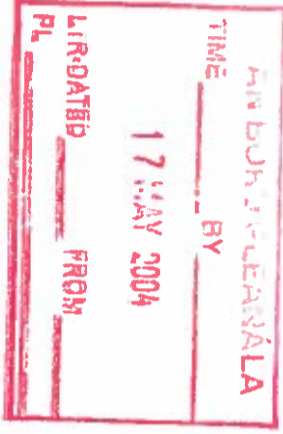


GOODE CONCRETE LTD
APPLICATION FOR SAND AND GRAVEL
EXTRACTION AT BALLINDERRY
CARBURY, CO. KILDARE

PLANNING REF: 1475/02
APPEAL REF: PL 09.205039

RESPONSE TO FURTHER INFORMATION
REQUEST ON LANDSCAPE AND VISUAL ISSUES



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May 2004

1. INTRODUCTION

We have previously carried out a Landscape and Visual Impact Assessment for the site, which was included in the EIS accompanying the original application, and have also responded to the subsequent F1 requests in relation to these issues. This report is in response to the letter from An Bord Pleanála dated 26th April 2004, and deals with the numbered items as set out below:

2. ITEM 5

"Clarification and quantification of the implications of the imposition of a condition requiring that the quarrying should not take place below 1 metre above the winter water table level, as envisaged in the Senior Environmental Health Officer's Report submitted with the appeal and similar to that imposed in the case of the adjoining sand and gravel pit to the west of the appeal site under PL09.118274 (Planning Authority Reg. Ref. 99/1200)."

2.1 Unlike a flat open water surface, groundwater tables have a relationship to the landform profile above (see EIS Map 6.2.3). Any change to the existing ridge landform on the site by excavation would be reflected in a change to the shape of the underground water table surface, because water table levels at any point depend in part on the nature and depth of the soils and mineral above. Removing all or part of this material would lead to a fall in water table level, until other factors such as flows from higher ground and levels in adjacent streams come into play.

2.2 If the existing landform were to be excavated as proposed in the application, ground water would rise to a common level within the void. From observation of water levels in the site boreholes, plus the fact that groundwater presently retained at higher levels would fall to the lowest common level, final water level in the excavated void has been shown on the final restoration drawing (1474/002A) at +76m AOD. This is an estimated level, and is liable to seasonal variation.

2.3 The range of water table levels for this site, determined from the borehole study, was from +84.41m to +75.27m AOD (EIS Table 6.3.2§ 1, p. 39). These levels, measured in April 2002, are points on a curved surface between 9 and 14 metres below the natural ground level. Seasonal fluctuation in these levels is not recorded. In order for such a condition to be imposed, a definition of the winter water table level would be required.

2.4 If the quarrying limit were to be set at 1m above the highest recorded borehole water level in borehole MW1, i.e. +85.41, this would lead to the loss of about 611,000 cubic metres of excavation, equivalent to approximately 985,400 tonnes. Some of this would be soils and overburden, but assuming this to be 20% of the total, the loss of sand and gravel would amount to 788,300 tonnes, or about four years' production, assuming 200,000 tonnes output per year. If the Kilglass pit reaches the end of its reserves before the Ballinerry site can be commenced, this amount of mineral would represent 1.3 year's output (at 600,000 tonnes per year).

2.5 Imposing such a condition in relation to the lowest level in borehole MW3 would require the site to be worked to a surface no lower than +77m AOD, leading to the loss of about 200,000 cubic metres of sand and gravel, equivalent to approximately 320,000 tonnes, or about 1.6 year's production at the initial rate. Setting an excavation limit above a pre-excavation water level is therefore likely to lead to an inefficient working of the mineral resource.

2.6 Whilst such a condition would result in the earlier closure of the pit, it would prevent the efficient utilisation of the resource, leaving available aggregates which could be won

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AN BORD PLEANÁLA
David Mills Associates Limited

17 MAY 2004

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unused. This amount of aggregate would have to be supplied from other sources, to meet the needs of the area, possibly involving longer distance road transport. Due to delays in the start date for working the Ballinderry site, and continued working of the existing Kilglass pit, the predicted overlap period of two years for joint operations is likely to be extended, as described in the response to item 1.

2.7 If the restored site were to be left with the base of the excavation at 1m above an assumed or actual water table level, the bottom of the void is likely to be very poorly drained, especially in winter, and of limited use for grazing. Once soils had been replaced, and with some puddling by stock, it may turn into a marsh or even hold water. In this case, the site may as well have been excavated to the full extent indicated in the appeal plans. For reasons of efficiency in the utilisation of the mineral resource, and to avoid a long term restoration of doubtful value for agricultural after-use, the scheme has been designed in the manner submitted.

2.8 Other implications of restricting the excavation to 1m above water table levels are that there would be no permanent lake formed on completion, and therefore no opportunity to design the restored landscape with waterside trees and marginal planting, leading to a loss of biodiversity and scenic variety. There would also be no opportunity to fund the diversion of the county road around Kileandrick House and Clonuff Bridge. This would mean that the house and bridge would continue to suffer the effects of heavy traffic, including noise, vibration and safety considerations.

3. ITEM 6

"Clarification by means of diagrams and maps of the process of extraction by dragline below water table level in relation to each of the five phases of the proposed development."

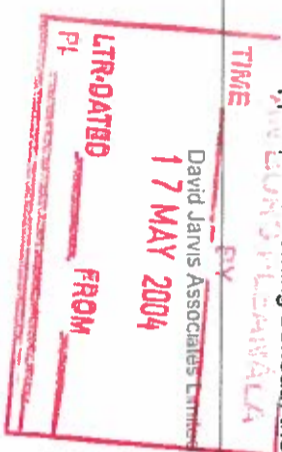
3.1 The sequence of extraction in phases 1 to 5 is illustrated in the accompanying drawings 1424/005 to 008. Note that, although the drawings show stages of working according to the numbered phases, extraction would be a continuous process, and these drawings are "snapshots" of the condition of the site as it progresses.

3.2 Phase 1 and 2: Extraction would commence in the southeastern corner with the Phase 1 excavation in association with the road diversion and site entrance construction. This material would be taken to Kilglass for processing. After this, Phase 2 would commence with the levelling of the plant area at +84m AOD, with this material also being taken to Kilglass. Soils and overburden from the first two phases would be used to form screening bunds, as shown. At this stage, the site offices, weighbridge, wheel wash and surface water installation would also be constructed. Phase 2 would be completed by the extraction of material below water table, by dragline, down to a base level of +70.5m. Side slopes would be formed at a gradient of 1 in 3.

3.3 Phase 3: Drawing 1424/006 shows how the extraction would continue northwards, with dry excavation above +84m AOD up to the limits of the site. After this, dragline excavation would proceed as before, down to the +70.5m level. Permanent slopes around the perimeter of the site would be formed at 1 in 3 gradient, ready for sowing and seeding during the final restoration stage, while temporary slopes in the active excavation phase would be formed at 1 in 2.

3.4 Phase 4: Drawing 1424/007 shows the extraction continuing eastwards, again with an initial dry excavation stage down to +84m being followed by dragline excavation to the final levels. The temporary slope on the Phase 4/5 boundary would be at 1 in 2, and permanent slopes along the north side of the quarry at 1 in 3. In the south of this phase, the existing ESB pylon would be left on a frustum of support, with working beneath the

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overhead lines carried out in consultation with the Supply Board.

- 3.5 Phase 5: The final stage of working is shown on drawing 1424/008. The area around the processing plant would be left during Phases 4 and 5, with extraction continuing eastwards to the limit of the site. When the final amount of available material has been processed, the grading plant would be dismantled and removed, and the dragline used to excavate the remaining mineral from the eastern part of Phase 2 down to the base at +70.5m AOD. This material would be taken "as-dug" to the Kilglass site for processing there. As a final operation, the banks of the Phase 2 area would be finished to a 1 in 3 gradient, and the final restoration of the site completed, using the soils stored on the two screen bunds.

4. ITEM 8

"A detailed report on the impact of the proposed development on the protected structure, Ballinderry House, including a Viewpoint Sensitivity Assessment with appropriate photographic montages, with the lens setting stated clearly thereon."

- 4.1 A further site visit was undertaken on 5th May 2004, when additional photographs were taken from the surroundings of Ballinderry House. Photographs from a selection of these viewpoints, with photomontages illustrating the effect of the proposed development, are included with this submission. In carrying out this assessment, we have been limited by the amount and quality of the available survey information. This has consisted of the modern 1:50,000 Discovery Series OS map, a 1:10,560 Record Place Map with very limited height data, and the detailed site survey and CAD project plans. The site survey has 0.5m contours, which have enabled accurate computer models of the site to be made. This means that, whilst the on-site information is of good quality, it has been difficult accurately to represent the relationship between the site and its surroundings. The submitted photomontages should therefore be considered as a guide to likely visual impacts.

- 4.2 The sensitivity of viewpoints can be established by reference to attributes such as:

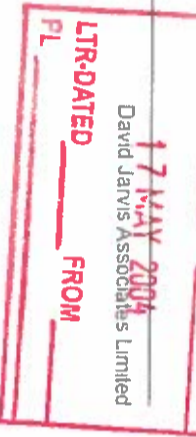
1. Landscape value: is the viewpoint location in an area of landscape or conservation designation? A scale of sensitivity would be from High (National Park) to Medium (County designation) to Low (other local or non-statutory designation).
2. Occupancy: sensitivity might range from High (residential) to Medium (road user) or Low (industrial location).
3. Frequency of use: the number of viewers would influence receptor sensitivity.
4. Quality of view and the presence or absence of detractors: unspoiled attractive rural landscape would rate as high sensitivity, degraded urban or industrial landscape as low.

- 4.3 The sensitivity of the four viewpoints close to Ballinderry House is assessed as high, because of the proximity of a Protected Structure, the pleasant rural setting of the views, (although not within an area subject to any protective designation), and the fact that the building is a residence.

- 4.4 In order to assess the significance of visual impacts on any sensitive viewpoint, it is also necessary to know the magnitude and nature of the impacts which would be caused by the development. Impacts are not necessarily adverse, but may be neutral (i.e. changes which make the existing situation neither better nor worse), or beneficial, as in the

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removal of an existing detractor.

- 4.5 Environmental effects such as noise or traffic flow are capable of measurement by instruments or by reference to established standards. For visual effects, other tests must be applied to obtain some measure of the scale of impacts. These could include the following:

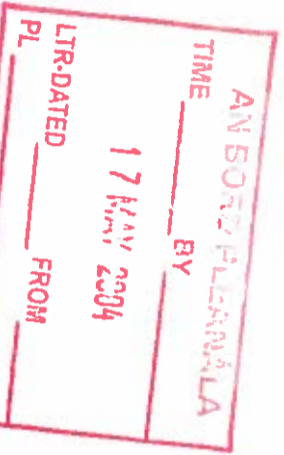
1. Distance of the viewpoint from the site.
2. Proportion of the development which would be visible, both in vertical and horizontal extent.
3. Would the development be out of scale with its surroundings or other structures nearby?
4. Would any part of it break or alter the skyline, or extend the outline of any existing development in front or behind the site?
5. Would it conflict with its setting by virtue of its colour, form or prominence?
6. Would any view obtained be clear and unobstructed, or would it be filtered or subject to seasonal change?

- 4.6 Applying these tests to the four viewpoints used in this assessment produces the magnitude measures shown in the tables below. Table 1 assesses the impacts arising from the operational stage, and Table 2 those from the post-restoration stage. These tables also record the nature of likely impacts (i.e. adverse, neutral or beneficial), whether the impact could be reversed (by restoration to the existing situation), and the timing and duration of impacts.

- 4.7 Table 1 suggests that there would be medium to high adverse visual impact during the extraction phases from viewpoint A, which is at the field gate north of Ballinderry house, but that other locations would experience lesser impacts. Much of the site is screened by trees and hedgerows which would greatly reduce visibility in summer, although clearly less so in winter. These impacts would be for a period of about six years at currently planned rates of working.

- 4.8 Table 2 indicates that, as shown by the photomontages, there would be only small differences in the views out from Ballinderry House after completion of restoration. Views would be of the restored back face of the quarry, some 300m further away than the existing landform slope. Impacts would be neutral, as the existing and restored situations both give views of a grassed slope, and of small magnitude.

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4.9 The significance of impacts can be determined by comparing the magnitude of each impact with the sensitivity of each receptor on which it would have an effect. Table 3 below shows how the relationship between receptor sensitivity and impact magnitude is expressed in terms of the significance of impacts, both adverse and beneficial.

TABLE 3: ASSESSMENT OF IMPACT SIGNIFICANCE

Impact Magnitude	Receptor Sensitivity		
	Low	Medium	High
Very Low	0 Very minor	Very Minor	Minor
Low	1 Very Minor	Minor	Minor to Moderate
Low/Medium	2 Minor	Minor to Moderate	Moderate to major
Medium/High	3 Minor to Moderate	Moderate to major	Major
High	4 Moderate to major	Major	Very major
Very High	5 Major	Very major	Very major

In the above table, when assessing for example a low level of impact on a highly sensitive receptor, an impact of minor to moderate significance would be expected to arise.

4.10 Arising from the assessment of the four viewpoints in tables 1 and 2 it can be seen that adverse visual impacts of major significance might arise at viewpoint A for a short period during the extraction of Phases 2 and 3, when quarry working would be visible, but that the other viewpoints would experience lesser impacts. Once the site was completed and restored, only neutral impacts of minor to moderate significance would result.

5. ITEM 9

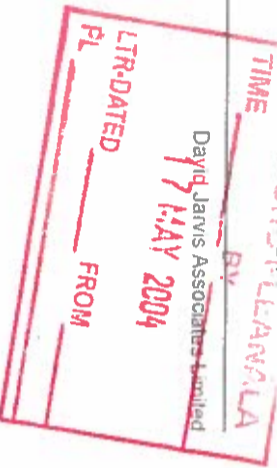
"A representative visual assessment of the mobile wash plant as it is relocated within the site. It is noted that this mobile wash plant is shown to be in an area where it would ultimately be underwater on Drg. 1424/001A"

5.1 Plant described as "mobile" is that which is not permanently fixed to the ground, in the manner of a building, but is delivered to the site in sections, assembled and used for the period of operations, and is then dismantled and removed, without leaving any significant residual structures such as foundations. It is capable of being relocated within a large minerals site, if for example haulage distances from a working face become uneconomic, but in this instance it is not proposed to move the plant from the position shown on drawing 1424/001A.

5.2 For this site, the proposed plant consists of wheeled screens and conveyors, and washing and silt extraction equipment which stands on integral steel supports. The stockpile conveyors rise to a maximum height of between 6.225m and 6.46m above local ground level, while the silt press is a maximum of 6.40m tall. The construction of 3m high screen bunds along the perimeter of the site will significantly reduce the visibility of these structures.

5.3 The ground profile on drawing 1424/001A is the full extent of the proposed excavation. This would be achieved by the phased extraction as indicated on the drawing, and as illustrated in more detail on drawings 1424/005 to 008. The processing plant would be

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set at a level above ground water tables (+84m AOD), during the first period of dry extraction in Phase 2. Each subsequent phase would proceed initially with dry excavation down to 1m above water table level, followed by a second period of dragline excavation below water level as shown on the submitted drawings. When only the final area of mineral beneath the processing plant remains, the plant would be dismantled and removed from site, with the remaining sand and gravel excavated "as-dug", for processing at the nearby Kilglass pit, as stated in the final paragraph of section 3.4 of the EIS.

5.4 Taking into account that there would have to be an initial stage of excavation within Phases 1 and 2 in order to prepare the site ready for the erection of the processing plant, and that it would be removed to allow the excavation of the final volume of material, the plant would only be in position for a period of about six years. The location of the plant was arrived at following an assessment of its likely visibility from off-site viewpoints. However, if there was evidence from local residents that an alternative location would be preferred, and if this would reduce any remaining visual impacts, this would be considered.



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Existing view from field boundary north of Ballinderry House. Photograph taken with a 50mm lens.



Photomontage view on completion.



Computer model of Extracted Quarry from the same viewpoint (with no screening features shown).

17 MAY 2004
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Client
GOODE CONCRETE LTD
 Project
**BALLINDERRY, CARBURY
 Co. KILDARE**

Drawing Title
**PHOTOMONTAGE VIEWS FROM
 BALLINDERRY HOUSE:
 VIEWPOINT A**
 Scale
N.T.S Date
MAY 2004
 Drawing No.
1424/009



Existing view from field boundary northwest of Ballinderry House. Photographed with a 50mm lens.



Photomontage view on completion.



Computer model of Extracted Quarry from the same viewpoint (with no screening features shown).

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 17 MAY 2004
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 Project
 BALLINDERRY, CARBURY
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Drawing Title
 PHOTOMONTAGE VIEWS FROM
 BALLINDERRY HOUSE:
 VIEWPOINT B
 Scale N.T.S Date MAY 2004
 Drawing No 1424/010



Existing view from rear of Ballinderry House. Photographed with a 50mm standard lens.



Photomontage view on completion.



Computer model of Extracted Quarry from the same viewpoint (with no screening features shown).

DATE 17 MAY 2004
 TIME 11:55 AM
 FROM 17 MAY 2004

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 Project
**BALLINDERRY, CARBURY
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Drawing Title
**PHOTOMONTAGE VIEWS FROM
 BALLINDERRY HOUSE:
 VIEWPOINT D**
 Scale
N.T.S
 Date
MAY 2004
 Drawing No.
142A/012