



DEVELOPMENT AND
INFRASTRUCTURE
SERVICES



Winter Service Policy 2010/11

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1. INTRODUCTION

1.1 Argyll & Bute Council has a statutory obligation, under Section 34 of the Roads (Scotland) Act 1984, to “...take such steps as it considers reasonable to, prevent snow and ice endangering the safe passage of pedestrians and vehicles over public roads” in the Council area, which by definition includes carriageways, footways, footpaths, pedestrian precincts, etc.

1.2 It is the aim of Argyll & Bute Council to provide a service with respect to the above that will :-

- a) Ensure the provision of a standard of treatment appropriate to the prevailing weather conditions.
- b) Establish patterns of working which will, produce the greatest benefit from the deployed resources, with the view to reducing the level of risk and the extent of any delays to the public, caused by adverse weather conditions.
- c) At all times comply with the requirements of the Health & Safety at Work Act 1974.

2. OUTLINE PRINCIPLES

The Council, through the Executive Director of Development and Infrastructure Services, will :-

- a) Set policy and strategy and monitor the winter maintenance service.
- b) Arrange weather forecasts to assist the Winter Management team to determine the daily winter maintenance treatment strategy.
- c) Provide specialist winter maintenance plant. e.g snow plough attachments, bulk gritters, demountable gritters, towed gritters and loading shovels.
- d) Provide salt, grit, grit bins, snow gates and signing.
- e) Provide organise and manage a trained labour force.
- f) Provide non specialist plant e.g. lorries for demountable gritters, pickups, non-specialist loading equipment, hand tools, tarpaulins and the like.

3. MANAGEMENT ARRANGEMENTS

- 3.1 The Executive Director of Development and Infrastructure Services is responsible for implementing the Council's Winter Service Policy.
- 3.2 The Head of Roads and Amenity Services has overall responsibility for ensuring that the Council's winter maintenance activities are carried out in line with the Council's Winter Service Policy.
- 3.3 The Operations Manager is responsible for the day to day operation of the Council's winter service policy. He is responsible to the Head of Roads and Amenity Services for the appointment of a Weather Service Provider (forecaster), collection of winter management and weather data, maintaining salt stocks, winter plant and communications, training of staff, preparation of rotas for on-call Managers and Area Supervisors.
- 3.4 The Operations Manager shall appoint appropriate staff as Winter Managers. The Winter Manager on duty is responsible for consulting with the Duty Manager and approving the draft winter plan of action together with any subsequent updates to that plan produced by the on-call Duty Manager.
- 3.5 Duty Managers are responsible for analysing forecast data, liaising with the forecast provider and producing the daily winter maintenance action plan and gaining approval from the Winter Manager. They will ensure that the daily winter maintenance action plan is submitted to local areas for action by 15:00 hrs each day. They will monitor the weather information and make any changes to the action plan as conditions require.
- 3.6 The Operations Manager will ensure that the appointed staff in their areas are aware of and understand the strategies and priorities as stipulated. On receiving the Duty Manager's approved daily winter action plan they will ensure, through the Area Winter Supervisor, that the plan is correctly implemented. They will ensure, where ever practicable, that adequate resources are available to fully undertake the Council's Winter Service Policy.
- 3.7 Discussions will take place between the Operations and Network Managers to monitor performance, at regular meetings. Any problems highlighted by the Duty Managers will be resolved at local level, where possible. Duty Managers will be relieved by other Area Office staff, from any local management responsibilities, during their weekly duty requirements.
- 3.8 Provision of the Winter Service on Council roads will normally run from the nearest Friday to the 1st November through to 15th April each season. However, this period may be extended, at either end, to accommodate prevailing weather conditions.
- 3.9 Daily communication will take place with the Trunk Roads Service provider to inform each other of their respective treatment proposals.

4. POLICY ON TREATMENT PRIORITIES

4.1 Carriageway treatment

4.1.1 Prior to the commencement of each winter the Operations Manager will produce carriageway gritting routes based generally on the following principles:-

Priority 1				
Strategic high speed, main traffic routes				
A83 Kennacraig - Campbeltown, A814 Dumbarton- Garelochhead, A815 Cairndow – Dunoon Ferry, A816 Oban - Lochgilphead, A818 Arden (A82) - Helensburgh, A819 Dalmally – Inveraray				
	06:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Mon - Sat	Pre-treat as required + reactive	Pre-treat as required + reactive	Pre-treat as required + reactive	Reactive as reported conditions dictate
Sun & PH	Pre-treat as required + reactive	Pre-treat as required + reactive	Pre-treat as required + reactive	Reactive as reported conditions dictate

Priority 2				
Other “A” and “B” classified roads, Except where treatment is categorized under Priority 3 bus routes, or less.				
A814 Garelochhead –Arrochar, A815 Dunoon-Toward, A817 Haul Road & B833 Rosneath Peninsula, A880 to Ardentinny, A885 Sandbank, A886 Strachur– Colintraive, A8003 Tighnabruich, A844 / A845 & A886 on Bute, A846 / A847 on Islay, A846 on Jura, A848 / A849, A884 & B8073 Tobermory – Dervaig, on Mull, B828 / B839 to Lochgoilhead , B842 Southend –Carradale, B843 to Machrihanish, B844 / B8003 to Easdale & Cuan, B8024 Kilberry Loop , B841 / B8025 Achnamara & Tayvallich. Plus Principal Accident and Emergency routes or roads to hospitals and routes to Police stations, Fire stations and Ambulance depot accesses Other selected streets in main urban areas e.g. steep hills, etc where route efficiency permits.				
	06:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Mon -Sat	Pre-treat as required + reactive	Pre-treat in advance (if possible) + reactive	Reactive as reported conditions dictate	Reactive - only in extreme conditions
Sun & PH	Pre-treat as required + reactive	Pre-treat in advance (if possible) + reactive	Reactive as reported conditions dictate	Reactive - only in extreme conditions

Priority 3					
Any section of public road, outwith P1 & P2 above, subject to :- Main Public Service bus routes as timetables require that can be met within operational time bands. Should it be impractical to cover a service then the operator must be notified or Main School Bus routes prior to or during term days only.					
New designation		06:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Priority 3 Service Route	Mon-Fri	Pre-treat as required + reactive	Pre-treat in advance (if possible) + reactive	No treatment unless stable conditions forecast a.m.	No Treatment
	W/E	Pre treat in advance of journey, if possible, but no guarantee. Timetabled days only.			
Priority 3 School Route (12 or more occupied seats)	Mon- Fri	Pre-treat as required + reactive	Pre-treat in advance + reactive	No treatment unless stable conditions forecast a.m. (Not Friday p.m.)	No Treatment
	No treatments out-with School Term days (apart form Sunday evenings in advance, if stable conditions forecast Monday a.m.)				

Priority 4				
All other public roads, Only as actual conditions dictate and resources are deemed to be effective.				
	06:00 – 08:00hrs	08:00 – 16:00 hrs	16:00 – 22:00 hrs	22:00 – 0600 hrs
Mon - Fri	No treatment	Reactive (may include pre-treat)	Reactive – only in extreme conditions	No treatment
W/E & PH	No treatment	Reactive – only in extreme conditions	No treatment	No treatment

4.1.2 The above route priorities are set around the requirements to pre-treat in advance of freezing conditions or react to developed hazards within a reasonably practicable timescale within the confines of the resources available. Where hazards re-occur after treatment or in conditions where instantaneous hazards occur, resources may be required to concentrate on re-application of several treatments prior to moving on. In such circumstances the highest priority routes, experiencing such conditions, will generally be treated first and resources will only be released to other priorities once it is determined that treatments have an expectation of remaining effective.

4.2 Footway and Footpath Priorities

4.2.1 At the start of each winter, the Operations Manager will produce footway and footpath treatment routes based generally on the following principle.

Priority 1 - Urban Shopping Areas and Precincts

Priority 2 - Other areas of high pedestrian concentration, e.g. in the vicinity of hospitals and schools.

Priority 3 - Steep hills in housing developments and in the vicinity of residential homes for the elderly.

4.2.2 Footways and footpaths will only be treated, in periods of lasting hazards, when the Duty Manager, in consultation with Area staff, considers that their physical condition makes it necessary and treatments will be effective. They will usually only be treated during normal working hours.

4.2.3 Resources

Labour

To ensure that an adequate labour resource is available to allow treatment to be carried out, arrangements are in place with Amenity Services section to participate in the supply of additional labour when conditions require.

Plant

Plant to assist with the clearance of snow and spreading of salt has been provided by Roads and Amenity Services.

Attachments to mowers to allow footpath ploughing will be fitted at the start of each season, where practicable. Footway salt spreading barrows are provided for use by available labour when required.

4.3 Cycleways

Only cycleways contiguous with roads and footways will be treated in conjunction with any planned treatments.

5. WINTER STANDBY, STANDBY PROCEDURES AND GRITTING GUIDELINES

5.1 The formal winter standby period for Council roads will normally be from the end of the working day on the Friday nearest to 1st November to the Friday nearest to 15th April. This period may be extended at either end as the prevailing weather conditions dictate.

5.2 Shift and Standby Procedures.

5.2.1 During the operational period, standby arrangements will be operated on a formal home standby basis, with call-out as required. Arrangements will be put in place to allow mobilisation of any frontline vehicle within 1 hour of call out.

5.2.2 Standby rotas will include sufficient drivers to ensure that the priority 1 routes can be treated within 2 hours of commencing treatment

5.2.3 On receipt of a weather forecast indicating medium to heavy snow, sufficient Second men will be placed on standby to cover all priority 1 & 2 routes and any priority 3 routes likely to be affected as timetables indicate, by the forecast.

5.3 Carriageway Treatment

5.3.1 Carriageways will generally be treated in the order of priority as specified in section 4.

5.3.2 In the afternoon of each working day during the winter months, having considered the most recent weather forecast, the level of residual salt on the road network and the available resources, the Duty Manager will compile an Action Plan for carriageway treatment for the following twenty-four hours. The Winter Manager will review, recommend any adjustments if needed and then approve the proposed plan.

5.3.3 Precautionary treatment for frost and light snow will be spread at a target rate of 10g/m² of salt.

- 5.3.4 Precautionary treatment for conditions where frost is forecast after rain should be delayed as long as possible to reduce loss of salt due to wash-off. This should not preclude the treatment of routes during showers where freezing of rain on contact has been predicted, or is reported.
- 5.3.5 Precautionary treatment when heavy snow falls are expected should be at a rate of between 20 and 40g/m² of salt according to the anticipated severity of snowfall and confidence level of the forecast.
- 5.3.6 In conditions where current snowfall is forecast to continue, substitution of salt with abrasive materials, sand or grit, will be instigated until such time as showers cease and any use of de-icing materials are deemed to be more effective. In extreme or persisting conditions, all material spreading will cease until there is an expectation that any deposits will remain on the carriageway and be effective in aiding traction.
- 5.3.7 In marginal conditions, consideration will be given to limiting treatment to known localised areas prone to icing. During periods of prolonged freezing conditions in the absence of precipitation, spot salting of areas of persistent seepage will continue while hazards remain.
- 5.3.8 Where areas of seepage from adjoining land are recorded on a regular basis, these will be identified and pre-emptive rectification of the drainage system will be instigated.
Land owners will be notified of their requirement to carryout such work as it affects public roads. The Council will take necessary steps to effect repairs, in the absence of any undertaken by landowners and pursue recovery of costs accordingly.

5.4 Footway and Footpath Treatment

- 5.4.1 Treatment of footways and footpaths will be by a combination of mechanical and manual operation. In large urban areas footway salting will be carried out by purpose built spreader barrows with a nominal design spread rate of 50g/sq.m.
- 5.4.2 Salt will only be utilised where ice and frost are the main hazard. In all snowfall conditions, physical clearance will be the priority with sand / grit spread thereafter to aid traction.
- 5.4.3 Treatment of footways and footpaths will normally only be carried out during the normal working day as resources permit. In most cases additional resources should be mobilised at local level as conditions dictate. The Winter Manager and Duty Manager will be kept informed of all additional resources mobilised by local management.

6. SNOW CLEARANCE STRATEGY

6.1 Carriageways

- 6.1.1 On receipt of a weather forecast indicating medium to heavy snow, carriageways should be treated in accordance with section 5.3.5. When the forecast is for rain turning to snow or the snow prediction is marginal the salting operations should be delayed accordingly.
- 6.1.2 When forecasts indicate that there will be medium or heavy snow falls, the Duty Manager will instruct that all vehicles capable of being fitted with ploughing devices will be so equipped.
- 6.1.3 Salting should be continued or be restarted when snow is falling, as conditions warrant however sand / grit must be used to preserve de-icing materials until such time as it can be used effectively.
- 6.1.4 Snow ploughing will commence as soon as it is considered that the operation will be effective. Generally snow can only be ploughed effectively at depths exceeding 30mm.
- 6.1.5 Spreading treatment of ploughed surfaces will be carried out when it is considered that the material will have the most beneficial effect. The normal case on two lane carriageways will be for spreading treatment to be started when the second lane is being ploughed, generally in the return direction. However in persisting snow conditions the spreading of materials shall be delayed until clearance of accumulations is effective.
- 6.1.6 Resources should generally be allocated to clear roads in the order of priority shown in section 4, but with precedence being given to those areas which have experienced the heaviest snow falls and drifting
- 6.1.7 Where slush is formed it should be ploughed as soon as practicable to avoid the risk of rutting should there be a further significant drop in temperature which might result in freezing conditions.
- 6.1.8 Where snow hazards are predicted to persist or develop intermittently throughout the night, consideration will be given to continuing action in some circumstances. Mainly in cases where a break in operations may result in hard packed snow or other conditions difficult to treat on resumption.
- 6.1.9 Individual circumstances, such as access for emergency services or other lifeline service vehicles will normally take precedent over the above route priority arrangements.
- 6.1.10 Where it is judged that a road cannot be kept open, early closure in liaison with the Police in a planned manner, should be initiated.

Direct consultation at local level must be maintained where conditions are changeable and in some circumstances this may mean on site by local Supervisors.

6.1.11 Road closures will be reported to the Director, Head of Service, Operations Manager and Network and Environment Managers as soon as practicable, with immediate notification transmitted to Traffic Scotland and local radio stations where appropriate.

6.2 Footways and Footpaths

6.2.1 Where footways and footpaths are covered with light accumulations of snow i.e. less than 30mm, treatment will consist of the application of Sand or Grit as described in section 5.4. of this document.

6.2.2 Where snow depths exceed 30mm footways clearance will be carried out where practicable by pedestrian operated or ride on powered footway ploughs. This will be enhanced by manual clearance when necessary i.e. where access precludes the use of the above plant.

6.2.3 Snow clearance of footways will normally only be carried out during the normal working day and as resources permit.

7. ASSISTANCE FROM EXTERNAL CONTRACTORS

7.1 Roads and Amenity Services provide labour and non-specialist plant as specified. In some districts, mainly islands, resources are limited and private contractors are used to provide cover to comply with this policy.

7.2 In severe weather conditions additional resources can be drafted in from local private contractors to supplement those of the Council. Arrangements are made through the Operations Manager to contact these contractors in advance to determine their availability and formulate contingency plans for contact and mobilisation. The Winter Manager and Duty Manager will be kept informed of all additional resources mobilised by local management.

8. SALT, ETC.

8.1 Provision of Salt

8.1.1 Salt or other de-icing materials will be supplied through the Operations Manager. An annual supply contract shall be let prior to the start of the winter season.

8.1.2 Onsite sampling and testing shall be carried out in each area as the Operations Manager deems necessary. The Operations Manager will ensure that sufficient stocks of Salt and Abrasive materials are maintained at each storage location.

8.2 Storage of Salt

- 8.2.1 Where practicable salt shall be stored under cover to prevent leaching, improve handling and to reduce treatment times. A programme of converge of salt stores with permanent roofs will be undertaken as quickly as practicable as financial, planning and operational considerations allow.
- 8.2.2 Storage facilities will be loaded out prior to the commencement of operations and stock levels will be monitored weekly to assure optimum supplies are available throughout the season. Stores will be kept as full as practicable as protection from the weather allows and minimum stock levels will dictate optimum re-ordering procedures.
- 8.2.3 Weekly totals of all salt quantities delivered, transferred or issued as treatments will be collated for each storage location and e-mailed to HQ for central collation from 12:00hrs each Friday
- 8.2.4 Requests for additional salt will be included in these weekly e-mails and calling forward of orders will be co-ordinated centrally through the Roads Procurement Officer, with the supply contractor to provide the most efficient means of optimising stock levels.

8.3 Use of Salt and Salt / Abrasive Mixtures

- 8.3.1 Preservation of salt or other de-icing materials for use where they are most effective should be a consideration when formulating a treatment plan. Service resilience must be taken into consideration at all times.
- 8.3.2 All routes will be pre-treated with pure rock salt, as the most effective method of preventing freezing of wet surfaces or melting of previously formed ice. However on predominantly rural routes affected by snow, grit may be added at 1:1 salt/grit mix to aid traction and break up compacted layers. In severe conditions or when supplies are restricted, pure Sand / Grit will be employed to preserve de-icing stocks. In wholly urban areas, salt only should be applied to the carriageway at all times. Salt should be spread at the designated spread rates as determined by the Duty Manager.
- 8.3.3 The grading of salt and grit for mixtures shall be such that 100% will pass a 6.3mm sieve but less than 1% passing a 2mm sieve.
- 8.3.4 Grit bins should be filled with a 3:1 grit/salt mix, initially at the start of the season. Continued replenishment in times of persisting hazard will be purely of Sand / Grit to preserve de-icing materials and only when resources permit.

8.3.5 Provision of Salt to other departments of the Council, other Contractors or members of the public will be restricted to maintain the resilience of the Service. Issues from depots, of salt for private use, will be restricted to one 20kg bag per individual.

8.4 Calibration and control of Salt Rates of Spread

8.4.1 The Operations Manager will ensure through the Fleet Manager that all spreaders, permanent and demountable, are maintained in such a manner as to optimise the salt feed and regular checks of the calibration shall be carried out. Records of all tests and alterations to the calibration shall be maintained for inspection.

8.4.2 All spreaders shall have limiting devices fitted such that spread rates cannot exceed 60g/m². The device may be fitted in such a manner as to allow it to be temporarily disconnected to assist the clearance of blockages.

8.5 Grit Bins and Grit Heaps

8.5.1 Grit Bins shall be provided by the Operations Manager where considered appropriate. Placement of grit bins and grit heaps shall be considered carefully, in terms of the environment and public safety.

8.5.2 Grit heaps will be placed at hills and corners in rural areas as considered necessary by the Operations Manager. Mainly on routes not subject to pre-treatment. These will consist of a 3:1 grit/salt mix to aid traction in compacted snow conditions.

8.5.3 A register of grit bins shall be maintained by the Operations Manager.

8.5.4 The Operations Manager will arrange for grit bins and grit heaps to be maintained and replenished as necessary, as operational resources allow and stocks of available materials permit.

9. PLANT RESOURCES AND SERVICING PRACTICES

9.1 All winter maintenance plant will be serviced, overhauled and made ready for use, at least two weeks before the designated start of the winter period. All servicing and maintenance of specialist winter maintenance plant will be the responsibility of the Operations Manager. The Council's Fleet Services section, maintain all plant and equipment for the user departments. The Fleet Manager will inform the Operations Manager of any deterioration in the effectiveness of any items of Winter Maintenance Plant.

9.2 Any short fall in resources caused by the removal of plant from service, during the winter period, should be reported to the Operations Manager by the Duty Supervisor. The Operations Manager will then seek ways to address the problem. Where additional fleet vehicles are available, these will be prepared as

back-up units, either in advance of operations or as soon as practicable whenever a shortfall in vehicles arises..

- 9.3 The Operations Manager will ensure that all major items of plant are made operational by the start of the standby period. A programme of trial runs will be drawn up, to allow all items of plant to be tested and have all their accessories fitted to ensure readiness for the winter period. The trial runs will be carried out on a depot by depot basis during normal working hours.

10. WEATHER FORECASTING AND MONITORING

- 10.1 The MeteoGroup Limited 292 Vauxhall Bridge Rd. London , have been contracted to provide the road forecast for the period 1st October to 15th May each winter period. Arrangements have been made for the forecast information and radar maps to be down loaded directly to the Duty Manager via Laptop computers. Access to the information will be gained via the local area networks at the individual centres, during office hours, or by a broadband router link from Duty Manager's homes. Information is available on a bespoke website for weather information and partially backed up by e-mail. In the event of a system failure it will be possible to obtain the forecast information by fax to the Duty Manager's Office or verbally out of hours to their home.
- 10.2 The contract with the MeteoGroup Limited provides for a twenty-four hours consultancy arrangement. Forecasters are available throughout the winter period by telephone, to discuss weather matters and clarify details with department staff.
- 10.3 The text forecast is augmented by other services as necessary, including the use of RADAR and satellite images to study precipitation patterns. There are twelve Road Sensor stations, owned by the Council and maintained by MeteoGroup's partner Vaisala Ltd, giving atmospheric and surface conditions, situated throughout the Argyll and Bute road network.

11. OPERATIONAL COMMUNICATIONS

- 11.1 Vehicle / Duty Supervisor / Depot Communications
- 11.1.1 Where practicable winter maintenance vehicles will be provided with a cellular telephone, such that contact may be maintained with the Duty Supervisor or depot at all times. When it is considered safe to do so, manning of vehicles fitted with effective communications facilities, will be limited to the driver only.
- 11.1.2 The fleet of 30nr frontline, route specifically allocated and 2nr back-up, winter maintenance vehicles are fitted with satellite tracking and data-logging equipment, provided by Cybit Ltd. Vehicles can be monitored through web access, in real time during operations and their actions are recorded and archived for future reference. One other private contractor owned vehicle is employed on pre-treatment operations on the Isle of Jura where in-house resources are limited.

- 11.1.3 Throughout the period of winter standby, the Operations Manager will ensure that staff is available to receive calls from the Police and other appropriate agencies. Call out rotas will be provided to the Operations Manager, adjacent authorities, management agents and the Police.
- 11.2 Communications with Strathclyde Police, Roads Policing Section
 - 11.2.1 It is important that the strong partnership, formed with the Police, is maintained. Information relating to severe weather conditions will be communicated to the Police at the earliest possible opportunity. The Duty Manager will consult fully with the Police when it becomes necessary to arrange road closures and when there is a need to move abandoned vehicles.
 - 11.2.2 The out of hours emergency rota will be issued to the Police by the Operations Manager. This will be confirmed to the Police Area Control Room at Pitt Street, Glasgow on the Friday start to each weekly duty shift.
 - 11.2.3 The Duty Manager will arrange for the daily action plan to be e-mailed to the four main local Police offices each day. This will also include a confirmation of the Area Supervisors' and Duty Manager's out of hours contact telephone numbers.
 - 11.2.4 The Duty Manager will take due regard of all reports received from the Police, concerning dangerous road conditions and give consideration to them, in line with the Council Policy, in deciding the action to be taken.
- 11.3 Communications with other Agencies and Motoring Organisations
 - 11.3.1 Scotland TransServ, the North West Trunk Roads term contract operator will be sent the daily action plan and out of hours contact information, each day throughout the winter period.
 - 11.3.2 The Duty Manager will inform Glasgow City Council ; Roads and Lighting Faults Call Centre , R.A.L.F. , of the out of hours contact numbers for the following weeks shift and any amendments necessary thereafter. A copy will also be sent to Cybit, Vehicle Tracking Service provider, for their 24hr control room.
 - 11.3.3 The Duty Manager will inform Traffic Scotland when severe weather conditions are causing delays to traffic movement.
- 11.4 Communications with the Public
 - 11.4.1 Enquiries from the public will normally be dealt with by the Customer Access Centre during normal working hours.

- 11.4.2 Consideration will be given to the placing of warning signs, alerting drivers to the possibility that road surface hazards may develop outwith treatment times will be placed at the interface of Priority 1 to Priority 2 & 3 routes
- 11.4.3 Leaflets explaining the extent of treatment routes, their priority and hours of operation will be prepared and where necessary updated, in advance of each season. These will be distributed by electronic means or to all local area Council premises and other public access buildings and establishments, such as filling stations and shops. Further copies may be issued as mail-drops or inserts to local newspapers.

11.5 Media

- 11.5.1 National radio, television and national press enquiries should be dealt with by the Director or the Head of Service or through the Council's Press and Media Relations Office.
- 11.5.2 Local radio and press should be dealt with by the Head of Service or by the Operations or Network Manager.
- 11.5.3 The Head of Service, Operations Management and Network Managers will be advised as soon as practicable if conditions deteriorate such that major routes have to be closed.

12. INSTRUCTION AND RECORD KEEPING.

- 12.1 The management of the Instruction, Recording and Archiving of daily winter Action plans is automated, by use of a bespoke winter maintenance management tool provided by Vaisala Ltd.
- 12.2 Vaisala - IceMan is a web based system which allows access by managers and supervisors simultaneously, to post instructions and record actual activities on each specific pre-treatment route as operations progress. Details will include some or all of the following:-
 - a) Details of the routes treated.
 - b) The start and completion of treatment on a specific route.
 - c) Type of treatment carried out.
 - d) Driver and other operator details
 - e) Quantity of materials used
 - f) The prevailing weather conditions.
 - g) Any contacts by Police regarding reactive requirements
 - h) Details of any plant breakdowns, accidents or incidents.
 - i) Any other problems
- 12.3 In parallel to the above recording system, vehicle activities are recorded on the Cybit Ltd – Fleetstar, vehicle tracking system. Reports and map based graphical records can be run to confirm and clarify in more detail, the recorded activities.

- 12.4 All records are archived in separate remote servers and can be retrieved through web access by any authorised user, at any time after a plan has been completed.
- 12.5 Additional records of all telephone calls related to winter operations are kept by all duty supervisors and managers. These are completed at the end of each shift, collated and filed centrally for future reference.