

Cambridgeshire County Council Winter Service Policy and Operational Plan



2019 – 2020

Winter Service Operational Plan

Cambridgeshire County Council

September 2019

This document and its contents have been prepared and are intended solely for Cambridgeshire County Council information and use in relation to winter service delivery

Document history

Revision	Purpose/description	Originated		Reviewed	Authorised Date
Rev 3	Annual Update				

Change Log

Rev	Section	Description	Date

Sign Off

Name	Signature	Date
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1. Document Circulation List

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2. Introduction

2.1. Background

The winter service operations of Cambridgeshire County Council are jointly provided by Skanska and Cambridgeshire County Council.

The Winter Service deals with regular, frequent and reasonably predictable occurrences like low temperatures, ice and snow, as well as exceptional weather events.

Although a specialised area, the Winter Service is a significant aspect of network management both financially and in terms of its perceived importance to road users. It can also have significant environmental effects.

3. Key Issues

3.1. Legal

Cambridgeshire County Council is the highway authority for Cambridgeshire. Their duty to maintain the highway is set out by Section 41 of the Highways Act 1980 as amended by S111 of the Railways and Transport Safety Act 2003 (which came into force on 1 November 2003). This duty is not an absolute duty.

This amendment inserted after section 41(1) of the Highways Act 1980 (c. 66) (duty of highway authority to maintain highway) the following requirement:

“(1A) In particular, a highway authority is under a duty to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow and ice”.

The Traffic Management Act 2004 placed a network management duty on all local traffic authorities in England. It requires authorities to do all that is reasonably practicable to manage the network effectively to keep traffic moving.

Through the adoption of this Winter Maintenance Policy and Operational Plan Cambridgeshire County Council are able to demonstrate that they are meeting their current legal obligations, and are doing so in a way which ensures that their resources are being deployed in the most economic, efficient, effective and environmentally friendly manner.

3.2. Policy and Guidance

Well-maintained Highways (Code of Practice for Highway Maintenance Management) issued in July 2005 recommends that a highway authority should prepare a Winter Maintenance Policy Statement and produce a Winter Maintenance Operational Plan and update it annually. Cambridgeshire County Council undertakes this role in consultation with their provider.

On the 18th September 2013, the UK Roads Board issued an updated regulations (this is known as Appendix H, Winter Service Practical Guidance) to the Well Maintained Highways (Code of Practice for Highway Maintenance Management).

Appendix H suggests that highway authorities and other winter service providers review their policies against the context of Appendix H.

This WINTER SERVICE POLICY AND OPERATIONAL PLAN is a Controlled Document with Cambridgeshire County Council system as recommended. It is essential that all of the new Appendix H recommendations have been properly considered as part of a full cost / benefit analysis before any implementation can be approved by Cambridgeshire County Council.

3.3 Resource

Cambridgeshire County Council have a contractual arrangement with Skanska in providing aspects of the winter service including qualified drivers and

supervision.

Cambridgeshire County Council have arrangements to contract hire gritting vehicles with ECON Engineering Ltd.

Funding for the winter maintenance precautionary salting service is based on an average of the previous five years expenditure. The occurrence of severe weather conditions which necessitates additional snow clearance to be undertaken may require consideration to be given by both authorities to provide additional resources to maintain the service; this is usually through a call on general contingency funds of each authority.

3.4. Risk and Resilience

In the event of severe winters it is possible that there will be a national shortage of salt supplies, with Government dictating how salt supplies are allocated. If this happens then Cambridgeshire County Council may be required by Government to reduce the number of roads that are treated in anticipation of ice.

Cambridgeshire County Council has a robust stock management system in place to ensure 6 days resilience at 6 runs per day which is extreme usage.

3.5. Salt Stock Level Management Systems.

There may also be other influencing factors that may affect the ability to treat the network of roads salted in anticipation of ice. These factors include; Health pandemics affecting the available labour force, Fuel shortages.

3.6. Environmental Implications

A balance needs to be made between the ever increasing demands for wider coverage of the network in terms of salting and the cost and environmental effects of doing so.

The value of keeping roads open and relatively safe in icy conditions using salt is widely acknowledged. If roads are not cleared, the impact of accidents and increased fuel consumption are likely to be significant in environmental and economic terms.

The rock salt that is used as part of the Winter Service is a natural herbicide and will cause damage to flora and fauna as well as causing damage to concrete structures over time. An effectively managed Winter Service contributes to a minimisation of damage to the environment.

3.7. Equalities Impact

Increasing the robustness of the winter maintenance service can ensure that the priority highway network is available for all to use during periods of adverse weather.

4. Decision Making Process and Control Procedures

4.1. Introduction

This document provides guidance on how the decision-maker arrives at the daily plan of action. Due to the variable nature of the weather the decision-maker should follow the procedure and recommendations, but may adjust them accordingly to suit the situation.

The document is based on the experience of Winter Service personnel. With the experiences over future years it is hoped that these guidance notes will be updated annually and be read in conjunction with the current Winter Service Operational Plan.

The treatment decision and spread rates are based on the Code of Practice for Well Maintained Highways 2005 (updated 13.8.12, known as Appendix H – Winter Service Practical Guidance document.

4.2. Responsibilities

Ownership and maintenance of the Vaisala monitoring station sits with Cambridgeshire County Council.

Decisions on when to salt are held by Cambridgeshire County Council.

4.3. Treatment Decisions

Current arrangements on the criteria taken into account and decision making process on when to carry out precautionary and reactive winter maintenance are based on national best practice.

The process of communicating and actioning treatment decisions is outlined below.

4.4. The Roles of the Forecaster and the Decision Maker

The forecaster notifies the decision-maker of expected conditions, along with any estimated time when conditions will change. It is not the job of the decision-maker to forecast weather conditions but to interpret the forecast into a plan of action. Nor is it the job of the forecaster to recommend actions for the County Council.

The decision-maker needs some knowledge of meteorology to understand the forecast. Decision Makers and Managers need to have completed Institute of Highway Engineers Winter Services. There will be occasions when the forecast is uncertain, or marginal, leading the decision-maker to liaise directly with the forecaster. It is the forecaster's job to advise the decision-maker about possible weather scenarios and help to interpret the weather information.

It is essential that decision-makers keep abreast with developing weather conditions. This will be achieved in a number of ways including monitoring weather forecasts, "Roadmaster", MeteoGroup or on the Internet.

4.5. Situation Status

Five different situations are covered by these procedures:

Precautionary salting – salting for frost and ice

Potential snow – salting for the possible onset of snow

Snow clearance – salting for snow that has settled on the highway but is not of significant depth or its presence is expected to be short lived.

Snow clearance (above 50mm) – ploughing and salting for snow that has settled on the highway in sufficient amounts to be considered to be an obstruction.

Ice emergency – salting or other actions to clear persistent frost or ice

Each of these will be a different “situation status”. It is the responsibility of the Highway Maintenance Manager to check and record the current situation status on a daily basis.

4.6. Daily Procedures

The Decision Maker and Deputy Decision Maker (Decision Makers) will interrogate “Road Master” at 1200 – 1400hrs each day and make a decision to cover the 24-hour period covered by the forecast. The decision will cover winter service actions required during the period or where conditions are uncertain specify a time by which a further decision will be made.

Decisions will follow the standard format included in Appendix A and will specify:-

- a) The current situation status;
- b) The expected conditions;
- c) The action (including no action) to be taken, or a time when further advice will be issued and a time when action may be expected;
- d) Rate of spread to be applied
- e) An email will be circulated to all interested parties

It is the responsibility of the Decision Makers is to be available to receive instructions and undertake actions as required on a twenty-four hour basis. Any concerns about the decision should be raised with the Assistant Director of Highways.

The Service Provider shall have arrangements in place to receive the instruction via Vaisala Manager and a phone call from the decision makers.

- a) A time for the pre-salting operations to commence

(Service Provider available within 1 hours' notice)

b) A time for the operations to be completed

4.6.2. Updated and Amended Decisions

On receipt of an unscheduled amended decision the decision makers will make arrangements for the instructed action to be carried out as far as is practicable.

4.6.3. No Action Required

When the decision maker believes that the treatment of the network is not necessary the Service Provider will be sent email informing them "No Action required" and a phone call from Skanska.

4.6.4. Precautionary Salting (P1 and P2)

4.6.5. Actions Required for Precautionary Salting

The Decision Makers will use the following terminology to instruct the Service Provider:-

"Pre-Salt"

On receiving an instruction to carry out a "pre-salt" the Service Provider will make arrangements for the salting of the precautionary routes.

a) A time for the pre-salting operations to commence
(Service Provider available within 1 hours' notice)

b) A time for the operations to be completed

The specified period of operation shall not be more than 3 hours under normal traffic conditions.

Guidance Note:

1. Unless specified by the Decision Makers "pre-salt PM" operations shall commence no earlier than 1800hrs. Roads identified as traffic sensitive (as identified by the Traffic Manager) shall
2. Commence no earlier than 1900hrs on weekdays.
3. Unless specified by the Decision Maker "pre-salt AM" operations shall be completed by 0700hrs under normal traffic conditions

4.6.6. "Standby"

On receiving this instruction, the Service Provider will prepare for a "pre-salt" and await confirmation or further instructions from the decision maker. The instruction shall also contain a possible period of operation and a time that the confirmation will be issued by.

4.6.7. Re-treatment after a Precautionary Action

A decision to re-treat or to treat localised areas as required will be taken by the decision maker.

4.6.8. Press Reporting Policy

Throughout the winter period the County Council Communications Team and Winter Maintenance Team will work together to notify the public of planned precautionary salting actions via the local media, in particular radio stations and the regular traffic and travel bulletins, by issuing information to the newspapers and other media outlets and via regular information and updates on social media including Twitter and Facebook.

4.7. Dealing with requests for extra salting to that planned or underway

Requests for salting off of the Priority 1 network are normally received from two sources, either from the public and Town / Parish Councils, or from Cambridgeshire Police Control Room.

i) Cambridgeshire Police Control Room

Generally requests from the Police for salting off of the Priority 1 network are made as a result of reported road traffic collisions, normally on the Priority 2 network. Consideration should be given to carrying out salting off of the Priority 1 network using the following parameters as a guide.

ii) The public and Town / Parish Councils

Such requests for salting off of the Priority 1 network should be resisted. The normal precautionary salting service should be explained using the annual winter maintenance publicity for reference. Driver advice can be given depending on the situation of the request. An offer to send publicity to the complainant may also help.

Scope of problem, e.g. number and severity of reported accidents.

Availability of resources, e.g. are winter maintenance vehicles already out salting the Priority 1 network?

Time of request from Police.

Time needed for a vehicle to attend and treat the site.

Whether road surface temperatures (RSTs) are expected to remain below zero for some time.

Time RSTs are expected to rise above zero.

Expected precipitation.

It is important all decision are logged via Viasala Manager.

4.8. Snow Desk

During periods of extreme snow events the Snow Desk convenes snow summit meetings to ensure proper coordination and communication of decisions.

The Snow Desk may recommend revisions to the policies and procedures within this Plan.

4.8.1. Response to Snow Forecast

The Decision Maker will notify the Assistant Director of Highways and the Service Provider that the situation status is “potential snow”, as soon as the Decision Maker receives such a forecast from MeteoGroup.

The Assistant Director of Highways will advise the Cambridgeshire Emergency Management Team of extreme weather conditions or if snow of greater than 5cm accumulations is forecast in the 2-5 day forecast.

Dependent upon operational considerations and the severity of forecast and/or actual conditions the decision maker shall:

- a) Liaise with MeteoGroup in monitoring “Road Master” and the developing forecast situation
- b) Continue to issue instructions for precautionary salting until the onset of snow
- c) Ensure all local contractors are notified of any snowfall whether reported or observed and further information received from the Met Consultant

The aim of these procedures is to ensure that all winter service officers are aware of the developing situation.

4.8.2. Un-Forecast Snow

In the event of completely un-forecast snow in any area the decision maker should take appropriate action as soon as is practicable and notify The Assistant Director of Highways of the action taken and prevailing conditions. The Assistant Director of Highways will then issue appropriate instructions for the remaining areas including changing the situation status as necessary.

4.8.3. Snow Clearance and Ice Emergency

When there is significant snowfall that is settling or anticipated to settle on the highway the Assistant Director of Highways, in consultation with the Decision Maker and the Service Provider, will declare the situation status as “snow clearance” for any or all Areas and advise the Cambridgeshire Emergency Management Team to activate the Emergency Centre.

During snow clearance the Decision Maker will continue to monitor forecast and actual conditions countywide using MeteoGroup and the “Vaisala Manager” system along with information provided by the Service Provider. The Decision Maker will issue additional instructions or change the situation status, when required and notify the Cambridgeshire Emergency Management Team of changes.

Cambridgeshire Emergency Management Team to provide support staff and arrange a helpline team.

The Emergency Management Team would:-

- (a) Establish a “snowline” for the public

- (b) Establish links with District/City Councils
- (c) Arrange contact with the media
- (d) Issue situation reports for Districts, Police and elected members
- (e) Mobilise any additional resources required by the four Area Offices
- (f) Link into Police Gold Control
- (g) Co-ordinate information
- (h) Deal with other service issues such as school closures, services to the elderly, policy on staff coming to work etc.

4.9. Railway Level Crossings

Salting will not be applied within 12 metres either side of the railway lines.

See Appendix I for details of snow clearing at level crossings.

5. Service Provision

5.1. Winter Maintenance Period

For the purposes of winter maintenance planning the winter maintenance season runs from the start of October to end of April. The table below highlights the relative risk at the differing points throughout the season.

Risk Period	Definition	Time	Weather conditions
High	A period of standby to ensure salting starts within one hour of instruction. Possibly continuous 24 hour operations.	December, January, February	Severe – probable
Medium	A period of standby with rare possibility of continuous 24 hour operations	November and March	Severe – may occur
Low	Call out	October and April	Severe – not expected

5.2. Precautionary salting – Treatment before the onset of freezing conditions

Spread rates for precautionary treatments before frost are replicated below.

H6.20 of Appendix H states that for uncovered salt spread rates should not be lower than 15/20gms. Experience shows that spreading at 8gms is satisfactory as salt used is still relatively fresh. Spread rates used in this table are approved by Cambridgeshire County Council.

(Taken from the Treatment Table in Appendix A)

Frost or forecast frost Road Surface Temperature (RST) and Road Surface Wetness	Normal spread rates
RST at or above -2°C and dry or damp road conditions	8
RST at or above -2°C and wet road conditions	8
RST below - 2°C and above -5°C and dry or damp road conditions	11
RST below - 2°C and above -5°C and wet road conditions	20
RST at or below - 5°C and above -10°C and dry or damp road conditions	20
RST at or below - 5°C and above -10°C and wet road conditions	

NOTE: The following points must be considered when using the spread rate tables.

1. The given spread rates are for sections of well drained roads without ponding or runoff from adjacent areas.
2. The rates may be adjusted to take account of variations occurring along routes such as temperature, surface moisture, road alignment and traffic density.
3. The rates may be adjusted to take account of residual salt levels and H8.25 of Appendix H lays out guidance in this respect.

In making a decision reliance should not be placed on residual salt levels on negatively textured thin surfacings, also that salt levels indicated by roadside weather stations should not be relied on with any accuracy, and that in arriving at a decision then visual inspections of the network should be undertaken.

A decision to consider residual salt in making a decision whether to salt or not will only be taken when the air humidity is forecast to be dry, the dew point temperature is predicted to remain below the road surface temperature, and the road is forecast to remain dry. Also that these parameters are predicted to remain as such throughout the forecast period.

Before a decision is taken; a) not to carry out a salting action due to residual salt or b) to carry out a salting action at a reduced spread rate due to residual salt, then a visual inspection will be undertaken on a representative sample of existing sites on the Priority 1 network across both Cambridgeshire County Council. These sites are;

5.3. Treatments for Snow and Ice

Preparation before ice and snow

Before snowfall and where practicable, consideration will be given to spreading salt on as much of the network as possible.

When snow is forecast the rate of spread should be increased to 40gms per square metre, which should help melt the initial snowfall and provide a wet surface from which to commence any ploughing.

Precautionary Treatments before snow or freezing rain

Weather conditions	Light or medium traffic (Category 3)
Light snow forecast	Spread: 20-40g/m ²
Moderate/Heavy snow forecast	Spread: 40 or 2x20g/m ²
Freezing rain forecast	Spread: 40 or 2x20g/m ²

NOTE: The lower rates (e.g. 20g/m² for dry salt) can be used if the snow is likely to settle quickly, e.g. when the road surface temperature is below zero, the road surface is not wet and the snow is not wet, and/or there is little traffic after snowfall begins and settles.

5.4. Treatments during snowfall

Ploughing should start and, where practicable, be continuous to prevent a build-up of snow.

When ploughing is carried out, snow ploughs will be set at a height to avoid risk of damage to the plough, the road surface, street furniture and level crossings.

Ploughing shall continue until all traffic lanes are clear. Clearance of snow should be concentrated on a hierarchical basis, that is A and B class roads, then C class roads, and finally the UC class roads in the Priority 1 network.

Treatments During Snowfall	
Plough to remove as much material as possible (e.g. slush, snow, compacted snow) (ploughing should be as near as possible to the level of the road surface)	
No ice or compacted snow on surface	Ice or compacted snow on surface (see Note 2)
Spread 20g/m ² (See Note 1)	Is traffic likely to compact subsequent snowfall before further ploughing is possible?
YES	NO
To provide a de-bonding layer, spread: 20g/m ² (See Note 1)	No de-icer should be spread

5.5. Treatment when slush is on the road (and it may refreeze)

Remove as much slush as possible by ploughing to reduce the amount of material available to form ice when temperatures drop, as well as to reduce the amount of salt required for subsequent treatments.

Treatment For Slush When Freezing Conditions Are Forecast
Plough to remove as much slush as possible (ploughing should be as near as possible to the level of the road surface).
After removing slush, spread: 40g/m ² (See Note 1)

5.6. Treatment when thin layers of ice (up to 1mm) have formed.

Treatment For Thin Layers Of Ice (Less Than 1mm Thick)	
Forecast weather and road surface conditions	Medium/Light Traffic
Lower of air or road surface temperature higher than -5°C	Spread: 40g/m ² of dry salt, or 40g/m ² of salt/abrasive mix (see Notes 1 and 2)
Lower of air or road surface temperature less than -5°C	Spread: 40g/m ² of salt/abrasive mix (50:50) (see Notes 1 and 2)

5.7. Treatment for thicker layers of ice or compacted snow

Treatment For Layers Of Compacted Snow And Ice	
Plough to remove as much material (e.g. slush, snow, compacted snow) as possible from the top of the compacted layer	
Medium Layer Thickness (1 to 5 mm)	High Layer Thickness (greater than 5mm)
For initial treatment, spread: 40g/m ² of salt/abrasive mix (50:50) (see Notes 1, 3, 4 and 5) For successive treatments, spread: 20g/m ² of salt/abrasive mix (50:50) (see Notes 1, 3, 4 and 5)	For initial treatment, spread: 40g/m ² of abrasives only (see Notes 2, 3, 5 and 6) For successive treatments, spread: 20g/m ² of abrasives only (see Notes 2, 3, 5 and 6) After traffic has started breaking up the layer, spread: 20g/m ² of salt/abrasive mix (50:50) so salt can penetrate the layer and reach the road surface (see Notes 1, 3, 4 and 5)

When thicker layers of ice have formed, including after freezing rain, the recommended treatment is as detailed in the table below.

Cambridgeshire County Council are responsible for the winter maintenance treatment of the Guided Busway. Being of concrete construction this is treated with glycol (and rock salt is only used in snow conditions). For Cosh sheet see Appendix D.

5.8. Continuous working for the clearance of persistent Ice and Snow

During times of persistent ice and or snow, it may be necessary to carry out continuous salting and ploughing regimes, and treatments on the Guided Busway. As these types of operation increase costs, the instruction to commence all day continuous working will be agreed between the Duty Engineer and a senior officer at both Cambridgeshire County Council.

5.9. Procedure to be undertaken when it becomes impossible to keep the Priority 1 network in either or both Councils open to traffic`

During times of extreme ice or heavy and drifting snow it may become impossible within the resources available to keep even the Priority 1 network open to traffic.

6. Performance Monitoring and Record Keeping

6.1. General

It is important that the cost effectiveness of the winter maintenance operation is regularly assessed and in this respect this Winter Maintenance Policy and Operational Plan is reviewed annually by Cambridgeshire County Council, in the months preceding the winter season.

6.2. SKANSKA Operations

Service delivery is monitored by Cambridgeshire County Council's Network Management Team against the requirements of the respective contracts.

6.3. Salting /Snow Clearing Decision Making

At the time of the Cambridgeshire County Council decision maker and deputy decision maker making a decision as to whether or not to salt and or clear snow, a record form shall be completed in every case.

6.4. Operational Activities

During each salting or snow clearing action, the SKANSKA supervisors at each depot will record the information on the form. SKANSKA will forward their forms to Cambridgeshire County Council the day following each gritting action.

6.5. GPS Records

All salting vehicles operated in Cambridgeshire are equipped with Exactrak GPS Tracking and records of salting / snow clearing actions will be retained by Exactak (see 6.7. Record keeping).

6.6. Forecasting Service

Performance monitoring will be undertaken by Cambridgeshire County Council throughout the winter period. Vaisala Station provide data quality and data calibration tests once a month. (see examples in Appendix H)

6.7. Record Keeping

All other records and performance monitoring reports are to be kept for 21 years for GPS stored by Exactrak.

7. Route Hierarchy

7.1. Introduction

Highways England is responsible for the Motorway and Trunk Road network across both Council areas. Cambridgeshire County Council therefore have no winter maintenance responsibility for the M11, A14, A1, A1 (M), A11, A47 and A428.

7.2. Priority Network

This is a network that is treated in the rare event that resources are not available for treating the highway authorities Precautionary salting networks and the governments Salt Cell is convened. Examples of such rare events include health pandemics meaning drivers are not available, national fuel shortages, national salt shortages etc.

A review in 2011 was undertaken on redefining the Priority 1 network. The main changes being implemented under this review are to include important link roads to upper and middle schools, ambulance / fire station etc.

The Priority 1 network is therefore defined as:-

A and B class (category 2 and 3a) carriageways, plus certain other roads serving upper and middle schools, and the premises of the emergency services that are not on or very close to A and B roads.

7.3. Priority Network

The Priority 1 network is the network of roads that is routinely treated for ice and snow. Priority will be given to maintaining the Priority 1 salting network clear of ice and snow.

The Priority 1 network is defined as all A and B class (category 2 and 3a) roads, most C class (category 3b) roads and some UC class (category 4 and 4a) roads. It includes busy peak hour commuter routes, main peak hour bus routes, routes to fire stations, ambulance stations, hospitals, and most but not all school bus routes and roads past all middle and upper schools. The Guided Busway is included within the Priority 1 network. The complete Priority 1 network has been devised so that most villages of 500 plus residents are close to a treated road.

Subject to weather forecast and prevailing conditions the Priority 1 salting network will be treated prior to the formation of ice or fall of snow. The length of this network enables it to be treated within 3 hours of gritters leaving a depot.

Gritting routes across the county, including primary routes as shown on our [website mapping tool](#).

7.4. Priority Network

Identifies the road network that, although not treated as a regular priority, is considered important enough to warrant treatment during prolonged winter weather when the Priority 1 network is passable by traffic, free from major ice and snow, and resources are available to add this Priority 2 network to the Priority 1 salting and or ploughing regime.

No precautionary salting shall be carried out on this network. This network of

roads shall be considered for salting and snow clearing only in periods of prolonged adverse weather and then only when resources are not required on the Priority 1 network.

Gritting routes across the county, including primary routes as shown on our [website mapping tool](#).

7.5. Priority 3 Network

This remaining network not forming part of the Priority 1 or 2 networks consists of minor rural roads which carry relatively little traffic, together with urban estate roads, and will receive no de-icing or snow clearing treatment.

Cambridgeshire County Council offers town and parish councils the opportunity to have local delegated powers for the local councils to take responsibility for salting parts of the Priority 3 network as they deem fit.

Salt can be provided by Cambridgeshire County Council at a charge to Town and Parish Council's to assist them in this respect.

Gritting routes across the county, including secondary routes as shown on our [website mapping tool](#).

7.6. Footways (including pedestrianised areas) and Cycle ways

Footways and cycleway shall receive precautionary salting prior to frost and/or ice forming when the Network Management Team deem that the forecast warrants such treatments being undertaken, usually when the forecast specifically depicts a prolonged cold snap or snow event.

The treatment of footways and cycleway will be undertaken by use of the following means:

Scope of problem, e.g. number and severity of reported accidents.

Quad bike, brine sprayer and Epoke spreader

Knapsack sprayer

Push spreader/sprayer

Manual means

Dependent upon conditions and locale, either SafeThaw, SafeCote, rock salt or brine will be utilised.

City, District and Parish Councils will in some areas assist with this operation on a trial basis (see Appendix F for detailed maps and protocol).

7.7. Cambridge Bridges

As part of precautionary salting, the bridges detailed in Appendix G will be treated using SafeCote treated salt which will be spread by hand push equipment or knapsack sprayed SafeThaw.

During periods of prolonged cold weather, when precautionary salting is undertaken on consecutive days, the relevant Network Management Officer will monitor conditions on the selected bridges. As salt retention on the bridge deck

and ramps is likely to be greater than on a normal carriageway, consecutive salting may be suspended if monitoring shows that sufficient residual salt is retained to protect the routes from frost.

7.8. Rising Bollard Barrier Operation in Cambridge City

In central Cambridge a pedestrian priority area operates 24 hours a day, 7 days a week. The bollards which were previously at the below sites have all been replaced with cameras. All the areas are in a restricted zone and are in operation 24 hours a day, 7 days a week.

Regent Street – leading into the City near Cambridge City Council offices

Emmanuel Road (leading into and out to the City) – 24 hours

Bridge Street (heading in and out of the City)

Authorised users will be issued with an electronic tag for fixing to a gritter to automatically operate the rising bollards. When the gritting vehicles wish to pass through the rising bollards the following procedures must be followed:

Electronic tag operation:

on approaching the rising bollards, stop the vehicle at the stop line

the vehicle will be detected by loops in the road which will trigger the lowering of the bollards

during the lowering of the bollards watch the signals located in the traffic signal pillar immediately in front of the vehicle which will display RED. When the bollards are fully retracted the signal will turn to GREEN. Only when the signal changes to GREEN should you then proceed with care through the rising bollard opening.

If you approach the rising bollards and another vehicle or vehicles is/are already at the stop line, form a queue and proceed through to the stop line as the vehicles in front are allowed through the rising bollards.

Do not attempt at any time to follow a vehicle in front through the rising bollard opening without following the steps set out in points 1-3 above.

Do not at any time attempt to drive through the rising bollard opening unless the GREEN signal is displayed.

Do not use the bollards to judge when to drive through the rising bollard opening – always use the GREEN signal as the indication of when to proceed.

7.9. Road Closures

During the winter maintenance period, planned or unplanned road closures on the Priority 1 network may cause traffic to be diverted on to roads on the Priority 2 or 3 network that are not normally salted. In these cases, the diversionary route will be treated as part of the Priority 1 network and will be salted for the duration of the closure.

There may be occasions when one of Highway England trunk roads may be closed,

either planned or as an emergency. In such cases heavy levels of traffic will be diverted on to local roads. Highways England have stated that they will not salt a non-trunk road even if it is taking trunk road traffic, and therefore the diversion route will be added to the Priority 1 network if it is not already included.

For off peak road closures on the Priority 1 network, the timing of the closures shall be considered together with the predicted weather conditions in deciding whether to treat the diversionary route.

For emergency short term road closures on the Priority 1 network, these roads should be treated at the earliest opportunity or as the closure is lifted.

8. Weather Forecasts and Ice Detection Systems

8.1. Weather Forecast

Details of the current weather forecasting from Meteo Group are given at Appendix C.

8.2. Vaisala Detection System

Cambridgeshire County Council owns 6 Vaisala Station system which records road weather information and provides a medium for the forecasting consultancy to interrogate and to input data. The complete system assists the duty officers in arriving at more accurate and efficient decisions together with providing a historical weather record. The daily weather forecasts are accessed via the Vaisala Station website. The forecast provider also provides a 24 hour telephone consultancy service where duty officers can discuss particular forecasts to help them come to a decision. This is important when forecasts are marginal.

In Cambridgeshire there are nine automatic road weather monitoring stations. These are equipped with sensors to monitor air and road surface temperature, rainfall, humidity, road surface conditions and residual salt.

The forecaster collects information from the sensors as often as is necessary and this direct access enables more accurate forecasting particularly as to the timing of the onset of freezing conditions.

The information from the sensors is also available to the duty officer and enables actual temperatures to be monitored and plotted against the prediction graphs.

In case of Vaisala Station failure, duty officers will seek information via telephone from the forecast provider.

The Vaisala Station archives predicted and actual temperatures together with the salt status of the carriageway. This information will be kept for 21 years.

Information on the Vaisala Station and road weather monitoring stations are detailed at Appendix B.

8.3. Vaisala Outstation Calibration

All Vaisala outstation sensors are to be calibrated annually prior to the winter season. Annual calibration records will be retained by Cambridgeshire County Council. The frequency of and the responses to equipment downtime should be monitored. Refer to Appendix N.

9. Communications

9.1. Operational Communications

All personnel involved with operating winter maintenance vehicles are equipped with a communication system in order that contact can be made at all times between the operational centres and the vehicles.

Inter Departmental Communications

The need for strong links between the Decision Makers and Council departments is a key requirement to enable effective liaison and coordinated decision making.

A roster for the Cambridgeshire County Council duty officers will be circulated in October prior to the start of winter maintenance service.

9.2. Cambridgeshire County Council

Website: www.Cambridgeshire.gov.uk

The Cambridgeshire County Council Highways duty manager is responsible for providing daily updates of gritting activities on the Cambridgeshire County Council website.

More information on Cambridgeshire County Council's gritting and winter maintenance programme, including treated routes, can be found on the website or by using:

#grittertwitter on Twitter @CambsCC 

The Head of Transport Operations staff provides updates on service provision for the Councils social services and schools transport.

The website also includes a copy of this policy document, details of routes that are treated and advice on safer driving.

For more information on staying warm and well this winter visit the Met Office 'Get Ready for Winter' website:

<http://www.metoffice.gov.uk/learning/get-ready-for-winter/health-and-welbeing>

9.3. Publicity

It is important that the highway user is aware of and understands Cambridgeshire County Council's approach to winter maintenance, plus advice on how to prepare for and undertake a vehicular journey. Likewise for pedestrians, how to prepare to walk on footpaths that may be icy, even to refrain from walking wherever possible in severe winter weather

Highways users should refer to the Cambridgeshire County Council website for information.

9.4. Media Communications

In the event of heavy ice and or snowfalls resulting in a risk of blocked roads, a one-point contact should be made between CCC Winter operations team and the IHMC so that traffic information can be passed direct to the travelling public.

Information contained on the website will be supplemented by Cambridgeshire County Councils press releases as necessary.

9.5. Press Reporting Policy

When there is snowfall and snow ploughs are employed to clear roads, a member of the Service Manager's staff will be appointed to work with and attend the Cambridgeshire Emergency Management Team office. The Service Manager's office will collate information from all Areas and agency areas on the condition of roads regarding snow drifts, blocked roads, etc. and will report information to:-

Cambridgeshire Emergency Management Team duty officer

Service Director, Infrastructure Management & Operations

Police and emergency services

County Press Officer with information for forwarding to press, radio, television and motoring organisations.

Cambridgeshire Direct

This press reporting procedure is to be in place whilst snow ploughing operations are in progress. It is envisaged that the procedures will operate during office hours or between 8am and 8pm 7 days a week in extreme conditions. Close liaison with the Police Press Officer will be required.

10. Winter Maintenance Depots and Salt Stocks

10.1. Table of Depots and Salt Stocks

FENLAND	Melbourne Avenue March PE15 0EN Telephone: 01353 650 570	2,500 tonnes salt 30,000L brine
EAST	Witchford Road Ely Cambs CB6 3NR Telephone: 01353 650 570	2,500 tonnes salt 30,000L brine
SOUTH	Station Road Whittlesford Cambridge CB2 4NL Telephone: 01223 699 220	Salt purchased from Highways Agency 30,000L brine
HUNTS	Stanton Way Huntingdon Cambs PE29 6PY Telephone: 01480 372 479	3,000 tonnes salt 30,000L brine

Salt usage throughout the period is reported by the Cambridgeshire County Council duty manager to the Department of Transport.

11. Salt and Salt Bins for Community Use

11.1. Policy for the Provision of Salt Bins by the highway authority

A highway authority does not have a legal responsibility to provide salt bins on the highway network. Salt bins are provided for residents to self-help in salting the roads and footways in their areas. In order for the bin to be utilised, it must be provided close to residents who are prepared (but not obliged) to spread the salt.

Salt bins are and can be provided for known trouble spots such as sharp bends, steep hills, etc., and are predominantly used during times of snow fall but little used during the rest of the winter period.

Ensuring known trouble spots on the Priority 1 salting network and elsewhere have a salt bin assists in reducing incidents and accidents with a consequent saving to the environment through less use of materials to affect repairs.

Each bin is to be checked annually and refilled before the start of the winter season. Bins that are either broken or worn are to be replaced as necessary. A stock level of around 15 bins will be maintained.

List of bin locations can be found on our website, under gritting road, cycleways and paths.

11.2. Grit/Salt Bins

- 11.2.1. Grit/salt bins are provided by the local council (parish/town/city/district council) with the intention that members of the public will use them on a voluntary basis. The County Council will therefore not accept any liability in respect of the treatment of the areas where the grit/salt bins are situated.

Because of the maintenance costs and environmental difficulties associated with the provision and use of grit/salt bins there is a general presumption against their use. However the County Council is prepared to agree to the provision of grit/salt bins in accordance with the following conditions:

All salt shall be kept in purpose made roadside bins

Bins shall be provided by local councils (parish/town/city/distr

Open salt heaps will not be permitted

- 11.2.2. Location of Roadside Grit/Salt Bins

Grit/salt bins shall only be located with the agreement of the Area Highway Officer, usually at hazardous sites on the non-precautionary network, e.g. steep gradients, sharp bends or areas where there is history of poor surface water drainage or ponding. This will be reviewed annually.

- 11.2.3. Providers of Grit/Salt Bins

Providers can either be a local council (parish, town, city, district) and they will be expected to fund the supply, installation and maintenance of the grit/salt bins. The bin shall normally be yellow in colour, although the Highways Maintenance Manager will consider requests for variations.

11.2.4. Replenishment of Salt to Bins

The County Council shall order the salt replenishment by the Service Provider. It is the responsibility of the local councils to notify the Highway Maintenance Manager when replenishment is required. The Service Provider will carry out replenishment at the expense of the County Council as soon as practical according to availability of resources and prevailing weather conditions and on a zonal basis.

12. Advice on Snow Clearance for Parish Volunteers

12.1. Snow Code – Tips on Clearing Snow and Ice from Pavements or Public Spaces

<https://www.metoffice.gov.uk/barometer/advice/your-home/the-snow-code>

Don't be put off clearing paths because you're afraid someone will get injured. Remember, people walking on snow and ice have a responsibility to be careful themselves.

Follow the advice below to make sure you clear the pathway safely and effectively.

And don't believe the myths – it is unlikely you will be sued or held legally responsible for any injuries if you have cleared the path carefully.

12.1.1. Stand Down

When weather conditions moderate or improve, arrangements for stand down to be notified by the Highways Maintenance Manager.

12.1.2. Clear the snow or ice early in the day

It's easier to move fresh, loose snow rather than hard snow that has packed together from people walking on it. So if possible, start removing the snow and ice in the morning. If you remove the top layer of snow in the morning, any sunshine during the day will help melt any ice beneath. You can then cover the path with salt before nightfall to stop it refreezing overnight.

12.1.3. Prevent slips

Pay extra attention to clearing snow and ice from steps and steep pathways - you might need to use more salt on these areas. Use salt or sand – not water.

Don't make the pathways more dangerous by causing them to refreeze. If you use water to melt the snow, it may refreeze and turn to black ice. Black ice increases the risk of injuries as it is invisible and very slippery. You can melt snow or prevent black ice by spreading some salt on the area you have cleared. You can use ordinary table or dishwasher salt – a tablespoon for each square metre you clear should work. Don't use the salt found in salting bins – this will be needed to keep the roads clear. Be careful not to spread salt on plants or grass as it may damage them. If you don't have enough salt, you can also use sand or ash. These won't

stop the path icing over as effectively as salt, but will provide good grip underfoot.

12.1.4. Take care where you move the snow

When shovelling snow, take care where you put it so it doesn't block people's paths or drains. Make sure you make a path down the middle of the area to be cleared first, so you have a clear surface to walk on. Then shovel the snow from the centre of the path to the sides.

12.1.5. Offer to clear your neighbours' paths

If your neighbour will have difficulty getting in and out of their home, offer to clear snow and ice around their property as well. Check that any elderly or disabled neighbours are alright in the cold weather. If you're worried about them, try contacting their relatives or friends, or if necessary your local council.

12.2. Snow Clearing – Sub-Contractor & Farmers

In times of severe winter weather, the Network Manager may employ contractors and farmers with specialist plant and labour. Despite the nature of the situation, as with all Civil Engineering and Highways works, snow clearing is still subject to Health & Safety legislation.

13. Delegated Agreements with Town and Parish Councils Advice on Snow Clearance

13.1. Cross Boundary Arrangements with Other Authorities

The Network Manager shall liaise with all other highway authorities that border the county's road network to ensure the network coverage is co-ordinated with their respective precautionary networks. In the interest of efficiency and route planning, the Network Manager will agree to cross boundary routings where appropriate. Details of these arrangements are contained in Appendix F.

14. Responsibility of Water Utilities for Leaks onto the Highway

14.1. Responsibilities of Water Companies for Leaks onto the Highway Background

Under Section 82 of the New Roads & Street Works Act 1991 utilities can be held liable due to a failure of their apparatus. However the Traffic Management Act 2004 has placed other duties and responsibilities on utilities e.g. co-ordination and timing of repairs. This does not absolve the highway authority from any responsibility. In agreement with the water utilities, the protocol in dealing with such events is for the highway authority to act.

14.2. Procedure

On discovery of leaks or bursts on the Highway

It is anticipated that members of the public would notify the majority of leaks directly to the relevant utility. Any leaks found by the highway authority or its agents whilst carrying out their duties shall be reported immediately to the

relevant utility. Should this be during a period of sub-zero RSTs, or where sub-zero RST's are anticipated, then the highway authority or its agent are obliged to take suitable action until the utility can assume control of the site.

Suitable actions may include but not limited to: Salting the localised area on a regular basis. Damming or filtering the seepage through a rock salt bung. Protecting and signing the affected area. Any actions to prevent water seeping on to the highway surface.

Dealing with the water seepage

On assuming control of the site the utility is expected to carry out all actions and procedures as would be required under NRSWA. This will include the salting of any seepage onto the highway. However in some situations because of the excessive length of the road affected the highway authority will be required to assist. This assistance may be: Advice or guidance in the deployment of traffic management as would be expected under NRSWA, The provision of rock salt. Manpower and plant in order to salt large areas of the highway. Providing weather forecast and advising on precautionary salting actions.

Signing and protecting

If RSTs are forecasted to be at or below zero, the utility shall deploy 'Ice Warning Signs' to 554.2 with sub-plate 554.3 and shall advise the duty officer. Any further measures which may include extra signing or measures to warn highway users of the presence of ice shall only be deployed with the agreement of the duty officer. Lane or road closures may only be used in exceptional circumstances.

Recharging for works or assistance

The highway authority may recharge the utility for: Plant, labour and material supplied upon the utility's request, Action(s) carried out between notifying the utility and them assuming control of the site. Damage caused to the highway under section 82.

Any subsequent claims against the highway authority as a result of the leakage.

15. Vehicles and Plant

15.1. Introduction

The size, composition and standard of the vehicle fleet have a major impact on the economy, efficiency and effectiveness of the Winter Maintenance operation and vehicle unreliability can seriously undermine the integrity of the Winter Service Operational Plan.

15.2. Winter Maintenance Fleet

All vehicles that are used for spreading salt utilise Exactrak GPS vehicle tracking software so that documentary evidence of what a vehicle is doing at any one time can be accessed. Data recorded during a salting action are; speed, whether salting or not, direction of travel and GPS location, all at 5 minute intervals.

All salt spreading vehicles are speed related and calibrated accurately. Additional checks on the rate and width of spread are carried out mid-season.

All vehicles are single manned during normal precautionary salting and post salting for ice.

To ensure that sufficient drivers are available to cover for 24 hour manning in times of severe weather, three drivers are provided for each route.

All operatives of salt spreading equipment will be in possession of the 'Winter Maintenance Operators Qualification' awarded by City and Guilds Institute.

For a list of county gritters and loading shovels see Appendix E.

Appendices

Treatment Matrix Tables

Treatment Matrix A Spreading Rates

Treatment Matrix A Dry Salting (De-icer spread rates in g/m ²)													
Frost or forecast frost Road surface Temperature (RST) and Road Surface Wetness	Column Cvrg Traffic Loss	A PC HT NL	B PC HT HL	C PC MT NL	D PC MT HL	E FC HT NL	F FC HT HL	G FC MT NL	H FC MT HL	I GC HT NL	J GC HT HL	K GC MT NL	L GC MT HL
RST at or above -2°C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2°C and wet road conditions		10	13	13	16	8	11	11	13	8	8	8	10
RST below -2°C and above -5°C and dry or damp road conditions		15	20	17	20	13	17	14	17	10	13	11	13
RST below -2°C and above -5°C and wet road conditions		25	2 x 17	2 x 17	2 x 20	21	28	28	2 x 17	16	21	21	25
RST at or below -5°C and above -10°C* and dry or damp road conditions		29	2 x 19	2 x 16	2 x 19	24	32	27	2 x 16	18	24	20	24
RST at or below -5°C and above -10°C* and wet road conditions		2 x 24	2 x 32	2 x 32	2 x 39	2 x 20	2 x 27	2 x 27	2 x 32	30	2 x 20	2 x 20	2 x 24

Please see Table H 13 for variations to the rates given above

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

*Refer to section H10.21 notes 3, 4 & 5 when spreading at temperatures at or below -5°C.

CCC will operate under Treatment Matrix Column K unless instructed otherwise.

Treatment Matrix B Spreading Rates

Treatment Matrix B Pre-Wetted Salting (De-icer spread rates in g/m ²)													
Frost or forecast frost Road surface Temperature (RST) and Road Surface Wetness	Column Cvrg Traffic Loss	A PC HT NL	B PC HT HL	C PC MT NL	D PC MT HL	E FC HT NL	F FC HT HL	G FC MT NL	H FC MT HL	I GC HT NL	J GC HT HL	K GC MT NL	L GC MT HL
RST at or above -2°C and dry or damp road conditions		8	8	8	8	8	8	8	8	8	8	8	8
RST at or above -2°C and wet road conditions		8	10	12	14	8	9	10	12	8	8	8	9
RST below -2°C and above -5°C and dry or damp road conditions		13	16	16	18	11	14	14	16	9	11	11	12
RST below -2°C and above -5°C and wet road conditions		21	26	2 x 16	2 x 18	18	22	27	31	14	17	21	24
RST at or below -5°C and above -10°C* and dry or damp road conditions		26	2 x 16	2 x 16	2 x 18	22	27	27	31	17	21	21	24
RST at or below -5°C and above -10°C* and wet road conditions		2 x 21	2 x 26	2 x 31	2 x 36	2 x 18	2 x 22	2 x 27	2 x 31	28	2 x 17	2 x 21	2 x 24

Please see Table H 13 for variations to the rates given above

Key:

Cvrg: PC = Poor coverage, FC = Fair coverage, GC = Good coverage

Traffic: HT = High level, MT = Medium Level

Loss: NL = Normal loss, HL = High loss

*Refer to section H10.21 notes 3, 4 & 5 when spreading at temperatures at or below -5°C.

CCC will operate under Treatment Matrix Column K unless instructed otherwise.

Ice Station Locations and Details of Provider

MeteoGroup UK
292 Vauxhall Bridge Road
London
SW1V 1AE

Tel: 02038 683 300
Fax: 02038 683 309

www.meteogroup.com
weather@meteogroup.com
Provider of weather stations (Ice Station) and bureau service

Vaisala Ltd
Vaisala House
349 Bristol Road
Edgbaston
Birmingham
B5 7SW

Tel: 0121 683 1269

www.vaisala.com
ice.technical.support@vaisala.com

Attached details of daily forecast

36 hr
2 – 10 day forecast
Graph of anticipated road temperatures etc.

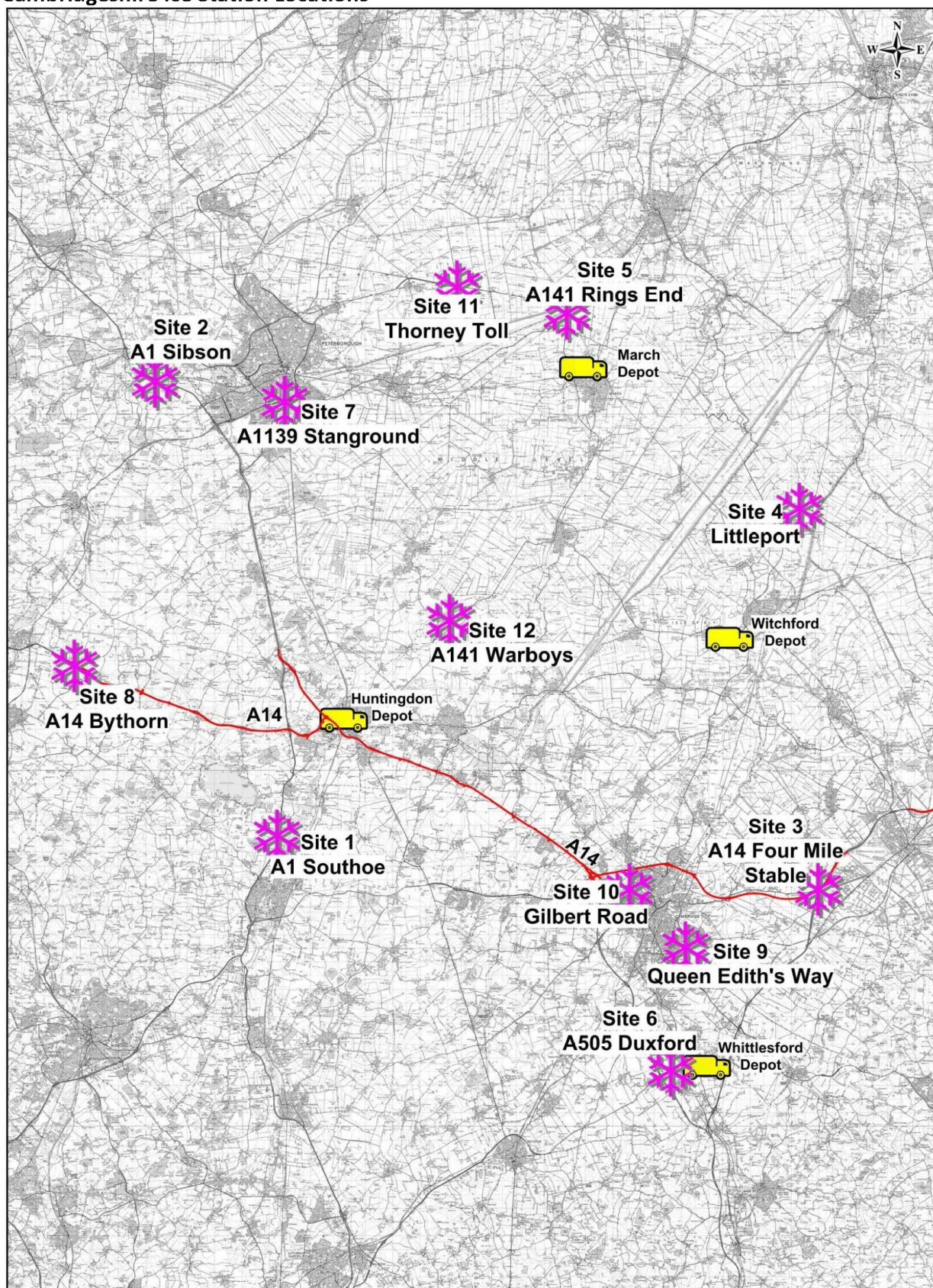
See appendix plan for details of weather station locations

Ice Station Locations

Site	1	A1, Southoe	Grid Ref	TL 187 650
Site	2	A1, Sibson	Grid Ref	TL 095 976
Site	3	A14, Four Mile Stable	Grid Ref	TL 586 610
Site	4	A10, Littleport	Grid Ref	TL 565 881
Site	5	A141, Rings End	Grid Ref	TL 398 023
Site	6	A505, Duxford	Grid Ref	TL 474 471
Site	7	A1139, Stanground	Grid Ref	TL 195 960
Site	8	A14, Bythorn	Grid Ref	TL 057 757
Site	9	C233, Queen Ediths Way	Grid Ref	TL 484 560
Site	10	B1049, Gilbert Road	Grid Ref	TL 443 603
Site	11	Thorney Toll	Grid Ref	TL 318 043
Site	12	A141, Warboys	Grid Ref	TL 312 799

See plan for site location

Cambridgeshire Ice Station Locations



Scale (at A3): 1:250000

Centred at: 531473,279966

Date: 25/10/2017 By: fn266

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Typical 24 Hour and 2-5 Day Weather Forecast

Road Weather Forecast delivery 11/5/17 11:00 AM Cambridgeshire County Council



November 5, 2017 11:00 AM

020 3808 2009

Cambridgeshire County Council

1 / 1

Forecaster: Paul Knightley

Dry this afternoon with spells of sunshine and passing areas of cloud. Rather chilly however, with a north-westerly breeze.

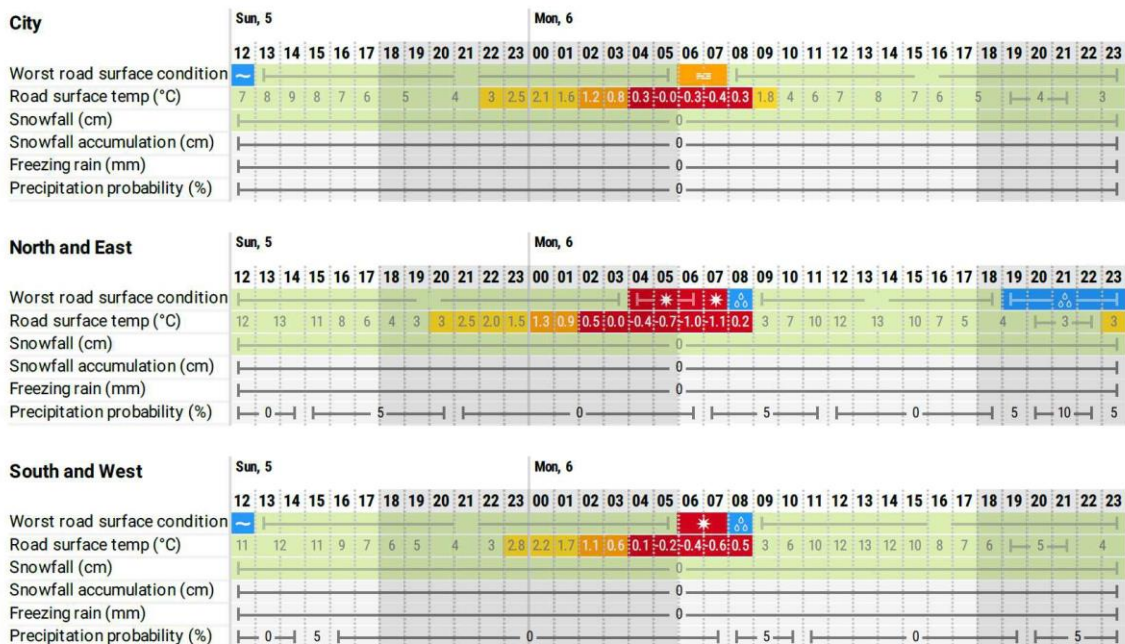
Tonight, it will essentially become dry, cold and clear with light winds. Some patchy mist or fog may develop by the end of the night.

Monday will have a fine but cold morning. It will then remain dry with spells of sunshine for the rest of the day, although cloud may thicken from the west later.

A cold night - see tables for details - high confidence.

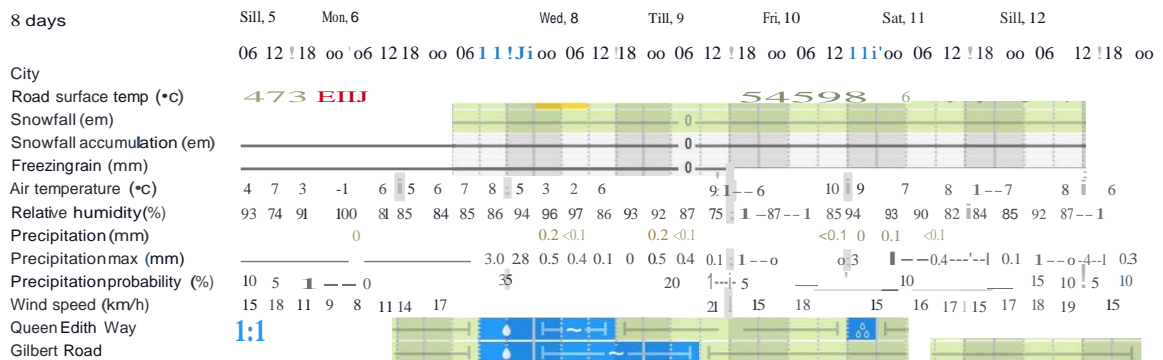
On Tuesday, a band of rain, perhaps heavy and persistent, will move across the region. Wednesday should be dry and fine with some sunshine, although thickening cloud and patchy rain is likely overnight. Once early rain clears to the east, Thursday will be a breezy day with bright or sunny spells and only the chance of an isolated shower developing.

The end of the week looks unsettled and windy with rain or showers. Another chillier flow from the north-west is possible next weekend, with high pressure perhaps building for a time into the start of the following week.



Legend: ☁ Freezing Rain * Snow ❄ Black Ice * Frost ☁ Sleet ☁ Condensation ~ Wet ** Rain snow mixed ● Snow pellets ● Rain ☂ Drizzle ☁ Fog
Road surface condition: Safe Wet Caution Close to hazard Hazard Major hazard

8 days



Appendix C

Road Weather Forecast delivery 11/5/17 5:00AM South and West

MeteoGroup

OFofcast for South and West @ November 5, 2017 05:00AM \,,: 020 3808 2009

 Cambridgeshire County Council

1/2

Forecaster: Richard Martin-Barton

Today, it should be dry and fine with spells of sunshine and variable cloud. Rather chilly however, with a north-westerly breeze.

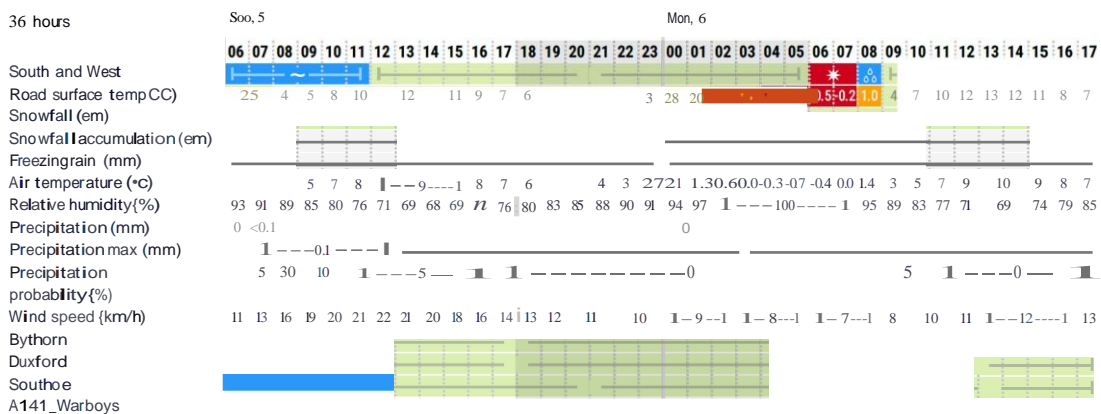
Tonight, it will essentially become dry, cold and clear with light winds. Some patchy mist or fog may develop by the end of the night.

Monday will have a fine but cold morning. It will then remain dry with spells of sunshine for the rest of the day, although cloud may thicken from the west later.

A cold night-see [tables](#) for details-high confidence.

On Tuesday, a band of rain, perhaps heavy and persistent, will move across the region. Wednesday should be dry and fine with some sunshine, although thickening cloud and patchy rain is likely overnight. Once early rain clears to the east, Thursday will be a breezy day with bright or sunny spells and only the chance of an isolated shower developing.

Through the remainder of next week, mixed weather conditions are likely with some decent dry and bright interludes, giving way to showery and breezier conditions from the west at times. Temperatures are expected to be often near to the seasonal average but a couple of much milder days are possible late next week.



Legend: -Freezing Rain * Snow ■ Black Ice * Frost ° Sleet ∅ Condensation — wet •• Rain snow mixed — Snow pellets • Rain ▾ Drizzle . . . Fog

Road surface condition: ○ Safe Wet — Caution Close to hazard || Hazard ||| Major hazard

8 days

South and West

Road surface temp (°C)

Snowfall (em)

Snowfall accumulat

Freezing rain (mm)

Air temperature (°C)

Relative humidity(%)

Precipitation (mm)

Precipitation max (mm)

Precipitation max (mm)
Precipitation probability

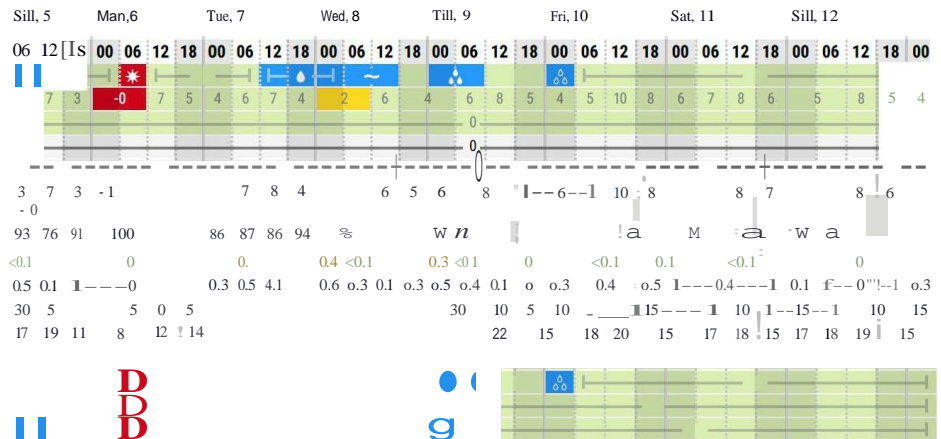
Precipitation probability (%)

Wind speed (km/h)
Bythorn

Duxford

Southoe

A14I_Warboys



Appendix C

Road Weather Forecast delivery 11/5/17 5:00AM North and East

MeteoGroup



Forecast for North and East

@ November 5, 2017 05:00AM

\; OZO 3808 2009



Cambridgeshire County Council

1/2

Forecaster: Richard Martin-Barton

Today, it should be dry and fine with spells of sunshine and variable cloud. Rather chilly however, with a north-westerly breeze.

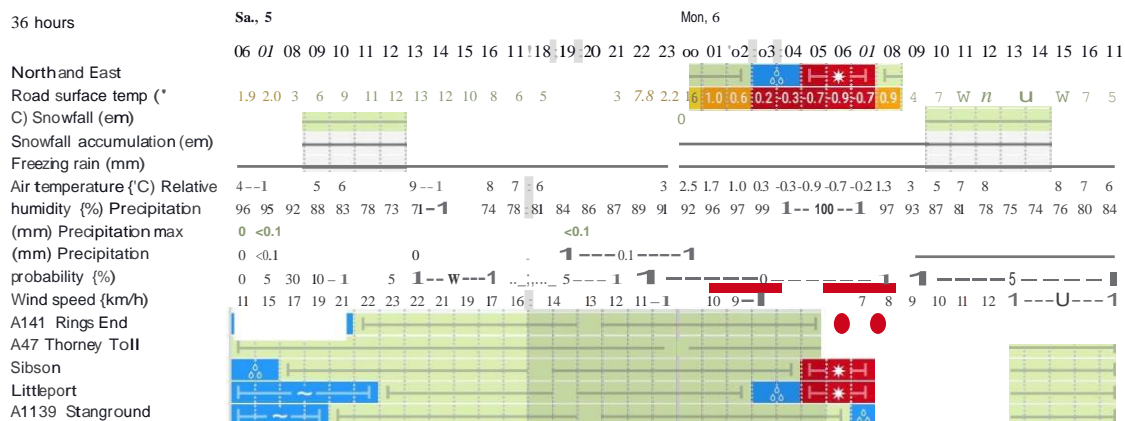
Tonight, it will essentially become dry, cold and clear with light winds. Some patchy mist or fog may develop by the end of the night.

Monday will have a fine but cold morning. It will then remain dry with spells of sunshine for the rest of the day, although cloud may thicken from the west later.

A cold night - see tables for details - high confidence.

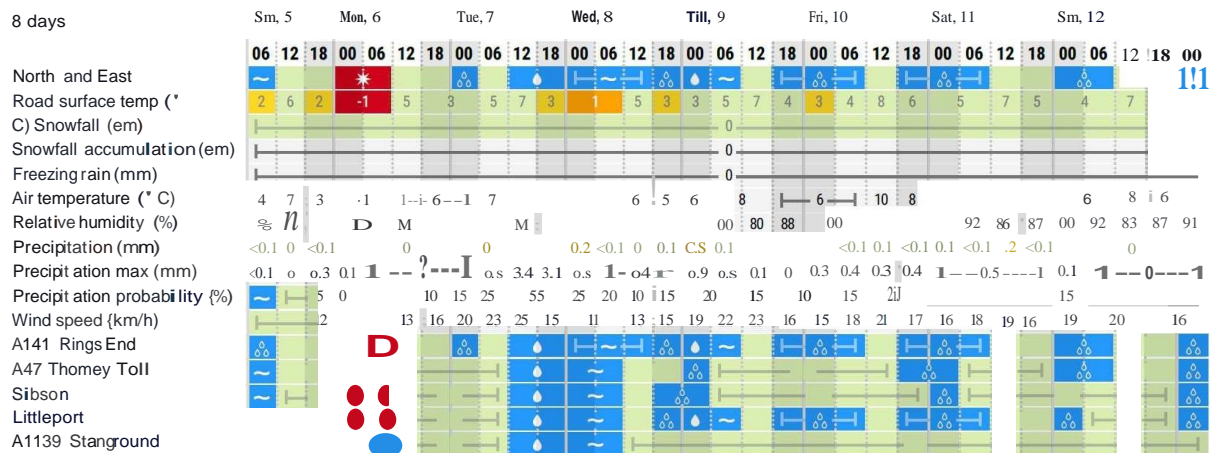
On Tuesday, a band of rain, perhaps heavy and persistent, will move across the region. Wednesday should be dry and fine with some sunshine, although thickening cloud and patchy rain is likely overnight. Once early rain clears to the east, Thursday will be a breezy day with bright or sunny spells and only the chance of an isolated shower developing.

Through the remainder of next week, mixed weather conditions are likely with some decent dry and bright interludes, giving way to showery and breezier conditions from the west at times. Temperatures are expected to be often near to the seasonal average but a couple of much milder days are possible late next week.



Legend: _ Freezing Rain * snow ** Black Ice * Frost • sleet ° Condensation — wet ** Rain snow mixed — snow pellets • Rain • Orizzie "" Fog
Road surface condition: ○ Safe — wet — Caution — Close to hazard — Hazard — Major hazard

8 days



Legend: }_Freezing Rain * Snow ••Black Ice * Frost ••Sleet ••Condensation —wet ••Rain snow mixed ••Snow pellets ••Rain ••Drizzle ""Fog
Road surface condition: ○Safe Wet Caution Close to hazard Hazard Major hazard

Brine Salt Rock Cosh Sheets



Page 1 / 7

Safety data sheet**According to 1907/2006/EC, Article 31**

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

- **Product identifier**
- **Trade name: Salt - all type**
Sodium chloride - all types
- **Product name:** Salt
- **Article number:** 102197
- **EC number:**
231-598-3
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the preparation**
For chemical/technical use.
Food
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
AZELIS
Posthofbrug 12, box 6
B-2600 Antwerp
Belgium
- **Further information obtainable from:**
Azelis
E mail: sds@azelis.com
- **Emergency telephone number:**
+ 33 (0) 1 44 73 10 02 (Carechem 24*7)
For China: + 86 1051003039
For India: +65 31581198
For advice on chemical emergencies, spillages, fires or First Aid
National emergency telephone number :
Czech Republic: Toxikologické informační středisko (TIS), Klinika nemocí z
povolání, Na Bojišti 1,
128 08 Praha 2, Tel - nonstop: + 420 224 919 293, + 420 224 915 402
France : Orfila 01.45.42.59.59
Netherlands: National vergiftigingen info centrum: 030-2748888
Denmark Giftlinien +45 82 12 12 12
Sverige +46 08-33 12 31
Norge Giftcentralen +47 22 59 13 00
Schweizerisches Toxikologisches Informationszentrum Telefon +41 145
Finland: Myrkytystietokeskus, puh. 09-471977 tai 09-
4711/Myrkytystietokeskus

Vergiftungsinformationszentrale Wien Telefon +43 1 4064343

Núdzové telefónne číslo: Národné toxikologické informačné centrum, tel:
02/ 5477 4166

Romania: BIRoul PT REGULAMENTUL SANITAR INTERNATIONAL SI INFORMARE
TOXICOLOGICA: +4021 318 36 06

Serbia – Nacionalni centar za kontrolu trovanja: + 381 11 266 11 22

Turkey – Acil Sağlık Hizmetleri Genel Müdürlüğü: 114

Hungary – Health Toxicological Information Service, H-1096 Budapest,

Nagyvárad tér 2: +36 80 20

11 99 (free of charge within Hungary)

Croatia – Broj telefona službe za izvanredna stanja: 112

Greece – ΤΗΛ. ΚΕΝΤΡΟΥ ΔΗΛΗΤΗΡΙΑΣΕΩΝ : 210-77.93.777

SLOVAKIA Núdzové telefónne číslo: Národné toxikologické informačné
centrum, tel: 02/ 5477 4166

GB

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 1)

- **Classification of the substance or mixture**

- **Classification according to Regulation (EC) No 1272/2008**

The substance is not classified according to the CLP regulation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Void

- **Information concerning particular hazards for human and environment:**

The product does not have to be labelled due to the calculation procedure
of the "General

Classification guideline for preparations of the EU" in the latest valid
version.

- **Classification system:**

The classification is in line with current EC lists. It is extended, by
information from technical
literature and company information.

- **Label elements**

- **Labelling according to Regulation (EC) No 1272/2008** Void

- **Hazard pictograms** Void

- **Signal word** Void

- **Hazard statements** Void

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Chemical characterization: Substances**

- **CAS No. Description**

7647-14-5

- **Identification number(s)**

- **EC number:** 231-598-3

- **Additional information:**

CAS: 7647-14-5

EINECS: 231-598-3

sodium chloride > 98%

- **Description of first aid measures**
- **General information:** Seek medical treatment in case of complaints.
- **After inhalation:** Supply fresh air.
- **After skin contact:** Rinse with water.
- **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

Remove contact lenses.

- **After swallowing:** Rinse out mouth and then drink plenty of water.
- **Information for doctor:**

- **Most important symptoms and effects, both acute and delayed**

No further relevant information available.

- **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

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(Contd. on page 3)

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 2)

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

- **Special hazards arising from the substance or mixture**

The product is non-combustible

The product is not flammable

In case of fire, the following can be released:

Hydrogen chloride (HCl)

- **Advice for firefighters**

- **Protective equipment:**

Wear self-contained respiratory protective device.

Wear fully protective suit.

- **Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation

Avoid contact with eyes and skin

Eye wash must be available at the workplace.

- **Environmental precautions:** Avoid spreading into the environment.

- **Methods and material for containment and cleaning up:**

Sweep together and pick up.

Send for recovery or disposal in suitable receptacles.

Clean the affected area carefully; suitable cleaners are:

Water

Dispose of the material collected according to regulations.

- **Reference to other sections**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

- **Handling:**

- **Precautions for safe handling**

Usual safety precautions should be observed to ensure safe handling.

- **Information about fire - and explosion protection:**

Ground container and transfer equipment to eliminate static electric sparks.

- **Conditions for safe storage, including any incompatibilities**

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Keep in cool, dry, ventilated storage and closed containers.
Keep container tightly sealed.

- **Information about storage in one common storage facility:**

Store separated from:

Strong acids.

- **Further information about storage conditions:** None.

- **Specific end use(s)** No further relevant information available.

GB

(Contd. on page 4)

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 3)

- **Additional information about design of technical facilities:** No further data; see item 7.

- **Control parameters**

- **Ingredients with limit values that require monitoring at the workplace:**

See section: Additional Occupational Exposure Limit Values

- **Additional Occupational Exposure Limit Values for possible hazards during processing:**

Inhalable dust: 3mg/m³

Total dust: 10mg/m³

- **Additional information:**

This is based on data that was valid at the time of writing.

Use engineering controls to reduce air contamination to permissible exposure level.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Provide eyewash station.

Ensure that washing facilities are available at the work place.

Ensure adequate ventilation.

- **Respiratory protection:**

Not necessary if room is well-ventilated.

Wear respirator if there is dust formation.

NIOSH or European Standard EN 149 approved respirator

- **Protection of hands:**

Use protective gloves in case of long-term or repeated skincontact.

Protective gloves.

DIN/EN 374

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks

of quality and varies from manufacturer to manufacturer.

- **Eye protection:**

Safety glasses
(EN 166)

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form: Crystalline

(Contd. on page 5)

GB

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Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 4)

Colour: Colourless

White

- **Odour:** Odourless
- **pH-value (100 g/l) at 20 °C:** 10
- **Change in condition**

Melting point/Melting range: ~801 ° C

Boiling point/Boiling range: ~1413 ° C

- **Flash point:** Not applicable.
- **Ignition temperature:**
- **Decomposition temperature:** Undetermined.
- **Self-igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Vapour pressure at 747 °C:** 2.4 mmHg
- **Density at 20 °C:** 2.17 g/cm³
- **Solubility in / Miscibility with**
water at 0 °C: 359 g/l
- **Other information** No further relevant information available.

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Thermal decomposition: >800 ° C

- **Possibility of hazardous reactions**

Contact with acids releases flammable gases.

Corrosive action on metals.

- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Strong acids.
- **Hazardous decomposition products:**

Fire or high temperatures create:

Hydrogen chloride (HCl)

- **Information on toxicological effects**
- **Acute toxicity:**
- **LD/LC50 values relevant for classification:**

7647-14-5 sodium chloride

Oral LD50 3000 mg/kg (rat)

- **Primary irritant effect:**
- **on the skin:** Prolonged or repeated contact leads to drying of skin.
- **on the eye:** Particles in the eyes could cause irritation and smarting.
- **ingestion:** Could cause discomfort if swallowed.

(Contd. on page 6)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 5)

- **inhalation:** Dust could irritate respiratory system or lungs.

- **Subacute to chronic toxicity:**

Salt - all type

Toxicity 1000 hg/cm² (Earthworm)

- **Genotoxicity (mutagenicity):** Not mutagenic.

- **Additional toxicological information:**

The product is not subject to classification according to the calculation method of the General EU

Classification Guidelines for Preparations as issued in the latest version.

- **Toxicity**

- **Aquatic toxicity:**

Salt - all type

EC50/48h 2024 mg/l (Daphnia)

IC50/72 h 3014 mg/l (algae)

LC50/96h 6750 mg/l (fish)

Subacute 1016 mg/l (Daphnia)

433 mg/l (fish)

- **Persistence and degradability**

Salt - all type

BOD5 0 mg/g (-)

COD 0 mg/g (Chemical oxygen demand)

- **Behaviour in environmental systems:**

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

- **Waste treatment methods**

- **Recommendation** Dispose of in accordance with Local Authority requirements.

- **Uncleaned packaging:**

- **Recommendation:** Disposal must be made according to official regulations.

- **UN-Number**

- **ADR, ADN, IMDG, IATA** Void

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 04.06.2013 Revision no. 1 Revision: 04.06.2013

Trade name: Salt - all type

Sodium chloride - all types

(Contd. of page 6)

- **UN proper shipping name**
 - **ADR, ADN, IMDG, IATA Void**
 - **Transport hazard class(es)**
 - **ADR, ADN, IMDG, IATA**
 - **Class Void**
 - **Packing group**
 - **ADR, IMDG, IATA Void**
 - **Environmental hazards:**
 - **Marine pollutant: No**
 - **Special precautions for user** Not applicable.
 - **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.
 - **Transport/Additional information:** Not dangerous according to the above specifications.
 - **UN "Model Regulation": –**

 - **Safety, health and environmental regulations/legislation specific for the substance or mixture**
 - **Labelling according to Regulation (EC) No 1272/2008**
 - **Hazard statements** Please refer section 2.
 - **National regulations:**
 - **Information about limitation of use:**
- Employment restrictions concerning juveniles must be observed.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Q&SHE
- **Contact:** sds@azelis.com
- **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations

Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organization

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the

International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

GB

County Council Gritters and Loading Shovels

Cambridgeshire County Council – 2017 / 2018 Winter Fleet List			
Chassis Type & Make	Body Type	VRN	Operating Depot
MERC ATEGO 1321K 4x2	Econ 4m ³ Prewet spreader	YJ65VZY	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
MERC ATEGO 1321K 4x2	Econ 4m ³ Prewet spreader	YJ65VZZ	STATION ROAD, WHITTLESFORD CB224NL
MERC 1824 4X2	Econ 6m ³ Prewet spreader	YF63HVD	MARCH DEPOT COUNTY ROAD PE158NE
MERC 1824 4X2	Econ 6m ³ Prewet spreader	YF63HVE	MARCH DEPOT COUNTY ROAD PE158NE
MERC 1824 4X2	Econ 6m ³ Prewet spreader	YF63HVG	MARCH DEPOT COUNTY ROAD PE158NE
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAC	STATION ROAD, WHITTLESFORD CB224NL
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAE	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAF	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAH	STATION ROAD, WHITTLESFORD CB224NL
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAK	STATION ROAD, WHITTLESFORD CB224NL
MERC AROCS 1824 4x2	Econ 6m ³ Prewet Spreader	YJ65VMH	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
MERC AROCS 1824 4x2	Econ 6m ³ Prewet Spreader	YJ65VMK	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
MERC AROCS 1824 4x2	Econ 6m ³ Prewet Spreader	YJ65VMP	STATION ROAD, WHITTLESFORD CB224NL
MERC AROCS 1824 4x2	Econ 6m ³ Prewet Spreader	YJ65VMR	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
MERC AROCS 1824 4x2	Econ 6m ³ Prewet Spreader	YJ65VMY	MARCH DEPOT COUNTY ROAD PE158NE
DAF LF55 220 E6	Econ 6m ³ Prewet spreader	YK64KKZ	MARCH DEPOT COUNTY ROAD PE158NE
DAF LF55 220 E6	Econ 6m ³ Prewet spreader	YK64KLA	MARCH DEPOT COUNTY ROAD PE158NE
FL280	Econ qcb gritter	YT59BKL	HUNTINGDON DEPOT, STANTON WAY,

	Sprayer		HUNTINGDON PE296PY
MERC AROCS 2635 6x4	Econ 9m ³ prewet spreader	YC64OFE	STATION ROAD, WHITTLESFORD CB224NL
MERC AROCS 2635 6x4	Econ 9m ³ prewet spreader	YC64OFG	STATION ROAD, WHITTLESFORD CB224NL
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WKZ	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WLA	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WLB	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WLC	MARCH DEPOT COUNTY ROAD PE158NE
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WLD	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
MERC AROCS 2635 6x4	Econ 9m ³ Prewet Spreader	YH15WLK	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
DAF LF55 220 E6	Econ 6m ³ Prewet Spreader	YJ65UAD	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDC	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDF	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDG	STATION ROAD, WHITTLESFORD CB224NL
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDJ	STATION ROAD, WHITTLESFORD CB224NL
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDK	STATION ROAD, WHITTLESFORD CB224NL
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDL	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDM	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDN	HUNTINGDON DEPOT, STANTON WAY, HUNTINGDON PE296PY
DAF LF260FA	Econ 6m ³ Prewet Spreader	YD67VDO	MARCH DEPOT COUNTY ROAD PE158NE
DAF LF260FA	Econ 6m ³ Prewet Spreader	YF67VDE	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR
MERC 2633 6x4	Econ 9m ³ Prewet Spreader	PE10GUK	WHITCHFORD DEPOT STIRLING WAY WITCHFORD ELY CB63NR

Appendix E

Loading Shovels

Fleet No.	Reg. No.	Vehicle	Body	Base
1122	AE10 GUO	Volvo	L45F	Whittlesford
1123	AE10 GUK	Volvo	L45F	March
1124	AE10 GUJ	Volvo	L45F	Huntingdon
1125	AE10 GUH	Volvo	L45F	Ely

Cross Boundary Arrangements with Other Authorities

North/East Area

Peterborough Unitary Authority

CCC to treat the A605 from the county boundary to the B1095.

Lincolnshire County Council

CCC to treat B1165 from county boundary to C739 Draw Dyke.

CCC to treat A1101 from county boundary to Station Road.

Lincs CC to treat Bythorne Bank from Chapel Gate at county boundary to Cross Drove.

Lincs CC to treat B1166 from county boundary at South Eau Bank crossing bridge to Marshall's Bank.

Norfolk County Council

CCC to treat March Riverside Upwell from Thurlands Drove County Boundary the whole length of March Riverside.

CCC treat precautionary gritting routes to county boundary (including Brandon Creek bridge).

CCC to treat B1100 from County Boundary to A1101 Main Street.

NCC to treat from County Boundary Sandy Lane to Bush Lane Wisbech

Suffolk County Council

CCC to treat the B1063 from county boundary to the B1085 junction at Copley Grove.

CCC to treat Short Road, Snailwell as part of P2 route (bridge to A142)

SCC to treat the B1085 from A11/B1085 roundabout to Freckenham Red Lodge.

SCC to treat B1506 boundary to Bury Toll.

SCC to treat CCC section of C224/C653 Moulton Road, Newmarket as part of their P1 routes.

SCC to treat CCC sections of B1085 between Moulton & Dalham.

SCC to treat over the county boundary C144 Beck Road, Isleham turning at the junction with Unc Sheldricks Road

SCC to treat C150 Kennett Gap.

West Area

Bedfordshire County Council

CCC to treat the B645 from UCI to county boundary.

Beds CC to treat B660 from county boundary to B645 junction.

Northamptonshire County Council

NCC will treat Class 3 road Luton county boundary to first crossroads in Cambridgeshire.

NCC will treat B663 from county boundary to A14.

CCC to treat A605 Warmington, county boundary to Warmington roundabout

	and B662 from county boundary to A605.
Peterborough Unitary Authority	CCC to treat B1095 Milk and Water Drove, Stanground – from A605 Whittlesey Road to county boundary. CCC to treat A605 Oundle Road Alwalton – from Lynchwood West county boundary. Peterborough CC will treat A6118 Wansford from county boundary to the A1.
South Area	
Suffolk County Council	CCC to treat A1307 to Hanchett End, Haverhill. CCC to treat from county boundary along the C246 from Nosterfield End to the roundabout on the A1017.
Essex County Council	No cross boundary arrangements. Cambridgeshire treat precautionary routes to county boundary.
Hertfordshire County Council	CCC to treat A505 from county boundary to roundabout A505/A10.
Bedfordshire County Council	CCC to treat from county boundary Potton Road, Guilden Morden to the B1042 junction.

Appendix G

Winter Maintenance of Footway Bridges

Footway Bridges for Gritting

1. Scudamore Punting Bridge: Mill Lane over set area.
2. Garret Hostel Lane Bridge: Queens Road to city side of bridge + 10m.
3. Jesus Green Sluice and Footbridge: Ramp on Greenside only + 10m and steps.
4. Pretoria Road to Common: Pretoria Road + 10m to Common + 10m.
5. A10 Park and Ride Butt Lane Bridge: Ramp to ramp + 10m.
6. “Jane Costain” Bridge: Continuous cycle lane, Cowley Road to Cambridge Road Industrial Estate.
7. Water Street to Common: Water Street ramp + 10m to Common = 10m.
8. Riverside to St Andrews Road “New” Bridge: Riverside End Bollards to Bollards (passed bridge) to Andrews Road Bollards.
9. Manhattan Drive to Common: Manhattan Drive + 10m to Common + 10m.
10. Coldhams Lane “Beehive” Bridge: Cromwell Road to RBT.
11. Mill Road “Carter Bridge”: Ramps to covered area only... Rustat Road + 10m and Devonshire Road.

Note: Grit 10 meters before and after ramps unless stated.

Vaisala Data Quality and Data Calibration Tests

Data Quality and Data Calibration tests: Summary of network performance, Cambridgeshire County Council - Own Stations

01.10.2017 00:00 - 31.10.2017 23:59 Europe/London

Table 1. Stations And Observation Values

This table gives information on the number of individual sensors reporting from the stations, the overall number of sensor values reported over the time period and the results of the Data Quality and Calibration checks carried out on the data.

Start Date: Date when data was first written to the database for the station. End Date: Date when data was last written to the database for the station. Params (#): The number of parameters/sensors that are being reported from the station. Observation Values all (#): The total number of sensor values (from all sensors) reported over the period from the station. Passed (%): The percentage of sensor values that have passed our data quality checks. Notes/Warning/Errors: The numbers of "notes", "warnings" and "errors" identified over the period. Potential faults are identified with a sliding scale of confidence. "Notes" indicate that there may be a developing problem with the sensor data but that it has still passed the data quality check. "Warnings" and "errors" indicate a problem and confirm that the data has failed the data quality check. Earliest: The date/time stamp of the earliest data in the database for the station and period. Latest: The date/time stamp of the most recent data in the database for the station and period.

Station			Par ams	Observation Values				
Name	Start Date	End Date	(#)	All (#)	Passed (%)	Notes/ Warning s /Errors (#)	Earliest	Latest
A141 Rings End	16.02.2004		49	219030	100.000	0 / 0 / 0	01.10.2017 00:00	31.10.2017 23:50
A141 Warboys	26.04.2016		23	102810	100.000	0 / 0 / 0	01.10.2017 00:00	31.10.2017 23:50
Queen Edith Way	03.09.2014		16	71501	100.000	0 / 0 / 0	01.10.2017 00:00	31.10.2017 23:50
Gilbert Road	03.09.2014		16	67376	100.000	0 / 0 / 0	01.10.2017 00:00	31.10.2017 23:50
A505 Duxford	20.09.2000		39	63882	100.000	0 / 0 / 0	01.10.2017 00:00	31.10.2017 23:40
A10 Littleport	20.09.2000		40	21160	100.000	0 / 0 / 0	01.10.2017 00:00	09.10.2017 21:40

Report produced by Vaisala at 03.11.2017 06:00 Europe/London Time

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	Appendix I
O.	Snow Clearing at Level Crossings, from Road Bridges Over Railway Systems and from Roads Proximate to Railways
O.1.	Clearance to be effected by Highway Authority
	<p>Cambridgeshire Highways, whilst undertaking winter maintenance operations at railway crossings on their gritting routes, do not apply salt-based grit from 12 metres to the nearest running rail both sides of the crossing when applying grit that is salt-based.</p> <p>The benefits of this approach are as follows:</p>
	<p>Not applying salt from a distance of 12 metres to the nearest running rail both sides of the crossing will reduce (although not eliminate) the extent of corrosion and delays associated with track circuit failures.</p> <p>The grit carried over by the wheels of motor vehicles applies deposits with comparable effects on skid resistance and sufficient to prevent the icing over of level crossing surface systems without the saturation of the crossing surface system and track bed.</p>

Network Rail rarely needs to use snow ploughs and even when they do so the result may be unsatisfactory for highway purposes. It has, therefore, been agreed that the appropriate highway authority should continue its ploughing operations 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 does not build up across the tracks or against gates and barriers.

O.2. Guidance on the use of Various Vehicle Types Mechanical Safety

O.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.

O.2.2. Ploughing/Salt Vehicles

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

O.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 Network Rail about the machinery available and how it can be used with safety and to the fullest advantage for clearing snow from, and spreading salt on, level crossings.

O.3 Guidance Related to Various Types of Level Crossing

O.3.1 Unmanned Crossing with Automatic Half Barriers

These are connected by telephone to the signal box controlling that particular section of line. The driver of a snow-plough must always obtain permission by telephoning the controlling signaller for safety clearance before proceeding on 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 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 on to the clear lane. With the opposite half barrier closed vehicles could be trapped or staff 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 signaller as quickly as possible that he is now clear of the crossing. In so doing he must confirm to the signaller that snow has not been built up across the track in such quantity as to impede trains.

O.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 snow plough must always obtain permission by telephoning the controlling signaller for safety clearance before proceeding onto the crossing and subsequently report that he is clear in the same way as for crossings with automatic half barriers.

O.3.3 Closed Circuit Television and Remotely Controlled Crossings Operated By A Signaller 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 signaller before proceeding onto the crossing and subsequently report that he is clear.

O.3.4. Manually Controlled Crossings Operated By Either A Crossing Keeper Or Signaller Located Adjacent To The Crossing

Snow plough drivers must at all times obtain clearance from the signaller or crossing keeper before driving on the level crossing.

O.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 arrangement made with Network Rail.

O.4. Effect of Ploughing Operations

O.4.1 Snow plough drivers must ensure, so far as it is possible, that accumulated snow is not deposited on railway tracks. Passing trains and rail snow ploughs tend to leave windrows of snow across the path of the carriageway. It is

therefore suggested that highway authorities and Network Rail co-ordinate plans which can be put into effect if and when this occurs.

- O.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.

O.5. Crossings Unsuitable for Ploughing

- O.5.1. There are some crossings which are dangerous or impossible to plough; for instance where the road descends steeply 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 Network Rail about the methods best employed to clear the snow.

O.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 Network Rail – see paragraph O.3.5 above.

O.7. Vehicles Traversing Level Crossings Fitted with Snow Plough in the Travelling Position (i.e. not in use)

When 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.

O.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 snow plough drivers must be conversant with provisions of the Highway Code and in particular those parts about the use of level crossings.

O.9. Snow Clearing from Roads Over or Near Railway Lines

- O.9.1. Snow ploughs 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 of becoming a hazard to passing trains.

- O.9.2. Particular care must be taken where there is a danger of thrown snow damaging or creating an electrical path from overhead railway electric power lines.
- O.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 electric power lines.

O.10. Snow Clearing from Roads Over Other Roads and on Dual Carriageways

- O.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 onto the lower road which would become a hazard to traffic and pedestrians.
- O.10.2. Excessive speed when ploughing snow onto the central reserves of dual carriageway roads can result in danger to oncoming traffic in the opposite carriageway. Drivers should adjust their speed to prevent this happening.