

London Borough of Barnet

Winter Service Operations Plan



2020/2021

	NAME	SIGNATURE	DATE
Author	Graham Parry		September 2020
Checker	Andrew Gudge		September 2020
Approver	Ian Edser		September 2020
Client Approval	Ali Ataie		September 2020

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EXECUTIVE SUMMARY

a) Introduction

The Winter Service is the obligation placed on local authorities to keep their streets and roads free from ice and snow, so far as is reasonably practical.

The Barnet Winter Operational Plan is the document that clarifies the winter gritting policy and the operational service plan to demonstrate how it intends to meet its obligation during the winter of 2020/21.

The provision of the Winter Service Operational Plan is managed by Regional Enterprise (Re) with its operational delivery carried out through the Direct Labour Organisation (DLO), with supporting resources from the Street Scene Service areas.

In October 2016 a revised Code of Practice for Highways Maintenance was published. This document outlined best practice nationally and recommended actions to be taken for Winter Service. This Winter Service Operational Plan takes into account the new guidance and has been assembled in line with its recommendations.

b) Synopsis

Barnet's Winter Service Policy and Plan includes the Winter Service Policy, as set out in the Code of Practice (B.7.2.), this being;

“Authorities should formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. They should also take into account the wider strategic objectives of the authority”

A review of the policy and plan is undertaken annually, this is to ensure that the policy and plan are current and to consider new technologies and methods.

c) Methodology

The Barnet Winter Service Operational Plan details how the Council will carry out its Winter Service. Once adopted for the approaching winter, this document will be published on the Council's website. The published version will, however, have confidential contact names and numbers removed.

The method in determining which parts of the Barnet network require treatment is undertaken using a prioritised, risk-based approach. The carriageway and footway network have been categorised by assessing levels of usage, location (e.g. school, hospital proximity), route (e.g. emergency vehicle access, bus routes etc.) and physical characteristics (e.g. gradient, exposed areas etc.). The results of which will give a resilient (prioritised) network in extreme weather events.

Barnet receives its weather forecast information from its MeteoGroup, backed up by weather stations provided by Vaisala.

When the weather forecast information indicates low temperatures, frost, ice or

snow, action will be taken to implement the Barnet Winter Operational Plan. There are also contingencies in place for rapid forecast changes and unpredicted weather events.

d) Types of Winter Service activity, surface types, application methods

Although the Winter Service activity is commonly referred to as “gritting”, strictly speaking the normal material used is not grit, it is rock salt for de-icing. However, for ease of reference the terms ‘grit’ and ‘gritting’ are used in this plan.

The use of grit can have environmental consequences, it can adversely affect vegetation, pollute watercourses and lead to local flooding with grit build up in road drainage systems. It can also damage the road infrastructure, bridges, structures, utility apparatus and vehicles. Used responsibly it can have minimal environmental impact. In the interests of sustainability, it is important to ensure that only the minimum amount of grit is used to deal with the prevailing conditions.

The treatments types and the treatment methodology are further explained in the following relevant sections of this Plan.

e) Policy Statement

The Council’s policy is to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice. The Council considers that the best way to achieve this is to prioritise certain locations and surface types based on a risk assessment approach. The operational procedures are covered by the Winter Service Operational Plan which is to be reviewed and published each year.

More detailed information about the Council’s priorities and policies are provided in the following sections of this Plan.

WINTER SERVICE OPERATIONS PLAN

1. Introduction

Adverse winter conditions can have a major disruptive impact on our community including businesses, education, transport, health and social care.

Winter Maintenance of the highway network undertaken by the Council has a key role in mitigating these impacts.

1.1 Background

Within London Borough of Barnet, the service is managed by Regional Enterprise (Re) and operational delivery is carried out through the Direct Labour Organisation, DLO, with supporting resources from the Street Scene Service areas.

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 in terms of financial impact (both to the physical infrastructure and commercial disruption) and its perceived importance to road users. It can also have significant environmental effects.

This Winter Service and Operational Plan only applies to the Borough's public highways, including footways. This does not include the Trunk Roads (A1, A41 and A406) and M1 motorway in the Borough for which TfL and Highways England are the respective highway authorities. This Plan is to work alongside these agencies to ensure coordination and designation of duties and responsibilities.

1.2 Objectives

The Borough's objective is to provide a Winter Service Policy that, so far as reasonably practicable, will allow for pre-defined carriageways and footways to be treated in accordance with their priority on the highway network and the prevailing weather conditions with the aim to minimise:

- a) the safety risk to the highway users, and
- b) the non-availability of the highway network through ice and snow.

This policy recognises that, given the length of the highway network in the Borough and the limited resources available, it is not practically possible to provide the service to all parts of the highway and is therefore necessary to create priorities.

The Winter Service Policy and Operational Plan can contribute significantly to each of the core objectives set out in the Well-Managed Highway Infrastructure (W-MHI) - Code of Practice for Highway Maintenance Management as described below:

Customer (W-MHI - B7.1.7)

There is in the Borough of Barnet, very considerable user needs and expectations and these can be a major influence on customer satisfaction through demonstrating an efficient, effective and proportionate response to winter conditions.

Safety (W-MHI - B7.1.6)

Safety is a consideration for the Winter Service, even though statutory obligations and users' needs vary.

Serviceability (W-MHI - B7.1.8)

Maintaining availability and reliability of the highway network is a key objective of the Winter Service and one where user judgements of performance will be immediate rather than longer term.

Sustainability (W-MHI - B7.1.9)

Low temperatures and the formation of ice can cause serious damage to the fabric of running surfaces and accelerated damage to the network. An effective Winter Service can contribute to a reduction in whole life costs.

2. Key Issues

2.1 Legal

There are two elements of legislation that relate to the provision of a Winter Service in England and Wales.

1. Section 41 (1A) of the Highways Act 1980, which was modified on 31st October 2003, by Section 111 of the Railways and Transport Act 2003. The first part of Section 41 now reads:
 - a. The authority who are for the time being the highway authority for a highway maintainable at the public expense are under a duty, subject to subsections (2) and (4), to maintain the highway.
 - b. (1) 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 or ice.

This is not an absolute duty, given the qualification of “reasonable practicability” but it does effectively overturn previous legal precedence, albeit not with retrospective affect.

2. Section 150 of the Highways Act 1980 still imposes a duty upon authorities to remove any obstruction of the highway resulting from “accumulation of snow or from the falling down of banks on the side of the highway, or from any other cause.”

In addition, the Traffic Management Act 2004 places 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. In meeting the duty, authorities should establish contingency plans (that should align with the Authority’s and the region’s Civil Contingency Planning measures) for dealing promptly and effectively with unplanned events, such as unforeseen weather conditions, as far as is reasonably practicable.

The plan must also comply with the general duty imposed by Section 41 of the Highways Act 1980: to maintain those highways maintainable at public expense in a safe condition.

These requirements also note the following: Given the scale of financial and other resources involved in delivering the Winter Service, it is not considered reasonable to:

- Provide the Service on all parts of the Network
- Ensure carriageway, footways and cycle routes are kept free of ice or snow at all times, even on treated parts of the network

London Borough of Barnet therefore will undertake to provide a Winter Service which, as far as reasonably practical, will permit safe movement of traffic and minimise delays and accidents directly attributable to adverse weather conditions.

Through the adoption of this Winter Maintenance Policy and Operational Plan the Borough can 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.

2.2 Policy and Guidance

Well-managed Highway Infrastructure (Code of Practice for Highway Maintenance Management) issued in October 2016 recommends that a highway authority should formally approve and adopt policies and priorities for Winter Service, which are coherent with wider objectives for transport, integration, accessibility and network management, including strategies for public transport, walking and cycling. They should also consider the wider strategic objectives of the authority.

It goes on to recommend that Authorities should develop local service levels for Winter Service which define the Overall Winter Period, the Core Winter Period, the level of resilience and treatment networks and prepare a Winter Maintenance Policy Statement and produce a Winter Service Operational Plan and update it annually.

It is recommended that a Risk based approach should be adopted to assist in defining the scope of the Service.

2.3 Resource

London Borough of Barnet's outsourced service provider Re are responsible for providing all aspects of the winter service, including ensuring all appropriate resources are in place (labour, plant, vehicles and salt), weather monitoring, decision making, supervision and monitoring and management of successful delivery of winter maintenance activity. Instructions on operational aspects of the service are issued by Re to the Highways DLO Service, who carry out the requested gritting operations with the support of resources from the Street Scene Service.

To deliver the service within the available resources, the precautionary salting routes reflect the importance of the various traffic routes.

Funding for the winter maintenance precautionary salting service based on a 'normal' winter period is provided via a ring-fenced revenue budget (reviewed to confirm its effectiveness and sufficiency) . The occurrence of severe weather conditions which necessitates additional snow clearance to be undertaken may require consideration to be given to provide additional financial resources to maintain the service; this will be provided through general contingency funds of the authority (with use made of available Invest to Save initiatives where appropriate).

An ESPO Framework Contract is currently utilised to purchase salt via Compass Minerals, however the main salt stocks are provided via a legal agreement with Harrow Council. Within this agreement the Council shares the salt barn with Harrow Council and therefore it is necessary for Re to maintain close liaison with Harrow Council to ensure that:

- 1.) Salt stocks are available at the start of the Winter Season at the levels set out in this Plan
- 2.) Restocking of salt used is timely and is also maintained in accordance with this plan

In addition to the salt stored at the Harrow Depot salt barn, further salt stock (300 tonnes respectively) will be held at Oakleigh Depot and Gateway Services. The salt stocks at Gateway

Services are subject to a Mutual Aid Agreement with Highways England which identifies that up to 300T of salt can be accessed in times of continuous snow fall.

2.4 Risk and Resilience

In the event of a Severe Weather Event, it is possible there could be a national shortage of salt. In such a situation, there are a number of actions that will be taken by Re, including:

- 1.) Ensuring that salt stock holdings are always maintained at the agreed levels indicated in the table in Section 9
- 2.) Constant monitoring and recording of salt usage
- 3.) Regular engagement with LB Harrow and the Highways DLO Operational Team to provide the above information
- 4.) Request LB Harrow to replenish the salt stocks at appropriate times and monitor receipt of deliveries
- 5.) Reporting of salt stock levels via the Department of Transport Salt Portal as required by DfT
- 6.) Take a decision to only continue gritting the Resilient Network (Minimum Winter Network) thereby conserving salt usage
- 7.) Liaise closely with Highways England via the Mutual Aid agreement to identify potential further alternative provision

Re will deploy a stock management system to ensure 6 days resilience at 4 runs per day on the resilient network.

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
- Gritter Vehicle breakdowns

The prevalence of the current COVID-19 pandemic from 2020 onwards means that resilience will need to be built into resource availability for Winter Service duties and that sufficient contingencies are in place to mitigate this emerging threat to 2020-21 service provision. In order to attempt to mitigate the above risks there will be two shift rotas in place in respect to gritter drivers. A spare gritter will also be available (11 gritters to cover the 10 routes) which reduces the risk of not being able to deploy to all routes on occasions where vehicles breakdown. Fuel is provided from the Council's depot and in addition fuel cards are available to obtain fuel from other sources.

2.5 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. With the ongoing threats of climate change this element of the Plan is to be regularly reviewed, to assess its

suitability to changing weather patterns and the need to include highway related operations, such as drainage and flooding.

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, congestion 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. Therefore, it is important that due regard is taken, whenever possible in the decision-making process to take into account the amount of grit and specifically how much rock salt is used on the network. An effective Winter Service, which has determined appropriate gritting spread rates for a range of likely conditions, will contribute to minimising damage to the environment. In this respect this Plan has been aligned to the recommended spread rates as provided for in national guidance.

There is also a need to consider the carbon footprint of Winter Services and review how factors such as updated de-icing products, accurate temperature monitoring, fuel efficient vehicles etc. can assist in reducing the carbon usage of this activity

2.7 Equalities Impact

Increasing the robustness of the winter maintenance service can ensure that the Priority Road Network is available for all to use during periods of adverse weather.

An Equalities Impact Assessment is included in Appendix AC. This assessment includes the following:

- Main objectives and aims
- Information gathering/consultation
- Assessing the equality impact of the policy
- Action planning and time frames
- Monitoring & Review
- Publication

2.8 Local Constraints

Vulnerable structures, interfaces with public railway transport systems and areas with specialised highway furniture, such as traffic calming measures, will be identified and the necessary treatments/ mitigations put in place.

3. Decision Making and Control Procedures

3.1 Responsibilities

Re are responsible for reviewing the Winter Service operations each year and producing an Annual Operational Plan which takes account of lessons learnt from previous years operations and current and amended Codes of Practice and associated guidance documents.

This Plan is produced and agreed so that it can be implemented in advance of each winter season commencement.

Re will utilise a set decision making process as set out in this plan. Decisions are taken daily and communicated to relevant parties including Direct Labour Organisation who carry out the gritting.

Re will provide information on weather, decisions taken, pending actions instructed and actions completed so that London Borough of Barnet Communications Team staff can provide regular updates to the Twitter feed related to Winter Service operations. The Highways DLO will assist Re by recording and providing relevant information as and when requested to do so.

The London Borough of Barnet Client Team are responsible for:

- Ensuring that a suitable legal agreement exists with London Borough of Harrow for the shared use of the Harrow Council Salt Barn. A copy of this Agreement is attached as Appendix O.
- Ensuring that a contingency plan is in place that secures an alternative site for loading gritter vehicles with salt when in a continuous snowfall period. This is in the form of a Mutual Aid Agreement with Highways England. A copy of the Agreement is included as Appendix P.
- Making space available at the Oakleigh Depot to allow up to 300 tonnes of salt to be stored as a contingency measure.

The agreed distribution of responsibilities in 2020/21 are shown below in Table 3 below:
(Red cross indicates the lead party)

Responsibility	Re	LBB	DLO	Street Scene / other services
Review, update and revise Winter Service Plan	X	X Approval only		
Monitor requirements and compliant delivery of Winter Service Plan	X			
Route optimisation - Update and revise route hierarchy	X	X Approval only		
Confirm agreements entered into by the Council		X		
Arrange weather forecasting consultancy	X			
Extend or otherwise Winter maintenance season	X	X Approval only	X	
Winter Maintenance Duty Officer Rota and Training	X			
Re Winter Service decision making rota	X			
DLO driver and gritting operations management rota			X	X
Taking Decisions on precautionary salting actions and implement these daily actions in clear instructions	X			
Compliance to Driver/Staff working regulations	x		X	X
Instigate severe weather event	X			
Maintenance of fleet			X Via Transport Team and ECON	X Transport Team integral to Street Scene Service
Deployment of operational staff (in response to instructions issued by Re)	X		X	X
Spread rates of salt, widths of spread etc.	X		X Set up as instructed	
Revision of contract snow clearing plant asset inventory			X	
Media communications in snow conditions	X	X	X	X
Arrange salt purchase, replenishment and storage	X			
Instruct required maintenance and replenishment of salt bins	X		X Implement Instructions	X Implement Instructions
Performance monitoring, record keeping and reporting	X		X	X
Maintain weather station contract and monitor weather station data to assist in decision making	X			
Dealing with enquiries/requests for service and taking actions/decisions	X		X Implement actions only	X Implement actions only
Maintain a salt supply contract	X			
Manage salt use and replenishment	X			

Reporting salt usage and stock holdings on the TfL Portal as required	X			
Ensuring resources are in place and maintained	X		X	X
Record keeping and reporting as required	X		X	X
Precautionary salting decision making	X			
Severe Weather Event decision making	X	X	X	X
Identify and implement road closures	X	X To be informed	X Implement Closure Instructions	

Table 1 - Winter Service Major Responsibilities

3.2 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 in Figure 2.

The decision-making process as to whether or not to carry out some form of winter maintenance action is carried out by nominated Re duty officers. These officers form a duty rota to cover the whole of the winter period, a copy of the rota is show in Appendix L.

All Re duty officers are required to have received basic weather forecast training, with the Re Winter Service Provider, prior to commencement of the role. Further refresher training will be made available where appropriate.

The decision form shown in Appendix T is completed and filed electronically by the Re Duty Officer.

When the potential for widespread and persistent ice and/or snow is forecast that is **likely** to result in action other than just precautionary salting initiated by the Re Duty Officer, the Re Duty Controller will declare a ‘**Severe Weather Event**’ and proactively engage with the Council’s client team representatives, along with significant external stakeholders and third parties, in order to provide a collective and collaborative response.

When a ‘Severe Weather Event’ is declared it will be from a particular date and time and **all** decision making and associated resource management for winter activities will pass to the ‘Severe Weather Coordination Team’ until an agreed date and time when the event will cease and decision-making responsibilities pass back to the designated Re Duty Officer for precautionary salting decision making.

During a Severe Weather Event Priority 1 carriageway network will be treated initially. It may become operationally impossible to maintain the Priority 1 network and/or salt stocks may be depleted and need to be conserved. In such circumstances, it may be necessary to decide (in consultation with the appropriate external highway and infrastructure bodies) that only the Resilience Road Network will be treated.

In advance of and during a ‘Severe Weather Event’ daily joint meetings of the Coordination Team will take place, led by the Re Duty Controller, to pre-plan and provide feedback on operations and priorities to Gold and Silver Command, identified chief officers and members, together with informing the Council’s website. Such meetings may be virtual or require personal attendance subject to circumstances.

In the event of forecast snow accumulations, the Coordination Team will be expanded to include other Re Highways Managers and Council staff, both engineering and administrative, to provide ongoing support 24/7 as necessary. To ensure the meetings are fully inclusive and reflect the potentially difficult and dangerous travel situation, these meetings will normally be conducted by conference call.

Contact details for the Severe Weather Coordination Team are shown in Appendix AB.

Position	Team Duties
Re Duty Officer	Core
Re Standby Officer	Core
Re Duty Controller	Core
DLO Duty Manager	Core
Highways Client Lead	Core
Head of Network and Infrastructure (Budget Holder)	Core
Interim Street Scene Director	Optional
Interim Executive Director, Environment	Optional
Re Operations Director	Optional
LBB Resilience Advisor (Gold and Silver Command)	Optional
LBB Communications Manager	Core
Re Communications Manager	Core
Re Member Liaison	Core

Table 2 - Severe Weather Coordination Team (Core and Optional)

Severe Weather Definition Indicators: Telephoned advice and updated forecasts from the Met Desk should be sought and some, or all, of the following may detrimentally affect the highway network:

- Snowfall forecast to settle
- Severe disruption to the network affecting all users
- Adverse impact on essential services
- Snow that has thawed and caused ice
- Forecast Freezing rain /Ice/Snow
- Introduction of the Resilient Road Network for Operational purposes
- The need to conserve salt stocks
- Localised flooding events

This will typically necessitate:

- Continual or repeated treatment of roads.

- Hand clearance / treatment of footways to clear the hazards / obstructions to ensure pedestrian safety.
- Deployment of flooding response and/ or drainage maintenance teams

When a Severe Weather Event is declared the Council may implement the current Resilient Road Network identified by the list of roads included at Appendix E. Priority 1 footways, as detailed in Appendices D and E, will also be treated subject to resource availability.

Priority 1 footways will be treated using up to 90 Council personnel made available by other services, mainly Street Cleaning, as their usual work will not be possible in these conditions.

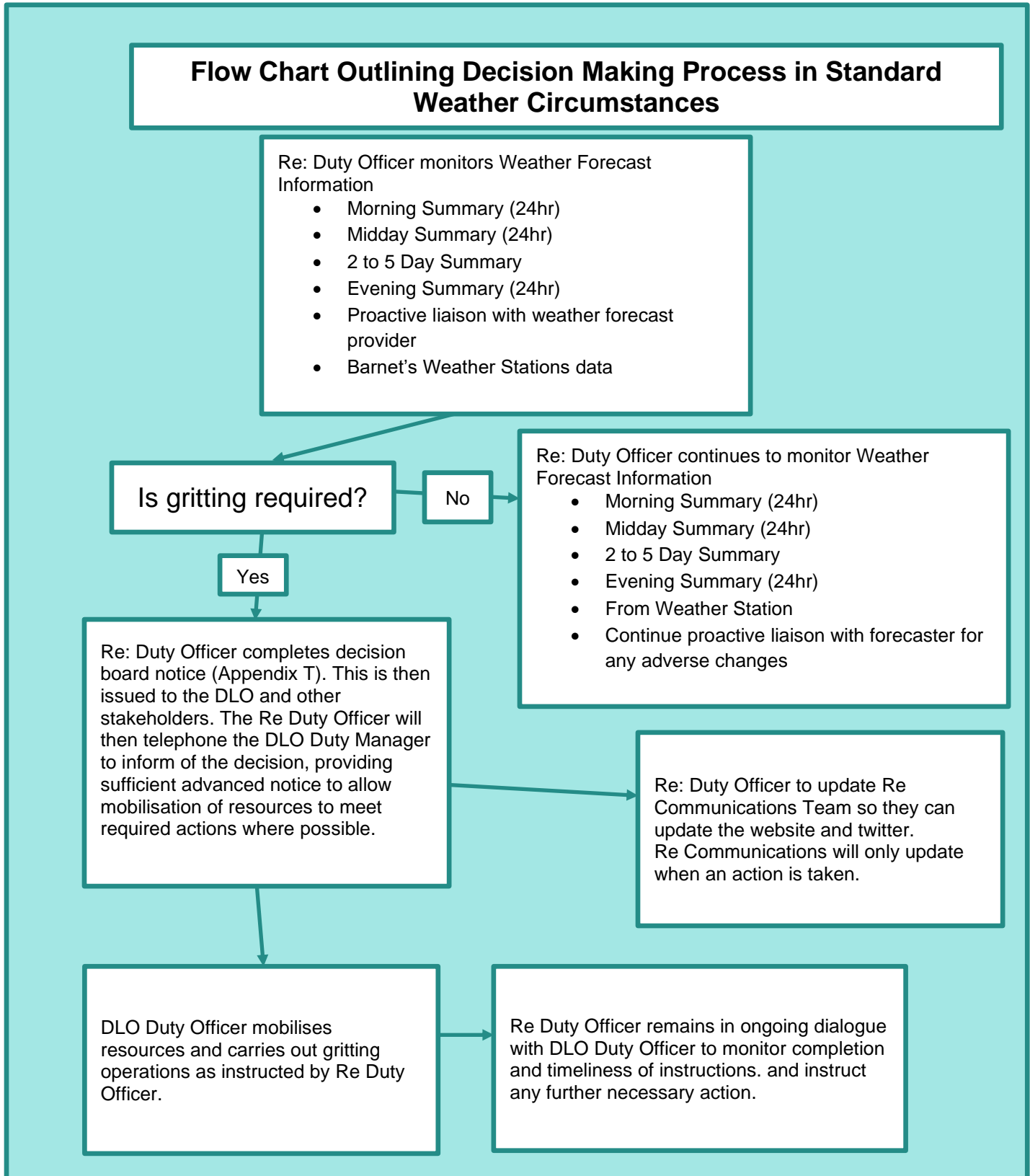


Figure 1 - Decision making process in Normal Winter Conditions

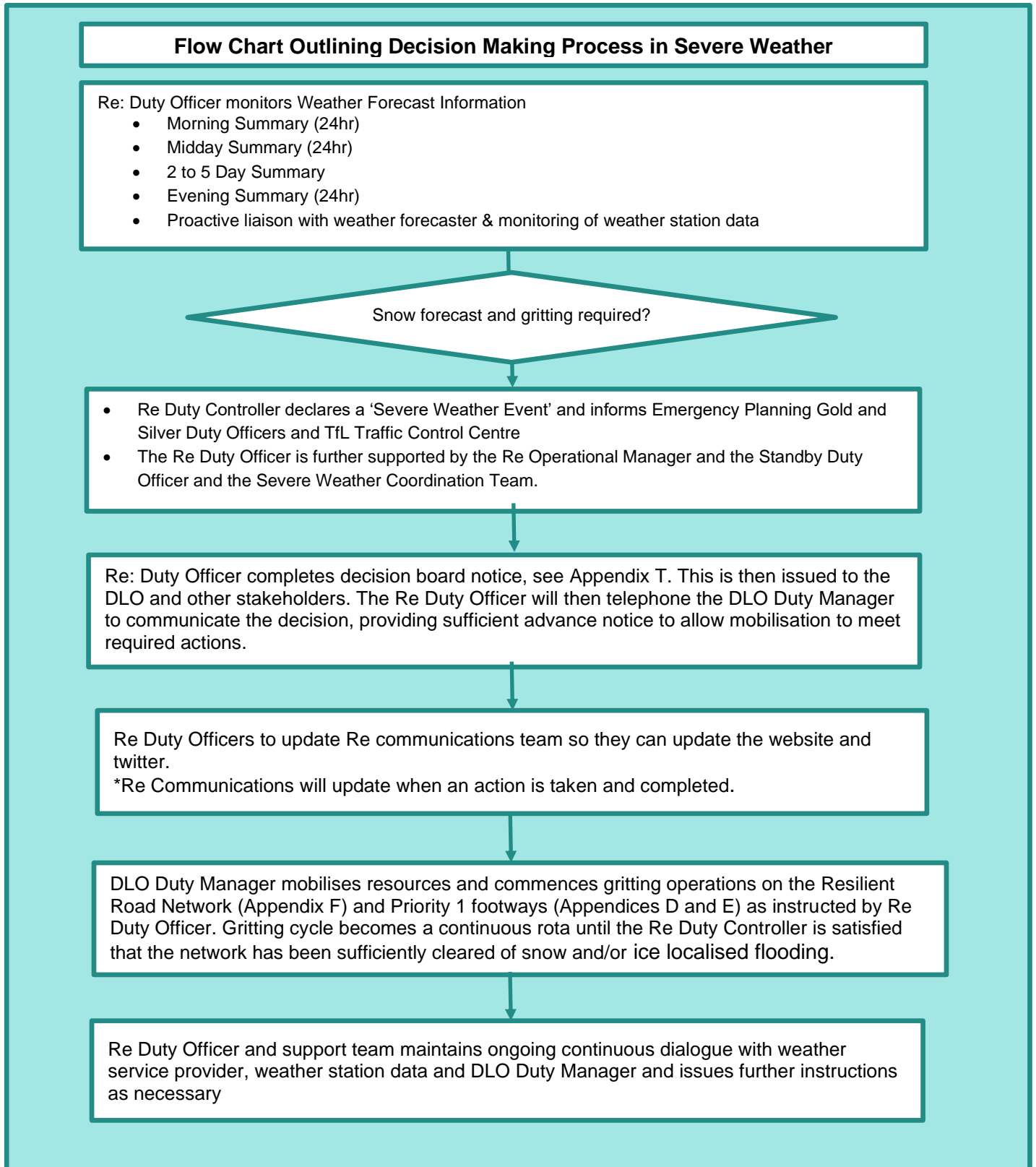


Figure 2 - Decision making process in Severe Weather Conditions

Decisions made throughout the winter maintenance period are recorded using the form shown in Appendix T.

The Decision Matrix for precautionary treatments based on road surface conditions and predicted weather conditions is shown below and is included in Appendix X.

ROAD SURFACE TEMPERATURE	FORECASTERS CONFIDENCE LEVEL	FORECASTED PRECIPITATION	PREDICTED CONDITIONS		
			WET	WET PATCHES	DRY
FORECASTED TEMPERATURES OF ABOVE 0.7 DEGREES	LOW	NO RAIN			
		NO HOAR FROST	RESERVE DECISION ON WHETHER TO SALT UNTIL 6.30PM FORECAST	RESERVE DECISION ON WHETHER TO SALT SEEPAGE ROUTES ONLY	NO ACTION
		NO FOG	AND MONITOR WEATHER STATIONS	AND MONITOR WEATHER STATIONS	
FORECASTED TEMPERATURES OF BETWEEN 0.1 DEGREES AND 0.7 DEGREES	LOW	NO RAIN			
		NO HOAR FROST	SALT	SALT SEEPAGE ROUTES ONLY	NO ACTION
		NO FOG		AND MONITOR WEATHER STATIONS	
FORECASTED TEMPERATURES OF BETWEEN 0.1 DEGREES AND 0.7 DEGREES	HIGH	NO RAIN			
		NO HOAR FROST	RESERVE DECISION ON WHETHER TO SALT UNTIL 6.30PM FORECAST	NO ACTION	NO ACTION
		NO FOG	AND MONITOR WEATHER STATIONS	AND MONITOR WEATHER STATIONS	
FORECASTED TEMPERATURES OF 0.1 DEGREES OR LOWER	HIGH OR LOW				

ROAD SURFACE TEMPERATURE	FORECASTERS CONFIDENCE LEVEL	FORECASTED PRECIPITATION	PREDICTED CONDITIONS		
			WET	WET PATCHES	DRY
		NO RAIN	SALT BEFORE FREEZING	SALT BEFORE FREEZING	PRECAUTIONARY TREATMENT OF SEEPAGE ROUTES ONLY
		NO HOAR FROST			
		NO FOG			
		EXPECTED HOAR FROST	SALT BEFORE FREEZING	SALT BEFORE FREEZING	SALT BEFORE FREEZING
		EXPECTED FOG			
		EXPECTED RAIN BEFORE FREEZING	COMMENCE SALTING WHEN RAIN STOPS		
		EXPECTED RAIN DURING FREEZING	SALT BEFORE FROST AND REVIEW WHETHER FURTHER SALTING NECESSARY		
FORCASTED SNOW	HIGH OR LOW	SHORT PERIOD OF SNOWFALL EXPECTED	SALT BEFORE SNOWFALL COMMENCES		
FORECASTED SNOW	HIGH OR LOW	LONGER PERIOD OF SNOWFALL EXPECTED	SALT BEFORE SNOWFALL COMMENCES		AND CONTINUE AS NECESSARY

Table 3 - Decision Matrix for Winter Service

3.3 Dealing with requests for adding roads to the Priority 1 network

Requests for roads to be added to the Priority 1 Network will be considered as part of each annual review of this Plan.

The process risk assesses each defined section of the network against a range of operational factors which collectively reflect the level of use and importance of particular routes or localised parts of the carriageway and footway networks.

The review decision will be communicated to the requester with the reasons for the decision made.

3.4 Dealing with requests for salting

During normal precautionary salting operations requests for salting (usually away from the Priority 1 network) are likely to be received from various sources, including (but not limited to):

- i) Residents and Businesses
- ii) Councillors and MPs
- iii) Council Officers from various departments
- iv) Police

- v) Other emergency services
- vi) Bus Operators
- vii) TfL
- viii) Other London Boroughs
- ix) Highways England
- x) Places of Education
- xi) Hospital facilities and vulnerable group housing

Requests for service shall not distract from agreed priorities set out in this plan.

Adequate processes will be in place to ensure that all requests for service are reviewed by the Re Duty Officer, or support, and a decision made on what, if any, action will be taken. All such decisions will be based on risk to network users, compliance with priorities set out in this plan and on suitable resources being available.

At no point will resources be redirected from Priority 1 or Resilient Road Network operations unless there are very exceptional circumstances. The decision will be communicated to the requester, via the customer service hub, with reasoning to justify the decision.

Should a decision be to conduct additional gritting the Re Duty Officer will communicate this requirement to the Highways DLO Duty Manager to allow required resources to be deployed to carry out the requested operation.

It is essential that detailed records are retained of all requests and decisions made. These are stored on the Council's asset management system, currently EXOR, and reports will be produced and supplied at regular intervals or as otherwise requested by the Client.

4. Service Provision

4.1 Winter Maintenance Period

For the purposes of winter maintenance planning the winter maintenance season runs from Sunday 27th October 2019 to Sunday 12th April 2020. The core winter period runs from the beginning of November to the end of February.

An 'Election Gritting Plan' will be initiated as required depending on weather conditions on and approaching 12th December 2019.

4.2 Precautionary salting – Treatment before the onset of freezing conditions

Details from the National Winter Service Review Group (NWSRG) – Section 8 Spread Rates for Precautionary Salting.

Spread rates for precautionary treatments before frost and ice are given in the Table 6 below. The table provides recommended spread rates for dry salt for a range of weather and road surface conditions with 'Fair' spreader delivery anticipated. The distinction between good and fair reflects vehicle spreader capacity.

Road Surface Temperature (RST) when frost/ice is predicted	Spreader Capability (Fair) (in g/m ²)	
	Dry/Damp Road	Wet Road
At or above -1.0°C	8	8
-1.1°C to -2.0°C	8	11
-2.1°C to -3.0°C	9	17
-3.1°C to -4.0°C	12	23
-4.1°C to -5.0°C	14	28
-5.1°C to -7.0°C	20	39
-7.1°C to -10.0°C	27	54
-10.1°C to -15.0°C	38	75

Table 4 - NWSRG Recommended Spread Rates for Precautionary Salting – Dry Salting (g/m²) Treatment Matrix (Fair) (NWSRG Treatment Matrix 8.6.7)

NOTE: The NWSRG Section 8 Spread Rates for Precautionary Salting Key Notes 1 to 13 (refer to Appendix Y) must be considered when using the spread rate tables above.

4.3 Residual salt

A decision to consider residual salt in making a decision on amending the spread rates 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.

Therefore, the presence of residual salt can be taken into account in the decision-making process and this may result in the spread rate being reduced to less than that suggested in table above, but should not extend to a no treatment decision being undertaken. The following is to form part of the decision process and taken into account when considering residual salt levels.

- Number of hours elapsed since previous treatments
- Recent weather conditions
- Current weather forecast information
- Road Weather Information Station salt level readings
- Visual checks on the network

If a decision is taken based on residual salt, then the above actions/considerations must be reviewed and details recorded to justify the reasoning for the decision.

4.4 Precautionary treatments for snow or freezing rain

To prepare for and facilitate ice and snow treatments the following should be considered:

- To facilitate the breakup and dispersal of ice and snow by trafficking, treatments must be made before snowfall and freezing rain so that sufficient de-icer (dry salt) is present on the surface to provide a debonding layer.

- There is no snow plough facility available for immediate use in the borough during 2020/21. This decision has been taken after considering the benefits against the risks of deploying snow ploughs in an urban area like Barnet. It is considered that the risks of moving snow into parked vehicles and road junctions is likely to be more problematic than not utilising ploughs. The provision of snow plough(s) will be kept under review and any future consideration will be dependent on rubber bladed ploughs being available together with suitable mounting frames, fixtures and fittings on 3.5t vehicle(s) in the contractor’s maintenance fleet. Drivers employed to drive ploughing vehicles will also be suitably trained and certificated.
- Consideration should also be given to the type and depth of snow forecast – refer to diagram below:-

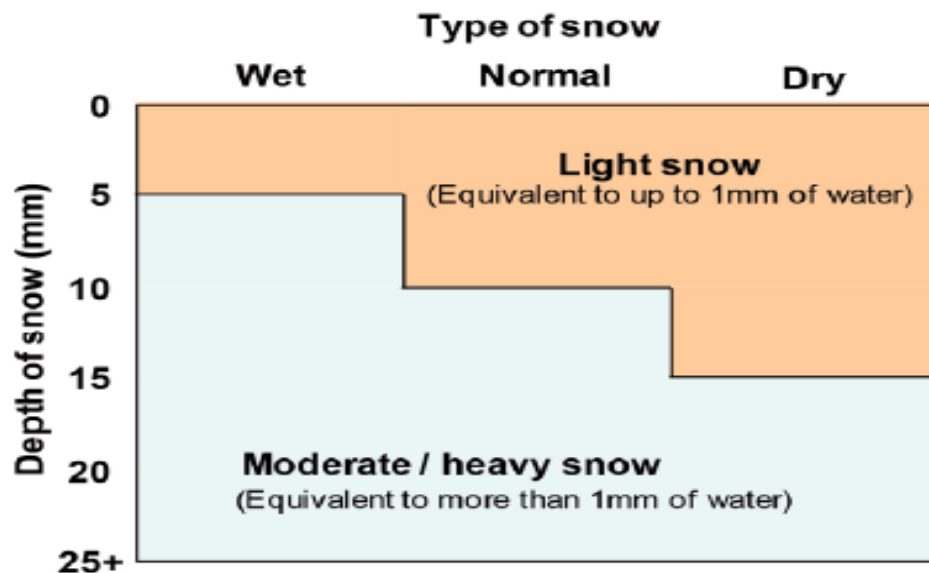


Figure 3 - Consideration of the type and depth of forecast snow

TREATMENTS BEFORE SNOWFALL AND FREEZING RAIN	
Weather Conditions	
Light to Moderate/Heavy Snow forecast	Spread: 20-40 g/m ² of dry salt
Freezing Rain forecast	40 or 2x20 g/m ² of dry salt
Note: in situations where time constraints dictate, a treatment of 20 g/m ² across the whole of the scheduled network before the commencement of snowfall or freezing rain will typically prove more advantageous than a treatment of 40 g/m ² on only part of the network.	

Table 5- Precautionary Treatments Before Snow or Freezing Rain (NWSRG Treatment Matrix 9.8.5)

4.5 Treatments during snow and freezing rain

- In accordance with the NWSRG Practical Guide for Winter Service - Treatments for Snow and Ice (refer to Appendix Y), reference should be made to the tables below when considering treatments and spread rates:

Timing of treatment	Treatment type
During freezing rain, or where there are minor accumulations of ice	Salt spreading
During snowfall	Salt spreading
After snowfall <ul style="list-style-type: none"> When there is slush of the road When there is compacted layers of snow and ice 	Salt spreading

NB: Adapted from NWSRG as ploughing not typically deployed in Barnet

Table 6 - Timing of Treatment (NWSRG Treatment Matrix 9.4.4)

TREATMENTS DURING SNOW AND FREEZING RAIN		
No Ice or compacted snow on surface	Ice or compacted snow on surface	
	Is traffic likely to compact subsequent snowfall?	
	YES	NO
To provide a de bounding layer, spread: 20-40g/m2 of dry salt	To provide a de bounding layer, spread: 20-40g/m2 of dry salt	No de-icer should be spread

NB: Adapted from NWSRG as ploughing not typically deployed in Barnet, and only dry salt is utilised in Barnet

Table 7 - Treatments during snow and freezing rain (NWSRG Treatment Matrix 9.9.1)

TREATMENT FOR THIN LAYERS OF ICE (LESS THAN ABOUT 1MM THICK)	
Forecast weather and road surface conditions	
Lower of air or road surface temperature Above -5°C	Spread: 40g/m2 of dry salt
Lower of air or road surface temperature At or below -5°C	Spread: 40g/m2 of salt/abrasive mix (50:50)
Note 1: Salt is ineffective in the short term at temperatures below -7°C.	

NB: Adapted from NWSRG as only dry salt is typically utilised in Barnet

Table 8 - Treatment for thin layers of ice (less than 1mm thick) (NWSRG Treatment Matrix 9.10.4)

TREATMENT FOR LAYERS OF COMPACTED SNOW AND ICE	
Medium Layer Thickness (1 to 5mm)	High Layer Thickness (greater than 5mm)
For initial treatment, spread: 40g/m2 of salt/abrasive mix (50:50) For successive treatments: spread: 20g/m2 of salt/abrasive mix (50:50)	For initial treatment, spread: 40g/m2 of abrasives only For successive treatments, spread: 20g/m2 of abrasives only 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
--	------------------------------------------------------------------------------------------------------------

NB: Adapted from NWSRG as ploughing not typically deployed in Barnet, and only dry salt is utilised in Barnet. Abrasives may be considered during severe weather events where there is the potential for compacted snow and ice.

Table 9 - Treatment for layers of compacted snow and ice (NWSRG Treatment Matrix 9.11.3)

4.9 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. As this type of operation will increase costs to the authority, the instruction to commence all day continuous working will be taken by the Re Duty Controller, in consultation with the Severe Weather Coordination Team.

4.10 Procedure to be undertaken when treatment of the Priority 1 network is considered inoperable

During a Severe Weather Event it may become operationally impossible to maintain the P1 network or salt stocks may be depleted and need to be conserved. In such circumstances, it may be necessary to decide that only the Resilience Road Network will be treated.

The decision to adopt the Resilient Road Network may also be imposed by the London Local Authority Gold and Transport for London, as part of a Pan-London Resilient Road Network, or taken by the Council itself. The Council's Communications and CCU Teams must be made aware of the decision immediately, so that this can be communicated to the stakeholders referred to in section 3.4 above to help manage their expectations.

For further information on the Pan-London Resilient Road Network and the resilient network within Barnet, refer to Appendix Z.

5. Performance Monitoring and Record Keeping

5.1 General

It is important that both the operational and cost effectiveness of the winter maintenance operation is regularly assessed. This Winter Maintenance Policy and Operational Plan will be reviewed annually by Re, in the light of the experiences gained during the previous winter season and to take account of any changes in the Well-Managed Highway Infrastructure Code of Practice and associated guidance.

5.2 Salting /Snow Clearing Decision Making

At the time of the Re Duty Officer making a decision as to whether or not to salt and or clear snow, a Decision Form shall be completed in every case as per the forms detailed at Appendix T. The Re Duty Officer will also make a log of all contact made in the decision making.

All decisions made will be communicated, via the MeteoGroup online portal, to the stakeholders identified in Appendix J and Appendix K.

The timing of decisions and the requested times to commence gritting actions will take account of realistic mobilisation timescales, particularly in respect to resource travelling times and gritter loading operations.

5.3 Operational Activities

Time, pre- winter season, is to be allowed for dry-runs of the gritting routes to ensure driver competence and note any physical changes/ alterations or potential hazards along the prescribed routes.

Once instructions have been issued to the Highways DLO Duty Officer the Re Duty Officer will monitor the condition of the priority road network by maintaining dialogue with the DLO Duty Officer to review progress in operational delivery and specifically to ensure that requested actions have been appropriate for the prevailing conditions and that required outcomes have been successfully achieved.

Where it is apparent that the original request has not had the desired outcome the Re Duty Officer will issue further instructions as necessary to the DLO Duty Officer which may entail further deployment of all or partial resources.

Once the decision and requirements have been communicated to the Highways DLO, the DLO Duty Officer will make all necessary arrangements to mobilise the required resources in accordance with the specific instructions given. This will include loading of the gritter vehicles to be ready to be deployed to the routes at the required times. Where necessary it will also require the mobilisation of Street Scene staff to conduct hand gritting of the priority footpaths.

The DLO Duty Officer will advise the Re Duty officer of any unexpected problems arising and will maintain a record of when gritting commenced and when it was completed for each route. The DLO Duty Officer will also check all operational vehicles are suitable for use prior to the commencement of the gritting run and that they are suitably calibrated to achieve the required spread rates.

An opportunity for rapid 'lessons learnt' reviews needs to be considered for unexpected issues during the winter maintenance periods, to allow for toolbox talks to incorporate any outcomes and assimilate them into the ongoing Plan.

In times of snow it is likely that specific requests will be received for gritting of specific roads and footpaths. All such requests will be dealt with in accordance with the procedure identified in section 3.4 above.

5.4 Reporting throughout the Winter Maintenance Period

Re Highways will collate, record and communicate information on all activities undertaken throughout the winter maintenance period. These reports will be based on section 5.7 below.

5.5 GPS Records

All vehicles are equipped with Exactrak GPS Tracking and records of salting / snow clearing actions will be retained in this secure system.

Reports can be generated from this system which can be used to verify when and what gritting actions took place.

5.7 Record Keeping and Reporting

All records and monitoring reports are to be kept for 21 years for auditing and reference purposes

Re will maintain comprehensive records of all daily data obtained from weather forecasts and weather stations, all decisions taken based on this data, what actions were instructed, how these were delivered in terms of outcomes, how these relate to compliance with the plan and all other arising issues.

Re will produce regular reports which may include some or all of the following:

- The daily weather forecast information used to make decisions
- The decisions taken – including the timing of such decisions
- Details relating to the decision and instructions given to the Operational Team, including which routes and what spread rates
- The outcome of the instructions given – successfully completed, timings, etc
- Any further necessary actions arising
- The salt used and balance of remaining stocks
- Orders placed to replenish salt stocks to align with Planned stock levels
- Any deviations from planned actions – such as accommodating urgent requests
- Number of requests received and actions taken on these
- Lessons learnt reports
- Comparison with Forecasted temperatures, weather station recorded temperatures and actual temperatures – to assist in monitoring accuracy of forecasting
- Compliance with Contractual KPI's
- In times of snow, provide update emails to those listed in Appendices K, L, AB ad AC to keep them regularly appraised of ongoing actions being planned and completed

Key performance indicators (KPIs) can also be reviewed for appropriateness and ongoing performance improvement.

6. Route Hierarchy

6.1 Introduction

The network hierarchy, incorporates all elements of the highway network, including carriageways, footways, cycle routes, highway structures, lighting and rights of way. The hierarchy should take into account current and expected use, resilience, and local economic and social factors such as industry, schools, hospitals and similar, as well as the desirability of route continuity and of a consistent approach for walking and cycling paths.

Due to the Highways DLO Gritting Service operational base moving from the Mill Hill depot to Harrow depot it has been necessary to review the gritting routes. This led to the gritting routes being optimised in 2017 moving from seven routes to ten routes to ensure effective and efficient completion of routes. Appendix C shows an overview map of the ten routes.

Further revisions of the gritting routes will incorporate environmental factors such as carbon usage, improved de-icing products etc.

Winter Service operations are geared to the safe movement of traffic. To ensure operations are effective the relative importance of roads and footpaths is identified in relative priority of classes of road as shown in the table below.

It must be noted that should national salt shortages or other weather and operational conditions dictate, a reduced network may be adopted (The Resilience Road Network). Roads not indicated by any priority will be treated as and when resources are available and only after Priority 1 routes have been cleared, followed by Priority 2 routes.

Where there is a need to close road(s) in a Severe Weather Event the Re Duty Officer or Controller will make and implement the decision while communicating details to the Severe Weather Coordination Team, other authorities and partners, together with stakeholders.

	Carriageways	Footways
Priority 1	Refer to schedule in Appendix A	Refer to schedule in Appendix D
Priority 2	Refer to schedule in Appendix B	

Table 10 - Priority Class

Priority 1 roads are pre-treated with salt/grit when snow, ice or frost may form. Priority 2 Carriageways and Priority 2 Footways are normally post-treated, subject to resources being available, to deal with snowfall or continued icy conditions.

It must be emphasised that in times of accumulated snow, Priority 1 roads will be treated first; until these routes are found to be safe and running, the treatment of Priority 2 roads will not commence. However, treatment of Priority 2 and remaining roads are always subject to resources being available.

The completion of all roads on each route is always subject to vehicle accessibility and availability.

6.2 Priority 1 Roads

The Priority 1 roads totalling to approximately 240km (or 32% of the Borough's road network) have been split into ten routes and are gritted from the LB Harrow Depot. This is so that all routes can be completed in 3 hours, or as close to 3 hours as possible, subject to road conditions on the road network.

Routes 1,2,3 and 6 of Priority 1 roads cover the coldest and more exposed areas of the borough (hilly, northern areas) and other areas that are subject to ground water seepage. Two routes (routes 1 and 3) are also known as "Cold or Seepage Routes" which are prioritised on marginal nights, thereby creating operational and environmental savings.

The Council has 11 dedicated gritting vehicles, as well as one small demountable gritter which cover these routes. This allows for some spare capacity (contingency) in case of vehicle breakdown. The roads included within these ten routes are listed alphabetically in Appendix A and shown in map form in Appendix C.

6.3 Priority 2 Roads

The Priority 2 roads have been split into 22 routes and these roads are listed alphabetically in Appendix B. These cover approximately 167.7 km, or 23% of the Borough's road network. Treatment of Priority 2 roads may commence after Priority 1 roads have been completed and found to be safe and running; however, treatment is always subject to adequate resources being available. Priority 2 roads are normally post-treated to deal with snow accumulation and these 22 routes may take several days to complete as they are likely to be treated in conjunction with keeping the Priority 1 roads safe and running.

The order in which the 22 routes are treated will be determined by considering any local variations in conditions, so that the worst areas are treated first. When deciding on how best to deploy resources to the Priority 2 routes the needs of other Council Services such as the Refuse collection service will be taken into consideration.

6.4 Remaining Roads

Remaining roads are not normally treated unless resources are available and only after Priority 1 and 2 roads have been completed and found to be safe and running.

However, to optimise the efficiency of the available gritting vehicles, and depending on local conditions, the gritting of Priority 2 roads and remaining roads may be combined in times of snow.

6.5 Priority Footways

As a result of Clause 41 (1A) of the Highways Act 1980, the duty of the local authority has been extended to include footways and the Council started to treat the Priority 1 Footways listed in Appendices D and E from 2004/05.

Following the declaration of a Severe Weather Event, where snow and ice persist on footways, it is likely that the Council's Street Scene, Refuse Collection and Greenspaces Services will be prevented from carrying out their normal duties so these additional resources may be available to be deployed on snow / ice clearing duties. Additional resources may also be brought in from the term maintenance

contractors. This reactive treatment will be undertaken on a hierarchical basis, depending on the weather conditions and where reasonably practicable. Footways leading to and within identified centres of population, at transport hubs, on steep slopes and at other vulnerable locations may be treated first, followed by transport hubs and any key strategic locations.

Where there is sufficient advanced warning and resources are available every effort will be made to treat Priority 1 Footways before snow falls to provide a de-bonding layer which is effective in breaking up and dispersing compacted snow.

Priority 2 footways will only be considered for reactive treatment once all Priority 1 footways are clear, subject to resources being available.

6.7 Resilience Road Network

Following the heavy snow in February 2009 and the recommendations that the Council has received from various government and other professional bodies, the Council's Resilience Road Network has been defined as that comprising of the core or strategic transport routes providing access to emergency services, main bus routes and train/underground stations. The roads included in the Council's resilience network are shown on a plan (Appendix F) and listed alphabetically in Appendix E. The length of the resilience road network is estimated at approximately 171.3 km or 23 % of the whole of the road network. The Council's resilience road network has been approved by TfL as part of a London wide coordination exercise.

It is anticipated that this would only occur in severe conditions where it is proving difficult to safeguard the Priority 1 network or where salt stocks are becoming limited.

The Council may be directed to concentrate on only treating the Resilient Road Network or the Re Duty Controller may decide to do if the circumstances dictate.

Salt re-stocking arrangements during the winter season have been revised to ensure that the Council has sufficient salt to cover a resilience period of at least 6 days / 24 runs in addition to the minimum quantity of salt to be maintained. In addition to this stock, the Council will benefit from the significant pan London Strategic stockpile which will be released in the event that London encounters a winter of significant snow fall or shortage of salt, in line with the strategic release protocol.

The Council is actively involved in liaising with TfL and the other 32 London Boroughs to explore mutual aid in salt supply, snow clearance facilities and other contingency plans.

The London Borough of Barnet currently has a Mutual Aid Agreement with Highways England, that, in the event of Severe Weather Event, the Gateway Services Depot will allow up to 4 of the Council's gritting vehicles to be loaded with salt from the Highways England Salt Barn. The agreement restricts the Council's use to 500 tonnes and Barnet is responsible for arranging its replacement after 300 tonnes has been used. Appendix P includes a copy of the Agreement.

The roads included within the Resilient Road Network are listed alphabetically in Appendix E.

6.8 Impact on Footways when in state of Resilience

Once a decision to adopt the Resilient Road Network is taken, the Council, via Re, will make risk based decisions on whether to treat any footways and in making such decisions the following considerations will be taken into account:

- Whether it is safe to deploy resources
- Whether resources are available
- Whether salt stock levels are seriously depleted and need to be conserved

6.9 Resourcing of normal pre-cautionary gritting and Severe Weather events

It is recognised that during a Severe Weather Event some of the Council’s services will not be provided and the resources associated with these services may be utilised on winter service operations. The table below show likely deployment in such circumstances:

Severity of Weather	Council Services affected by Weather		Resources to be deployed in Winter service operations
Low (likely to be sub-zero temperatures only)	✘	Refuse Collection	Highways DLO Service gritting Priority 1 roads utilising resources from the gritting operations rota, which includes drivers from the Highways DLO and Street Scene Services.
	✘	Street Scene (Cleansing Service)	
	✘	Street Scene (Green Spaces)	
	✘	Parking Enforcement	
Medium (forecast of potential snowfall and or light snow accumulations)	✘	Refuse Collection	Highways DLO Service gritting Priority 1 roads and potentially Priority 2 roads, utilising resources as above. Street Scene resources treating Priority 1 Footways. Street Scene resources refilling grit bins when priorities permit.
	✓	Street Scene (Cleansing Service)	
	✓	Street Scene (Green Spaces)	
	✘	Parking Enforcement	
High (Continuous snowfall with greater accumulations of snow evident)	✓	Refuse Collection	Highways DLO Service gritting Priority 1 roads and potentially Priority 2 roads, including appropriate refuse rounds, utilising resources as above – in extreme situations of continued snowfall this may require a rota change over to ensure driver hours are managed. Street Scene resources treating Priority 1 Footways. Street Scene resources refilling grit bins when priorities permit.
	✓	Street Scene (Cleansing Service)	
	✓	Street Scene (Green Spaces)	
	✓	Parking Enforcement	

			Potentially call upon external contractors to assist with additional resources to support the service
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Table 11 - Council Services affected by Weather and contributing to winter service provision

It should be noted that gritting operations are restricted to areas of adopted public highway and resources are prioritised in accordance with this plan. Therefore, Council owned car parks and other Council owned property not part of the public highway is excluded and their asset managers will be required to also adopt a risk based approach to winter service operations.

6.10 Communications

The Council's winter service actions will be communicated to neighbouring highway authorities, other agencies (Highways England, LUL, TfL, Network Rail etc.) and stakeholders so that activities can be co-ordinated regionally. The London Resilience Group coordinates an up to date contact list of winter service personnel which can be found in Appendix I.

Contact details will also be distributed to Internal staff and Councillors as listed in Appendices K and L.

In the event of a Severe Weather Event, the Re Duty Controller will arrange for forecast updates, actions taken, planned actions and successful outcomes, etc. to be circulated to those listed in Appendix AB.

This information can also be utilised by the Councils Communications team to provide updated messaging on the website, twitter etc.

Communications will aim to educate residents to be prepared, self-reliant and always drive and walk safely taking into account the prevailing weather conditions. The Council is keen that residents are encouraged to self-help by clearing snow outside their houses. More information on this is provided in section 10 of this plan.

6.11 Road Closures

In line with Civil Contingency plans, pre-set routes are in place to accommodate road closures; coordination with neighbouring authorities is key to the effective use of these diversions, as the altered traffic flows could affect other networks. It is recognised that road closures may be required on the Priority 1 road network, with signed diversions taking traffic temporarily onto Priority 2 roads. In these cases, the diversionary route will be treated as part of the Priority 1 network and will continue to be treated for the duration of the closure.

It should be noted that where a road cannot be made sufficiently safe during adverse conditions it may be necessary for Re Highways to close the road.

7. Weather Forecasts and Weather Station Ice Detection Systems

7.1 Weather Forecast

The Weather Forecasting service will be provided via a contract with MeteoGroup.

Re Highways will operate the MeteoGroup system for 2019/20. The inputting of decision data is to be carried out using the form included at Appendix T.

There are two existing weather stations in the borough with the service provided by Viasala. Data from these weather stations will be reviewed by Re Duty Officers to assist in making appropriate decisions and specifically to check and monitor the accuracy of the forecasts.

Where it is evident, from the monitoring of the weather station data, that temperatures will be lower than forecasted temperatures this may require a decision to be taken to deploy gritting resources in order to ensure compliance with the decision triggers identified in this plan.

Forecasted and actual recorded temperatures from the weather stations will be recorded and included as part of record keeping data and included in regular reporting.

The Re Duty Officer will maintain regular dialogue with the forecaster in between forecasts when any type of severe weather conditions are predicted.

The Forecasting Services received from MeteoGroup are as follows:

- 3 x 24-hour summary forecasts presented at 06:30, 13:00 and 18:30, including an hourly breakdown of predicted conditions
- A morning summary
- A 2-5-day forecast issued by 13:00 hrs
- Site data and graphs for 2 sites
- 24-hour consultancy during the winter season with proactive advice available on request
- Forecast monitoring and notification of any significant variation to a previous forecast
- Actions Message board and emailing facility

Details of the current weather forecasting consultancy are given at Appendix N.

7.2 Weather Stations

The services provided by Vaisala include weather station maintenance, data collection and Bureau facilities with 2 weather stations installed at:

- A411 Barnet Road, at its junction with Barnet Gate Lane, and
- East End Road, at its junction with Basing Way.

The Council also has access, through Vaisala, to other weather stations managed by London Borough of Enfield, TfL and Highways England. See Appendix U for a map of the Vaisala weather stations located in and around Barnet.

The Re Duty Officer will regularly review the data from the weather stations and use this to compare against the predicted temperatures provided by the weather forecasting provider. Where the actual temperatures provided from the weather stations show that the forecast temperatures are overstated it may be necessary to make further decisions on required gritting actions, especially on occasions where the forecast is predicting slightly above zero

temperatures which would not on its own trigger gritting action. This monitoring will also provide confidence in the forecast data and should be used to raise any concerns regarding accuracy with the forecast provider, MeteoGroup.

8. Operational Communications

8.1 Operational Communications

Effective delivery of the Winter Service requires collaborative working and ongoing communications between the Re and DLO Duty Officers during usual precautionary salting operations and between the Severe Weather Coordination Team members, and partners, during Severe Weather Events.

When a decision to undertake precautionary salting is made, the standard communications are issued, with joint branding, and this is circulated via email and text to the parties listed in Appendices K and L. Copies of the distribution lists are kept on MeteoGroup and offline. These are live documents that are regularly updated prior to and during the winter period.

In the event of a Severe Weather Event, the Re Duty Controller is responsible for managing the procedure in Figure 3. Contact details for the Severe Weather Event Coordination team and other stakeholder operational staff are shown in Appendix AB.

8.2 Websites

London Borough of Barnet Website:

<https://www.barnet.gov.uk/citizen-home/parking-roads-and-pavements/Roads-and-Pavements/Winter-Maintenance.html>

The website includes a copy of the Winter Service policy document, details of routes that are treated, the location of salt bins and general advice for residents.

Other information and advice on various Council services will be included on the website when available.

Twitter

www.twitter.co.uk ~ @BarnetCouncil

The London Borough of Barnet provides updates on gritting actions, once they have been taken, through the use of the social networking site, Twitter. Updates are sent directly to subscribers when decisions on treatment are made. Re are responsible for providing regular and accurate data to allow the Communications team to post updates.

Publicity

It is important that both pedestrians and motorists are aware of and understand the Council's approach to winter maintenance, together with advice on how to prepare for and undertake a journey and respond safely to a Severe Weather Event.

Highway users should regularly refer to the Council's website for information.

8.3 Winter Service Requests

During normal operational hours the Council's Customer Call Centre will take any calls received from the public between 09:00-17:15 every day Monday – Thursday and 09:00-17:00 on Fridays. The Capita Out of Hours Service Desk will be responsible for calls received between 17:00 – 09:00 Monday to Friday and at weekends. All calls related to the Winter Service will be passed onto the Re Duty Officer and/or the Re Out of Hours Duty Officer who will prioritise any required action accordingly.

A copy of the Re Out of Hours Duty Officers Rota is included at Appendix V.

All requests for service via the hub will be recorded and responded to using standard scripts then directed to the Re Duty Officer in normal office hours and the Re Out of Hours Officer at all other times. A record will be maintained of all requests received, decisions taken, reasons for decisions, actions requested and outcomes achieved. All decisions will be based on the priorities detailed in this plan.

Individuals contacting the Call Centre will be advised of the outcome, whether this is to take action or not. This will assist with managing expectations and potentially reduce repeat requests.

9. Salt Stocks

9.1 Salt

It is recognised that salt is environmentally damaging and to gain the most economic and environmentally satisfactory solution, it is essential that the minimum amount of salt is used to obtain the best effect. This plan, including reduced spread rates and the inclusion of technology capable of automatically adjusting spread widths depending on road width and prevailing conditions will assist in minimising any detrimental impacts. In Barnet, 6mm dry salt is used for precautionary salting in advance of forecast ice and snow. Although 6mm salt is more expensive than 10mm, because of its size and consistency, it is less prone to 'bounce' off road and footway surfaces when being spread at the optimum vehicle speed of 30mph. This greatly assists in reducing the impact on adjacent properties, structures, grass verges, vegetation etc.

All gritting vehicles, other plant and equipment, including the salt barn, are located at the LB Harrow Depot, Forward Drive, Wealdstone.

300 tonnes of salt for use on footways and to replenish salt bins is stored at the Oakleigh Road South depot.

In addition, a Mutual Aid Agreement with Highways England allows the Council access to a limited salt stock of up to 500 tonnes at Gateway Services but this only available during a Severe Weather Event.

The minimum salt stockholding table is depicted below:

Location	Minimum Storage					
	1 Nov	1 Dec 2019	1 Jan 2020	1 Feb 2020	1 Mar 2020	1 Apr 2020
Harrow Depot Salt Barn	2268	1768	1768	1768	1536	1536
Oakleigh Road Depot (300T max)	300	300	300	300	200	100
Total stock	2568	2068	2068	2068	1836	1836

Table 12 - Minimum salt stockholding by location

NOTES

- 1) If the weather is “Severe” and the rate of usage is more than predicted the salt stock will be reviewed more frequently and orders raised to as necessary to maintain the minimum salt level.
- 2) A record of available stock and daily usage will be maintained to provide a daily stock total. As new deliveries are received these will be reflected in this daily record.
- 3) The above minimum stock levels may not be maintained if there is a national shortage of salt.
- 4) The resilient salt stock required is based on 6 days continuous deployment (4 runs per day) and is 768 tonnes (24 runs x 32 tonnes per run).
- 5) The operational salt stock (in addition to the resilient salt stock) is 1500 tonnes at the start of the season, and is reduced on a sliding scale throughout the season.

The salt held in the Harrow Salt Barn is replenished by the London Borough of Harrow in accordance with the Agreement shown in Appendix O.

Re Highways is responsible for identifying the minimum stockholding requirements at the beginning of the winter season and throughout the season in accordance with this plan.

To ensure Harrow meet their responsibilities regarding salt replenishment it is essential that that the DLO and Re Duty Officers maintain an accurate daily record of salt usage. These records can then be provided to the responsible Harrow officer with written requests for replenishment at appropriate times to ensure that the salt stock available to Barnet is always maintained at the levels indicated in this plan.

It is also important that monitoring is carried out to ensure that replenishment requests are being actioned by Harrow so salt stocks are being maintained at the required levels. Where it is evident that this process is not ensuring compliance with the requirements of this plan Re

Highways will escalate the matter to Harrow senior management and advise the Highways Client Lead and Head of Network and Infrastructure accordingly.

Similar monitoring and recording of salt usage, together with the need for replenishment actions at appropriate times, will also be required for the salt located at Oakleigh Depot.

10. Salt Bins

10.1 Policy for the Provision of Salt Bins by the highway authority

The Council has provided 484 grit bins in various strategic locations throughout the Borough to allow residents to hand grit public roads and footways in their locality during adverse weather conditions. Each salt bin is identified by a unique reference number and location as shown in Appendix G.

All applications from residents for the provision of a new grit bin will be considered on their own merits. As a means of prioritising applications; the gradient of the road, the presence of bends, whether the road is north facing or leads to the main road and the proximity of the nearest grit bin may be considered.

It will also be necessary to consider the overall impact on service efficiency of increasing the current number of salt bins as, with this already high number, it is extremely resource intensive to maintain and replenish the bins throughout the winter period.

Grit bins are provided to allow residents and motorists to spread salt on the public highway in adverse weather conditions. Where it is evident that an existing bin is being inappropriately used for gritting activities off the public highway it may be removed from service.

Each bin is checked annually and refilled before the start of the winter season. Bins that are either broken or worn will be replaced as necessary. If requests are received for replenishment of salt in salt bins, these will be considered and prioritised as appropriate.

11. Advice on snow clearance

11.1 The Snow Code

The Department for Transport has published a 'Snow Code' offering advice for residents and businesses on clearing pavements. Full details of the code can be viewed on the Council's website and on the DirectGov website below:

<https://www.gov.uk/clear-snow-road-path-cycleway>

Extracts from this Code are produced below:

Clearing snow from a road, path or cycleway

Individuals are encouraged to clear snow and ice from pavements fronting their property. It is unlikely that an individual will be found liable if the area has been cleared carefully and no hazard created. This is done in conjunction with appropriate local volunteer organisations groups that safeguard/ support vulnerable groups etc.

How to clear snow and ice

When you clear snow and ice:

- do it early in the day - it's easier to move fresh, loose snow
- don't use water - it might refreeze and turn to black ice
- use salt if possible - it will melt the ice or snow and stop it from refreezing overnight (but don't use the salt from salting bins as this is used to keep roads clear)
- you can use ash and sand if you don't have enough salt - it will provide grip underfoot
- pay extra attention when clearing steps and steep pathways - using more salt may help

11.2 Post Snow Clearance

Consideration is given to post snow clearance as the atmospheric temperatures rise, can lead to the increased risk of localised flooding, due to rapid ice-melt and/ or blocked drainage systems. A close level of internal and external coordination is therefore required to ensure the rapid and timely redeployment of qualified staff and suitable vehicles/ plant at adequate levels to the appropriate locations.

Further provision will be needed post winter season to review the location and extent of damaged highway surfacing, infrastructure and furniture. Along with the reinstatement of routine gully cleansing in the spring and summer seasons.

12. Vehicles and Plant

12.1 Introduction

The age, size, composition and standard of the vehicle fleet all have a major impact on the economy, efficiency and effectiveness of the Winter Service Operation and the effectiveness of this plan.

12.2 Winter Maintenance Fleet

The Council's winter service fleet is made up of eleven 18T ECON gritters which are hired via the Council's Transport Team. All gritters are provided by ECON. As the operational plan currently includes ten Priority 1 routes this allows for one spare gritter to respond to any vehicle breakdowns.

All eleven of these frontline gritters use Exactrak GPS route information and vehicle tracking software so that documentary evidence of what a vehicle is doing at any one time can be accessed and analysed. Data recorded during a salting run includes vehicle speed, whether it is salting or running dry, the direction of travel and the GPS location, all at 5 minute intervals.

All of the vehicles are accurately calibrated at the beginning of the season and additional checks on the rate and width of spread are carried out at monthly intervals throughout the winter period.

Regular maintenance checks are undertaken by ECON throughout the winter season and they are 'on call' to quickly rectify any defects or mechanical problems.

Most vehicles are single manned during normal precautionary salting and post salting for ice. However, on some occasions there is a requirement for double manning e.g. where the route consists of narrow roads or particular vehicle movements that require the presence of a banksman. A number of Operational Safe Working Procedures and associated Risk Assessments are in place with the DLO to cover loading and driving of gritter vehicles.

Drivers generally cover the same route as familiarity helps to make the operation more efficient. However, new on-board technology can assist new drivers to better understand their routes and what is expected of them.

The Council owns two ploughs re are two ploughs that can be attached to the frontline gritters. However, ploughing is not a planned response during the 2020/21 winter season and would only be considered in exceptional circumstances due to the dangers attached to ploughing in an urban area with many parked cars and speed humps/tables.

There are three loading shovels (telehandlers) available for winter service. They are located at the Harrow salt barn, Gateway Services salt barn and the Oakleigh Road depot.

The frontline gritting vehicles are calibrated to achieve various spread rates from 8 gm2 in Barnet, all in accordance with this plan.

A number of hand propelled gritters are available and used when gritting Priority 1 and 2 Footways.

13. Staff Rotas and Working time

All winter maintenance activities are monitored and recorded by the DLO Duty Manager to ensure drivers are operating under the GB Domestic Regulations.

13.1 Summary of requirements for Drivers

Winter Service activities are managed under GB Domestic Regulations. Staff volunteering to be included on the winter service driver rota must be aware of and comply fully with the following:

- Working Time Directive (opt out must be formally signed)
- GB Domestic Regulations
- Working Time Regulations
- Emergency exemptions

13.2 Staff Rotas

The staff rota for the drivers can be found in Appendix M.

The DLO Duty Officer is responsible for ensuring compliance with the above requirements. In order to help facilitate this, two shift rotas have been developed with some spare capacity built in.

All staff who form the rota are on standby to react whenever needed for the winter service functions.

Re Highways operate the following:

- a Winter Service Duty Officer Rota for precautionary salting decision making and as the first point of contact with partners and contractors when a Severe Weather Event occurs. Details are provided in Appendix L
- a Highways Out of Hours Rota for general highway issues and support during Severe Weather Events. Details are provided in Appendix V
- a Winter Service Duty Controller who will lead the collaborative working arrangements with all partners on Highway and Communication matters when a Severe Weather Event is declared.

14. Review of Winter Maintenance Policy & Operational Plan

14.1 General

Re Highways is responsible for reviewing the Winter Service Policies, Plans and Procedures on an annual basis.

Whilst conducting this review the following will be taken into consideration (not an exhaustive list):

- Lessons Learnt from the previous winter period operations
- Any specific requests received for changes to be implemented
- Any changes in legislation
- Review of Environmental considerations, covering emerging legislation, carbon usage and innovative environmental applications and processes
- Review the coordination between Winter Services and Flood/ Drainage management
- Alignment to existing Codes of Practice and guidance documents, ensuring that any deviations are recorded with the reasons for these decisions
- Any changes in personnel, supplier and/or contract arrangements, including identifying and acting on those that need changing/renewing
- Review the effectiveness of the administration and management processes over the previous season
- Any new advancements that may be considered to improve service efficiency and effectiveness or reduce cost – examples being thermal mapping and on-board and technology
- Consider public feedback for the Winter Service provision
- Review KPI for appropriateness and ongoing annual performance levels
- Operational base issues
- Type of salt
- Route optimisation/review

The review will be undertaken during the spring with key stakeholders and the relevant third-party organisations to allow sufficient time to communicate any proposed fundamental changes to the Council and to allow appropriate approval processes (potentially committee approvals) to be obtained.

Re Highways will present the draft annual plan for Council approval at least two months before the start of each winter season thereby ensuring that it can be communicated to all parties involved in delivering the service prior to the commencement date.

Based on the above, this Plan will document the continuous improvement in Winter Service and ensure that it meets all recommendations, legislative requirements and industry best practice and guidance, whilst also addressing local constraints and issues.