Soil Map of West Mayo, scale 1:(126,720).

Central Statistics Office Ireland (CSO) Agricultural Survey 2000, Farm Structure Survey 2007

Department of Communications, Energy and Natural Resources Geological Survey of Ireland (GSI)  
Bedrock Geology maps and Groundwater Vulnerability map

Environmental Protection Agency, Surface water quality maps, ground water quality maps.

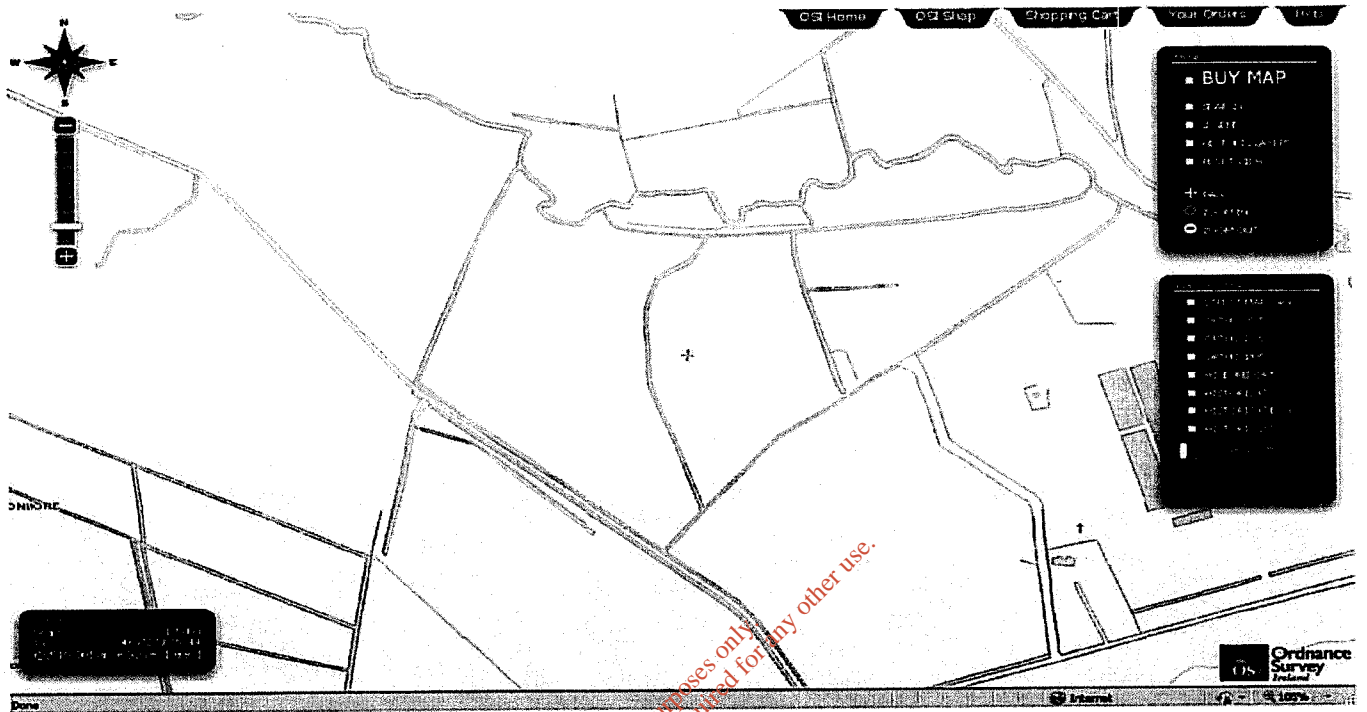
Gerry Coyle Auctioneer Belmullet Co. Mayo

Tim Quinn & Co. Auctioneer Belmullet Co. Mayo

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Appendix 3 Map of Site



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Appendix 4. Letter from Tim Quinn & Co. Auctioneer.

*Carra Financial Services*

**Tim Quinn & Co.**  
Auctioneers

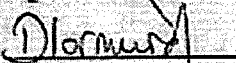
04/01/10

To Whom It May Concern.

This is to certify that there is a vibrant demand for good quality grass land to rent on an ongoing basis in the Belmullet area. I have also a list of clients who are interested in purchasing such land and in fact our company has sold a number of farms within the last six months.

I understand Mr. T.J. Lennon has purchased land adjacent to Belmullet with a view of reclaiming a significant portion of it. Obviously this will increase the market value of the property and will greatly enhance its appearance. This is most desirable as a community sports complex was constructed along side the farm earlier this year.

Signed.



Diarmuid  
C/o Tim Quinn Auctioneers

Appendix 5. Letter from Gerard Coyle Auctioneer.

# GERARD COYLE

AUCTIONEER VALUER AND ESTATE AGENT  
TEL/FAX 097/82280  
Ballina Rd. Belmullet Co. Mayo.

**Ref.:**

To whom it concerns I wish to state the following, I am an Auctioneer and Valuer in the Belmullet area of North Mayo I have continued requests from clients for good quality reclaimed grazing land and the requests far exceed the amount of land available for both purchase and rental. The normal quality of land that comes available in the area is very poor quality bogland and is unsuitable for grazing milk and beef cattle so any reclaimed land would add value to future farming enterprises in the area .

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Gerard Coyle.