



**DURHAM COUNTY COUNCIL**  
**WINTER SERVICE PLAN**  
**2011/12**

# **DURHAM COUNTY COUNCIL**

## **WINTER SERVICE PLAN 2011 - 2012**

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Note: This document has been produced by the Highway Asset Management Group, Neighbourhood Services, Durham County Council and will be re-issued annually on CD and on the County Council website.

**I. CIRCULATION LIST**

**External**

**Internal - Durham County Council**

## **2. INTRODUCTION**

- 2.1 This plan details Durham County Council's policies and procedures for the operation of its winter service.
- 2.2 The County Council and its contractors carry out the winter service by adopting a systematic approach to the planning, implementation and monitoring of the service in order that it is undertaken in an economic, efficient and effective way with a consistent level of service throughout the County.
- 2.3 The winter service provided by the County Council on public highways is essential to maintain communications and enable every day life to continue during adverse weather conditions. It is carried out in order to ensure the safe movement of highway users, and is economically significant because of the delays that bad weather can cause.

Winter service involves treating sections of the highway to :-

- (i) prevent ice from forming, known as "precautionary salting",
- (ii) melt ice and snow already formed, known as "post-salting",
- (iii) remove snow.

- 2.4 Section 41(1A) of the Highways Act 1980 (c. 66)(duty of highway authority to maintain highway) states

“In particular, a highway authority are under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice.”

This has been taken into account when reviewing and amending this document and all other winter maintenance documents and procedures the County Council undertakes.

- 2.5 For the purposes of this plan and policy the winter period runs from mid October until mid April in the following year.
- 2.6 Following the severe winter of 2008/09, a comprehensive review of our winter service was undertaken by a Working Group formed from the Environment and Sustainable Communities Scrutiny Committee. The recommendations contained in their report have been incorporated into this service plan.
- 2.7 In addition a further review was undertaken following the severe weather of 2009/10 and this resulted in significant amendments to the Code of Practice “Well maintained Highways” and these amendments have also been incorporated into this document.
- 2.8 Furthermore as a result of the severe weather experienced at the start of winter 2010/11 significant changes were recommended in the Quarby report, especially to the amount of salt we spread. Durham County Council are currently looking at the recommendations contained in this report to ascertain the feasibility of certain actions.

### **3. WINTER SERVICE POLICY STATEMENT**

3.1 The deployment of winter service equipment throughout the County has been based on a system of priorities and treatment routes, taking into account the recent changes to the Highways Act 1980 and various reviews undertaken recently as outlined earlier. These were developed using hierarchy information contained in the July 2001 Code of Practice for Maintenance Management document and reinforced in the July 2005 Code of Practice “Well-maintained Highways” document as outlined below:-

#### **CARRIAGEWAY HIERARCHY**

3.2 The hierarchies developed for carriageways are as follows:-

<b>Category</b>	<b>Hierarchy Description</b>	<b>Type of Road General Description</b>	<b>Detailed Description</b>
1	Motorway	Limited access Motorway regulations apply	Routes for fast moving long distance traffic. Fully grade separated and restrictions on use.
2	Strategic Route	Trunk and some Principal 'A' roads between primary destinations	Routes for fast moving long distance traffic with little frontage access or pedestrian traffic. Speed limits are usually in excess of 40mph and there are few junctions. Pedestrian crossings are either segregated or controlled and parked vehicles are generally prohibited.
3a	Main Distributor	Major Urban Network and Inter-Primary links. Short – Medium distance traffic	Routes between Strategic Routes and linking urban centres to the strategic network with limited frontage access. In urban areas speed limits are usually 40mph or less, parking is restricted at peak times and there are positive measures for pedestrian safety.
3b	Secondary Distributor	Classified Road (B and C Class) and unclassified urban bus routes carrying local traffic with frontage access and frequent junctions	In rural areas these roads link the larger villages and HGV generators to the Strategic and Main Distributor Network. In built up areas these roads have 30mph speed limits and very high levels of pedestrian activity with some crossing facilities including zebra crossings. On street parking is generally unrestricted except for safety reasons.
4a	Link Road	Roads linking between the Main and Secondary Distributor network with frontage access and frequent junctions.	In rural areas these roads link the smaller villages to the distributor roads. They are of varying width and not always capable of carrying two way traffic. In urban areas they are residential or industrial inter-connecting roads with 30mph speed limits, random pedestrian movements and uncontrolled parking
4b	Local Access Road	Roads serving limited numbers of properties carrying only access traffic	In rural areas these roads serve small settlements and provide access to individual properties and land. They are often only single lane width and unsuitable for HGV. In urban areas they are often residential loop roads or culs de sac

#### **PRECAUTIONARY SALTING (PRESALT) OF CARRIAGEWAYS FOR FROST, ICE AND LIGHT SNOW CONDITIONS**

3.3 From a total highway network of approx. 3,732 km's, within the County, Durham County Council currently presalt 45% (1,680km) as the Priority 1 network. This network, developed over many years of

winter service, is presalted in whole or in part should it be necessary on any particular night. It has been derived using the hierarchy in the table above and includes all roads in categories 2 & 3a and the majority of 3b roads. In addition other roads in categories 3b, and categories 4a and 4b have been added to take account of any local knowledge or problem black spots.

(Note: All Category 1-Motorway and Category 2-Trunk Roads are maintained by the Highways Agency)

- 3.4 The careful planning of Priority 1 salting routes to reduce "unproductive travel" can significantly increase the economy of the operation. To that end the Priority 1 network has been subjected to an optimisation exercise to make these routes as efficient as possible. This optimised route network will be reviewed prior to each winter season to allow any required fine-tuning or amendments to be made ensuring a continued efficient and effective operation.
- 3.5 In addition a series of Priority 2 routes have been identified incorporating those roads deleted during the optimisation exercise of 2002 along with a number of trailer gritter routes carried out by local contractors (Farmers). These priority 2 routes will only be treated during times of prolonged extreme weather and when the Priority 1 routes are clear and resources are available.

#### **Procedures for precautionary salting of carriageways**

- 3.6 The decision whether to presalt on an evening or the next morning is taken by two Duty Officers (one per Area) in close liaison with one another based on weather forecasts, local knowledge, reports, etc. and this decision is normally taken before 1400 hrs. Once this decision has been made the presalting is carried out at the time specified. If conditions change we can change the timing or nature of the treatment but we must bear in mind the response time which must be allowed to mobilise the fleet. This **response time** for precautionary salting of Priority 1 carriageways, which is the period between a decision being taken to begin treatment and vehicles leaving the depot, is one hour, applying both within and outside normal working hours. The **target treatment time** for precautionary salting of Priority 1 carriageways, which is the period between vehicles leaving the depot and the completion of treatment on a particular route is two hours. For early morning treatment of carriageways this treatment should normally be completed by 0730 hours on weekdays and Saturdays and by 0830 hours on Sundays and Bank Holidays. In general, no treatment will take place between 2300 hrs and 0500 hrs unless specific forecast conditions dictate it to be necessary.

#### **MAJOR SNOW STORM CONDITIONS/SNOW CLEARANCE**

- 3.7 Notwithstanding the above Priority 1 network, which are generally implemented for presalting and to some extent snow salting, the aim after a major snowstorm is to restore road communications over all or part of the highway network by snow clearance.
- To facilitate this we have developed a network of snow routes to enable our resources to be deployed effectively. These are shorter routes where we concentrate our efforts on the more strategic roads to ensure they are cleared whilst sacrificing some of the less important roads.
- Essentially our policy is to restore communications for industrial traffic and individuals' journeys to work by public transport. This is achieved by effectively ceasing work on all unclassified roads except for emergencies.

## **Procedures for Snow Clearance of Carriageways following Major Snow Storms**

**1st Action** - establish communications on bus routes on Principal (Class A) Roads (Categories 2 & 3a) between major centres of population and links to major industrial estates including work within these estates. Restore accesses to emergency service buildings and depots.

**Reason :** Industrial traffic needs, journeys to and from work, community health and safety, public transport being used rather than private cars.

**2nd Action** - extend road communications further into Category 3a/3b roads working on the priority basis of highest traffic flow on bus routes and links to smaller industrial estates and communities.

**Reason :** As 1st Action but applicable to smaller communities.

**3rd Action** - Important public transport routes and emergencies on unclassified roads. (Category 3b)

**Reason :** Economy due to financial pressures but allowing travel by public transport rather than necessarily by private transport.

3.8 The consequences of the above actions will be that:-

- (i) Important public transport routes will be restored as a top priority together with access to and operations within major industrial sites;
- (ii) private transport will only be feasible for those who can, through their own actions, reach a cleared road;
- (iii) some journeys will be more difficult and longer in time and distance;
- (iv) the cost to the community in lost production and services will be kept to the absolute minimum;

## **FOOTWAY HIERARCHY (including combined footway/cycleways)**

3.9 Footway maintenance standards, unlike carriageway maintenance standards, are not necessarily reflected by road classification; standards being determined by pedestrian usage and not the importance of the road in the network. Local factors such as the age, distribution of the population, proximity of schools and other establishments attracting higher than normal numbers of pedestrians to the area are taken into account. The hierarchy for footways is broadly as follows:-

<b>Category No</b>	<b>Category Name</b>	<b>Brief Description</b>
1a	Prestige Walking Zone	Very busy areas of towns and cities with high public space and streetscene contribution
1	Primary Walking Route	Busy urban shopping and business areas and main pedestrian routes.
2	Secondary Walking Route	Medium usage routes through local areas feeding into primary routes, local shopping centres, etc.
3	Link Footway	Linking local access footways through urban areas and busy rural footways
4	Local Access Footway	Footways associated with low usage, short estate roads to the main routes and culs de sac

**Policy for Salting and Snow Clearance of Footways**

<b>Footway Category</b>	<b>Overnight Frost Conditions</b> <i>(overnight forecast temperatures below zero but not extending beyond 10.00am)</i>	<b>Daytime Frost Conditions</b> <i>(forecast temperatures below zero extending beyond 10.00am)</i>	<b>Extended Frost Conditions</b> <i>(forecast temperatures remaining below zero for a period exceeding 48 hours)</i>	<b>Snow Events</b>
1a	No treatment	No treatment	Treatment will be undertaken in those areas listed below	Treatment will be undertaken in those areas listed below
1	No treatment	No treatment	Treatment will be undertaken in those areas listed below	Treatment will be undertaken in those areas listed below
2	No treatment	No treatment	Treatment will be undertaken in those areas listed below	Treatment will be undertaken in those areas listed below
3	No treatment	No treatment	No treatment	No treatment
4	No treatment	No treatment	No treatment	No treatment

3.10 In times of severe weather the County Council will undertake treatment of footpaths in accordance with the table above in the following locations countywide:-

- Category 1 and 1A Footways (Town Centres)
- Salt Bin filling
- Public Transport Interchanges
- Hospitals
- Doctors Surgeries/Health Centres
- Selected Category 2 Footpaths (Small Village Shopping Streets)
- Sheltered Accommodation
- Care homes

3.11 A Winter Maintenance Footway Snow Clearance Operational Plan has been developed to be used in conjunction with this plan and is included on the following pages.



# Neighbourhood Services

## Winter Maintenance Footway Snow Clearance

### Operational Plan



#### 1. Introduction

- The operational footway snow clearance plan gives details of the actions required by Durham County Council in the event of snow or frost/ice formation, communication that is required and liaison arrangements that need to be in place. This Operational Plan can be found in the Winter Service Plan in its entirety.
- The plan will detail the actions of other agencies involved (see 3.2).
- This is a live document and will be updated as details of resources change.

#### 2. Incident definitions

- The following definitions have been agreed by Neighbourhood Services as part of the Generic Emergency Response plan:-

2.1 **Snowfall:** A potential event or situation which, may have an impact on movement of pedestrians. This is where snow is expected to settle and remain for a period of 24 hours or more

**Frost/ice:** A potential event or situation which, may have an impact on movement of pedestrians. This is where frost or ice has formed for a period of 48 hours or more.

#### 3. Response

- The main response to such an incident will be from resources within Technical Services Operations and Direct Services Streetscene.
- In addition the following internal groups and external partners have entered into an agreement with us to assist with this work in their area:

3.1 Town & Parish Councils - Eight Town/Parish Councils have agreed to carry out limited footpath clearance in their area to an agreed schedule. These are:

- Ferryhill Town Council
- Seaham Town Council
- Great Aycliffe Town Council
- Horden Town Council
- Sedgefield Town Council
- Shildon Town Council
- Bishop Middleham Parish Council
- Easington Colliery Parish Council

3.2 In addition a further three Town/Parish Councils have agreed to take part in this initiative and will be active for winter 2011/12. These are:

- Stanley Town Council

- Wingate Parish Council
- Framwellgate Moor Parish Council

3.3 One volunteer group, East Durham Trust, has held a pilot scheme in the East Durham area which enabled groups of volunteers to deliver a service including winter snow clearance to vulnerable people within their area of operation. This has proved successful and will be extended further for winter 2011/12

3.4 Further volunteer sectors have been contacted with a view to setting up other initiatives and negotiations are currently ongoing

## **4 Actions**

4.1 The following will be treated as a priority for treatment (note this relates to the adopted network only):

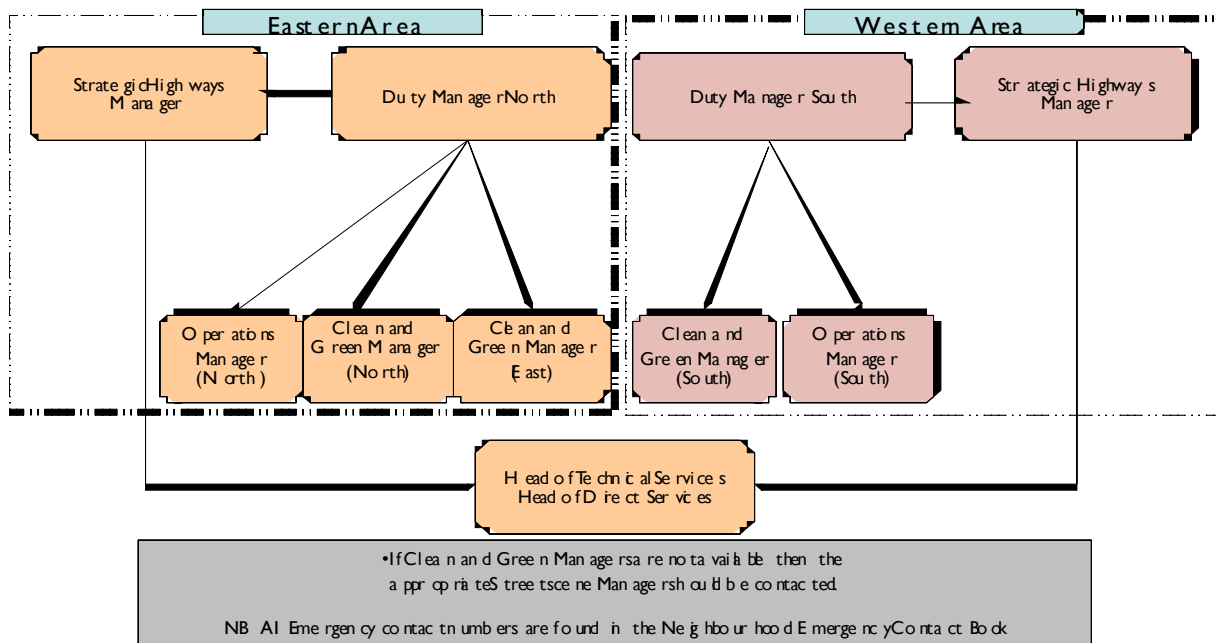
- Category 1 and 1a footways (Town Centres)
- Salt bin filling (includes former District and Parish salt bins)
- Public Transport Interchanges
- Hospitals
- Doctors Surgeries/Health centres
- Category 2 footways (small village shopping streets)
- Sheltered accommodation
- Care homes

4.2 In reality the resource available will be allocated to three Streetscene areas (North, East and South) priority 1 areas and when resources are available, priority 2 and 3 areas will be treated - see Appendices 1,2 & 3. For details of salt bin numbers see Appendix 4

## **5 Communications**

5.1 In the event of snow/frost/ice predicted or actually causing problems on the footway network, an instruction will be issued by the Winter Maintenance Duty Manager. The appropriate instruction (geographically based) will be made to Technical Services Operations Contract Managers and Direct Services Streetscene Clean and Green Managers. Where necessary, both Strategic Highways Manager and CCU will be advised. This will ensure communication channels detailed below (and in the DCC Generic Plan) are followed.

## 5.2 Communications flow chart



In the event that snow/frost/ice affects larger geographical areas, and the risk to properties and business increases the Head of Direct Services and The Head of Technical Services would be notified.

## 5.3 Other actions to be considered are:

- Notify Customer Contact Centre (CCC) to set up the emergency response/ resource centre to utilise the Customer Relationship Management (CRM) system to manage the incident. Note that operational response will be managed from the Sub-offices or from home.
- Communicate updates to other senior Council staff as to incidents and arrangements in place, as appropriate. Messages to the public will be dealt with by Corporate Communications.

## **CYCLEWAY HIERARCHY**

3.12 Cycleway hierarchies given in the code of practice are as follows:-

<b>Category</b>	<b>Description</b>
A	Cycle lane forming part of the carriageway, commonly 1.5 metre strip adjacent to the nearside kerb. Cycle gaps at road closure point (no entries allowing cycle access)
B	Cycle track, a highway route for cyclists not contiguous with the public footway or carriageway. Shared cycle/pedestrian paths, either segregated by a white line or other physical segregation, or un-segregated.
C	Cycle trails, leisure routes through open spaces. These are not necessarily the responsibility of the highway authority, but may be maintained by an authority under other powers or duties.

### **Policy for Salting and Snow Clearance of Cycleways**

<b>Cycleway Category</b>	<b>Overnight Frost Conditions</b> <i>(overnight forecast temperatures below zero but not extending beyond 10.00am)</i>	<b>Daytime Frost Conditions</b> <i>(forecast temperatures below zero extending beyond 10.00am)</i>	<b>Extended Frost Conditions</b> <i>(forecast temperatures remaining below zero for a period exceeding 24 hours)</i>	<b>Snow Events</b>
A	Treatment as per adjacent carriageway	Treatment as per adjacent carriageway	Treatment as per adjacent carriageway	Treatment as per adjacent carriageway
B	No treatment	No treatment	Treatment will be undertaken as and when resources become available.	Treatment will be undertaken as and when resources become available.
C	No treatment	No treatment	No treatment	No treatment

## **4. ORGANISATION**

- 4.1 The Neighbourhood Services Department of the County Council is responsible for the management of the client and operational functions of the winter service including the preparation of the Winter Service Plan, setting the performance standards and establishing the carriageway and footway hierarchy and priorities. The County Council's winter service procedures accord with the Well Maintained Highways Code of Practice for Highway Maintenance Management published in July 2005 and subsequent amendments.
- 4.2 The responsibility for the policy and overall control of the winter service within the Department lies with the Strategic Highways Manager assisted by support staff in Strategic Highways as detailed below:-
- Strategic Highways Manager
  - Highways Asset Manager
  - Policy & Development Manager
- 4.3 The day-to-day operational management including the decision-making procedure for the winter service in the County is undertaken by the Operations Group listed as follows:-
- Highways Operations Manager
  - Construction Manager
- 4.4 A general guide to the Decision-Making Procedure is outlined in Appendix I. However it must be borne in mind that decisions taken by the operational managers of the service are also dependent on local knowledge, the topographical layout of the areas concerned and on a great depth of past experience of the service.
- 4.5 In addition the Operations Group together with private contractors provide the necessary experienced labour resources required to effect the carriageway winter service function on the ground, including the provision of on-site information to assist with the decision making process.
- 4.6 In addition to these carriageway resources, Street Scene employees, are designated to treat footpaths during severe weather. This extra workforce will undertake the operational management of the service on footpaths within their local areas, providing the necessary labour, plant, and depot facilities as required to implement the service. Close liaison is maintained between the Strategic Highways and the Street Scene Managers/Clean and Green Managers to ensure the co-ordination of winter service activities.
- 4.7 These Clean and Green Managers are kept informed during the decision making process for the treatment of footpaths in their area by the appropriate Operations Engineer or his representative, including the following procedures:-
1. Obtaining up to date forecast and current road condition information as indicated by the ice prediction system.
  2. Providing confirmation of action taken to the Operations Engineers.
  3. Providing all management information requested by the County Council.

4.8 The Clean and Green operational managers are listed as follows:-

- North Area
- East Area
- South Area

4.9 When dealing with the winter service function it is also essential that the operational managers are aware of and liaise closely with adjacent authorities to ensure consistency of treatment over boundaries. The relevant adjacent authorities are listed below :-

- Darlington Borough Council
- Cumbria County Council
- Northumberland County Council
- North Yorkshire County Council
- Stockton on Tees Borough Council
- Hartlepool Borough Council
- Sunderland City Council
- Gateshead Council
- Autolink A19 JV
- A-one+

## **WEATHER FORECASTS**

- 5.1 The availability of accurate weather forecasts at appropriate times in the decision making process is essential for the effective and efficient management of the winter service. Durham County Council has as a result of the tendering process entered into a new 5 year term contract with MeteoGroup in partnership with Darlington Borough Council.
- 5.2 Weather reports are received via the County Durham Ice Prediction System using both fixed and portable computers in the Strategic Highways Office and Operations Offices.
- 5.3 The daily weather reports received electronically include:-
- (a) a morning Summary text forecast at 07.30 hours ( including a 2-5 day outlook forecast.)
  - (b) the main forecast at 12.30 hours.
  - (c) an afternoon update summary text forecast at 16.00 hours.
- These forecasts are received 7 days per week during the winter period mid October to mid April inclusive.
- 5.4 The morning summary and afternoon update forecasts are a brief text format whilst the main daily forecast consists of:-
- (i) a detailed 24 hour text forecast
  - (ii) a 24 hour temperature forecast graph for each of 6 no. ice prediction forecast outstations at
    - a) B1432 Hawthorn
    - b) A181 Running Waters
    - b) A689 Bradbury
    - c) A68 Tow Law
    - d) A689 Lanehead
    - e) A66 Stainmore (the last site belonging to the Highways Agency (Sites as shown on Appendix 2).
  - (iii) forecast thermal maps for the County showing minimum forecast road temperatures for the following 24 hour period.
- 5.5 In addition, the above forecast service with MeteoGroup includes for forecast monitoring, providing amendments to forecasts when necessary. A 24 hour consultancy service is also available to discuss in detail any particular forecasts when there is an element of ambiguity or uncertainty and to provide up to date advice where conditions change.
- 5.6 The forecast information received each day in the Strategic Highways office in County Hall is circulated as necessary within the Department and to other Departments of the County Council. Certain information from the forecasts received is also faxed to Durham Police HQ with the agreement of MeteoGroup.
- 5.7 **New National Severe Weather Warning Service**

In 2011, the Met Office in Bracknell updated the system of National Severe Weather Warnings to be circulated throughout the country on a 'cascade' system. This provides advanced weather information and advice to the emergency authorities and the public in relation to severe gales, snow, heavy rain, dense fog, and widespread frost. The main recipients of these severe weather warnings from the Met Office are County Councils, Chief Constables and Chief Fire Officers within the British Isles.

5.8 Durham County Council is the nationally designated main recipient for the whole of the County. A text message is received to previously designated mobile phones to alert users there is a severe weather warning in place. In addition the actual severe weather warning is emailed to selected personnel for use and onward transmission to other Sections of the Department, other County Council Departments, and other partner organisations within County Durham.

5.9 See below for an extract from the Met Office website giving information about the new service

#### The new National Severe Weather Warning Service



Icons used to represent different hazards

### ***Help understanding the warnings***

This section introduces the basic concepts of the warnings service, including:

- timescales;
- types of warnings;
- weather types;
- warning levels;
- colour of warnings;
- Chief Forecaster's assessment;
- web presentation;
- useful information.

#### Timescales

Warnings are issued out to five days ahead for the UK.

#### Types of warnings

There are two types of warning:

- **warnings** — issued up to 24 hours ahead;
- **alerts** — issued more than 24 hours ahead.

#### Weather types

Warnings are issued for:

- rain;
- snow;
- wind;
- fog;
- ice.

#### Warning level

Warnings are based on a combination of:



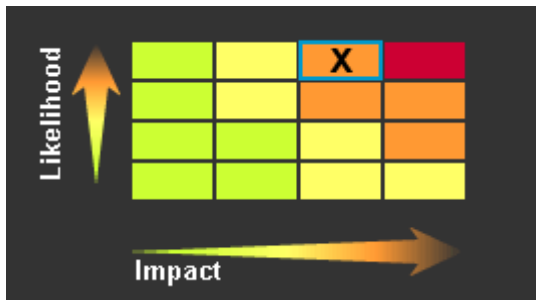
- **likelihood** – How likely the event is to occur;
- **impact** – The potential impact the expected conditions may have.

Colour of warnings

A combination of likelihood and impact is measured against a matrix to give each warning a colour:

- red;
- amber;
- yellow.

An example of the matrix used to define the warning colour is shown below. In this case, an event with a high likelihood and medium impact would result in an amber warning.



The matrix information showing how a warning was assigned its colour will be available for all warnings via the 'View Warning Assessment' option. However, you don't need to view this level of detail if you don't want to. You can simply use the following guidance for each colour:

Green	No severe weather
Yellow	Be aware
Orange	Be prepared
Red	Take action

Chief Forecaster's assessment

The Chief Forecaster's Assessment explains why the warning has been given the colour it has, as well as indicating where any uncertainties lie.

- 5.10. In addition Durham County Council have registered with the Met Office to use Hazard Manager. This is a one-stop information source for the emergency response community. It is an interactive web portal using maps which can be overlaid with weather and incident related information. It allows users to access their services in one location, using a single username and password. "Events" are posted when there is an active incident, essential for keeping cat 1 & 2 emergency responders up-to-date with the very latest information and developments as they happen.

## 6. ICE PREDICTION SYSTEM

- 6.1 The Durham County ice prediction system includes a total of 9 MPLS outstations installed on the Durham County highway network, five of which are utilised in conjunction with MeteoGroup as forecast sites. The other four Durham County owned outstations are currently used as weather monitoring stations. In addition agreements have been put in place to share outstation data between neighbouring authorities and these agreements are as shown in the table below and in Appendix 2 later in this document:-

Outstation	Ownership	Forecast/ Monitoring	Local Authority accessing the data
A689 Lanehead	Durham CC	Forecast	Cumbria CC/Northumberland CC
B6277 Forest in Teesdale	Durham CC	Monitoring	None
B6309 Medomsley	Durham CC	Monitoring	None
A68 Tow Law	Durham CC	Forecast	Northumberland CC/Darlington BC
A689 Bradbury	Durham CC	Forecast	Darlington BC
B1432 Hawthorn	Durham CC	Forecast	Sunderland City
A181 Running Waters	Durham CC	Forecast	None
B6302 Ushaw Moor	Durham CC	Monitoring	None
A689 Toronto	Durham CC	Monitoring	None
A6072 Redworth	Darlington BC	Monitoring	Durham CC
C38 Great Stainton	Darlington BC	Monitoring	Durham CC
TRA 66 Stainmore	Highways Agency	Monitoring	Durham CC/Cumbria CC
A194(M) Blackfell	Highways Agency	Monitoring	Durham CC/Sunderland City
TRA 66 North Bitts	Highways Agency	Monitoring	Durham CC/North Yorkshire CC

- 6.2 The use of the ice prediction system has proved successful in that it has led to significant improvement in the accuracy of forecasts, which can be monitored against actual conditions thus leading to more effective decision making, particularly in marginal conditions of near freezing temperatures. Considerable savings in expenditure on the winter service have been achieved as a result.
- 6.3 The operation of the ice prediction system in County Durham uses a Bureau Service provided by Vaisala Ltd of Birmingham who installed the system initially. This Bureau Service provides a central computer system, which retrieves all outstation and forecast data and presents it in a format, which is readily accessible to DCC users using broadband and internet technology. This can be accessed using any computer with a broadband link to the internet. The Bureau Service also provides back-up systems, computer software improvements and on call help desks which are essential for the smooth running of the winter maintenance service.
- 6.5 In order to ensure the efficient and accurate operation of the ice prediction system, maintenance contracts are undertaken by Vaisala Ltd for the following:-

- (i) Pre Season Software Service to update and check the computer systems software before the winter season commences.
- (ii) Workstation Maintenance to ensure that the systems' computers operate correctly throughout the winter season

- (iii) Outstation Pre Season Check to check all outstations and sensors before the winter season commences.
- (iv) Outstation Mid Season Check to check and recalibrate where necessary all outstations and sensors during the winter season to ensure accurate operation of the sensors.
- (v) General Outstation Maintenance to ensure that should any outstation/sensor breakdown during the winter season, it is quickly and effectively repaired.

6.7 As a pre-requisite for the installation of the ice prediction system, thermal mapping was carried out over a number of winter seasons on approximately 40% of the pre-salt highway network in County Durham under the following 3 weather conditions:- (a) extreme, (b) intermediate, (c) damped. This thermal mapping provides information on the variation in the thermal characteristics of the highway network which when linked to forecast information allows the ice prediction system to predict minimum road surface temperature variations along the thermally mapped network for the appropriate weather condition.

6.8 A update to the Thermal Mapping was carried out during winter season 2006/07 and further updates will be carried out as and when appropriate.

## **7. MEDIA COMMUNICATIONS**

7.1 Good communications are an essential feature of any effective winter service. The availability of accurate information on weather and highway conditions assists both the highway user and those involved in winter service operations. To this end and particularly in times of heavy snowfall, the Strategic Highways office in County Hall will obtain up-to-date and accurate information regularly from the Duty Managers which it will then pass on to Corporate Communications for onward transmission to the media and motoring organisations as necessary. This regularly updated information on road conditions, closures and re-openings is also available to many other organisations including the Police, bus operators, Highways Agency and private individuals who make contact with the Strategic Highways office during periods of severe winter weather.

7.2 During severe winter weather, for highway condition information, during office hours only, the following contacts should be used:-

- Media Relations Manager
- Highways Action Line (0191 3706000)

In severe winter weather conditions during out of office hours, Strategic Highways and the Operations Engineers make arrangements in order that regularly updated information can be collected and transmitted to the appropriate media contact.

7.3 In addition to the above, winter weather information is regularly passed onto AA Roadwatch for transmission to members of the public via radio and television. Members of the public can contact AA Roadwatch direct for up to date information on the telephone number below:-

AA Roadwatch                      Tel 0906 88 84322 (24 hours)

7.4 Durham County Council maintains its own web site and part of this site is dedicated to the Winter Service and is used for the passage of relevant information to the general public. On this site information relating to safer winter driving, roads closed due to snow, Durham County Council's winter service and other relevant information is available and is updated regularly, during office hours, throughout the winter. The actual web address of the site is:-

**[www.durham.gov.uk/winterroads](http://www.durham.gov.uk/winterroads)**

7.5 For several years the County Council has produced a Winter Service information leaflet for distribution to Council Offices, Libraries, Service Stations etc. This leaflet includes a large scale map of the county showing the full extent of our Priority I routes. This leaflet is reviewed annually and re distributed as necessary.

## 8. **BUDGET**

8.1 Due to the variable nature of the winter service operation, budgetary provision for winter service is identified separately from other highway maintenance operations thus aiding financial planning of highway maintenance as a whole and providing a winter service based on need as dictated by weather conditions.

8.2 The winter service budget, which is set and allocated by the Neighbourhoods service is based on both fixed and variable costs involved in the provision of the service. Generally fixed costs whether direct or indirect include for:-

- i. Plant and equipment
  - (a) Depreciation, notional interest, insurance, leasing, finance from loan fund,
  - (b) Maintenance, calibration and repair
  - (c) Installation, and maintenance of ice prediction and communications equipment.
- ii. Materials: storage and sheeting charges,
- iii. Labour: fixed costs of pre-salt arrangements,
- iv. Property: costs of office and garage facilities,
- vi. Weather forecasts: including ice prediction bureau costs.

8.3 Variable costs are based on historic information relating to the non-fixed cost elements of precautionary salting and snow clearing operations over the previous 3 years and include for:-

- i. Plant: fuel, repair and expected use of contractor's plant
- ii. Salt: expected use,
- iii. Labour: expected number of hours on pre salting and snow clearing.

8.4 Budget provision for each Area takes account of local parameters such as presalt road length, and recent years operational experiences.

8.5 An expenditure profile of the overall winter service budget is drawn up before each winter, and is monitored each week against actual expenditure in order to identify any possible over or under expenditure against the budget provision.

## **9. PERFORMANCE MONITORING**

- 9.1 The comparison of budget with out-turn expenditure figures as described previously is a useful guide to the severity of a winter. However due to the variable and unpredictable nature of the British winter, more appropriate and informative monitoring is carried out in order to review the performance and cost effectiveness of the winter service.
- 9.2 All personnel involved in the winter service complete standard reporting forms as listed below. These forms are then copied to Strategic Highways for recording and analysis of both operational and budgetary performance during and at the end of the winter period. (Copies of all forms are included under Section 15)

<b>Ref. No.</b>	<b>Description</b>	<b>Return Details</b>
App 28/74	Winter Service (Confirmation of Instruction)	Daily return by email before 1600 hrs Mon - Thurs and 1530 hrs Friday
App 28/75	Winter Service Report on General Road Conditions and Confirmation of Action Report	Daily return by email before 0900 hours Tues to Fri. Weekend returns by 0930 hours next working day.
App 28/76	Winter Service Report on Roads Closed and Roads in Poor Condition	As necessary
App 28/77	Winter Service Gritter Calibration	Annual before start of winter season. (And as necessary during season)
App 28/78	Salt Stock Report Form	Annual end of winter season return.
WM10	Salt Storage/Usage Information	Weekly return
WM 11	Half Day Diary	For operational and costing purposes

- 9.3 Analysis of the above reports enables performance, cost-effectiveness and unit costs of operation to be established. Care needs to be taken when making such comparisons due to the varying topographical and climatic conditions encountered within County Durham.

## **10. COMMUNICATIONS**

- 10.1 Durham County Council utilises mobile telephones and mobile phones are fitted to most County vehicles employed on winter maintenance activities.
- 10.2 In addition there are several mobile phones issued to key personnel and they are in use at all times throughout the winter period, particularly to maintain contact with MeteoGroup, Vaisala and salting/gritting contractors.

During times of severe weather more telephones are provided as and when required.

## **11. SALT**

- 11.1 Salt is the prime material used by the County Council to combat snow and ice but it can cause pollution of watercourses and kill vegetation. For this reason and for reasons of economy, salting is kept to the minimum required to achieve the objectives. (see below for spreading rates). There are alternative de-icing materials (see Appendix 8) but due to increased cost and reduced effectiveness the Authority does not use any of these at present.
- 11.2 Salt storage is an important consideration both from an economical and environmental point of view and this Authority has provided coverings for all major salt stockpiles. A list of the Authority's salt storage facilities is given in Appendix 3.
- 11.3 When purchasing salt the Authority uses predetermined tendering procedures, which not only take into account the cost of the salt, but also the following points:-
- a) The ability of suppliers to act quickly in severe weather conditions.
  - b) Any price reductions pertaining at different times of the year.
  - c) The quality and testing of the delivered salt, which should comply with BS EN 3247: 1991

In an effort to secure the best options and to comply with EC regulations the Authority, through NEPO (North Eastern Purchasing Organisation), advertises for prospective salt suppliers throughout the European Community.

- 11.4 Advice on the actual application of salt is given in the document entitled ' Winter Service Guidance for Local Authority Practitioners' which gives recommended precautionary treatments and post treatments including revised spread rates. DCC is currently assessing these new spreading techniques and rates and will incorporate them into the winter service as soon as practicable.

### **Provision of Salt Bins**

- 11.5 The County Council undertakes pre-salting on only a proportion of the highway network and many minor roads are not treated. In these areas the Authority may provide a salt bin for residents to use themselves in accordance with justification criteria, which limit them to those areas where they are most needed. Requests for the provision of salt bins should therefore be first assessed in accordance with the procedure as detailed on Appendix 7 and then the details including location are passed to the appropriate Operations Manager for final approval and processing via Strategic Highways office. Over 2000 bins are serviced throughout the County, including the provision, replacement, placing, filling (refilling as necessary), collection and storage. With the latest bin types offering greater durability against vandalism and also subdued colours, some bins are left in place throughout the year depending on location and local acceptability.
- 11.6 When considering requests for new bins the following points are taken into account:-
- (i) All requests for salt bins are assessed strictly against currently established criteria.
  - (ii) Where the requested location meets the criteria, a bin is provided by the County Council (subject to the limits of budget provision) and is serviced thereafter in the normal way.
  - (iii) Where the proposed location is situated on a highway but fails to meet the criteria, bins are not permitted unless another organisation, such as a Parish Council, is prepared to finance and service



them. These organisations are permitted to collect salt from a County Council store to service such bins.

- (iv) Where provision is not for highway purposes but is more of a community facility, then the request is redirected (or referred back) to the Parish, District Council or Community Association for consideration. Under such circumstances, the County Council does not provide salt or service the bin in question but the organisation concerned is offered the facility to purchase salt from the Authority as necessary.

#### **Existing bins (provided by other organisations) – Pre 1999**

11.7 Where a Parish or District Council or any other organisation has already placed a salt bin on a highway, and the location meets the criteria, it will be serviced thereafter by the County Council as in 11.6(ii) above

11.8 Self help grit heaps have on occasion been used at certain locations but it is preferred that bins are used to contain the salting material. However should the need arise this method will be considered in individual cases as a short-term measure.

## **12. PLANT AND VEHICLES**

- 12.1 An inventory of plant and vehicles used by Durham County Council, on winter service routes is detailed on Appendix 5. At present all County Council owned plant is serviced and maintained by the Direct Services Department at Meadowfield under the terms and conditions of a Vehicle and Plant Maintenance Contract. The Direct Services Department also deals with vehicle breakdowns from Meadowfield.
- 12.2 The private contractors who own their own plant and are engaged by the County Council service insure, maintain and fuel their own machines. However the County Council will arrange for the fitting of attachments to accommodate a snowplough if required.
- 12.3 These contractors are employed by the County Council under a contract which is negotiated annually and is held centrally by the Strategic Highways Group at County Hall.
- 12.4 At the start of the winter or before the winter commences all plant should be recorded and calibrated using form Appendix 28/77 (see Section 15) for rate of spread of salt; further checks being made as considered necessary.
- 12.5 In order to minimise the risk of vehicle immobilisation due to diesel engine fuel waxing in low temperature conditions, it is essential for these vehicles to be fuelled with winter grade fuel. However, since even winter grade fuels wax at minus 9°C, it is recommended that vehicles do not remain standing in the open for longer than is absolutely necessary. On the rare occasions that vehicles are subjected to exceptionally low ambient temperatures the use of anti-waxing additive can be helpful in temperatures down to minus 15°C.
- 12.6 Fuel stocks are located at Meadowfield, Wellfield, Bowes, Etherley Lane and Wolsingham Depots.
- 12.7 Within the County there are five snow blowers based at the locations shown in Appendix 5. In exceptionally adverse weather conditions additional plant, such as loading shovels and tractor blades, are hired as necessary under annual tender contracts.
- 12.8 The use of winter service plant adjacent to Railways and Level Crossings is in accordance with the Notes for Guidance detailed on Appendix 9.

### **13. PERSONNEL**

- 13.1 A schedule of the Durham County Council Winter Service Personnel and contact telephone numbers is detailed on Appendix 4.
- 13.2 The deployment of personnel on winter service activities is now the responsibility of Highway Operations who now also provide the Duty Managers.
- 13.3. During severe weather periods the system of call outs can be suspended, at all or any individual depot, and substituted by a period of shift working covering up to 24 hours each day.
- 13.4 Duty Managers can arrange privately owned contracted vehicles and personnel as necessary each day. During severe weather conditions with heavy snow, additional privately owned heavy plant and personnel can be arranged.
- 13.5 For out of office hour periods throughout the winter, the Duty Managers are available on a predetermined rota basis. They are on 24 hour phone standby to receive updated weather forecast information or emergency calls from our forecast provider to warn of deteriorating weather conditions not previously forecast. Should an updated weather forecast be received the Engineer/Officer on duty would then arrange for drivers to be called out for action as necessary. The appropriate private contractors would also be called out at the same time.
- 13.6 Each Duty Manager also maintains a close working relationship with the neighbouring Authorities to County Durham to ensure efficient, effective and consistent cross-boundary treatments for winter conditions. All cross-boundary routes between County Durham and its neighbouring Authorities are reviewed and documented before each winter.
- 13.8 All winter service drivers employed on Durham County Council power gritting vehicles are required to be trained and to attain a VQ (Vocational Qualification) through Direct Services to confirm their competence in the handling of the vehicle concerned.  
Private contractors are also required to attain this qualification through the Direct Services Department training organisation.

## **14. WINTER SERVICE FORMS AND APPENDICES**

<b><u>FORMS</u></b>	<b><u>DESCRIPTION</u></b>
<b><u>REF NO</u></b>	
App 28/74	Winter Service Instruction (Confirmation) (E, W)
App 28/75	Winter Service Report on General Road Conditions & Confirmation of Action (E, W)
App 28/76	Winter Service Report on Roads Closed and Roads in Poor Condition
App 28/77	Winter Service - Gritter Calibration
WM10	Salt Storage/Usage Information
WM11	Winter Salt Use

<b><u>APPENDICES</u></b>	<b><u>DESCRIPTION</u></b>
<b><u>REF NO</u></b>	
Appendix 1	Decision Making Procedure
Appendix 2	Location Plan of Ice Prediction Sites
Appendix 3	Salt Storage Facilities
Appendix 4	Winter Service Personnel
Appendix 5	Schedule of Vehicles (a, b)
Appendix 7	Provision of Salt/Grit Bins - Procedure
Appendix 8	Alternative De-Icing Materials
Appendix 9	Notes for Guidance - Winter Service Operations adjacent to Railways
Appendix 10	Drivers Maintenance Inspection
Appendix 11	Gritting Routes Summary

**DECISION MAKING PROCEDURE**

		Predicted Road Conditions		
Road Surface Temperature	Precipitation	Wet	Wet Patches	Dry
May fall below 1°C	No rain No hoar frost No fog	Salt before frost	Salt before frost (see note a)	No action likely, monitor weather (see note a)
Expected to fall below 1°C	No rain No hoar frost No fog		Salt before frost (see note b)	
	Expected hoar frost Expected fog			
	Expected rain BEFORE freezing	Salt after rain stops (see note c)		
Expected rain DURING freezing	Salt before frost, as required during rain and again after rain stops (see note d)			
Possible rain Possible hoar frost Possible fog	Salt before frost		Monitor weather conditions	
Expected snow		Salt before snow fall		
The decision to undertake precautionary treatments should, if appropriate, be adjusted to take account of residual salt and surface moisture.				
All decisions require continuous monitoring and review.				

**NOTES:-**

- a) Particular attention should be given to the possibility of water running across carriageways and other running surfaces eg. off adjacent fields after heavy rains, washing off salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning, and possibly on other occasions.
- b) When a weather warning contains reference to expected hoar frost considerable deposits of frost are likely to occur. Hoar frost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoar frost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the expected time of the condition. Hoar frost may be forecast to occur at other times in which case the timing of salting operations should be adjusted accordingly.
- c) If, under those conditions, rain has not ceased by early morning, crews must be called out and action should be initiated as rain ceases.
- d) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.
- 5) Weather warnings are often qualified by altitudes, in which case different action may be required from each depot.



**SALT STORAGE FACILITIES**

AREA	LOCATION	SALT STORE	TYPE OF SALT	
			6mm dry	6mm Ecothaw
Eastern Area	Direct Services, Meadowfield	5,500T Covered (Barn)		✓
Eastern Area	Wellfield	3,000T Covered (Barn)		✓
Eastern Area	Wellfield	1,800T Covered (Sheeted)	✓	
Eastern Area	Chilton	5,500T Covered (Barn)		✓
Eastern Area	Easington Colliery Parish Council	10T Uncovered	✓	
Eastern Area	Seaham Town Council	40T Uncovered	✓	
	<b>Eastern Total (Covered)</b>	<b>15,800T</b>		
	<b>Eastern Total (Uncovered)</b>	<b>50T</b>		
	<b>Eastern Total</b>	<b>15,850T</b>		
Western Area	Wolsingham	2,000T Uncovered	✓	
Western Area	Barford (NE of Barnard Castle)	11,000T Covered (Sheeted)	✓	
Western Area	Fylands, Bishop Auckland	5,000T Covered (Barn)		✓
Western Area	Middleton in Teesdale	2,000T Covered (Barn)		✓
Western Area	Morrison Busty (1), Annfield Plain	5,500T Covered (Barn)	✓	
Western Area	Morrison Busty (2), Annfield Plain	4,000T Covered (Barn)		✓
Western Area	St Johns Chapel	250T Uncovered	✓	
Western Area	Bowes	500T Covered (Barn)		✓
Western Area	Great Aycliffe Town Council	30T Uncovered	✓	
Western Area	Shildon Town Council	20T Uncovered	✓	
Western Area	Bishop Middleham Parish Council	20T Uncovered	✓	
	<b>Western Total (Covered)</b>	<b>28,000T</b>		
	<b>Western Total (Uncovered)</b>	<b>2,320T</b>		
	<b>Western Total</b>	<b>30,320T</b>		
	<b>TOTAL COVERED</b>	<b>43,800T</b>		
	<b>TOTAL UNCOVERED</b>	<b>2,370T</b>		
	<b>TOTAL COUNTY</b>	<b>46,170T</b>		

Salt is provided for use by DCC operatives at Bradbury and Carrville Motorway depots as and when required by A-one Contracting (who act on behalf of the Highways Agency) in accordance with the following profiles :-

	Carrville	Bradbury
1 <sup>st</sup> October 2010	200T	200T
1 <sup>st</sup> November 2010	500T	500T
1 <sup>st</sup> December 2010	800T	800T
1 <sup>st</sup> January 2011	800T	800T
1 <sup>st</sup> February 2011	800T	800T
1 <sup>st</sup> March 2011	500T	500T
1 <sup>st</sup> April 2011	200T	200T

**SCHEDULE OF VEHICLES  
COUNTY AND CONTRACTOR - PRIORITY ONE ROUTES**

DEPOT LOCATION	SALT STORE	MAKE		CAPACITY	DRIVE	FLT NO			ROUTE NO	COMMENTS
<b>EASTERN AREA</b>										
Wellfield	Wellfield	MERCEDES		11.25T	6 x 4	143			1	QCB
	Wellfield	MERCEDES		7.5T	4 x 2	135			2	
	Wellfield	MERCEDES		7.5T	4 x 2	1541			4	
	Wellfield	MERCEDES		11.25T	6 x 4	142			5	
	Wellfield	MERCEDES		7.5T	4 x 2	2280			Spare	
	Wellfield	MERCEDES		7.5T	4 x 2	2282			Spare	
	Wellfield	Trailer Gritter		5T		1796			3	
	Wellfield	Trailer Gritter		5T		1795			6	
	Wellfield	Trailer Gritter		5T		2010			Spare	
	Wellfield	Trailer Gritter		5T		2011			Spare	
Carrville, Durham	Carrville	MERCEDES		11.25T	6 x 4	1881			7	QCB
	Carrville	MERCEDES		7.5T	4 x 2	1542			8	QCB
Highway Ops, Meadowfield	Meadowfield	MERCEDES		11.25T	6 x 4	2320			9	MULTILIFT
	Meadowfield	MERCEDES		7.5T	4 x 2	1677			10	QCB
	Meadowfield	LEYLAND		7.5T	4 x 2	130			Spare	
	Meadowfield	MERCEDES		7.5T	4 x 2	137			Spare	
Bradbury	Bradbury	MERCEDES		11.25T	6 x 4	1882			11	QCB
	Bradbury	MERCEDES		7.5T	4 x 2	136			12	
	Bradbury	MERCEDES		7.5T	4 x 2	138			13	
	Bradbury	MERCEDES		11.25T	6 x 4	1864			Spare	
Chilton	Chilton	MERCEDES		11.25T	6 x 4	1880			14	DEMOUNT
	Chilton	MERCEDES		7.5T	4 x 4	1560			16	
	Chilton	MERCEDES		7.5T	4 x 2	1678			17	
	Chilton	MERCEDES		7.5T	4 x 4	1518			Spare	
	Chilton	Trailer Gritter		5T		1798			15	
		Eastern Total Power Gritters				20	(20 DCC)			
		Eastern Total Trailer Gritters				5	(5 DCC)			
		Eastern Total Snowblowers				0				



**APPENDIX 5a (cont'd)**

DEPOT LOCATION	SALT STORE	MAKE		CAPACITY	DRIVE	FLT NO			ROUTE NO	COMMENTS	
<b>WESTERN AREA</b>											
Morrison Busty Annfield Plain	Morrison	MERCEDES		7.5T	4 x 4	1562			18	QCB	
	Morrison	MERCEDES		11.25T	6 x 4	1674			22	MULTILIFT	
	Morrison	MERCEDES		7.5T	4 x 2				23		
	Morrison	MERCEDES		7.5T	4 x 2				24		
	Morrison	MERCEDES		7.5T	4 x 2				25		
	Morrison	MERCEDES		7.5T	4 x 2				26		
	Morrison	MERCEDES		7.5T	4 x 4	1670			Spare		
	Morrison	MERCEDES		11.25T	6 x 4	2281			Spare		
	Morrison	MERCEDES		11.25T	6 x 4	2305			Spare		
	Morrison	Trailer Gritter		5T		1793				19	
	Morrison	Trailer Gritter		5T		1792				20	
	Morrison	Trailer Gritter		5T		1791				21	
Morrison	Trailer Gritter		5T		1794			Spare			
Etherley Lane Bowes	Fylands	MERCEDES		7.5T	4 x 4	134			27	QCB	
	Fylands	MERCEDES		7.5T	4 x 4	133			29	QCB	
	Fylands	MERCEDES		11.25T	6 x 4	140			34		
	Fyalnds	MERCEDES		7.5T	4 x 2	1669			Spare		
	Fylands	MERCEDES		11.25T	6 x 4	1849			Spare	DEMOUNT	
	Bowes	Trailer Gritter		5T		1797				37	
	Bowes	Trailer Gritter SMITHS ROLBA ROLBA 1000		2.4T Snowblower Snowblower Snowblower	2430	DCC					
Wolsingham	Wolsingham	MERCEDES		11.25T	6 x 4	1883			30	QCB	
	Wolsingham	MERCEDES		11.25T	6 x 4	141			31	MULTILIFT	
	Wolsingham	MERCEDES		7.5T	4 x 2	139			Spare	QCB	
	Wolsingham	Trailer Gritter ROLBA SMITHS		5T Snowblower Snowblower					Spare Spare		
		Home Base Home Base			7.5T 7.5T	4 x 4 4 x 4				32 33	
	Middleton in Tees			11.25T	6 x 4				36		
	Middleton in Tees	Trailer Gritter		7.5T	4 x 4				35		
	Fylands	Trailer Gritter		5T		1943			28		
		Western Total Power Gritters				21	(17 DCC/4 Contractors)				
		Western Total Trailer Gritters				9	(9 DCC)				
		Western Total Snowblowers				5	(5 DCC)				
		<b>COUNTY TOTAL POWER GRITTERS</b>				<b>41</b>	<b>(37 DCC/4 Contractor)</b>				
		<b>COUNTY TOTAL TRAILER GRITTERS</b>				<b>13</b>	<b>(13 DCC)</b>				
		<b>COUNTY TOTAL SNOWBLOWERS</b>				<b>5</b>	<b>(5 DCC)</b>				

**APPENDIX 5b**

**SCHEDULE OF VEHICLES**

**COUNTY, DISTRICT AND CONTRACTOR - PRIORITY TWO ROUTES**

DEPOT LOCATION	SALT STORE	MAKE	CAPACITY	DRIVE	FLT NO		ROUTE NO	COMMENTS	
<b>WESTERN AREA</b>									
	Middleton in Tees	Trailer Gritter	5T		1797		STG 8		
	Chilton	Trailer Gritter	5T		1798				
	Fylands	Trailer Gritter	3.5T		1948		STG 1		
	Wolsingham	Trailer Gritter	5T		1799		STG 5		
	Wolsingham	Trailer Gritter	3.5T		1947		STG 6		
	Wolsingham	Trailer Gritter	5T		1942		STG 10		
	Middleton in Tees	Trailer Gritter	3.5T		1803		STG 9		
	Middleton in Tees	Trailer Gritter	3.5T		1801		STG 4		
	Barford	Trailer Gritter	3.5T		1946		STG 3		
	Barford	Trailer Gritter	3.5T		1802		STG 2		
	Fylands	Trailer Gritter	5T		1944		STG 7		
	Fylands	Trailer Gritter	3.5T		1945		Spare	For P1 & P2 route	
		Southern Total Trailer Gritters				12		(12 DCC)	
		<b>COUNTY TOTAL TRAILER GRITTERS</b>				<b>12</b>		<b>(12 DCC)</b>	

**DURHAM COUNTY COUNCIL  
SALT BIN REQUEST**

<b>Location:</b>	<b>Date:</b>	<b>Assessor:</b>
------------------	--------------	------------------

	Characteristic	Description / Severity	Scores	Score (road)	Score (footways)
1	Description of gradients	Steep	60		
		Moderate	30		
		Slight / level	Nil		
2	Description of bends	Sharp / many	50		
		Moderate / few	20		
		Slight / straight	Nil		
3	Traffic type	Domestic / housing est	20		
		Industrial	10		
		Rural	Nil		
4	Traffic flow	Heavy	20		
		Light	10		
5	Pedestrian activity	Elderley / less mobile	60		
		Heavy (town, large village)	40		
		Light (small village)	10		
6	On a treated route	Priority 1	-80		
		Priority 2 / other	20		
7	Salt bin / heap nearby	Yes	-80		
		No	20		
8	Proximity of health centre / surgery	Near	40		
		Distant	Nil		
9	Other important local services - pharmacy, schools, comm centre, shops etc.	Near	30		
		Distant	Nil		
10	Bus route	Untreated	20		
		Treated	10		
11	Accident history	Yes	20		
		No	Nil		
<b>TOTAL</b>					
				150 to qualify	100 to qualify

Signed .....  
Assessor

Signed .....  
Highways Superintendent

Date .....

Date .....

**DURHAM COUNTY COUNCIL**

**Alternative De-Icing Materials**

- (i) **Salt**  
Commonly used, will melt ice and snow at temperatures as low as minus 21° C but below minus 10° C the amount needed increases to become environmentally and economically undesirable.
- (ii) **Calcium Chloride**  
Will act at a lower temperature than salt but is more corrosive and more expensive. It absorbs moisture freely and special requirements are needed for storage. The only use in the U.K. is likely to be in blending with salt or as a pre-wetting agent in water.
- (iii) **Urea**  
No more effect on steel than water alone but is less effective around minus 6° C. Used in certain specialised locations because of its less corrosive effect. Supplied in pellets and needs special attention to storage. Conventional spreading equipment requires modification to obtain satisfactory results. Approximately 15 times the cost of salt.
- (iv) **Glycol**  
Liquid supplied in bulk or in drums. Used on airfields and other specific locations. May have a slight adverse effect on skidding resistance. Approximately 20 times the cost of salt.
- (v) **Calcium Magnesium Acetate**  
Supplied in the form of spherical pellets, does not corrode bare steel, but may be comparable to salt in the corrosion of reinforcement bars in concrete. Approximately 15 times the cost of salt.
- (vi) **Potassium/Sodium Acetate (Liquid Acetate)**  
Liquid supplied in bulk or drums. Fast acting and used on some airfields.  
There is some laboratory evidence that acetates adversely affect the durability of concrete, which has not been air entrained, but the significance of this has not yet been proven. Approximately 20 times the cost of salt.

**SNOW CLEARING AT LEVEL CROSSINGS; FROM ROAD BRIDGES OVER RAILWAY SYSTEMS AND FROM ROADS PROXIMATE TO RAILWAYS**

**1. CLEARANCE TO BE EFFECTED BY HIGHWAY AUTHORITY**

British Rail rarely need to use snow ploughs, and even when they do the result may be unsatisfactory for highway purposes. It has, therefore, been agreed that the appropriate highway authority should continue its ploughing operation over crossings situated on roads which are being cleared. There must, however, be proper liaison between the highway and rail authorities and care must be taken that snow must not build up across the tracks or against gates and barriers.

**2. GUIDANCE ON THE USE OF VARIOUS VEHICLE TYPES - MECHANICAL SAFETY**

**2.1 Snow Ploughs, Snow Blowers and Snow Cutters of the Rotary type**

Rotary equipment should NEVER be used to clear snow from any type of level crossing since there is a danger of the lower blade and support shoes fouling the rails.

**2.2 Department of Transport Ploughing/Salting Spreading Vehicles**

These may be used for snow clearance at level crossings subject to observance of paragraphs 3 to 6 below.

**2.3 Local Authority Vehicles**

Winter maintenance equipment, owned or operated by local authorities, varies considerably. Close co-operation is therefore essential between an authority and British Rail about the machinery available and how it can be used with safety and to the fullest advantage for clearing from, and spreading salt on, level crossings.

**3. GUIDANCE RELATED TO VARIOUS TYPES OF LEVEL CROSSING**

**3.1 Unmanned Crossings with Automatic Half Barriers**

These are connected by telephone to the signal box controlling that particular section of line. The driver of a snowplough must always obtain permission by telephoning the controlling signalman for safety clearance before proceeding on to the crossing.

It is essential that snow be cleared from both lanes of a carriageway, at half barrier crossings for a distance of at least 45 metres on either side of the crossing. If one lane is cleared and the other lane is left covered with snow, even for a short time, road users may be tempted to weave around one of the half barriers in order to get to the clear lane. With the opposite half barrier closed vehicles could be trapped or stall on the crossing with a train approaching. After the snow has been cleared the driver must park his plough at a safe distance from the railway track and return on foot to report to the signalman as quickly as possible that he is now clear of the crossing. In doing so he must confirm to the signalman that the snow has not been built up across the track in such quantity as to impede trains.

**3.2 Unmanned Crossings Controlled by Miniature Red/Green Lights**

These too are connected by telephone to the appropriate signal box. Again the driver of the snowplough must always obtain permission by telephoning the controlling signalman for safety clearance before proceeding on to the crossing and subsequently report that he is clear in the same way as for crossings with automatic half barriers.

**3.3 Closed Circuit Television and Remotely Controlled Crossings Operated by a Signalman located some way from the Crossing**

These are also connected by telephone to the appropriate signal box and here again the driver of the snow plough must always obtain permission by telephoning the controlling signalman before proceeding on to the crossing and subsequently reporting that he is clear.

**3.4 Manually Controlled Crossings Operated by either a Crossing Keeper or a Signalman located adjacent to the Crossing**

Snowplough drivers must at all times obtain clearance from the signalman or crossing keeper before driving on to the level crossing.

**3.5 Unmanned Uncontrolled Crossings, Usually having Farm Type Gates or Occasionally without Gates**

These are generally on minor roads; ploughing of unmanned uncontrolled crossings must only be carried out in accordance with prior arrangements made with British Rail.

**4. EFFECTS OF PLOUGHING OPERATIONS**

- 4.1 Snowplough drivers must ensure, so far as it is possible, that accumulated snow is not deposited on railway tracks. Passing trains and rail snowploughs tend to leave windows of snow across the path of the carriageway. It is therefore suggested that highway authorities and British Rail co-ordinate plans which, can be put into effect if and when this occurs.
- 4.2 After the crossing has been cleared the snow-plough driver must park his vehicle at a safe distance from the crossing, then return on foot to ensure that no solid objects have been deposited by the blade on or near the rails.

**5. CROSSINGS UNSUITABLE FOR PLOUGHING**

There are some crossings, which are dangerous or impossible to plough; for instance where the road descends deeply on both sides of the crossing, or where the rail protrudes to such an extent that plough blades might be fouled. For such crossings the local highway authority should consult the appropriate Divisional Civil Engineer of British Rail about the methods best employed to clear the snow.

**6. PRIVATELY OWNED CROSSINGS**

Where a level crossing is privately owned, agreement should be obtained from the owner by the local authority so that the authority can take the same action as they would in the case of a public crossing. Ploughing of unmanned uncontrolled crossings should only be carried out in accordance with prior arrangements made with British Rail - see paragraph 3.5 above.

**7. VEHICLES TRAVERSING LEVEL CROSSINGS FITTED WITH SNOW PLOUGHS IN THE TRAVELLING POSITION (I.E. NOT IN USE)**

When Department-owned vehicles are driven over level crossings, otherwise than for snow clearing, the plough should always be locked in the raised position. Rotary ploughs should follow the requirements of the signs at level crossings concerning slow vehicles, as set out in Diagram 649 of the Traffic Signs Regulations and General Directions 1975.

**8. GENERAL STANDARD OF CARE**

Apart from the operational requirements detailed above, highway authorities must take special care to ensure that the strictest safety precautions are taken when winter maintenance vehicles are negotiating level crossings. All snowplough drivers must be conversant with the provisions of the Highway Code and in particular those parts about the use of level crossings.

**9. SNOW CLEARING FROM ROADS OVER OR NEAR RAILWAY LINES**

- 9.1 Snowploughs of all types can throw snow and slush distances of 10 to 15 metres (the rotary type even more) when driven at speed. Drivers of snow plough vehicles must, therefore, be made aware of road bridges over railways and stretches of road near to railways, where they should operate at an appropriate speed in order to prevent thrown snow building up on railway lines or becoming a hazard to passing trains.
- 9.2 Particular care must be taken where there is a danger of thrown snow damaging or creating an electrical path from overhead electric power lines.
- 9.3 Care must be taken to avoid packing snow against bridge parapets, fences or walls such that, for instance, children could climb nearer to and so tamper with overhead power lines.

**10. SNOW CLEARING FROM ROADS OVER OTHER ROADS AND ON DUAL CARRIAGEWAYS**

- 10.1 The opportunity is taken to draw attention to similar problems in relation to road-over-road bridges where drivers of ploughs should be aware of the dangers of throwing snow on to the lower road, which would become a hazard to traffic and pedestrians.
- 10.2 Excessive speed when ploughing snow on to the central reserves of dual carriageway roads can result in danger to on-coming traffic in the opposite carriageway. Drivers should adjust their speed to prevent this happening.

**DRIVERS MAINTENANCE INSPECTIONS**

**POWER GRITTERS**

**DAILY (WHEN IN USE)**

1. Carry out vehicle checks as per drivers' daily safety inspection and vehicle defect report book.
2. Drain moisture from air pressure servo or reservoir. (Where applicable)
3. Check alcohol evaporator fluid level (where applicable)
4. Visually check conveyor belt/auger, spinner, chute and mesh for damage or debris.

**AFTER EACH OPERATIONAL SHIFT**

1. Empty remaining material (if any) and thoroughly wash the vehicle, ensuring all salt is removed from the vehicle and auxiliary equipment.
2. Visually check the conveyor belt/auger, spinner, chute and mesh for damage and the hydraulic pipes for leaks.

**WEEKLY WHEN IN USE** As above plus: -

1. Lubricate all points on gritter equipment. Check (where fitted) and top (where required) auto lubrication system.  
NOTE: - Lubricate all chassis points once every **TWO** weeks
2. Check security of snowplough mounting bracket bolts and snowplough frame pins.
3. Check and top up as required hydraulic oil in tank and snowplough pump reservoir.
4. Clean cab interior and check presence and content of first aid box and fire extinguisher.

**WEEKLY (WHEN VEHICLE IS NOT IN USE)**

1. Carry out items 1,2,3 and 4 from "daily when in use" list and items 1 and 3 from "weekly when in use" list.  
NOTE: - Lubricate all chassis points once every **TWO** weeks
2. The vehicle should be driven on the road for approximately 15 miles during which time the gritting auxiliary equipment should be operated.

**GENERAL**

1. Refer to manufacturers/operators handbook for vehicle information, e.g. lubrication points, oil levels, etc.
2. All defects must be reported to the supervisor or relevant workshop maintaining the vehicle.
3. Ensure that the plough blade is lowered to the ground when the vehicle is parked.
4. When attending the workshop for repairs (other than plough repairs) remove the plough before travelling.
5. At all times drivers are responsible for the roadworthiness of any vehicle or vehicle combination that they drive.

**TRAILER GRITTERS**

**DAILY**

1. Check all lamps, direction indicators, reflectors are complete, clean and in good working order when connected to the towing vehicle by the 7-pin plug. On trailer gritters using a lighting board it must be complete, clean and in good working order.
2. Check marker plates, sign plates and registration number plate corresponding to the towing vehicle are fitted and in good working order. If a lighting board is being used the registration number plate should be fitted to the board.
3. Check tyres for condition and inflation.
4. Check wheel nuts for condition and security.
5. Check if fitted overrun brake, handbrake and hydraulic brakes are operating correctly and efficiently. In the case of hydraulic brakes ensure that they operate in conjunction with the trailer brake.
6. Check that the towing eye is in good condition.
7. Visually check conveyor belt, spinners, chute and wire mesh for damage or debris jammed in machinery.
8. Check jockey wheel /stand for condition and security.
9. Ensure that all safety guards are fitted and in good condition.

**AFTER EACH OPERATIONAL SHIFT**

1. Wash down ensuring the removal of salt.
2. Visually check conveyor belt, spinners, chute and mesh for damage and the hydraulic brake pipes for leaks.

**WEEKLY**

1. Carry out items 1 to 9 from "daily list".
2. Lubricate all points.

**GENERAL**

1. Refer to manufacturers/operators handbook for vehicle information e.g. lubrication points, tyre pressures etc.
2. All defects must be reported to the supervisor or relevant workshop maintaining the vehicle.
3. Ensure before moving that all stands, jockey wheels etc. are raised out of possible contact with the ground whilst travelling.
4. Do not overload and avoid foreign bodies when loading with salt.
5. Ensure that the trailer gritter is properly attached to the towing vehicle including where fitted the hydraulic pipes.
6. At all times drivers are responsible for the roadworthiness of any vehicle or vehicle combination that they drive.

**DURHAM COUNTY COUNCIL**  
**ROUTE LENGTH & EFFICIENCY**

ROUTE NUM.		DEPOT	VEHICLE	TIME	SALT LENGTH	FREE TRAVEL	EFFICIENCY %
Durham 01		Wellfield	Power Gritter		36.55	22.68	61.71
Durham 02		Wellfield	Power Gritter		40.87	16.08	71.76
Durham 03		Wellfield	Trailer Gritter		33.89	20.25	62.60
Durham 04		Wellfield	Power Gritter		47.09	13.17	78.14
Durham 05		Wellfield	Power Gritter		48.29	7.86	86.00
Durham 06		Wellfield	Trailer Gritter		33.29	24.09	58.02
Durham 07		Carrville	Power Gritter		55.33	17.44	76.03
Durham 08		Carrville	Power Gritter		43.05	15.64	73.35
Durham 09		Meadowfield	Power Gritter		58.85	1.12	98.13
Durham 10		Meadowfield	Power Gritter		47.97	16.31	74.63
Durham 11		Bradbury	Power Gritter		46.33	3.93	92.18
Durham 12		Bradbury	Power Gritter		46.13	21.71	68.00
Durham 13		Bradbury	Power Gritter		41.71	13.92	74.98
Durham 14		Chilton	Power Gritter		48.70	5.60	89.69
Durham 15		Chilton	Trailer Gritter		28.47	6.53	81.34
Durham 16		Chilton	Power Gritter		45.62	18.21	71.47
Durham 17		Chilton	Power Gritter		39.47	17.06	69.82
Durham 18		Morrison Busty	Power Gritter		44.20	17.31	71.86
Durham 19		Morrison Busty	Trailer Gritter		39.75	14.41	73.39
Durham 20		Morrison Busty	Trailer Gritter		42.87	21.06	67.06
Durham 21		Morrison Busty	Trailer Gritter		28.10	20.43	57.90
Durham 22		Morrison Busty	Power Gritter		65.78	8.02	89.13
Durham 23		Morrison Busty	Power Gritter		41.40	10.26	80.14
Durham 24		Morrison Busty	Power Gritter		43.78	18.99	69.75
Durham 25		Morrison Busty	Power Gritter		41.64	7.45	84.82
Durham 26		Morrison Busty	Power Gritter		37.86	10.45	78.37
Durham 27		Fylands	Power Gritter		68.86	16.04	81.11
Durham 28		Fylands	Trailer Gritter		30.96	26.83	53.57
Durham 29		Fylands	Power Gritter		32.18	29.4	52.26
Durham 30		Wolsingham	Power Gritter		66.34	12.49	84.22
Durham 31		Wolsingham	Power Gritter		56.88	24.73	69.70
Durham 32		St Johns Chapel	Power Gritter		58.34	12.86	81.94
Durham 33		St Johns Chapel	Power Gritter		54.34	17.63	75.50
Durham 34		Fylands	Power Gritter		56.47	25.19	69.15
Durham 35		Middleton in Teesdale	Power Gritter		54.05	27.97	65.90
Durham 36		Home Depot (South Side)	Power Gritter		64.20	6.1	91.32
Durham 37		Bowes	Trailer Gritter		38.88	23.02	62.81



**WINTER MAINTENANCE INSTRUCTION - EASTERN AREA**  
**CONFIRMATION OF INSTRUCTION - PRE SALT**

**Duty Officer** ..... (Block Capitals)

Date (pm) .....

Date (am) .....

Depot Location	Pre Salt Route No.	Machine Type	No Action		Standby	
			pm	a.m.	pm	a.m.
Wellfield	Durham 01	PG				
	Durham 02	PG				
	Durham 03	TG				
	Durham 04	PG				
	Durham 05	PG				
	Durham 06	TG				
Carrville	Durham 07	PG				
	Durham 08	PG				
Meadowfield	Durham 09	PG				
	Durham 10	PG				
Bradbury	Durham 11	PG				
	Durham 12	PG				
	Durham 13	PG				
Chilton	Durham 14	PG				
	Durham 15	TG				
	Durham 16	PG				
	Durham 17	PG				

Further Comments: (Snow Route Implementation areas/times, Priority 2 route mobilisation etc)

**Duty Inspector**                      Wellfield pm ..... am .....

Chilton pm ..... am .....

**Duty Manager** .....  
 (signature)

**WINTER MAINTENANCE INSTRUCTION - WESTERN AREA**  
**CONFIRMATION OF INSTRUCTION - PRE SALT**

**Duty Officer** ..... (Block Capitals)

Date (pm) .....

Date (am) .....

Depot Location	Pre Salt Route No.		Machine Type	No Action		Standby	
				pm	a.m.	pm	a.m.
Morrison Busty	Durham 18		PG				
	Durham 19		TG				
	Durham 20		TG				
	Durham 21		TG				
	Durham 22		PG				
	Durham 23		PG				
	Durham 24		PG				
	Durham 25		PG				
	Durham 26		PG				
Fylands	Durham 27		PG				
	Durham 28		TG				
	Durham 29		PG				
	Durham 34		PG				
Wolsingham	Durham 30		PG				
	Durham 31		PG				
St Johns Chapel	Durham 32		PG				
	Durham 33		PG				
Middleton	Durham 35		PG				
	Durham 36		PG				
Bowes	Durham 37		TG				

Further Comments: (Snow Route Implementation areas/times, Priority 2 route mobilisation etc)

Duty Inspector      Wolsingham      pm.....      am.....

                                 Morrison      pm.....      am.....

Duty Manager      .....

(signature)

**WINTER SERVICE INSTRUCTION - EASTERN AREA  
CONFIRMATION OF INSTRUCTION - SNOW ROUTES**

Duty Officer ..... (Block Capitals)

Date (pm).....

Date (am) .....

Depot		Snow Route No	Plough Route No	No Action	Standby			
					Snow Route		Plough Route	
					pm	am	pm	am
Wellfield		Snow 1	-					
		Snow 2	-					
		Snow 3	-					
		Snow 5	-					
		Snow 4	-					
		Snow 6	Plough 9					
		-	Plough 1/2					
		-	Plough 3/4					
		-	Plough 5/7					
		-	Plough 6					
	-	Plough 8						
Carrville		Snow 7	-					
		Snow 8	-					
Meadowfield		Snow 9 a/b	-					
		Snow 10 a/b	-					
		-	Plough 10/13/14					
		-	Plough 11					
	-	Plough 12						
Bradbury		Snow 11	-					
		Snow 12	-					
		Snow 13	-					
Chilton		Snow 14	-					
		Snow 16	-					
		Snow 17	-					
		Snow 15						
		Snow 15a	Plough 21					
		-	Plough 15/17					
		-	Plough 16/19/20					
		-	Plough 18					

Duty Inspector      Wellfield      pm .....      am .....

Chilton      pm .....      am .....

Duty Manager .....  
(Signature)



**WINTER SERVICE - MORNING REPORT**  
**EASTERN AREA**

Date (p.m.) .....

Date (a.m.) .....

**REPORT ON GENERAL ROAD CONDITIONS**

**PROBLEMS (Plant Breakdowns/Liaison and Communications/Accidents etc.)**

**ACTION TAKEN**

Depot Location	Route No.	Machine Type	No Action		Pre-salt		Cancelled Salt		Patrol		Snow-salt		Ploughing	
			pm	am	pm	am	pm	am	pm	am	pm	am	pm	am
Wellfield	01	PG												
	02	PG												
	03	TG												
	04	PG												
	05	PG												
	06	TG												
Carrville	07	PG												
	08	PG												
Meadowfield	09	PG												
	10	PG												
Bradbury	11	PG												
	12	PG												
	13	PG												
Chilton	14	PG												
	15	TG												
	16	PG												
	17	PG												

**COMMENTS:**

**WINTER SERVICE - MORNING REPORT**  
**WESTERN AREA**

Date (p.m.) .....

Date (a.m.) .....

**REPORT ON GENERAL ROAD CONDITIONS**

**PROBLEMS (Plant Breakdowns/Liaison and Communications/Accidents etc.)**

**ACTION TAKEN**

Depot Location	Route No.	Machine Type	No Action		Pre-salt		Cancelled Salt		Patrol		Snow-salt		Ploughing	
			pm	am	pm	am	pm	am	pm	am	pm	am		
Morrison Busty	18	PG												
	19	TG												
	20	TG												
	21	TG												
	22	PG												
	23	PG												
	24	PG												
	25	PG												
	26	PG												
Fylands	27	PG												
	28	TG												
	29	PG												
	34	PG												
Wolsingham	30	PG												
	31	PG												
St Johns Chapel	32	PG												
	33	PG												
Middleton	35	TG												
Home Depot	36	PG												
Bowes	37	TG												

**COMMENTS:**

**REPORT ON ROADS CLOSED AND ROADS IN POOR CONDITION**

**MAINTENANCE AREA:**

<b>DAY</b>	<b>DATE</b>	<b>TIME</b>

<b>ROADS CLOSED</b>		
<b>ROAD NO.</b>	<b>FROM/TO</b>	<b>PLANT WORKING</b>

<b>ROADS IN POOR CONDITION</b>		

<b>ADDITIONAL PLANT OPERATING</b>		

**ANY OTHER COMMENT (Expectation of openings, breakdowns, special requests etc.)**

**WINTER SERVICE - GRITTER CALIBRATION RECORD**

I. Power Gritters

<u>Fleet No</u>	<u>Fixed/Demountable</u>	<u>Calibration</u>	<u>Date</u>
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2. Trailer Gritters

<u>Fleet No.</u>	<u>Calibration</u>	<u>Date</u>
------------------	--------------------	-------------

Date ..... Signed .....

\_\_\_\_\_

The rate of spread shall be established by weighing the vehicle before and after a pre salting run with a rate of spread set at 10gm/square metre and then checking this by establishing the route length and the average carriageway width treated. A similar test should be undertaken with a rate of spread of 40gm/square metre. Care should be taken to ensure that spread widths are neither, too wide or too narrow.

Whilst it would be desirable for all power gritters to be checked for calibration prior to the commencement of winter it is recognised that this would be costly. It would be acceptable for the calibrations to be undertaken at the first available opportunity when salting is taking place in response to a meteorological forecast.



**SALT STORAGE/USAGE INFORMATION (TONNES)**

**Week Ending Sunday.....**

AREA	LOCATION	NOMINAL SALT STORE CAPACITY	SALT STOCK START WINTER	SALT USAGE THIS WEEK (T)			AGGREGATED SALT USAGE (T)			ADDITIONAL SALT DELIVERIES	RESIDUAL SALT STOCK
				Pre salt	Post Snow Salt	Salt Bins/Heaps	Pre salt	Post Snow Salt	Salt Bins/Heaps		
Eastern Area	Direct Services, Meadowfield	4,750T Covered (Barn)	4778								4778
Eastern Area	Wellfield	3,000T Covered (Barn)	3003								3003
Eastern Area	Wellfield	2000T Uncovered	1800								1800
Eastern Area	Chilton	5,000T Covered (Barn)	5556								5556
	<b>Eastern Area Total</b>	<b>12,750T</b>	<b>15137</b>								<b>15,137</b>
Western Area	Wolsingham	1,400T Uncovered	2200								2200
Western Area	Fylands, Bishop Auckland	5,000T Covered (Barn)	4935								4935
Western Area	Middleton in Teesdale	2,000T Covered (Barn)	1990								1990
Western Area	Morrison Busty (1), Annfield Plain	5,000T Covered (Barn)	5400								5400
Western Area	Morrison Busty (2), Annfield Plain	4,000T Covered (Barn)	4010								4010
Western Area	St Johns Chapel	150T Uncovered	220								220
Western Area	Bowes	500T Covered (Barn)	540								540
	<b>Western Area Total</b>	<b>18,050T</b>	<b>19295</b>								<b>19295</b>
County Regional Stock	Barford (NE of Barnard Castle)	4000T Covered (Sheeted)	3540								3540
	Barford (NE of Barnard Castle)	7,500T Covered (Sheeted)	7644								7644
	<b>TOTAL COUNTY STOCKS</b>	<b>38,300T</b>	<b>45616</b>								<b>45,616</b>

**WINTER SALT USE**

Week commencing Monday .....

Streetscene/HO Roads/HO Salt Bins/HO Other (delete as appropriate)

	Date	Morrison untreated	Morrison treated	Wellfield	Meadowfield	Chilton	Fylands	Barford	Wolsingham	Middleton
Monday										
Tuesday										
Wednesday										
Thursday										
Friday										
Saturday										
Sunday										
<b>Totals</b>										

**This form, or nil return, to be emailed by 10am each Monday Morning**