

DERBYSHIRE COUNTY COUNCIL

CABINET MEETING

24 July 2012

Report of the Strategic Director – Environmental Services

**WINTER MAINTENANCE SERVICE REVIEW OF REVISED
PROCEDURE AND ADDITION TO THE CAPITAL PROGRAMME
(HIGHWAYS AND TRANSPORT)**

(1) **Purpose of the Report** To provide Cabinet with feedback on the provision of the Winter Maintenance Service following the introduction of a revised procedure in 2011/12 and to seek approval for the construction of a salt barn at Chapel-en-le-Frith.

(2) **Information and Analysis** Cabinet will recall that at its meeting of the 1 November 2011, a revised procedure for winter maintenance was approved (Minute No 326/11 *Resolution 11.5 Notes that the operation of the revised winter service delivery will be reviewed in the spring of 2012 which will include consultation with all County Council Elected Members to consider the success of the proposed networks and any amendments necessary to the networks, in accordance with the criteria.*) The revised procedure whilst retaining the whole of the previous network split the roads into primary and secondary routes. A third network ‘tertiary’ consisting of roads not previously contained in the winter maintenance network was also introduced to be treated, in the main, by private contractors. A number of other service enhancements were also introduced in partnership with District/Borough Councils which provides additional resources (with the exception of Bolsover District Council and North East Derbyshire District Council). The Snow Warden scheme with Parish Councils has also added intelligence as well as providing a co-ordinating point for many volunteers. The information and advice available via the website was also improved including information on gritted roads and conditions.

The revised service was introduced part way through the season but it is considered that sufficient experience has been gained to comment on the success of the revised procedure.

The winter of 2011/12 was relatively mild with little of the extreme conditions experienced in the previous two winters. However, two periods of significant

snow fell and “marginal” nights were not unusual. (Marginal nights are those where temperatures are close to zero. They can be particularly challenging especially where temperatures fluctuate during the night interspersed with rain).

During the periods of snow, the tertiary network was implemented using both internal and external resources. From December 2011 onwards, the network was divided into Primary and Secondary roads and the revised procedure implemented.

During the winter period, October to April inclusive, the primary network was treated on 93 occasions and the secondary on 40 (130 for the previous year). The total winter costs exceeded the allocated base budget by some £1 million, although some of the additional costs were incurred because the new procedure was not implemented until the second week in December. The overspend did, however, fund salt stocks which remain for use during this winter of 2012/13. The value of this stock is some £250,000. It should be noted that although costs exceeded the budget, a contingency of £2 million was put aside. Thus, the total cost of the winter did not exceed available funding. None of the contingency was needed as the costs were contained within the departmental budget.

The cost of the introduction of the tertiary network was £21,500 in payments to external contractors of which 68 were used. A further 38 were available but not used. There remains a lack of external resource in the south of the County which will seek to be addressed by additional targeted advertisements.

Initial feedback through public comment has been very positive with the introduction of the tertiary network being particularly welcome. Further feedback has been sought from Parish Councils and Members in the form of a questionnaire, the results of which are shown in Appendix 1.

Comment on website feedback

It is pleasing to note that the feedback from Parish Councils is generally positive with over 62 per cent satisfied with the winter service. The introduction of the tertiary network has received modest approval, 47 per cent of the parishes believing that this relatively low cost enhancement has improved the service with a further 37 per cent unable to comment. It is likely that these figures reflect the relatively limited extent of the tertiary network. The majority of Parish Councils (85%) considered that the service had improved or remained the same when compared to previous winters.

Despite the positive feedback, some parishes had concerns about the revised service. These concerns related generally to the designation of roads to the secondary network and a perceived reduction in service. Investigations into complaints at the time suggest that the problems experienced were more

related to the volumes of snow and/or deficiencies in weather forecast, rather than the introduction of secondary routes. The routes referred to will be part of the reappraisal and, if changes are considered necessary, will form part of the report to the Cabinet Member – Highways and Transport.

Of those parishes which took part in the snow warden scheme, only one has indicated that it will not continue with the scheme and of those participating in the scheme last year most expressed satisfaction and none were dissatisfied. There remain a number of issues which appear to be preventing some parishes from participating in the scheme. The main issue appears to be lack of volunteers.

Members Feedback

In general, Members have not identified any basic deficiencies in the approved procedure. However, a number of individual roads classified as “secondary” have been subject to complaint. All these will be investigated to ensure that the classification is correct. Any proposed changes to the classification will be reported to the Cabinet Member, as set out in the original report.

Proposed Modifications

Members will recall that a commitment was given not to reduce the available gritting fleet until this review could be undertaken as outlined in the report of 1 November 2011. However, the commitment did mean that the total savings could not be realised. An assessment of the size of the fleet necessary to provide a Winter Maintenance Service based on the new procedure and in the light of experience over a number of years, suggests that a reduction in fleet size can be made. Therefore, it is proposed that, as vehicles and plant come up for renewal, their future worth will be assessed in line with the need to ensure that sufficient capacity of the correct kind is maintained. In this respect, it should be noted that the Quarmby report, commissioned by the Government, stated that resources should not be allocated on a worst case basis as to do so would result in an over-resourcing for the majority of years.

The report of November 2011 established the criteria for the inclusion of roads in the various networks. However, although the network, which existed at that time was split between primary and secondary, no roads were removed from the network even if they did not meet the criteria. A small number of roads, therefore, remain within the salted networks even though they do not meet the approved criteria. It is therefore recommended that the networks are reappraised and, where roads do not meet the approved criteria, they are removed. It is anticipated that this will result in only a very small number of changes. The report of November 2011 authorised the Cabinet Member for Highways and Transport to approve minor changes to the various networks. A report will, therefore, be submitted to the Cabinet Member – Highways and

Transport recommending any proposed changes following the reappraisal of the network.

Salt Storage

As Members will be aware, the level of salt stocks at the start of the season was increased to avoid, where possible, the effects of national salt shortages. Some 10,000 tonnes of that “strategic” stock remains, approximately half of which is covered. The outside storage of salt remains a concern particularly in respect to the potential environmental effects of this. In Chapel-en-le-Frith, the salt store lies adjacent to a stream and, whilst considerable effort is made to ensure that no pollution occurs, there remains works needed to provide greater surety that the stream is protected. It is possible to improve the adjacent drainage and to dispose of any “effluent” to a foul system. However, such a solution is expensive and there remains both a risk of pollution (and subsequent adverse publicity) and a reluctance by the water authority to accept the effluent. A Feasibility Study has therefore been undertaken into the construction of a salt barn (see Appendix 2). Given the case for the construction of the salt barn it is recommended that approval is given with the works to be funded from departmental reserves.

Conclusion

Although the winter of 2011/12 was relatively mild, when compared to the previous two, it is considered that the conditions, with two periods of snow, were reasonably representative and that information gathered over the period is therefore valid. The new procedure has worked well with high levels of satisfaction. The partnership arrangements with District/Borough and Parish Councils and some schools enhanced the service as did the introduction of the tertiary network.

The increased level of resilience provided by the greater stock levels of salt was not tested but is considered to be a positive step and should be continued. The improved information provided through “Snow Info” on the County Council’s website was well received by the general public and has been held as an exemplar of good practice and should continue to be provided and developed.

(3) **Financial Considerations** The cost of a salt barn is estimated at £385,000 (including contingencies). This can be accommodated from the Accommodation Reserve within the Environmental Services Department.

(4) **Property Considerations** There are no property considerations associated with this report.

In preparing this report the relevance of the following factors has been considered: financial, legal, prevention of crime and disorder, equality and

diversity, human resources, environmental, health and transport considerations.

(5) **Key Decision** Yes.

(6) **Call-In** Is it required that call-in be waived in respect of the decisions proposed in the report? No.

(7) **Background Papers** Officer contact details – Mike Ashworth, extension 38544.

(8) **OFFICER'S RECOMMENDATIONS** That Cabinet:

- 8.1 Endorses the current policy for the provision of the Winter Maintenance Service, as agreed by Cabinet on 1 November 2011 (Min No 326/11 refers).
- 8.2 Approves the construction of a salt barn at Chapel-en-le-Frith at an estimated cost of £385,000 (to be funded from the Accommodation Reserve) and adds this to the Capital Programme for 2012/13.
- 8.3 Notes the size and number of vehicles needed to provide the service will be reviewed by the Strategic Director – Environmental Services, as vehicle replacements are planned.
- 8.4 Notes that the primary and secondary networks will be reviewed to ensure all routes included meet the approved criteria. Any proposed changes will be referred to the Cabinet Member – Highways and Transport.

Ian Stephenson
Strategic Director – Environmental Services

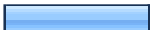




Town/Parish Council Winter Survey Questionnaire



1. Name of Town/Parish Council

	Response Count
	42
answered question	42
skipped question	7




2. How satisfied/dissatisfied were you with Derbyshire County Council's winter service provision 2011/12?

		Response Percent	Response Count
Very satisfied		22.9%	11
Fairly satisfied		39.6%	19
Neither satisfied or dissatisfied		16.7%	8
Fairly dissatisfied		10.4%	5
Very dissatisfied		10.4%	5
	answered question		48
	skipped question		1

3. Do you consider the introduction of the following enhancements helped improve our winter service?

	Yes	No	Don't Know	Response Count
District/Parish Council Partnership	45.8% (22)	14.6% (7)	39.6% (19)	48
Introduction of a tertiary network (additional routes serviced by contractors i.e. farmers, including routes to isolated villages, some industrial areas and schools, old people's nursing and residential homes)	47.5% (19)	15.0% (6)	37.5% (15)	40
Snow Warden Scheme	41.5% (17)	24.4% (10)	34.1% (14)	41
answered question				49
skipped question				0

4. When compared with previous winters, what do you think of this year's winter service?



		Response Percent	Response Count
Improved		38.3%	18
Remained the Same		46.8%	22
Worse		14.9%	7

If Worse, please explain:



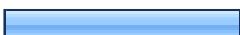
13

answered question	47
skipped question	2

5. Did your Town/Parish Council participate in the Snow Warden Scheme?

		Response Percent	Response Count
Yes		42.6%	20
No		57.4%	27
answered question			47
skipped question			2

6. If Yes, how satisfied/dissatisfied were you with the Snow Warden Scheme?

		Response Percent	Response Count
Very satisfied		25.0%	6
Fairly satisfied		37.5%	9
Neither satisfied or dissatisfied		37.5%	9
Fairly dissatisfied		0.0%	0
Very dissatisfied		0.0%	0
answered question			24
skipped question			25



7. If dissatisfied, do you have any suggestions on how the Snow Warden Scheme could be improved? (Please state)

	Response Count
	4
answered question	4
skipped question	45

8. If your Council didn't participate in the Snow Warden Scheme was there a particular reason why? (Please state)

	Response Count
	27
answered question	27
skipped question	22

9. Is your Council willing to take part in a similar Snow Warden Scheme this winter?

		Response Percent	Response Count
Yes		52.3%	23
No		47.7%	21
	answered question		44
	skipped question		5

10. What comments, if any, would you like to make regarding the County Council's Winter Service provision 2011/12?

	Response Count
	25
answered question	25
skipped question	24

Business Case for Chapel Depot Salt Store, Sheffield Road, Chapel-en-le-Frith

The site:

The salt store site is leased from Bluepuffin Ltd for a 25 year period ending in September 2032 (20 years remaining). Winter maintenance salt has been stored on the site for approximately 40 years. The site is not serviced, having no power, gas, water or sewer connections. There are no buildings. Derbyshire County Council installed the hard surfacing, replaced in 2011, and salt loading dock, including the existing soak away system.

Need for a salt barn:

- a) **Operational:** Wet salt is difficult to load and spread from winter maintenance vehicles, accurate calibration of spread rate is not possible and the distribution of the spread is uneven due to 'clumping'. This reduces the efficiency of gritting operations and can lead to excessive salt use and vehicle down time due to blockages and clumping. Salt Union has suggested that losses, due to leachate from open salt stores, can be as much as 10%. Losses due to inefficient spread calibration may be higher but are difficult to quantify without specific measurement but Nottinghamshire County Council suggests that, combined with leachate losses this may be as high as 30%.
- b) **Legal:** Surface water discharges from open salt stores are high in chloride and may cause surface and ground water pollution which is regulated by the Environment Agency. This implies potential risk of legal action and reputational loss, in addition to the costs of resolving the pollution issue which would be required in the event of legal action. The Environment Agency is aware of the situation at Chapel Depot and is satisfied that the Authority is taking appropriate steps to resolve the issue. A failure to continue to act may still result in legal action.
- c) **Environmental:** The continued certification of the ISO 14001 Environmental Management System (EMS) requires a commitment to continual improvement in environmental performance and compliance with environmental legislation. An external assessment of the system in January 2011, found that the leachate from the Chapel Depot was polluting the surface and ground water in the area of the salt store and raised this as a 'Major Non-conformity'. This was downgraded to a 'Minor Non-Conformity' following an application for a sewer connection. However, in October 2011 United Utilities Plc refused consent to connect and discharge to the foul sewer. Further action is therefore required to prevent this from being escalated back to a 'Major Non-conformity' which may place the certification of the EMS at risk.

Options:

1. Do nothing: This is not considered to be a realistic option as it may result in legal action against the Authority and loss of ISO 14001 EMS certification due to continued pollution of the surface and ground water. Operational efficiency improvements would not be secured.

2. Sheeting the store: This option does not guarantee to resolve the legal issues associated with pollution. There are also Health and Safety and efficiency concerns associated with the placement and removal of the sheeting.

3. Provision of a sewer connection: The application for a sewer connection was refused by United Utilities Plc because the peak flow rates were anticipated to be too high during heavy rainfall.

4. Provision of a holding tank: Storage of salt leachate for later disposal has been calculated to be by far the most expensive option and does not address the environmental, legal or efficiency concerns. Salt Union suggests that losses due to leachate could be as much as 10%. At current prices, this is likely to be in the region of £25,000 per year from the Chapel Depot. Inefficiencies caused by the use of wet salt could add to this cost.

5. Provision of a salt barn: A salt barn with the capacity to hold 5,000 to 7,000 tonnes (20mx35m) would allow internal tipping and loading. Roof water could be directed via surface water drains to the Black Brook. Inside storage of the salt would resolve the pollution issues and provide a dry salt stock to improve handling and spreading operations. As clean roof water could be diverted to the Black Brook, the flow to the sewer could be reduced to a level acceptable to United Utilities Plc via a silt trap, small flow control structure and an oil interceptor.

Benefits of a salt barn:

- No risk of legal action against the Authority by the Environment Agency for pollution of surface and ground water resources.
- No loss of salt through leaching from the stock pile and resultant pollution of the local water resources.
- Dry salt enables improved spread calibration, reducing the quantity of salt used and reducing the vehicle down time due to blockages caused by wet salt. This would result in some cost savings and an improved service to the public.
- Loading within a salt barn would result in reduced noise and light pollution from the site, particularly for residents of Buxton Road.

- Operation within a barn would provide better working conditions and Health and Safety through improved lighting during 24 hours operation.
- Dry salt has a lower angle of rest and is less prone to crusting; the risk of accidents caused by collapsing salt piles would therefore be reduced.
- The containment of operations within the building would be a visual improvement on the existing situation at the salt store.
- Building designs are available that could allow the salt barn to be removed to another site if there are any future plans to relocate Chapel Depot.

Whilst these benefits are difficult to quantify in terms of cost, overall they should give rise to significant savings and service improvement through improved spread calibration and reduced vehicle down time.

The three tables appended below give estimated costs and savings from providing a salt barn based on three scenarios: the buildings erected for Derby City Council, Nottinghamshire County Council and a part self-build option. The leachate loss figures in Table 2 are based on a six months winter period using estimates provided by Salt Union (10% leachate losses) and Nottinghamshire County Council (30% total losses including inefficient spreading due to wet salt). In reality, some stocks are retained over the summer months during which additional leachate losses will be incurred.

Conclusion

The 'do nothing' approach would incur continued costs in the region of £25,000 to £75,000 per year due to leachate losses and handling issues (based on losses of 10% and 30% respectively) with the risk of additional legal costs and loss of the ISO 14001 EMS Certificate. In comparison, the estimated ongoing cost of tankering away the leachate is about £315,000 per annum; figures for the cost of constructing a holding tank are not available, and would be additional.

Based on the sel-build option, the total cost of providing a salt barn would be approximately £333,000 (over 10 years, £33,300 per annum) with a potential minimum saving of £250,000 due to the use of dry salt dry salt (£25,000 per annum, based on 10% losses). This equates to a net cost of about £10,000 per annum over a 10 year period, with an ongoing saving of at least £25,000 per annum thereafter. Salt use reduction figures, suggested by Nottinghamshire County Council, would equate to an annual net saving of over £40,000 per annum achieved through the provision of a salt barn. Cost figures are provided in tables 1, 2 and 3 below.

Recommendation

A salt barn at Chapel-en-le-Frith Depot is constructed at an estimated cost of £385,000 (including 15% contingencies) on a self-build basis, as set out below.

Table 1: Estimated costs

Capital costs (£)				Revenue costs (£)	
Elements	Derby	Nottinghamshire	Self-build		
Foundations	N/A	50,000	120,000	Drainage Charge (pa)	1,300
Retaining walls	N/A	350,000	80,000		
Roof	N/A	N/A	91,500*		
Sub total Building cost	400,000	400,000	291,500		
Drainage	120,000**	N/A	41,600		
Total	520,000	N/A	333,100		1,300

*Quote from Norseman Structures, Swadlincote ** Cost of grey water recycling system and vehicle wash as installed at Derby, Stores Road

Table 2: Estimated annual savings

Capital (£)		Revenue (£) (7 000 tonne storage)		Comment
	N/A	Total losses (30% pa)	-75,000	Suggested by Nottinghamshire County Council, arising from elimination of leachate losses and savings from improved spread and calibration due to use of dry salt
	N/A	Leachate (10% pa)	-25,000	Suggested leachate losses provided by Salt Union Ltd

Table 3: Estimated costs and savings over 10 years (£)

	Derby		Nottinghamshire		Self-Build	
Total construction costs	520 000		400 000		333 100	
Drainage Charge	13 000		13 000		13 000	
Sub total	533 000		413 000		346 100	
	30% salt reduction	10% salt reduction	30% salt reduction	10% salt reduction	30% salt reduction	10% salt reduction
Estimated savings over 10 years ¹	-750,000	-250,000	-750,000	-250,000	-750,000	-250,000
Net cost over 10 years	-217,000	283,000	-337,000	163,000	-403,900	96,100
Net annual cost over 10 years	-21,700	28,300	-33,700	16,300	-40,390	9,610

¹ Based on a salt cost per tonne of £34.96

Figures in red indicate expenditure. Negative figures indicate a net saving