



Comhairle Chontae na Gaillimhe
Galway County Council

WINTER SERVICE PLAN

COMHAIRLE CHONTAE NA GAILLIMHE

September 2023

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1 Winter Service Policy

- 1.1 The aim of this winter service plan is to set out how the winter service for ice and snow conditions will be provided for in County Galway. The Transport Infrastructure Ireland (TII) is also publishing a National Winter Service Manual which will be in operation in draft format for the 2023/2024 Winter season.
- 1.2 Winter service is not an emergency service in the traditional sense in that low temperatures, ice and snow are regular, frequent and reasonably predictable occurrences. This plan does not deal with other extreme winter weather events such as flooding and high winds.
- 1.3 This plan is primarily concerned with a typical winter (**Normal Winter Weather**) with consideration given to how a harsher winter (**Severe Winter Weather**) will be handled. If the severity or duration of a cold spell is exceptional (**Prolonged Winter Weather**) management of the winter service will be by Galway County Council Senior Management team and it may be necessary to enact Galway County Council's Major Emergency Plan.
- 1.4 The Council's policy is to provide an effective and efficient winter maintenance service within the resources available to;
- Allow the safe passage of vehicles and pedestrians
 - Minimise delays due to winter weather
 - Ensure operations are undertaken safely.
- 1.5 It is the aim of Galway County Council to treat the public road network at strategic locations including;
- | | |
|------------------------|---------------------|
| - Hospitals facilities | - Fire Stations |
| - Airport | - Train Stations |
| - Bus Depots | - Major Industries. |
- 1.6 Given the scale of the resources involved in delivering the winter maintenance service it is not possible to provide the service to all parts of the network. It also may not be possible to ensure surfaces are kept free of ice or snow at all times on the treated parts of the network.
- 1.7 Winter maintenance on national roads is carried out by Galway County Council for the TII and is funded by the TII. Winter maintenance on local and regional roads is funded by the TII and the Council directly and from the discretionary maintenance grant. The Machinery Section will be responsible for returns to the TII via their NMS system to access the funding.
- 1.8 The winter maintenance season is from Monday, October 16th 2023 to Tuesday, April 30th 2024. There are three duty engineers who share the monitoring and callout for road Winter gritting on a fortnightly roster.
- 1.9 It is the aim of Galway County Council to complete morning treatments by 8.00am.
- 1.10 There will be no winter service from 10.00pm on Sunday, December 24th 2023 (Christmas Eve) until 4.00pm on Tuesday, December 26th 2023 (St. Stephen's Day).

2 Treatment Routes

- 2.1 The current Priority 1 & 2 treatment routes are shown on the map GR 1 in appendix B with route details in Table 2.1. These are the routes which are ordinarily treated and receive precautionary treatment. Treatment routes are subject to continuous optimisation.

Winter Treatment Priority Route Table 2.1						
Route	Depot	Route description	NP	NS	R&L	Total
			km	km	km	Km
1 & 2	Sandy Road	N59 City Boundary (Bushypark Church) to Clifden to Leenane to Mayo County Boundary		110		110
3	Sandy Road	R336 City Boundary Bearna to Leitir Mealláin (70km)			70	70
4	Tuam	N63 from M17 Co Bndry (42km), R332 Tuam to Horseleap cross (15km), R354 from the N83 to M7 (9km) and R365 at Mountbellew(4km)		42	28	70
5	Tuam	N17 Tuam to Ballindine (Co. boundary) (18km), N83 Tuam to Cloonfad (Co. boundary) (20km), R360 Dunmore to Ballymoe (23km)	18	20	23	61
6	Loughrea	N65 Kiltullagh to Portumna (40km), R355 Portumna to Ballinasloe (31km) and R446 Kilmeen to Ballinasloe (24km)		40	55	95
7	Loughrea	R339 Menlough to City boundary(36km), Oranmore, R446 Oranmore to Loughrea(26km)			62	62
8	Sandy Road	R381 Baile Chláir to M6 (5.4km). N67-: M6 to Kilcolgan (11.4km) to Kinvara (10km) to Co Boundary (5km). R458 Kilcolgan to Ardahan (7.3km)		26	13	39
9	Gort	R458 Gort to Clare Co. boundary(11km), R458 Gort to Ardahan (12km) R380 Gort to Loughrea (28km) R347 Ardahan (4km)			55	55
10	Tuam	N83Tuam to Galway (City boundary) (30km), N84 Galway (City boundary) to Mayo Co. boundary (27km), R334 Headford to Mayo Co. boundary (4km)		57	4	61
		Total	18	295	310	623

- 2.2 Precautionary treatment is where salt is spread following warnings of expected low temperatures to reduce the likelihood of ice forming on the road.
- 2.3 **Priority 1** routes consist of Motorway, dual carriage way, national primary and secondary routes and include a number of sections of strategic regional route network. These routes are ordinarily treated and receive precautionary treatment. Every effort will be made to ensure that these routes are treated by 8.00 am in the morning.
- 2.4 **Priority 2** routes are the strategically important regional roads not included in Priority 1 and local routes. These routes are ordinarily treated and receive precautionary treatment. Every effort will be made to ensure that these routes are treated by 8.00 am in the morning.
- 2.5 **Priority 3** routes are other local roads. These routes do not receive precautionary treatment but will be considered for treatment by the Duty Engineer once priority 1 & 2 routes are addressed and as resources allow at that time.
- 2.6 **Priority 4** routes are other local roads and footpaths and will not be considered for treatment except in severe or prolonged winter weather and then only when resources are available.
- 2.7 Priority 3 & 4 routes normally only pose a difficulty to the public in severe and prolonged winter weather.
- 2.8 Galway County Council ordinarily treats 623 km of road which equates to 100% of the national primary network, 100% of the national secondary network and 20% of regional roads.
- 2.9 In severe and prolonged winter weather stockpiles of grit will be made available for use by the public when resources allow.
- 2.10 Table 2.2 shows a summary of when treatments will be applied for the different weather conditions.

Treatment Summary Table 2.2					
Weather Condition	Treatment Type	Route Priority			
		1	2	3	4
Normal Weather	Precautionary	√	√ ^(a)	x	x
	Ice Treatment	√	√ ^(a)	√ ^{(a)(b)}	x
	Snow Clearance	√	√ ^(a)	√ ^{(a)(b)}	x
Severe Weather	Precautionary	√	√ ^(a)	x	x
	Ice Treatment	√	√ ^(a)	√ ^{(a)(b)}	√ ^{(a)(c)}
	Snow Clearance	√	√ ^(a)	√ ^{(a)(b)}	√ ^{(a)(c)}
Prolonged Weather	Precautionary	√	√ ^(a)	x	x
	Ice Treatment	√	√ ^(a)	√ ^{(a)(b)}	√ ^{(a)(c)}
	Snow Clearance	√	√ ^(a)	√ ^{(a)(b)}	√ ^{(a)(c)}
^(a) When resources allow					
^(b) Treatment with salt - additional resources required.					
^(c) Treatment with grit - additional resources required.					

3 Weather Prediction and the Decision Process

- 3.1 The TII procured bureau weather services to assist Galway County Council in predicting when frost, ice or snow may occur on the road network. These services are currently provided by a combination of Met Éireann and Vaisala.
- 3.2 The weather forecast information as well as the weather station measurements is available to the On-Call Duty Engineer via the Vaisala Platform.
- 3.3 There are six specific weather stations monitoring road and weather conditions in County Galway located at N59 Connemara, M6 Glennascaul, R446 Loughrea, N17 Tuam, M17 Athenry and N84 Headford Road.
- 3.4 The Duty Engineer will review the forecast information each day (usually available at 2.30pm). Based on the forecasts and in line with table 3.1 and 3.2 the Duty Engineer will make and record the treatment decisions for the following 24 hours.
- 3.5 The Duty Engineer will continue to monitor weather as necessary, particularly when the forecast is marginal. This may change the planned decision depending on weather trends.
- 3.6 The winter service operation is a planned response and late changes are not possible to implement as there is no on-call arrangement with Winter service crews. Events requiring late changes are rare.
- 3.7 Precautionary evening treatments will generally commence at 7.00pm. However, this time may change dependant on weather conditions.

- 3.8 For further weather information to assist the decision process the Duty Engineer can access weather and radar information on www.met.ie and can also contact the Met Éireann Duty Forecaster if required on 01 8065550, back up number 01 8064255.
- 3.9 To ensure a coordinated approach particularly on marginal nights the duty engineer may discuss decisions with the duty engineers of the neighbouring counties of Clare, Mayo, Roscommon and Sligo.
- 3.10 Front line maintenance on the weather stations will be carried out by the machinery section.
- 3.11 Vaisala technical support is available at 0044 121 6831269 or email ice.technical.support@vaisala.com

Decision Matrix Guide Table 3.1

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

Table 3.1

Notes:

- (a) Particular attention should be given to the possibility of water running across carriageways and other running surfaces e.g. off adjacent fields after heavy rains, washing off salt previously deposited. Such locations should be closely monitored and may require treating in the evening and morning and possible other occasions.
- (b) When a weather warning contains reference to expected hoar frost, considerable deposits of frost are likely to occur. Hoar frost usually occurs in the early morning and is difficult to cater for because of the probability that any salt deposited on a dry road too soon before its onset, may be dispersed before it can become effective. Close monitoring is required under this forecast condition which should ideally be treated just as the hoar frost is forming. Such action is usually not practicable and salt may have to be deposited on a dry road prior to and as close as possible to the expected time of the condition. Hoar frost may be forecast at other times in which case the timing of salting operations should be adjusted accordingly.

- (c) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.
- (d) Weather warnings are often qualified by altitudes in which case differing action may be required from each depot.
- (e) Where there is any hint of moisture being present, a pessimistic view of the forecast should be taken when considering treatment to negatively textured surfaces.

Treatment Matrix Guide for Dry Unmodified Salt Table 3.2

Weather Conditions Road Surface Conditions Road Surface Temperature (RST)	Treatment Air Temperature	Salting (g/m ²)	Ploughing
Frost or forecast frost RST at or above -2°C		10	No
Frost or forecast frost RST below -2°C and above -5°C		20	No
Frost or forecast frost RST below -5°C and above -10°C and dry or damp road conditions		20	No
Frost or forecast frost RST below -5°C and above -10°C and wet road conditions (existing or anticipated)		2 X 20	No
Light snow forecast (<10mm)		20	No
Medium/heavy snow or freezing rain forecast		2 X 20	No
Ice formed	Above -5°C	20	No
Ice formed	At or below -5°C	2 X 20	No
Snow covering exceeding 30mm		20 to 40 (successive)	Yes
Snow accumulations due to prolonged falls		20 to 40 (successive)	Yes
Hard packed snow/ice	Above -8°C	20 to 40 (successive)	No
Hard packed snow/ice	At or below -8°C	Salt/abrasive (successive)	No

Table 3.2 Notes:

- (a) Rate of spread for precautionary treatments may be adjusted to take account of variations occurring along the route such as residual salt, temperature variations, surface moisture (in the air or on the road surface) road alignment and traffic density.
- (b) All decisions should be evidence based, recorded and require continuous monitoring and review.
- (c) Ice refers to all ice on the road surface, including black ice

4 Organisational Arrangements and Personnel

- 4.1 The Duty Engineer on reaching a decision will inform the drivers on the Winter Maintenance Programme.
- 4.2 All staff on this program will be on a roster to ensure that all are given appropriate breaks to avoid exhaustion.
- 4.3 Table 4.1 shows the council personnel involved in the winter service operation.

	Duty Engineers	Machinery Engineer
	Ciarán Wynne Kevin Finn Tony Kelly	Fergal Fahey
	Route	Regular Driver
1	N59 City Boundary to Maam Cross	Gerry Hosty
2	N59 Maam Cross to Leenane Co. Boundary	Seamus Walsh
3	R336 Coast Road to Cill Chiaráin	John Joyce
4	N63 Lough George to Roscommon Boundary including sections of R354, R332 and R365	Declan Kililea
5	N17 Mayo Co. Boundary, N83 Tuam to Cloonfad and R360 Dunmore to Co Boundary	Gerry Collins
6	N65, R446 Loughrea - Ballinasloe - R355 Portumna	Brendan Lally
7	R339 Monivea Road. R446 Oranmore to Craughwell	Paul Conneely
8	R381, N67 and R458 Baile Chláir to Ardrahan. and Kinvara	Tony Divilly
9	R380 Loughrea to Gort, R458 Ardrahan to Clare, and R347 at Ardrahan	John Hoban
10	N83 Tuam-Galway, N84 Headford Road and R334 Headford to Co Boundary	Mike Hussey
11	P3 Regional Dunmore Moylough, R362 Glennadmaddy R363	Ciaran Mc Hugh
12	R332 Kilconly, R347 Tuam-Athenry, Cor an Dola	Damian O Shea
13	P3 - Ballinasloe South, Portumna	Contractor
14	R353 Derrybrien, R351 Loughrea-Woodford R461	Contractor
15	P3 - Ballinasloe North, Loughrea Athenry	Contractor
	Relief / Standby Drivers	
	Trevor Hoban	
	Tomas Higgins	
	Joe Kenny	
	Derek Power	

	Call Out in Emergency	Noel Divilly
		Herbie Trill

Plant & Equipment

- 4.4 Galway County Council operates 6 No. 6m³ salt spreaders and 6 No. 9 m³ spreaders and uses private contractors to augment this service. There are 10 No. snowploughs.
- 4.5 The spreaders are all the demountable type mounted on Galway County Council lorries.
- 4.6 The depot loading equipment is hired for the winter maintenance season and paid on a usage basis only.
- 4.7 All plant including hired plant has been fully serviced prior to the start of the season. Plant will be cleaned down and checked for all safety features at the end of each treatment run in preparation for the next run. GPS system will be checked regularly.
- 4.8 A one-day refresher safety training into the winter maintenance operation will be provided by a competent person to all Council lorry drivers involved in the gritting of roads.

5 De-icing Material

- 5.1 Rock salt and marine salt are the most commonly used de-icing materials and are the most suitable for Galway County Council's equipment.
- 5.2 A number of other alternative de-icing materials are available. However, these should only be considered in limited and emergency circumstances.
- 5.3 Grit (salt sand mix) should not generally be used in the salt spreaders, because of the excessive wear on equipment, except in the treatment of hard-packed snow and ice which cannot be removed by ploughing.
- 5.4 Salt is stored in enclosed salt barns located at Tuam, Loughrea and Gort and at Sandy Road in open storage. It is intended to seek approval to construct an additional barn in 2024 in Connemara.
- 5.5 All salt which is not stored in barns will be formed in the shape of long rectangles and be covered in protective sheeting in a manner that avoids the ingress of moisture into the material as far as is practicable.
- 5.6 Galway County Council has indoor storage of approximately 3,600t capacity on completion of the three barns and this will allow for purchase and storage of salt throughout the year with adequate stocks for a normal year held in stock in advance of winter.
- 5.7 Procurement of salt has commenced as the TII's current tendering process is complete.
- 5.8 The minimum stock level for each salt store will be at 50% of capacity ie 650 tonnes which will equate to at least 50% of the full winter requirement.

The average salt usage on the Priority One routes is 120 tonnes per run.
This is currently funded 50% from National Route Winter Maintenance and 50% Regional Road Maintenance. The Winter Gritting of Priority Two Routes will be funded by a combination of Regional Road Winter Maintenance and Local Road Winter Maintenance.

- 5.9 The Machinery Engineer monitors depot salt stock, weeks usage and expected deliveries and orders stocks for the Priority One Routes.
- 5.10 Area Engineers are responsible for all aspects of the other route gritting and the extent of this winter maintenance is dependent on available funding.
- 5.11 The main salt supplier allocated to Galway County Council under the New Salt Management System is as follows-
 - 1. **National Road Salt** – Cork Dockyard Ltd, Mr. Anthony Griffin
 - 2. **Regional and Local Road Salt** South East Port Service, Knockmullen lodge, Belleview, Waterford. Mr. Bryan Cunningham

6 Pre-Season Preparation

- 6.1 The first operation is winter season preparation which includes the following;
- Refresher safety training for drivers
 - Refresher training for Duty Engineers
 - Calibration of Salt Spreaders
 - Servicing of Machinery Yard, Area & any hired plant and checking of GPS system
 - Ordering of Salt
 - Preparation of depots including checking lighting & access
 - Check weather station operation and website access
 - Check snowploughs and test attachments to truck
 - Check stock of spreader spare parts.

7 Communication & Publicity

- 7.1 This winter service plan will be distributed as follows;
- **Internal**
Cathaoirleach & Members of Galway County Council
County Manager & Senior Management Team
SPC – Roads and Transportation
Galway County Council personnel listed in Table 4.1
Chief Fire Officer – Galway Fire Service, CampWest
Road Safety Officer
 - **External**
An Garda Síochána
TII and N6 Concession Ltd.
HSE West Ambulance Service
Directors of Services, Clare, Sligo, Roscommon & Mayo Co. Co.
Bus Éireann – Galway
- 7.2 The Priority One & Two Route Map shall be included on the Galway County Council website for the duration of the winter season including summary information from the service plan. The website shall also contain safe winter driving tips.
- 7.3 During severe or prolonged weather, the website will contain frequently updated information on road conditions in the County.

8 Appendix A

Winter Maintenance Duty Engineers' Roster for the Period 16th October 2023 to 30th April 2024

Local Authority: **Galway County Council**

Week starting Monday	Duty Engineer's Initials	Week starting Monday	Duty Engineer's Initials	Week starting Monday	Duty Engineer's Initials	Week starting Monday	Duty Engineer's Initials
16/10/2023	CW	04/12/2023	CW	22/01/2024	TK	11/03/2024	TK
23/10/2023	CW	11/12/2023	TK	29/01/2024	TK	18/03/2024	KF
30/10/2023	TK	18/12/2023	TK	05/02/2024	KF	25/03/2024	KF
06/11/2023	TK	25/12/2023	KF	12/02/2024	KF	01/04/2024	CW
13/11/2023	KF	01/01/2024	KF	19/02/2024	CW	08/04/2024	CW
20/11/2023	KF	08/01/2024	CW	26/02/2024	CW	15/04/2024	TK
27/11/2023	CW	15/01/2024	CW	04/03/2024	TK	22/04/2024	TK

Duty Engineer's Name & Initials	Office Phone No	Office E-mail Address
Ciarán Wynne (CW)	091 - 509525	cwynne@galwaycoco.ie
Tony Kelly (TK)	091 – 509125	tkelly@galwaycoco.ie
Kevin Finn (KF)	091 – 509378	kfinn@galwaycoco.ie

Send to: CAFO, Met. Éireann, Glasnevin Hill, Dublin 9. Attention: Duty SMO. E-mail: forecasts@met.ie

Copy to: Owen Smith, Transport Infrastructure Ireland, Parkgate Business Centre, Parkgate Street, Dublin 8. E-mail: owen.smith@tii.ie

A2 Plant, Vehicles and Equipment

Galway County Council operates 12 No demountable salt spreaders, 8 snow ploughs, to deliver the winter service. Private contractors located on the East and West side of Co. Galway are contracted to provide back-up support when required.

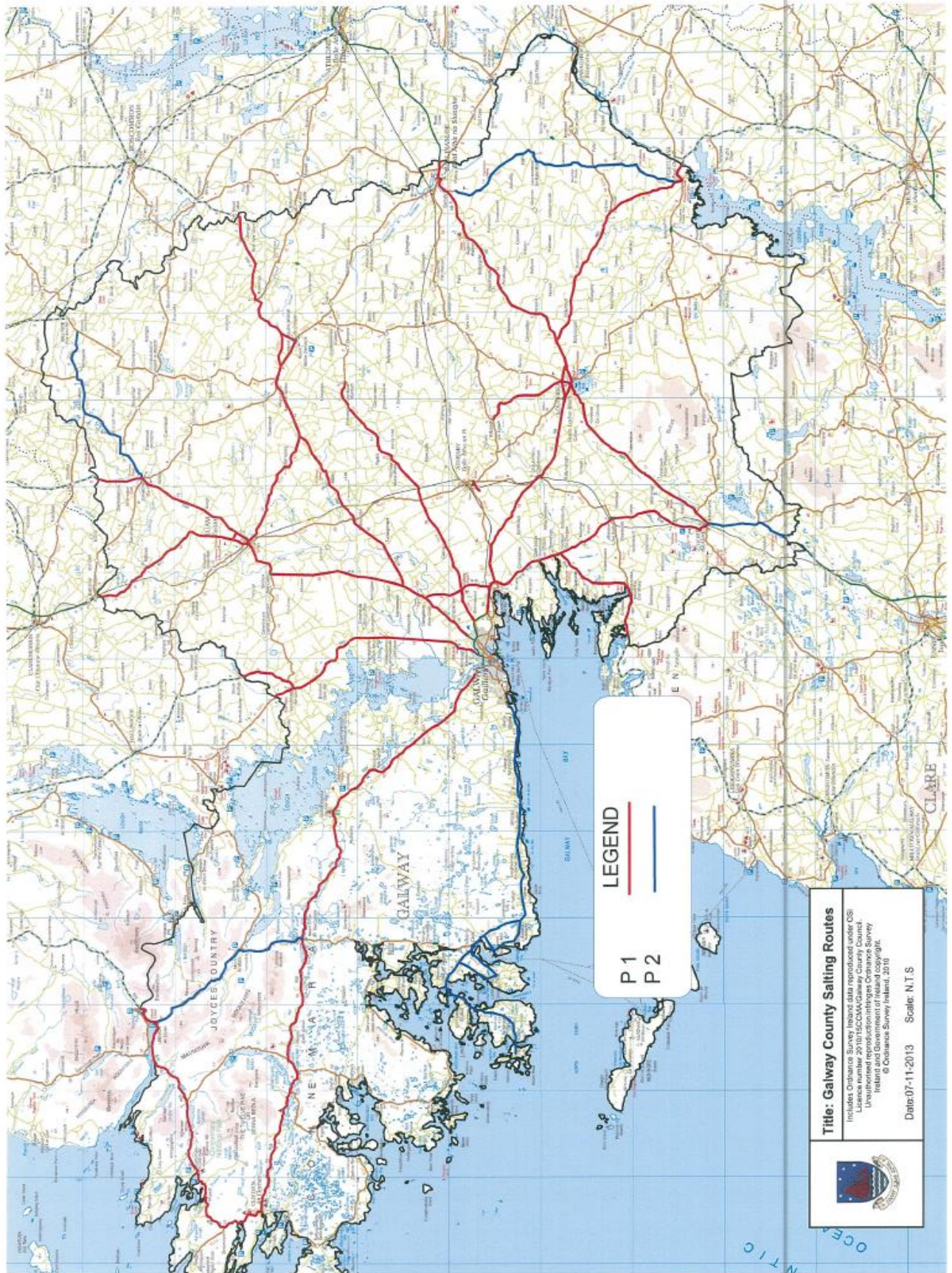
Description (List each piece of equipment on its own line, & its registration plate, if applicable)	Depot Location	Capacity	Date Calibrated	Date Serviced	Date of next Calibration	Date of next Service
Demountable salt spreader 4 No	Sandy Road Galway	3 No 6 cu m. 3 No 9 cu m	Q3 2023	Q3 2023	Q2 2024	Q2 2024
Demountable salt spreader 2 No	Loughrea STW	1 No 6 cu m. 1 No 9 cu m	Q3 2023	Q3 2023	Q2 2024	Q2 2024
Demountable salt spreader 2 No	Tuam STW	1 No 6 cu m 1 No 9 cu m.	Q3 2023	Q3 2023	Q2 2024	Q2 2024
Demountable salt spreader 2 No	Gort	1 no 6 cu m 1 no 9 cu m.	Q3 2023	Q3 2023	Q2 2024	Q2 2024
Snowploughs & Loading Shovels	Depot Location		Fitted to		Date Serviced	Date of next Service
List each snowplough & loading shovel, and a unique identifier	1 no LoadAll at Tuam salt barn Depot					
List each snowplough & loading shovel, and a unique identifier	1 no. LoadAll at Loughrea salt barn Depot					
List each snowplough & loading shovel, and a unique identifier	1 no. LoadAll at Gort salt barn Depot					
List each snowplough & loading shovel, and a unique identifier	1 no. LoadAll at Machinery Yard Depot. 8No. snow ploughs stored in Machinery yard					

Include details of when/whether the gritters & loading shovels are to be permanently mounted, particularly during holiday periods.

A3 Details of Depots

Map Ref.	Salt Depots	Routes Serviced	Indoor or Outdoor	Max Capacity	Minimum stock levels at:		
					1 st Oct	13 th Dec	1 st Mar
Ref No	Sandy Road Galway	No 1,2,10, 16,15,17.19	Outdoor	500t			
Ref No	Loughrea STW	No 6,7,8,11,13, 16,	Indoor	1000			
Ref No	Tuam STW	No 1,2,3,5,18, 20.	Indoor	1000			
Ref No	Gort	No 8,10,11, 14	Indoor	1000			
Ref No	Done by Other Counties, Agencies	No.4,12,9	Indoor	N/a			
TOTALS				3,500	Insert tonnage	Insert tonnage	Insert tonnage

APPENDIX B



Winter Treatment Priority Route Table 2.1						
Route	Depot	Route description	NP	NS	R&L	Total
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1 & 2	Sandy Road	N59 City Boundary (Bushypark Church) to Clifden to Leenane to Mayo County Boundary		110		110
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