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IN CONFIDENCE

IMPACT OF PROPOSED GAS STORAGE PROJECT ON FARM BUSINESS

**C W WILDMAN
CROSS LANES FARM
BYLEY
MIDDLEWICH**

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SUMMARY

1. This report has been commissioned by the partners of C W Wildman to assess the impact of a proposed underground gas storage project on their farming business. The farm business is based at Cross Lanes Farm, Byley, Middlewich ("**Property**").
2. The proposed project will involve the construction of three underground storage wells on the Property together with well head compounds and a network of access roads and underground pipelines.
3. The farm currently carries a herd of 360 dairy cows plus youngstock. The dairy herd is based on the owner occupied land at Cross Lanes Farm. Management of the herd will be substantially affected by the proposals due to the loss of accessible grazing land.
4. If consented, the Project will affect the business in a number of ways including
 - Reduction in capital value of farm land and farm house
 - Permanent loss of 2.7 ha
 - Medium term loss of 5.8 ha
 - Extra costs associated with keeping all cows housed during the summer months
 - Field fragmentation
 - Impact of PLP's
5. The financial impact of the Project upon my Client's farming business will be substantial and could potentially result in the extinguishment of the business

INTRODUCTION

6. This report has been prepared at the request of Colin and Jane Wildman ("Client"), partners of C W Wildman, Cross Lanes Farm, Byley, Middlewich. The purpose of the report is to assess the likely impact of Keuper Gas Storage Limited 's ("KGSL") proposed Gas Storage Project ("Project") on my Client's farming business.

AUTHOR'S QUALIFICATIONS

7. As author of this report, I have thirty nine years' experience of providing technical and business advice to livestock farmers. After gaining a first class honours degree from the University of Wales, I spent 11 years working for the Agricultural Development and Advisory Service in North Northumberland and Cheshire where I held a number of posts including the position of Senior Livestock Advisor for Cheshire. I have spent the last 28 years in private practice providing consultancy services to 150 farm businesses in Cheshire, Shropshire, Staffordshire and Derbyshire. I provide farm consultancy services to four agricultural colleges including Reaseheath College, Nantwich. I also provide farm business consultancy on behalf of the Princes' Countryside Fund and in addition to one to one consultancy, I run four farmer discussion groups. I am a Fellow of the British Institute of Agricultural Consultants ("BIAC"), and a member of BIAC's business management and rural planning divisions. I am employed by several local authorities to provide advice and guidance on agricultural planning matters.

CURRENT FARMING SYSTEM

8. My Client farms 38 ha of owner occupied land at Cross Lanes Farm. The main enterprise is a 360 cow dairy unit. My Client also rears its own dairy herd replacements. In addition to the owner occupied land at Cross Lanes Farm, my Client farms a further 80 ha in various locations which provide further forage for the dairy unit at Cross Lanes Farm. The dairy herd has a very creditable annual milk yield of 9000 litres per cow and the milk is sold to Sainsbury's through a "cost of production" type milk contract. Annual milk output from Cross Lanes Farm is currently running at 3,240,000 litres.
9. All of the farm buildings including the farmhouse and milking facilities are located at Cross Lanes Farm.
10. The cattle are fed on grazed grass, supplemented where necessary with silage during the summer months and grass and maize silage in the winter months.

11. Courtesy of the Sainsbury's milk contract, the farm has been highly profitable in recent years. In order to secure and maintain a Sainsbury's contract, milk suppliers must farm to a very high standard and are required to demonstrate a programme of continual improvement within the dairy herd across a wide range of areas including:
 - a. animal health and welfare such as mastitis control and lameness;
 - b. dairy hygiene;
 - c. environmental and energy efficiency including carbon footprint;
 - d. staff training etc.
12. In return, producers are guaranteed a sustainable milk price based on the average costs of production within the Sainsbury's producer group.
13. This contract has been particularly valuable over the last two years when the market price for milk has fallen substantially. At the time of writing, the Sainsbury's milk price is 10 pence per litre (ppl) above the average non-aligned milk price in the UK, which equates to a staggering £324,000 per annum to my Client's business.
14. Over the course of the past 9 years since the Sainsbury's contracts were awarded, the average Sainsbury milk price has exceeded the average market price by an average of 2-3 ppl.

PROPOSALS

15. The Project would involve the construction of three underground gas storage caverns on my Client's Property together with above ground infrastructure including well head compounds and a network of underground pipes and access roads across my Client's Property.
16. If consented, the Project would result in a permanent loss to my Client of 2.7 ha, with a temporary loss of 5.8 ha being suffered during the construction phase. Experience elsewhere has proved that once "restored", the temporary land take will never be as productive as it was prior to any disturbance.
17. The location of the access roads and pipelines is such that an additional 14 ha of grazing land will be severed from the dairy unit during the construction phase, in addition to the loss of the 5.8 ha outlined above. The 14 ha of severed land will be fragmented into a number of variable sized parcels which in future will need to be accessed through additional gates at road crossing points. Putting groups of dairy cows through such gates slows down cow flow to and from the milking parlour and causes soil damage and grass contamination around these "pinch points".

18. In addition to the wells and access roads, a large number of Precise Levelling Points (PLP's) will be installed across the farm. These are small posts located in the fields to measure any subsidence. They represent a considerable nuisance to fieldwork operations such as mowing etc.

IMPACT ON FARMING BUSINESS

19. If consented, the Project will impact on the business in a number of ways including:

- Reduction in capital value of farm land and farm house
- Permanent loss of 2.7 ha
- Medium term loss of 5.8 ha
- Medium term severance of 14 ha the effect of which will be to render such land useless during the construction phase
- Significant additional costs associated housing all cows during the summer months
- Field fragmentation
- Impact of PLP's

20. In addition to the above, my Client faces a realistic prospect of its business being extinguished in the event that it is unable to retain its lucrative contract with Sainsbury's as a result of the impacts caused by the Project.

Reduction in capital value of farm land and farm house.

21. The construction of the Project will significantly reduce the capital value of my Client's property, including both the land and farmhouse. Amongst other things, this reduces the available security to potential lenders with the potential to negatively impact the ability of the business to secure funding for future expansion plans or land purchases.

Loss of land.

22. The temporary and permanent loss of land will impact my Client's business as cow numbers will have to be reduced. Given the current stocking rates average cow numbers will need to reduce by 2.5 for every hectare lost. It is widely known and accepted that Holstein dairy cows such as those at Cross Lanes Farm have a forage requirement which equates to a stocking rate of 2.5 cows per ha. In addition to the requirement for forage, the farm lies within the Nitrate Vulnerable Zone (NVZ) which puts stocking limits on the area of available land. Cross Lanes Farm holds a "Grassland Derogation" which permits a stocking rate of up to 2.5 cows per hectare. In order to meet both the forage availability and NVZ

requirements, a reduction of 14-15 cows will be required during the construction phase with a permanent reduction of 7 cattle thereafter.

23. This reduction in cow numbers will reduce milk sales and the variable costs of production pro rata but will be insufficient to save overhead costs such as labour or power and machinery costs.
24. In addition to the reduction in stocking, the annual Basic Payment Scheme subsidy claim will be reduced pro rata with the loss of land.

Extra costs of housing all milking cows during the summer months.

25. The construction of the wells, pipelines and access roads will make it impossible to graze the dairy herd during the construction period. Milking cows move to or from the milking parlour four times a day during the grazing season. Restricted access to the reduced grazing during the construction phase, together with the pinch points at potential road crossings will make grazing access and management unmanageable. Grazing management is highly complex as the operator needs to ensure adequate grass growth and efficient utilisation. If grass gets too long, the energy content declines and cows will fail to graze it down. If the stubble is left too long, the quality of the next grazing declines. It is therefore very important that the herd gets enough grass at each grazing to meet its nutritional needs whilst permitting the herd to graze down to the correct level. The proposed disruption to the current grazing platform will make precise grazing management impossible.
26. In order to minimise the management problems caused by the proposed Project, the cows that are currently grazed will need to be housed throughout the construction period and fed on grass silage instead of grass.
27. The main additional cost will be that of purchase compound feed which is required to balance the lower feed value of grass silage compared to grazed grass. Cows that are grazed typically produce considerably more milk from forage than those that are housed and fed on silage. This is attributable to the increased energy content of grass compared to grass silage. In order to continue to produce the same level of milk, housed cows require a much higher feed rate than those that are able to graze, which in turn leads to a significant increase in costs.

28. In addition to feed usage, the housed cows will incur additional silage making costs and additional costs associated with the spreading of the slurry produced during the housed period. There will also be extra bedding, water and labour and machinery costs.
29. It can be assumed that instead of 38 ha of grazing land 32 ha will be cut for silage three times as season. Fertiliser use for the two regimes will be different and costs will be increased.
30. Based on the information currently available it is likely that my Client would suffer the following additional heads of costs due to housing cows during the construction phase, should the Project proceed:

Non feed costs of summer housing

Additional silage making

Additional fertiliser

Additional slurry spreading

Additional drinking water

Additional bedding

Additional labour and machinery

Field fragmentation.

31. The plans accompanying the application for the Project demonstrate that little or no regard appears to have been taken of existing hedgerows or field boundaries in the design of the Project. My Client's Property currently comprises eight parcels of land which are mainly separated by hedges. On completion, the farm will be left with thirteen varying sized parcels of land including six small, irregular land parcels that will be impossible to manage efficiently due to their small size and irregular shape.
32. The Project designers have plainly made no attempt whatsoever to mitigate the impact of the proposals on this farming business.
33. In order to make these parcels more manageable it is likely that my Client will be forced to seek planning consent to remove hedges where possible in order to amalgamate these small areas into larger, more manageable parcels. There is of course no guarantee that planning consent will be forthcoming.

Impact of Precise Levelling Points ("PLP's").

34. A number of PLP's are proposed across my Client's Property, the exact number and location of which has not been confirmed. These are freestanding low posts located 2-3 metres from the hedge or fence that can very easily be hit by tractors and implements. Hedgecutting and mowing will be particularly difficult. Not only does the presence of these obstacles slow down field operations but in each case, crop will be lost as it is impossible to harvest the grass from around the posts and between the posts and the boundaries. This adds further cost to an already difficult situation. It is impossible to accurately assess the additional costs arising from the PLPs until they are in place. Costs will be incurred as operations such as hedgecutting etc are carried out by contractors who will normally charge at an hourly rate. Work will inevitably take longer with the PLP's in place and costs will go up accordingly.

FINANCIAL IMPLICATIONS

35. The potential financial impact of the proposed Project on this currently profitable farm business is substantial. Not only will there be a large reduction in the freehold value of the property resulting in a loss of available security to support any future bank borrowings, but there will also be a loss of income due to the necessary reduction in herd size and substantial extra costs due to the loss of grazing land necessitating the year round housing of cows.

36. There is a general move against keeping dairy cows housed all year. Waitrose have recently announced that all their direct milk suppliers must graze their cows for at least 100 days each summer and others are likely follow suit. Given this trend in the market, it is quite possible that Sainsbury's might object to the cows being housed throughout the year during the construction period and withdraw the current milk contract. This would be a financial disaster for my Client and would be likely to result in the extinguishment of the business. Given the current large milk price differential between supermarket "aligned" contract such as this and others, there is fierce competition amongst milk producers for the contract currently held by this farm. Should they so choose, Sainsbury's would be able to replace this milk supply with consummate ease and it is highly unlikely that my Client would be able to regain this contract, if lost.

37. This report provides an overview of the likely additional costs that my Client would stand to incur as a result of the Project. It should be noted that further costs will accrue as a result of housing cows during the summer including additional lighting, potential losses of cows

through slipping on concrete, additional costs of cow foot-care and an increased risk of mastitis. By their nature such cost are difficult to predict but rapidly become apparent in the light of experience.

38. The likely heads of costs during the Construction phase are estimated to amount to approximately **£66,000.00** per annum and can be summarised as follows:
- a. Temporary reduction in stocking during construction;
 - b. Temporary loss of BPS;
 - c. Permanent Reduction in stocking;
 - d. Permanent loss of BPS;
 - e. Cost of housing cattle;
 - f. Cost of PLP's
39. These costs represent a substantial additional burden to the business. However, should the need to house the dairy herd throughout the year during the Construction phase results in the loss of the Sainsbury's milk contract, the business will become totally unviable.
40. Whilst it may be possible to estimate a number of the costs can be calculated with a high degree of confidence, it is impossible to make a financial assessment of the day to day management challenges that the proposals will pose for this business. The disruption and fragmentation that will be caused both during the construction phase and in the long term must not be under estimated. The day to day practical difficulties will be enormous when the works will impact so severely on the management of the land and livestock. Profitable milk production depends on a wide range of factors including grassland management and utilisation, livestock husbandry, man management, machinery skills and business management. The proposed Project will cause so many day to day management problems that its impact on the future of Cross Lanes Farm as a workable dairy unit will be hugely detrimental.

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