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2017/ 2018

Winter /Severe Weather Plan CVU

LONDON HIGHWAYS ALLIANCE

Author: [redacted]
Company: CVU
2017/ 2018

Contents

1.0 Introduction and Purpose

1.1 Plan scope

This Winter Service and severe Weather Plan describes objectives, procedures, and operational arrangements for delivery of the winter service within the stated area of the TFL (TFL) Central Road Network.

The document serves a number of operational purposes:

- Policy document – reiterates the Tfl Winter Service policy
- Contract document – outlines the key contractual responsibilities
- Quality document – forms part of the service providers integrated management system
- Contingency plan – linked with the Tfl wider contingency arrangements
- Operations manual – describes the processes, procedures, and operational arrangements for those responsible for delivering the winter service
- Reference document – provides a comprehensive reference for future improvements and benchmarking purposes

1.2 Roles during winter period

The designated roles and organisations involved in the Winter Service are as detailed in *Table 1 – Roles and Organisations*, below. Full contact details are provided in *Appendix O - Contact List.*

Table 1 – Roles and Organisations

Name and Title	Additional role for winter period
Nick Aldworth Head of Highways (TfL)	Head of Highways Winter Service
Alan Davison Highway Operations Manager (TfL)	TfL Area Winter Maintenance Manager
Stewart Wilson Senior Route Manager (TfL)	TfL Duty Winter Maintenance Officer (DWMO)
Multiple TfL Duty Winter Service Co-ordinator (TfL)	

Vaisala Forecaster Provided by TfL	Duty Officer
[redacted] Core Services Manager	LoHAC Senior Winter Service Manager
[redacted] Operations Co-ordinator	LoHAC Winter Maintenance Manager
[redacted] Night Manager	LoHAC Winter Maintenance Night Manager
From rota Area Supervisors	LoHAC Duty Officers
[redacted] Network Manager	LOHAC Severe Weather Manager

Responsibilities

The TfL Duty Winter Service Co-ordinator is responsible for the co-ordination of cross area activities, collating instructions and preparing centralised records and reports relating to winter treatments.

The CVU Senior Winter Maintenance Manager is responsible for production of the Annual Winter Service /Severe Weather Plan, and for provision of resource, plant and materials to enable delivery of the requirements of the Plan throughout the winter period.

The CVU Winter Maintenance Manager is responsible for the management of all winter service activities to deliver the requirements of the Winter Service Plan, and the effective management of staff and operatives involved in the service delivery.
The CVU Winter Maintenance Manager or his appointed representative will receive daily instructions from TfL outlining specific treatments or non-actions and mobilise as required, suitable resources to complete prescribed actions.
Extra winter resources will also be mobilised as required in liaison with TfL to complete additional planned or reactive treatments.

The CVU Duty Officer is responsible for implementation of actions under the supervision of the CVU Winter Maintenance Manager.

The CVU Severe Weather Manager is responsible for the management of all other severe weather activities other than ice or snow to deliver the requirements of the severe weather Service Plan, and the effective management of staff and operatives involved in the service delivery.
The CVU severe weather Manager or his appointed representative will receive daily instructions from TfL outlining specific treatments or non-actions and mobilise as required, suitable resources to complete prescribed actions.
Extra resources will also be mobilised as required in liaison with TfL to complete additional planned or reactive treatments.

2.0 Statement of Policies and Responsibilities

2.1 Policies and objectives

TfL's policy in relation to the direct provision of the Winter Service states ***"to pre-treat its Network to inhibit the formation of snow and ice and to post-treat its network to clear any residual accumulations of snow and ice, so that as far as is practicable it remains safe and passable at all times".*** TfL will also facilitate the provision of bus services by treating and clearing private roads and access routes that link bus garages to the public highway. TFL will also instruct treatments of the new segregated Cycle Super Highways.

2.2 Client and Contractor Risks and Responsibilities

Prior to the start of the winter maintenance activities, a pre-season meeting will be held between TfL and its service provider. The purpose of the meeting is to ensure procedures are in place for the forthcoming season and any learning points from the previous season have been incorporated into the current Plan.

The winter service season for the Central contract area, is to run from 1st October to 30th April

This season has been categorised into three operational periods as detailed in *Table 2 – Winter Operational Periods*.

Table 2 – Winter Operational periods

Period	Definition	Time	Weather conditions
High	A period of standby to ensure salting starts within one hour of instruction. Possibly continuous with 6 hours' notice	December, January, February, March	Severe – probable
Low	Standby with possible continuous	November	Severe – may occur
Marginal	Call out	October and April	Severe – not expected

Any variation to the Winter Maintenance Service due to unseasonal weather patterns will be upon written instruction from TfL.

2.3 Weather Prediction and Decision Making

The TfL Highways Team is responsible for issuing daily Winter Treatment Activity Notification to its contractors. A copy of this form can be found in *Appendix C – Winter Treatment Activity Notification*.

TfL is normally in receipt of weather forecasts by 1300 and 1900 hrs. daily. The DWMO will assess the forecast information and prepare the draft Winter Maintenance Notification, detailing the planned actions and prescribed treatments.
The DWMO will pass instruction relating to pre-planned precautionary treatment to the CVU appointed contact normally by 1300 and 2000 hrs. Daily.

The instruction will be confirmed by email and a telephone call to the CVU Network Control Room, daily during the winter maintenance period

The DWMO will also email the daily and 2-5 day weather forecast information to the contractors Network Control Room (NCR) for information and to assist resource planning.

The NCR will acknowledge receipt of the daily notification. They will then liaise with the CVU Winter Maintenance Manager (WMM) to confirm arrangements for the required treatment to be organised, as detailed in *Appendix N – NCR Procedure*.

The daily winter maintenance notice will provide the following information:

- The specific routes to be treated
- Treatment type and spread rate
- Date and time of decision
- Date and time of forecast the decision was based upon
- Date and time of instruction
- Network condition colour status
- TfL Duty Winter Maintenance Officer issuing the instruction

2.4 Liaison and Communication with other Authorities

Operational communications

During normal working hours, communication between channels will be from the DWMO to the NCR. The TfL staff rota list will be made available and updated regularly showing the DWMO contact details.

Liaison with Adjacent Authorities

All adjacent Highway Authorities and named stakeholders, as well as other designated organisations, will receive a copy of this Winter Service Plan, prior to the start of the season. A full list detailing to whom the plan is provided is included in section 3.1 of this document.

This Winter Service Plan will be made available to all LoHAC staff via normal business channels.

All adjacent Highway Authorities, together with designated TfL staff, will be advised by TfL of the Area Network daily treatment decision by means of an e-mail during the winter season. If adverse weather restricts the use of e-mail, fax or landline telephone, then ad-hoc arrangements will be made to communicate with Authorities' contacts by mobile telephone or whatever appropriate arrangements may be in place. A schedule of other relevant Highway Authorities is included in the contacts list in *Appendix O – Contact list*.

Weather warnings will be prepared by TfL where appropriate and sent to the appropriate TfL Press Officer. TfL will publish any appropriate weather warnings to CVU NCR, who will then disseminate to relevant operational managers and staff.

As a fall-back, CVU NCR will also monitor weather forecasts, national media, and our internal communications network and advise of any forecasted severe weather conditions

If the area becomes severely restricted or impassable due to severe weather conditions, then the DWMO will inform the London Streets Traffic Control Centre (LSTCC), our NCR and the relevant Metropolitan Police Area Traffic Management (ATM) Officer by telephone.

In the likelihood of extreme winter weather events, the Head of Highways will be notified in advance by the DWMO and appropriate liaison/communication channels established.

The Head of Highways will then decide whether or not to instruct all reserve plant and operatives on standby (24 hours in advance if possible) in anticipation of extreme weather being experienced.

During prolonged periods of severe weather conditions, the DWMO will provide regular updates to the LSTCC daily reporting service.

A post action report will be provided by e-mail to the TfL Pan London Network Coordinator (TPNC) by 10:00hrs. the day following any treatment actions.

The DWMO will send by e-mail, all daily notices to the TPNC within 1 hour of the decision being made. Where the treatment time cannot be determined from the midday forecast, the decision may be delayed until after the 18:00 updated forecast.
During these occurrences the TPNC should be informed by email of such delay.
The NCR will also be notified prior to 14:00hrs. Each day whether any action is necessary of not or whether the decision is deferred while further data is received.

3.0 Quality Plan

3.1 Quality Management Regime

This document will form part of CVU Integrated Management System for ISO 9001 purposes on the LoHAC Framework Contract. An annual audit will be carried out prior to each winter period in accordance with ISO BS EN 9004.

Document Control Procedures

This document will be uncontrolled if printed or viewed other than from the Intranet. Updates will be notified via email to the people identified on the distribution list given in *Table 3 - Winter Service Plan Distribution List*, below. Prior to distribution, the plan will be approved by the Highway Operations Manager or his designated representative.

Organisations receiving this document must acknowledge its external origin and ensure access is controlled to prevent its' unintended use or access. In particular, organisations must ensure that access to operational communication channels is not compromised.

Table 3 – Winter Service Plan – distribution list

Organisation	Name	Title
TfL	Nick Aldworth	Head of Highways
TfL	Alan Davidson	Highways Operations Manager
TfL	TBC	Performance Manager
CVU	[redacted]	Contract Manager
CVU	[redacted]	Core Services Manager
CVU	[redacted]	Winter Maintenance Manager
CVU	[redacted]	Night Winter Maintenance Manager
CVU	[redacted]	Operations Manager
London Streets Traffic Control Centre (LSTCC)	Jason Ddithental	Operations Manager
CVU Network Control Room (NCR)	[redacted]	NCR Manager

3.2 Information Recording and Performance Monitoring

Performance Monitoring
The performance of the winter service will be monitored under the following Secondary Performance Indicator (SPI):

- SPI 6: (Reduced Disruption on the Network) - Percentage of precautionary salt treatments completed within required time.

The SPI measurement will be - ***The total number of occurrences during each reporting period when a carriageway, footway and/or cycleway precautionary treatment route is completed within the contractual response time. This will be expressed as a percentage of the total number of occurrences during the period when a carriageway, footway and/or cycleway precautionary treatment route was instructed to be undertaken.***

Therefore the indicator will reflect the successful achievement of individual treatment zones.

Response and Treatment Times
The **response time** is defined as the time taken from the instruction being received by CVU to undertake the treatment to the time at which spreading vehicles are loaded, manned and ready to leave the compound/loading point. This applies to all carriageway, footway and cycleway treatments instructed within office hours or outside of normal working hours.

The **Treatment Time** is defined as the time taken from leaving the compound/loading point through to completion of the route treatment. The time will include leaving the compound/loading point to begin the treatment of the whole route.

The target for Treatment Times is detailed in *Table 4 – treatment times*, below;

Table 4 – Treatment times

Asset	Activity	Response Time	Treatment time
Carriageways (Primary Treatment Routes)	Precautionary Treatment	1 Hour	2 Hours
Segregated Super Cycle Highways	Precautionary Treatment	1 Hour	4 Hours TBC
Prestige walking zone	Precautionary Treatment	Not defined	4 Hours
Primary walking route	Precautionary	Not defined	4 Hours

	Treatment		
Secondary walking route and link footways	Precautionary Treatment	Not defined	24 hours
Local access footways	Precautionary Treatment	Not defined	48 hours

Situation reporting
A winter service situation record will be maintained throughout the winter service period by the CVU Senior Winter Service Manager, who will record various details including (but not restricted to):

- Details of precautionary and reactive salt runs, including any problem areas
- Personnel used
- Material stock
- Fleet and equipment inventory

A Winter Service Operational Report will be provided daily by 09:00 to TfL, summarising activity over the previous 24 hours and specifically detailing salt and liquid (Pathway KA) used and stock remaining.

A report of stock movement will be provided on a Monthly basis during the low risk months and weekly during high risk months during the Winter Service Season.

A Winter Service Operational Report template is given in *Appendix A - Operational Report template*. Once completed, these are stored electronically and also in the winter maintenance reports file kept by the Winter Service Manager at the Operational Depot.

Readiness checks
Prior to the start of the season, an operational loading exercise will be undertaken under the supervision of the CVU Winter Maintenance Manager.
The exercise will include:

- Toolbox talk – including health and safety, and risk management issues
- Vehicle checks including recalibration records.
- Route familiarisation
- Plant and equipment wash down
- Check salt bins on the Network are stocked, if required

3.3 Winter service plan review
During mid-season and following the end of the winter service season, the Senior Winter Service Manager will conduct a review of all aspects of the winter service including:

- Performance
- Management and delivery
- Vehicles, plant and associated equipment
- Communications
- Staffing levels

- Participation of other stakeholders
- Depot arrangements
- Winter maintenance routes
- Standards and uniformity of area wide service
- Evaluation of opportunities to improve service
- Lessons learned

The results of this review will forwarded to the TfL Highway Operations Manager for interest and comment where appropriate.

Annual post-season 'debriefing' meeting

Following the end of the winter season, a joint 'wash-up' meeting will be held between representatives from TfL, CVU and potentially other LoHAC Employers, as well as other key stakeholders where appropriate, including the emergency services and the London Boroughs. Any issues will be discussed in an open and honest environment, with an action plan developed to develop any lessons that can be learnt, best practice, and innovations.

CVU will produce an Annual Report by 30th May each year. The Annual Report will include a Winter Service Operations Report, and will be forwarded to the TfL Winter Maintenance Manager. The report will include;

- An operational report detailing management and operational for the carrying out of all Winter Service Operations
- A resource plan, including an organisational chart with designations of all personnel involved in undertaking the service
- Details of communications, controls and call-out procedures
- Details of de-icing materials used, including their storage and stock management plan
- Details of any damage to private property during Winter Service Operations
- Proposals for improvement to be considered for the next year's Winter Service period.

4.0 Network and Route Information

4.1 Network information

The TfL Central Area Network has a total of 270 km of roads that require salting and Segregated Super Cycle Highways totalling 59 km as well as 1,335,769 m^2 of footways. Within the Area, there are 11 London Boroughs, and a further 13 with adjoining roads. A map of the network is provided in *Appendix B – Central Area map*. Relevant authority contact details are in *Appendix O – Contract list*.

4.2 Route information

Carriageway treatment

The winter service route schedules (*Appendix D – Route cards for carriageway precautionary salting* and *Appendix E – Route maps for carriageway precautionary salting*) give the treatment length, treatment time, salt requirements and directions for each treated route.

The route cards will be briefed to all drivers and carried in all winter vehicles for information.

GPS trackers are fitted to all the vehicles to be used for the winter service delivery.

Each route will have three dedicated drivers who will be familiar with their specific routes but also trained in other routes in case cover is required.

Segregated Super Cycle Highways

The winter service route schedules (*Appendix D – Route cards for Segregated Super Cycle High ways precautionary salting* and *Appendix E – Route maps for Segregated Super Cycle Highways precautionary salting*

The treatment length, treatment time, Liquid (Safecote Supermix blue) requirements and directions for each treated route.

The route cards will be briefed to all drivers and carried in all winter vehicles for information.

GPS trackers are fitted to all the vehicles to be used for the winter service delivery.

Each route will have three dedicated drivers who will be familiar with their specific routes but also trained in other routes in case cover is required.

Footway and high risk pedestrian area treatment

The route cards and maps for the footway treatments, subways and footbridges can be found in *Appendix F – Route cards and maps for footway precautionary salting*, along with the quantities for the footway hierarchy.

4.3 Vulnerable areas/wet spots

There are areas of the network which are susceptible to ice formation, either due to specific micro-climatic conditions or due to individual circumstances on the network. Locations, together with site specific mitigations are detailed in *Appendix T – list of areas susceptible to surface water*.

4.4 Additional information

Salt bins

Locations where salt bins are provided and which require periodic checking and re-filling during the winter period are detailed in *Appendix Q – list of salt bins*.

Bins will be filled prior to commencement of the winter season and throughout the period in order to maintain salt levels to a minimum 50% capacity. Bins will be inspected on routine inspection and damages notified to TfL. Rubbish and debris will be removed during filling. will be recorded and notified Under instruction from TfL, the salt bins will be brought into the operational depots at the end of the season to be cleaned, maintained, and re-stocked for the next winter season.

Salt Bags

During times of severe weather, TfL may instruct the supply and delivery of Jumbo bags of salt to various strategic locations across the network. CVU will comply with any instruction given.

Bus Depots

There are a number of bus depots / private access to bus depots, located within or close to the Area which will be treated on instruction from TfL. The list of depots can be found in *Appendix R – list of bus depots.*

5.0 Operational Arrangements

5.1 Principal treatments

The principal treatments are to be instructed by the DWMO in accordance with *Table 5 – Principal treatments*, below, with the use of 'dry' rock salt as the standard de-icing material. TfL may also instruct the use of Pathway KA on bridges, and super mix blue on Super Cycle Highways, and other structures that form parts of the Network. Further details of the material types and their uses can be found in section 7.4 of this document.

Salt spread rates for dry salt and 'reasonable capability' will be in line with the *Table 5 – Principal treatments*, below;

Table 5 – Principal treatments

Principal treatment identity number	Plough blade fitted	Plough in use	Dry salt spread rate g/m^2
1	NO	NO	**8**
2	NO	NO	**12**
3	YES	NO	**20**
4	YES	YES	**NIL**
5	YES	YES	**20**
6	YES	YES	**40**

Any other type of treatment will be specified by the DWSO on a works instruction.

Note: where plough blades are specified to be fitted, this requirement may be altered under instruction of the DWSO, to negate difficulties in negotiating vehicles on busy areas of the network where snow conditions are not forecast.

Super Cycle Highway Recommended treatments

Structures

APPLICATION RATES for PATHWAY KA	Dry conditions Ice thickness <2.5mm Frost		Wet conditions Snow / Packed Snow		Wet Conditions Ice thickness >2.5mm Freezing rain	
	Anti-icing mls/m^2	De-icing mls/m^2	Anti-icing mls/m^2	De-icing mls/m^2	Anti-icing mls/m^2	De-icing mls/m^2
Temperature						
0 to -5	15	25	30	35	30	45
-5 to -12	25	35	35	45	45	55
Lower than -12	35	45	40	50	60	80

Segregated Cycleway

5.2 Pedestrian area treatment operations

Salt treatment of Footways, Footbridges and Pedestrian areas including Subway ramps.

The DWMO may instruct precautionary or reactive treatment to be organised.

All the necessary resources for these operations are available and dedicated for such use during the winter period. Details of these resources can be found in *Appendix H – Operative rota*, *Appendix J – fleet inventory* and *Appendix P – personnel schedule*.

Subway ramps and footbridges will be treated using 3mm white salt to prevent the potential for injury to pedestrians. They will be salted according to the highest priority adjoining footway. For example, if a subway has three entrances with one being a primary footway route and the other two being secondary footway routes, then the whole subway will be treated as a primary route.

The standard treatment is for a 2m wide path along the length of the footway to provide a safe walking corridor for pedestrians.

The required response times and treatment times are detailed in section 3.2 of this plan.

Environmental factors and considerations

- **Surrounding features/hazards/public**:
  Ensure that all reasonable precautions are taken to maintain the safety of persons working near mechanical equipment.
- **Weather conditions**:
  As required working will be in cold conditions; appropriate warm high visibility clothing must be worn
- **Monitoring Weather**
  Records of the prevailing weather will be recorded by each crew on site specific risk assessment forms.

Pedestrian Area Treatments - General

Each team will be issued with a route map covering the area and a list of sites prioritized.

Each site will have the start time recorded against it. Treatment areas are designed to start in the outer areas where the risk of freezing is highest and to be progressed towards the Centre of London. As the footway treatment is normally instructed overnight, this will then facilitate the heaviest foot trafficked areas to be commenced when densities are at their lowest.

All appropriate PPE will be provided for the work to be carried out and site safety inductions completed where necessary.

All vehicles used will be marked with LoHAC logo's and be identified for highway maintenance work. On completion of the prescribed area treatment, the team will ensure they are available to assist other teams to complete all areas before withdrawing from site.

5.3 Spreading techniques

Carriageway

For carriageways, salt will be spread by dedicated vehicles onto the carriageway as instructed by the DWMO to a maximum of 40 g/m^2 . also liquid de-icer Pathway KA over pre-determined structures In order to ensure the correct coverage of salt, and liquid , on-board computer systems will be pre-set as per the DWMO instructions to achieve the correct spread rate for the conditions.

Segregated Super Cycle Highways

These will be treated with 2 number specialist spraying units, In order to ensure the correct coverage of Liquid de-icer; on-board computer systems will be pre-set as per the DWMO instructions to achieve the correct spread rate for the conditions.

Pedestrian Areas

Treatment of the footway will generally be carried out using mechanical walk-along equipment in areas with high pedestrian traffic.

All routes will have a 2m width strip of footway treated.

5.4 Treatment of settled snow

Snow exceeding 30mm in depth should be removed by ploughing as instructed by the DWMO. Each pass of the plough should be followed by a spread of 20g/m^2 of salt or 30-35mls/m2 of Liquid to prevent remaining snow from compacting and aid dispersal by traffic and subsequent ploughing. During prolonged falls of snow, ploughing should be continuous to prevent build up and be supplemented with salt spread of 20-40g/m^2 . or liquid to 30-50 mls/m2

The DWMO may instruct the use of an abrasive as an addition or substitution to salt.

5.5 Snow ploughing

In prolonged heavy snowfall the priority will be to maintain a single lane open with clearance of other lanes as conditions improve. The aim is to clear all lanes as soon as conditions permit. Clearance work shall therefore proceed continuously without pause to prevent build-up of snow.
When ploughing, drivers should take particular care at junctions, roundabouts, driveways and underpasses so as not to accumulate piles to prevent access.
When ploughing bridges, where snow could be thrown over the parapet, drivers should angle the blade towards the centre to minimise damage below.
Duel carriageways need particular attention to central reserves where snow could be pushed onto opposing carriageway. Care must also be taken adjacent to temporary road works, traffic management and permanent safety barriers to prevent ramping of snow and decreasing the effective height of the safety barrier.
Prompt snow ploughing is recommended on porous asphalt and all ploughs will be fitted with rubber skirts to avoid surface damage.
Segregated Super Cycle Highways will have continuous ploughing with the back to black blade, as reasonably practicable and repeated treatments as necessary

5.6 Business continuity

A reserve vehicle is held within Armada Way Depot for use in the event of vehicle breakdown. This vehicle will be available for use throughout the winter season with all necessary routine checks progressed to ensure rapid deployment if required.

Where repairs are necessary to front line vehicles, such repairs will be instructed as a priority to ensure that the vehicle may be returned to service as quickly as possible.

If a frontline vehicle is known to be unavailable for a period of more than 48 hours within a period of forecast winter maintenance activity, then a replacement vehicle will be mobilised to ensure continuity of service. Vehicles are available from Econ Engineering and provisions in place for priority supply if required.

Section 7.2 of this document describes arrangements for fleet maintenance, also detailed in *Appendix J – fleet inventory*.

All personnel rotas will be prepared in advance of each month of the winter season, ensuring that full cover for operatives and staff is suitable and robust, and that any absences are able to be covered. Details are provided in Section 6 of this document, and also *Appendix P – personnel schedule*.

5.7 Standby Arrangements

Operative Standby Arrangements

The operative standby rota can be found in *Appendix H – Operative Rotas*.

Table 6, Alert levels, below, details the various alert levels. Details of the probable alert periods for the winter season are detailed in section 2.2 of this document.

Table 6 – Alert levels

Readiness state	Definition
Normal	Sufficient numbers of staff available to meet response and treatment times
Continuous	Based on 24 hours continuous service
Stand-by	Personnel committed to be available to commence winter service operations within 1 hour of the DWMO instruction
Call out	Off duty personnel available for duty as demand arises but without delay to be available to meet required response / treatment times

Shift definitions

- Day shift - 0700 hrs. - 1900 hrs.
- Night shift - 1900 hrs. - 0700 hrs.

6.0 Organisational Arrangements and Personnel

6.1 Management structure

The organisation structure for the delivery of the winter service plan is shown in *Table 7 – winter service management structure*. This details the responsibilities for emergency and major incident response (which severe weather may occasionally be deemed to be) and takes into account the following definitions:

- Gold Command – in overall control of their organisation's resources at the incident. They will not be on site, but at a distant control room where they will formulate the strategy for dealing with the incident. If the Gold Commanders for various organisations, at an incident are not co-located, they will be in constant touch with each other.
- Silver Command – the senior managers of the organisation in charge of all their resources. They decide how to utilise these resources to achieve the strategic aims of the Gold Commander; they determine the tactics used.
- Bronze Command – directly controls the organisation's resources and will be found with their staff working on the scene.

Table 7 – Winter service management structure

Winter service management structure
Strategic level (Gold)
[redacted], Contract Manager Mobile: [redacted] Office: [redacted] Email: [redacted]
Tactical level (Silver)
[redacted] Core Services Manager Mobile: [redacted] Office : [redacted] Email: [redacted]
Operational level (Bronze)
[redacted], Winter Maintenance Manager Mobile: [redacted] Office: [redacted] Email: [redacted]

Winter service roles and responsibilities
[redacted], Winter Maintenance Manager Mobile: [redacted] Office: [redacted] Email: [redacted] **Roles and responsibilities** • Operational supervision • Recording and reporting operational activities • Resource planning • Plant and equipment arrangements • Health and safety system compliance • Environmental system compliance • Standby rota management • Fleet management • Materials stock monitoring • Winter service fleet licensing • Fleet fuel arrangements • Fleet servicing and maintenance • Fleet inspection arrangements • Fleet storage
[redacted], Night Winter Maintenance Manager week days Mobile: [redacted] Office: [redacted] Email: [redacted] **Roles and responsibilities** • Operational supervision • Recording and reporting operational activities • Resource planning • Plant and equipment arrangements • Health and safety system compliance • Environmental system compliance • Standby rota management • Fleet management • Materials stock monitoring
[redacted], Buyer Mobile: [redacted] Office: [redacted] Email: [redacted] **Roles and responsibilities** • Ordering materials and equipment • Monitoring material usage • Arranging material testing
[redacted], Health and Safety Advisor Mobile: [redacted] Office: Email: [redacted] **Roles and responsibilities** • Risk assessment and method statement • Accident / incident investigation • Site safety audit

In the absence of [redacted] to carry out the role of Winter Maintenance Manager, the role will be covered immediately by [redacted].

6.2 Salt spreading vehicle drivers

Details of the salt spreading vehicle drivers training certificates are held by CVUs Strategic Labour Needs and Training Coordinator. Certification requirements are summarised below.

In addition to holding the required LGV category C driving licence, CVU drivers that are assigned to Winter Maintenance Operations (see *Appendix P – personnel schedule*) will hold the City and Guilds Winter Service Operations Certification .

The units for the City and Guilds Winter Service Operations certification 6159 are:

- Unit 011 – Prepare and operate winter service vehicles up to 3500kg (incl. tractors)
- Unit 012 – Prepare and operate winter service vehicles 3500kg to 7500kg
- Unit 013 – Prepare and operate winter service vehicles over 7500kg
- Unit 080 – Winter service health and safety (compulsory)
- Unit 021 – Winter service manager/supervisor

Endorsements for units 011 to 013 that can also be awarded are:

- 111 Spreader fixed
- 212 Spreader towed
- 313 Plough angle blade/Vee blade

Loading shovel operators are shown in *Table 8 – Loading shovel operators*, below;

Table 8 – Loading shovel operators

Depots	Operative name
Galleons Reach	TBC
	TBC
	TBC
South Norwood	TBC
	TBC
	TBC

6.3 Drivers' mates

CVU winter maintenance drivers are familiar with their designated routes, and at least one other route, so mates for drivers are not required for normal winter service operations.

However, all the vehicles are equipped to facilitate a driver's mate, if it is deemed necessary, for example in severe weather conditions or if a driver is required to drive a route in cases of absence, which they are not familiar with.

A list of mates for drivers is shown in *Table 9 – Driver's mates* below;

Table 9 – Driver's mates

Route	Operative name
1	TBC
2	TBC
3	TBC
4	TBC
5	TBC
6	TBC
7	TBC
8	TBC
9	TBC
10	TBC
11A	TBC
11B	TBC
SCH 1	TBC

Spare Drivers

[redacted]

6.4 Lone working training

CVU operatives do not work alone for normal activities. However, Winter Maintenance drivers due to the nature of the activity are fully trained with this in mind, a winter maintenance tool box talk is detailed in *Appendix L – winter maintenance toolbox talk* that has also made provision to ensure that operatives are aware of the risks and procedures along with their training to follow.

All spreading vehicles are fitted with Master naught tracking software linked to our control room, which is continuously manned 24 hours per day. Control room operators are trained to monitor activities of our winter drivers when active on their routes, noting any stationary time. Should unusual stationary time be noted, the control room operator is instructed to contact the driver by mobile telephone to ensure driver safety is maintained.

All winter vehicles are kitted with survival kits which include warm clothing, protective heat blankets and provisions in case of breakdown or accident during adverse conditions on the network.

6.5 Operative working hours

CVU have a responsibility to ensure compliance with National and EU Directives regarding working hours. This Directive highlights legal requirements under normal or planned circumstances,

Driving is defined as being at the controls of a vehicle for the purposes of controlling its movement, whether it is moving or stationary with the engine running, even for a short period of time.

The law now focuses on the employer ensuring that breaks and holiday are taken to comply with the law. This is a change from a few years ago where the employer had only to allow an employee to take breaks and annual leave.

For normal working time please be aware of the following applies:

- Minimum 20 minutes break every 6 hours.
- 11 hours break in every 24 hours.
- 1 day per week or 2 consecutive days per fortnight.
- 28 days annual leave per year including bank and public holidays (or pro rata for part time employees depending on how many days per week they work, or if they work on days when public holidays fall).

Winter maintenance and out of hours emergencies are managed separately.

An exemption from the rules on driving time and rest applies during any time spent dealing with an emergency. Discussions have taken place with VOSA on a local and national level to determine the definition of emergency work, as it applies to winter maintenance**. In a snowfall situation, emergency exemptions will generally apply to drivers engaged on winter maintenance operations**. However, it should be noted that in times of continuing or prolonged snowfall, where it may be reasonably anticipated that operations will require continuous treatment, such a period will be classed as planned work and emergency exemptions may not apply.

In any two consecutive weeks (Monday to Sunday) there must be at least **one period of 24 hours** off duty.

7.0 Facilities, Vehicles, Equipment and Materials

7.1 Facilities

Tables 10 and 11, below detail what facilities are available to CVU. Location maps for each depot can be found in *Appendix I – depot location maps*.

Depot address	**Galleons Reach** **14 Armada way** **Beckton** **London** **E6 7AB** Tel: TBC Fax: TBA
Depot contact	[redacted]
Wash down facilities	High pressure hot water steam cleaning unit
Liquid de-icer	Max capacity 20000 ltrs self-contained tank Minimum Capacity 500 ltrs
Liquid Specification	Pathway KA
Salt storage capacity	Max capacity: 2500 tonnes Minimum operational stock requirement: 350 tonnes
Salt specification	6mm to BS 3247
Salt storage	Enclosed salt barn with sealed floor

Table 10 – Galleons Reach depot facilities

Depot address	South Norwood Depot 19-21 Penge Road South Norwood Greater London SE25 4EJ Tel: [redacted] Fax: TBA
Depot contact	[redacted]
Wash down facilities	High pressure hot water steam cleaning unit
Liquid de-icer	Max capacity 12000 ltrs self-contained ICB tanks Minimum Capacity 500 ltrs
Liquid Specification	Pathway KA
Salt storage capacity	Max capacity: 450 tonnes Minimum operational stock requirement: 350 tonnes
Salt specification	6mm to BS 3247
Salt storage	Enclosed salt barn with sealed floor

Table 11 – South Norwood depot facilities

Depot address	Brimsdown Depot 15 Edison Road Enfield London EN3 7BY
Depot contact	[redacted]
Wash down facilities	High pressure hot water steam cleaning unit
Salt storage capacity	Max capacity: 3000 tonnes Minimum operational stock requirement: 1900 tonnes
Salt specification	6mm to BS 3247
Salt storage	Enclosed salt barn with sealed floor

Table 13 – Brimsdown depot facilities

7.2 Vehicles

CVU Operations Manager has overall responsibility for the Winter Service fleet, which will be supervised on a day-to-day basis by the Winter Maintenance Manager.

Salt spreading vehicles should be designed to comply with BS 1622 Class A1 and will meet the following requirements:

- Recommended safety colour - Golden Yellow to BS 4800
- 2 x additional headlamps to permit forward night visibility when snow plough is fitted. Located below the windscreen.
- 3 x rotating amber beacons. 2 No to the roof and 1 no at the rear of the salt hopper.
- Vehicles will also be fitted with a "SPREADING" sign on the back of the salt hopper. Lettering 175mm 'x' height in black capitals in accordance with the TSRGD S1 1994 No 1519 schedule 7 Part V on yellow class 1 reflective background to BS 381C lemon yellow No355.
- Vehicle will also have a passenger seat to permit a drivers mate.

The vehicle inventory can be found in *Appendix J – fleet inventory*. CVU winter service fleet comply with Euro 6 specifications.

Servicing and Maintenance Arrangements

Servicing will be arranged as per manufacturer's requirements and more frequent if conditions dictate. All vehicles will receive a pre-season wax and summer service to include oil change, brakes and integral working parts.
Vehicle inspections will be carried out as per *Table 14 – Inspection schedule*.

Inspection schedule			
Vehicle type	**Frequency**	**Inspection by**	**Inspection type**
Up to 7.5t	10-weekly	CVU	Full safety inspection
7.5t and above	6-weekly	CVU	Full safety inspection

All winter vehicles	Before and after use	Driver	Defect inspection

Table 14 – Inspection schedule

Spreader vehicles will be cleaned upon completion of each salting run or periodically after prolonged spells of activity at CVU operational depots using volume of water. High pressure steam cleaning will be instructed during the season at the WSM discretion.

All vehicles will be serviced to BS 1622:1989 Class A1 by:

ECON Engineering
Borough Bridge Road
Ripon, North Yorkshire, H94 2LX
Tel: [redacted]

Spreaders are serviced by:

ECON Engineering
Borough Bridge Road
Ripon, North Yorkshire, H94 2LX
Tel: [redacted]

Break down service will be provided by;

Econ Engineering
Out of Hours Breakdowns
In the event of a breakdown outside of SHB's normal operating hours please call the numbers listed below.

- Econ Engineering Assistance number for all vehicle breakdowns
  1st point contact [redacted]
  2nd point contact [redacted]

- For all Tyre, Windscreen and Glass enquiries please call the SHB tyre line [redacted]

SHB's normal operating hours are;

- Monday – Friday 8am - 6pm
- Saturday 8am – 1pm
- Bank Holidays - Closed

Number diverts to support agents out of hours
Should there be any delays or problems with vehicle deliveries then support will be provided by the CVU Joint Venture Parent Companies.

Vehicle Records

Records maintained for each salt spreading vehicle shall include

- Tachograph
- GPS based vehicle movements and mileage.
- Service and maintenance records
- Defect log books

These records shall be made available to the Project Manager or delegated authority upon request.

Loading arrangements

The salting vehicles will be loaded using dedicated loading shovel drivers. The loading shovel drivers are detailed in section 6.2 of this document.
Spraying units will be filled by relevant drivers using tank and self-contained pump
Pre-defined areas in each depot have been set aside for Winter Service operations that include but not limited to

- Flat level surface
- Clearly defined area
- Wash down gantry
- Fully insulated water supply
- 360 degree flood lights

7.3 Equipment

The various types of equipment that CVU will be using for delivery of the winter maintenance service are detailed in *Appendix J – fleet inventory*.

7.4 Materials specification

Unless specified and agreed otherwise, precautionary treatments will be with dry rock salt.

Rock salt for precautionary and reactive treatment will be to BS3247 Storage Quality treated with sodium Ferro cyanide as an anti-caking agent. Nominal size will be not greater than 6.3mm

Subways and footbridges will not use the same type or size salt as for carriageway or footway treatments, due to the potential for pedestrians to slip over, causing injury.
Segregated cycle highways will be sprayed with Pathway KA solution

Salt treatments		
Asset	**Type**	**Size**
Carriageway	Rock salt	6mm
Structures	Pathway KA	Liquid
Footway	Rock salt	6mm
Subways / footbridges	White salt	3mm
Super cycle highways	Pathway KA	Liquid

Table 15 – Salt treatments

7.5 Supplier Details and Arrangements

Salt volumes will be monitored by the Winter Maintenance Manager and replenished accordingly to maintain the minimum operational volume as necessary.

Salt will be supplied by:

Salt Union
Bradford Road
Winsford
Cheshire
CW7 2PE
Tel: [redacted]

Pathway KA will be supplied by
Winter service solutions
Charles Robertson
Mob [redacted]

7.6 Salt testing

Testing of salt delivery will be undertaken on agreement to ensure that the salt grade conforms to BS 3247 and the moisture content does not exceed 2% by mass.
To ensure that the stored salt moisture content remains at this level and to conform to environmental requirements, all salt stocks will be covered.

Testing will be carried out by **Bureau Veritas** under instruction from the Winter Maintenance Manager.

Table 16 – salt testing requirements, below, shows salt testing requirements.

Material	Test	Frequency of testing	Test certificate	Comments
Salt for winter services	Moisture content Insoluble matter Chloride content Sulphate content	1 per 300 tonnes or at least 3 samples per depot stockpile	Required	If possible, samples shall be taken at point of delivery or no later than 48 hours of delivery date
0/4mm size salt	Grading and cleanliness Resistance to fragmentation (N)	1 per batch	Required	Material shall be crushed rock, but excluding land based or marine dredged flint aggregate

Table 16 – Salt testing requirements

7.7 Salt stocks

The following salt stocks will be maintained immediately prior to and throughout the winter period:

Salt stocks		
Depot	**Capability (t)**	**Minimum stock level (t)**
Galleons Reach	2500	350
South Norwood	450	350
Brimsdown (resilience)	2000	1900
Total	**4950**	**2600**
Galleons Reach	**Liquid**	**20000L Pathway KA**
South Norwood	**Liquid**	**12000L Pathway KA**

Table 17 – Salt stocks

In addition, TfL hold a strategic salt store at Dagenham, for utilisation by strategic partners in times of need. This salt store currently holds 27000 tonnes.

Salt stocks and de-icing material will be monitored and recorded on a daily basis throughout the winter period, with Orders placed as required to replenish stocks to ensure minimum thresholds are maintained.

8.0 Operational Communications

Onset of instruction to treat

All drivers will be notified of the decision to start operations by mobile phone as soon as possible after the decision is made.
Home phone contacts will also be made available to the WSM as a secondary back up in case of interference or network problems.

During Operations

During a spreading / snow clearing operation all drivers will be contactable by mobile phone and vehicle movements will be monitored by Masternaught GPS tracking system.
All drivers will have access to and supplied with, a secondary mobile phone, network for back up.

9.0 Environmental

With regard to environmental aspects associated with delivering the Winter Service, the following measures will be adopted:

- Calibration of spreaders and sprayers to ensure correct rate of spread and spinner action.
- Correct maintenance of vehicles and monitoring of emissions.
- Vehicle wash-down areas to be contained and all necessary interceptors in place.
- Stockpiling of materials will comply with the Environment Agency and local planning requirements.
- The salt will be stored undercover, to negate seepage.
- Liquid will be stored in a self-contained tank ,fully bunded and or in 1000ltrs ICB
- Cut off drains will be maintained to ensure that any seepage is collected and transported to a suitable drainage system.

The environmental aspects register will be reviewed annually in accordance with ISO 14001 Environmental Management System and any preventative and/or corrective measures put in place.

10.0 Health and Safety

10.1 Risk Assessment

Health and Safety risks are addressed through the provision of appropriate risk assessments and method statements, detailed in *Appendix K – method statements and risk assessments*, highlighting the significant winter service risks. The risk assessment will be reviewed and briefed to the operatives prior to the winter service period as part of a toolbox talk (*Appendix L – winter maintenance toolbox talk*). The risk assessment will cover all foreseeable occupational risks and hazards including:

- Cold
- Fatigue
- Vehicle impact
- Lone working
- Loss of communication
- Drivers Hours
- Adequate breaks, shifts
- Vehicle breakdown
- Manual handling
- Contact with salt
- Training
- Instruction
- Supervision
- Periods of inclement weather

10.2 Incident reporting

In the event of any incident that occurs which may have a health and safety implication, the reporting and escalation methodologies are detailed within CVU IMS (H07-05-CVU) and applicable to all of our business activities will be followed.

In the unlikely event of an environmental incident or accident, the steps given in the Safety and Environmental Incident Guide will be followed. Processes are detailed in *Appendix M – environmental guide*.

10.3 Safety during footway salting operations

All operatives will only wear approved PPE compatible with salting works, e.g. gloves, hard hats, safety boots, goggles and warm high visibility clothing (jacket and trousers). PPE shall be worn at all times.

Extra Protection

Thermal gloves and thermal underwear will be worn where conditions require this. Snow Tracks or similar will be provided if prolonged ice situations persist for footway grip

Noncompliance with site safety regulations will result in suspension from duty and disciplinary action.

Generally salting and spraying treatments will be undertaken at night. The programme of works will be arranged so that high pedestrian traffic areas, where possible, are undertaken at a time where the traffic flow is light.

Although heavy lifting should not be required, a manual handling assessment should be undertaken where items are outside of normal lifting restrictions (25kg/ person).

11.0 Collaboration and Resilience

11.1 Collaboration structure

Although resources in place have been proven to be resilient in dealing with severe weather during the winter period, it is vital to ensure complete effectiveness of the Winter Service Plan to ensure collaborative arrangements are in place, where these may aid or improve performance during severe weather or due to unforeseen circumstances on the network.

Over the duration of our contract, we have forged mature relationships with our supply chain partners and adjacent LoHAC' members.

A summary of internal and external resource availability, together with contact information, is given below:

11.2 Internal resilience

During prolonged periods of severe weather where there is a risk in the provision of sufficient resources to undertake the winter service, we can call upon experienced operatives from CVU Parent Companies.

- *The primary concern of each delivery team will be their own contract. However, experience has shown that severe weather may often be very localised, and therefore the ability to move resource to adjacent locations in the country is extremely useful in providing enhanced resilience.*

11.3 External resilience

Source	Location	Contact	Spreader availability	Footway plant	Salt stock	Labour availability
Ringway Jacobs	NE LoHAC	[redacted]	9 x 9 cubic metres	Subcontracted	5700 tonnes	30 trained operatives
Kier Highways	South LoHAC		12 x 9 cubic metres	Subcontracted	6000 tonnes (Plus 1000 Dagenham)	37 trained operatives
CVU	Central LoHAC	[redacted]	10 X 6 cubic metres 2X purpose built sprayer units on 4x4	Self-delivered	3800 tonnes 20000ltrs KA	32 trained operatives
FM Conway	NW LoHAC	[redacted]	TBC	TBC	TBC	TBC

Appendices

Appendix A - Situational report example

Date	dd:mm:yyyy	Time	hh:mm			Form Completed by:						
Route ID	Vehicle Reg.	Drivers Name	Instruction Given by:	Time of Instruction (hh:mm)	Time of Leaving Depot (hh:mm)	Time Route Completed (hh:mm)	Route Time (hh:mm)	Spread Rate	Liquid Rate	Salt Used Tonnes	Liquid Used Ltrs	Ploughs Fitted
1												
2												
3												
4												
5												
6												
7												
8												
9												
10												
11A												
11B												
SCH 1												
SCH2												
Bus Depots												
Waterside Way												
Kings Cross												
Mandela Way												
Peckham High Street												
Peckham Blackpool Road												
Putney												
Hackney												
Euston												
Liverpool Street												
Aldgate												
Paddington												
								Total				

LoHAC Area / Contractor
North West Area: Covering roads within: Hounslow, Hillingdon, Ealing, Barnet, Harrow, and Brent **Conway, Aecom JV**
North East Area: Covering roads within: Havering, Waltham Forest, Barking & Dagenham, Redbridge, Newham, Haringey and Enfield **Ringway Jacobs**
Central Area: Covering roads within: Camden, City of London, Southwark, Tower Hamlets, Hackney, Lambeth, Wandsworth, Hammersmith & Fulham, Kensington & Chelsea, Islington and Westminster **CVU – a joint venture between Colas, Volker Highways and URS**
South Area: Covering roads within: Bexley, Greenwich, Lewisham, Bromley, Croydon, Sutton, Merton, Kingston upon Thames and Richmond upon Thames Kier Highways

0 1
Miles

Appendix C - TfL winter treatment activity notification example

Date and Time of Decision: -		Date and Time of Forecast decision based upon: -		Date and Time of Instruction to Lo-HAC:-		Network Condition Colour Status/Min RST: -	

	Central Area Route	Section (From – To)	Date	Time	Rate of Spread (g/m2)
1	A10, A11, A1202, A3,A100, A1211, A302, A201, A3211, A5200				
2	A1, A510, A503, A400				
3	A5201, A510, A210, A5200, A41, A5, A5205				
4	A3220, A4, A4202, A41, A5, A303, A202, A3203, A3212, A3213, A3217				
5	A12, A102, A107, A10, A503				
6	A12, A11, A13, A101, A1203				
7	A205, A23, A203, A3204, A202, A24, A214, A216, A3, A3220				
8	A202, A3036, A3204, A3, A23, A3200, A201, A100, A200, A2205, A2				
9	A201, A3, A217, A3205, A3036, A306, A205				
10					
11A					
11B					
SCH1	CS2/5/6/7/8				
	Thames Crossings				
	Bus Garages				
	Footways				
Duty Officer:					

		Transport for London, Galleons Reach 14 Armada way Becton E6 7AB

Supplied separately in book form

Segregated Cycle Highways to be developed as and when construction phase's completed

LoHAC Central – Treatment Route 1 Galleons Reach

LoHAC Central – Treatment Route 2 Galleons Reach

LoHAC Central – Treatment Route 3 Galleons Reach

LoHAC Central – Treatment Route 4 Galleons Reach

LoHAC Central – *Treatment Route* 5 Galleons Reach

LoHAC Central – Treatment Route 6 Galleons Reach

LoHAC Central – Treatment Route 7 Galleons Reach

LoHAC Central – Treatment Route 8 South Norwood

LoHAC Central – Treatment Route 9 South Norwood

LoHAC Central – Treatment Route 10 South Norwood

LoHAC Central – Treatment Route 11a Galleons Reach

LoHAC Central – Treatment Route 11b South Norwood

LoHAC Central—SCH Route 1 Galleons Reach

Structures treated

Structure Summary Details Structure Name	Summarised Dimensions Total Area (m2)
Bricklayers Arms Flyover	1314.09
Vauxhall Bridge	6207.36
Westminster Bridge	6503.9
Lambeth Bridge	4327.95
Battersea Bridge	3000
London Bridge	**12000**
Tower Bridge	**7325**
Blackfriars Bridge	**8800**
Ecclestone Bridge	**1700**

Appendix E - Route cards and maps for footway salting

132017
55309

1335769

Order	Lo
1F	A1
2F	A1
3F	A1
4F	A2
5F	A2

2B	A3214
2B	A3214
2B	A3214
2B	A3214
2B	A3214

4C	A
5C	A
6C	A

Appendix F - List of subways/footbridges

24
25
26

51	20
52	20
53	20

77	2(
78	2(
79	2(
80	2(

105	20
106	20
107	20
108	20

130	20
131	20
132	20
133	20

16
17
18
19

Appendix G - List of Medium risk pedestrian areas

Primary School	Location	Bridges/Structures - Footways
Lubavitch	135 Clapton Common + Stamford Hill, Hackney	Westminster Bridge
Northwold Primary	Northwold Road, Hackney	London Bridge
Ambler Primary	Blackstock Road, Islington	Tower Bridge
William Tyndale	Upper Street, Islington	Vauxhall
St.Anslems	19 Tooting Bec Road, Wandsworth	Lambeth
Sacred Heart	Roehampton Lane, Wandsworth	Blackfriars
Roehampton Cof E	Roehampton Lane, Wandsworth	Battersea
St.Annes	6 Durham Street, Lambeth	
St.Marks	Harleyford Road, Lambeth	
Orford Sschool	Christchurch Road, Lambeth	
St.James & Oliver Goldsmith	Peckham Road, Southwark	
St.Georges	Westminster Bridge Road, Southwark.	
Richard Cobden	Camden Street, Camden	
St.Cuthbert	Warwick Road, RBKC	
St.Barnabus	58 Earls Court Road, RBKC	
Tube/Rail Stations		
		Aldgate East
Southwark	Angel	Tower Hill
London Bridge	Liverpool Street Station (Bishopsgate egress)	Bermondsey
Brixton	Kings Cross St Pancras	Elephant & Castle

Oval	Camden	Vauxhall
Kennington	Mornington Cresecent	Clapham North
Kings Cross	Holloway Road	Clapham South
Stockwell	Findsbury Park	Balham
Euston	Manor House	Tooting Bec
Warren Street	Whitechapel	Tooting Broadway
Edgware Road	Bow Road	
Highbury & Islington	Stepney	
Old Street	Aldgate East	

Appendix G - List of High risk pedestrian areas

Hospital Name	Location
Guys	St.Thomas Street, Southwark
Queen Marys	Roehampton Lane, Wandsworth
St.Thomas's	Lambeth Palace Road/Westminster Bridge, Lambeth
Moorfields	City Road, Islington
Western Eye hospital	Marylebone Road, Westminster
Sense	101 Pentonville Road, Islington
Homerton	Homerton High Street, Hackney
University College Hospital	235 Euston Road

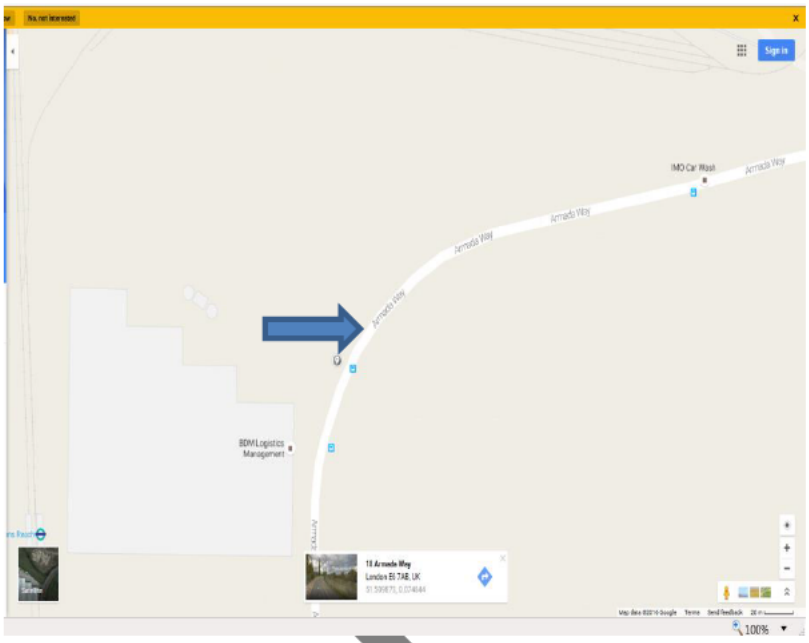
Appendix H - Operative standby rota

To be supplied by Area Managers

Appendix I - Depot location maps

Galleons Reach Depot

14 Armada Way
Becton
London
E6 7AB



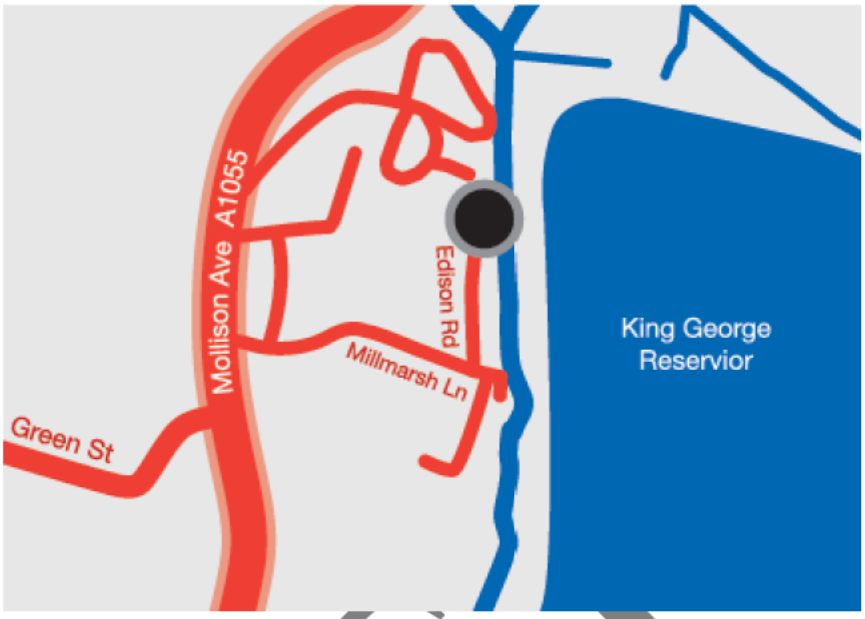
South Norwood Depot

19-21 Penge Road
South Norwood
Greater London
SE25 4EJ

CVU Colas VolkerHighways AECOM
Working together to transform London's streets

Brimsdown Depot

15 Edison Road
Enfield
London
EN3 7BY



Appendix J - Vehicle and fleet inventory

Make	Model / Type	Registration	Quantity	Euro No.	Specific Use	Accessories	Service Schedule	Location / Base
Econ	6m3	YB65UZR,				Ploughs/tanks		Galleons Reach
Econ	6m3	YB65UZG,				Ploughs/tanks		Galleons Reach
Econ	6m3	YB65UZT				Ploughs/tanks		Galleons Reach
Econ	6m3	YJ65VMX				Ploughs/tanks		Galleons Reach
Econ	6m3	YJ65VMZ				ploughs		Galleons Reach
Econ	6m3	YJ65VNA,				ploughs		Galleons Reach
Econ	6m3	YJ65VNC				ploughs		Galleons Reach
Econ	6m3	YJ65VND,				ploughs		South Norwood
Econ	6m3	YJ65VNE				ploughs		South Norwood
Econ	6m3	YJ65VNF				ploughs		South Norwood
Econ	6m3	AE10HPU				ploughs		Galleons Reach
4x4	tbc	tbc				trailer		Galleons Reach

Appendix K - Risk assessment

Activity:	Winter Maintenance	**Location of Activity:**		**Ref No:**	
Assessment Carried out by:		**Signature:**		**Issue No:**	

Permits Required: (Tick As Appropriate)							
HSE-21-CVU Confined Space ☐	**HSE-22-CVU Lifting Operations** ☐	**HSE-23-CVU Plant Operation** ☐	**HSE-24-CVU Permit to Dig** ☐	**HSE-27-CVU Hot Works** ☐	**HSE-29-CVU Permit to Load** ☐	**HSE-40-CVU Demolish** ☐	**HSE-53-CVU Steps & Ladders Permit** ☐

Additional Assessments Required: (Tick As Appropriate)					
Manual Handling ☐	**Noise** ☐	**HAVS Hand Arm Vibration** ☐	**WBV Whole Body Vibration** ☐	**COSHH** ☐	**DSE** ☐

Hazard & Associated Risks Refer to HSE-10G-CVU	Groups at Risk Refer to HSE-10G-CVU	Control Measures Required Refer to HSE-10G-CVU	Residual Risk Refer to HSE-10G-CVU
DEPOT: Vehicle Movements/ Night Working, Reversing, Collision, Crushing, Skeletal Fractures	Site Personnel	Segregation of vehicles & Pedestrians, designated footways, Adequate depot lighting, One way system to minimise reversing, Use Banksman	M
Fitting Demountable Spreaders/ Trapped hands& feet, skeletal fractures, crushing, falls from height	Site Personnel	City & Guilds Trained Operatives, Good depot lighting, Use lifting equipment to remove lorry tail boards, Equipment correctly set up for height & width, Banksman to control reversing, Ensure unit is correctly positioned & secured, Driver only to give instructions of tasks	M

Hazard & Associated Risks Refer to HSE-10G-CVU	Groups at Risk Refer to HSE-10G-CVU	Control Measures Required Refer to HSE-10G-CVU	Residual Risk Refer to HSE-10G-CVU
Fitting Snow Ploughs/ Trapped hands& feet, skeletal fractures, crushing, falls from height	Site Personnel	Good depot lighting, Wear gloves, safety boots, hard Hats, High Viz Clothing, Ensure security pins are in place and secured, Driver only to give task instructions	M
Operation of Loading Equipment/ Collision with Plant, Vehicles & Operatives, Crushing, skeletal Fractures	Site Personnel	Banksman to control reversing, Use only CSCS certificated operatives, Loading shovels to be fitted with reversing bleeper & or camera.	M
Stability of Salt Stock Piles/ Storing salt deliveries, Salt face collapse. Machine turning over, Machine damage, Crushing, Skeletal Fractures.	Site Personnel	Make sure salt ramp is stable before using, Prevent unauthorised access into salt barn, Maintain salt without vertical face, DO NOT climb on salt stockpile.	L
Loading Salt into Spreader/ collision, Raised bucket for loading, Excess salt left on spreader grid.	Site Personnel Member of the Public	Separate loading area, No unauthorised pedestrians, Segregate pedestrians. Use long handled rake to remove salt to clear grid. Do not climb onto or into spreader hopper.	L
Washing Down/ Falls from height, Slipping on ice, Injury from high pressure water jet,	Site Personnel	Only wash down using pedestrian gantry, Follow the working at height Regulations 2005, Ensure steps & gantry surfaces are clear of ice, DO NOT use water jet to clean hands or clothing & DO NOT point water jet nozzle at other personnel.	L
Precautionary Salting/ Spreading Salt, Damage to passing vehicles & pedestrians.	Site Personnel Member of the Public	Ensure the spreader has been calibrated and that the spreading settings are correct for the route, DO NOT exceed designated spreading speed and spread width. Follow drivers hours regulations	L
Clearing Blockages/ Physical Injuries	Site Personnel	Switch off machinery engine & remove the ignition key prior to investigating the blockage.	L
Hand Salting/ Slipping, Falls from height (lorries) Use of wheelbarrows, Manual handling, Skeletal Fractures, Slipping	Site Personnel	Work from previous salted areas, Follow the working at height regulations 2005, and Follow manual handling procedures.	L
Salting/Snow Clearing/ Driver Fatigue, Traffic Accidents,	Site Personnel Member of the Public	Follow EEC Driver hours regulations at all times, Use City & Guilds qualified operatives only	L

Hazard & Associated Risks Refer to HSE-10G-CVU	Groups at Risk Refer to HSE-10G-CVU	Control Measures Required Refer to HSE-10G-CVU	Residual Risk Refer to HSE-10G-CVU
Extreme Weather/ Driver Fatigue, Traffic Accidents, Vehicle breakdown, Stuck & Stranded.	Site Personnel Member of the Public	Follow EEC Driver hours regulations at all times, Driver to ensure vehicle service schedules are carried out, Ensure two way communications are maintained with depot personnel, Ensure the vehicle is fully fuelled at the start of the route/shift, Carry a shovel, extra warm clothing, food & drinks on the vehicle, Supervisor to instigate a 12 hour shift pattern with extra crewman	M
ENVIRONMETAL/ Pollution, Prosecution		Ensure that the spreader is calibrated and that the correct spreader settings are used, Return unused salt to the depot salt stock-DO NOT increase the rate of spread to get rid of it. Switch off vehicle & plant engines when not in use. Wash out spreaders in the designated areas after salting operations are complete.	L

TOOL BOX TALK

Winter Working

This can be the worst time of year for accidents because of the cold winter weather conditions and shorter daylight hours. Think carefully about the conditions you will be working in and consider the following:

Health effects of low temperatures

Winter temperatures in parts of the UK can fall below -20oC. Low temperatures lead to an increased risk of cold related conditions such as hypothermia and frostbite. Certain medical conditions can also be aggravated.
Get regular Met Office reports to check the forthcoming weather conditions.
Keeping warm is essential, therefore to protect yourself from the cold:

- Wear multiple layers
- Wear a thermal hat liner under your hard hat
- Wear thermal socks and ensure footwear is not too tight
- Wear adequate protective clothing
- Avoid getting wet
- Keep moving, and exercise hands during regular breaks
- Reduce/give up smoking
- Eat hot high-calorie foods
- Ensure you eat a high energy breakfast
- Consume hot drinks but limit caffeine intake as it increases heat loss
- Be aware of signs of cold related illnesses in yourself and colleagues
- Take extra care if you are older and have existing medical problems

Handling becomes more difficult; grip and strength can be reduced when temperatures are low which could increase the risk of accidents. Being cold breeds fatigue and a lack of concentration.

Working with vibrating tools in the cold can accelerate Hand Arm Vibration Syndrome. Improve circulation by massaging and exercising fingers during breaks. Wear suitable warm gloves which do not affect your grip on the tool and plan works to limit long periods outdoors.

TOOL BOX TALK

High winds
High winds are problematic for many site tasks such working at height and working with cranes however, loose materials can also be a danger. Consider the safety of working areas, stored materials, stockpiles, sheeting, scaffolding, and plant on site.

Don't install temporary fixings because it's the end of the day and you don't have time for the final fix. Changing weather conditions overnight, such as high winds, could rip wind-prone materials out of inadequate fixings and lead to injury or damage.

Shorter days
Daylight hours will be less, and many will be working under artificial lighting which will never be as good an environment as natural daylight. Be aware of shadows, dark corners, tripping hazards and plant and machinery movements **Slips, trips and falls**
Site conditions will be affected by rain (muddy and rutting), ice (slippery), and snow (hiding ruts, holes and materials). The risks of slips, trips and falls will therefore be greater so be aware of this. Use pedestrian access routes, make sure footwear is in good order and be careful when crossing site areas.

Machine operators
Conditions are more dangerous. Be aware that roads, embankments, access routes could be slippery, saturated etc. In the dark be more vigilant of other workers around you. Ensure your machines are maintained and all lighting is working.

PPE
Check your PPE:

- Footwear is in good order
- High-visibility clothing can be seen
- Make sure waterproofs are in good order and dry for the next day
- Make sure gloves are suitable for the work task

Vehicle drivers
Check the conditions of your vehicles regularly so that they are in good order: tyres; tyre pressures; oil and fuel levels; screen wash; wipers; and all lights are working.
Before setting off check the following:

- Weather conditions
- You have suitable clothing and have a blanket in the car
- You have food and drink in the car in case you get stuck

TOOL BOX TALK

- You have full vision from the vehicle including mirrors - all windows are free of ice and snow (if possible remove snow from the roof)
- Lights are clean and switched on
- Mobile phones are fully charged if not charged in-car
- Avoid making and receiving phone calls whilst driving
- Avoid using cruise control in icy conditions
- Give yourself longer braking distances and don't brake sharply
- Drive according to the weather conditions
- Allow enough time for your journey

Appendix M - Environmental guide

IN THE EVENT OF A LEAK OR SPILLAGE ON SITE

STOP WORK immediately and RAISE THE ALARM

- Fast, immediate response is vital
- Raise the alarm if necessary
- At the very least make sure everyone in the vicinity is aware of the incident
- Do not rush into unknown situations

BE AWARE - IDENTIFY THE SPILL

- Identify the source and substance spilling, don't try to identify the substance by touch or smell
- If you are not sure what the substance is, don't take any risks
- If the spillage is flammable, extinguish all sources of ignition
- Safety for you and others is the number one priority
- Do you need to evacuate the area?

PROTECT YOURSELF

- PPE – safety boots, gloves, non-absorbent overalls, must be suitable for the liquids spilled and goggles if there is risk of splashing

HELP THE INJURED

- If anyone is injured help them first, but only if it is safe to do so. Rushing in could make you a victim too. Do you need the emergency services?

STOP THE SOURCE

- For example: patch holes in drums with leak sealing putty; turn off valves, pumps or engines; or upright drums or containers
- If the spillage is flammable, extinguish all sources of ignition

SCALE OF THE SPILL - DO YOU NEED AN EMERGENCY SPILL CONTRACTOR?

- Is it a small spill or heavy flow?
- Can you and your colleagues tackle it or do you need the one of our emergency spill contractors?
- Contact the emergency spill contractor if for example:
  - it is a large chemical / hydrocarbon spillage (e.g. oil, biodegradable oil, paraffin, diesel, petrol) even if have been able to prevent the spillage from spreading / entering a watercourse **or** if it has already entered a watercourse / seeped into the ground
  - it is a large chemical / hydrocarbon spillage near an identified "sensitive" area e.g. SSSI
- If you do not have a pre-determined emergency spill contractor for your project, contact:
  Regional Waste Recycling: Primary: [redacted]
  MTS: Primary: [redacted]
  Adler and Allan Ltd: Primary: [redacted]
  Secondary: [redacted]
- Use whichever of these contractors can give you the quickest response time.

CONTAIN THE SPILL

- Stop the spill from spreading and from reaching drains, open ground or sensitive areas
- Use spill granules, sand, bunds or socks and booms to contain the spill
- Cover or protect drains (even if some of the spill has entered the drain)

NOTIFY

- Notify someone from the site team
- Notify your project's Environmental Manager [redacted])
- If you still unable to contact an Environmental Manager, contact your HSEQ Manager [redacted]
- If the spill has reached a surface water drain, stream or ditch or soaked away in open ground, the EA should be contacted immediately on the 24hr helpline 0800 80 70 60 (see next page for further guidance)
- The Environmental Manager will liaise with the Environment Agency
- If it has reached a foul drain, the sewer provider should also be notified as soon as possible
- At times there might be incidents that do not fall into any precise category, and if there is any doubt, the Environment Agency should always be contacted

CLEAN-UP

- Cordon off the area to make sure no-one walks or drives through the spill
- Use absorbents (granules, pads and/or pillows) to soak up the spill
- Work from the outside of the spill inwards

RESTOCK

- Make sure the site manager is aware of the situation and that the spill kit is restocked
- An empty spill kit is as bad as no spill kit
- Don't use spill kits for any other purposes

REPORT

- The incident should be reported according to the requirements of HSE-31-CVU *Accident and Incident Report Form*

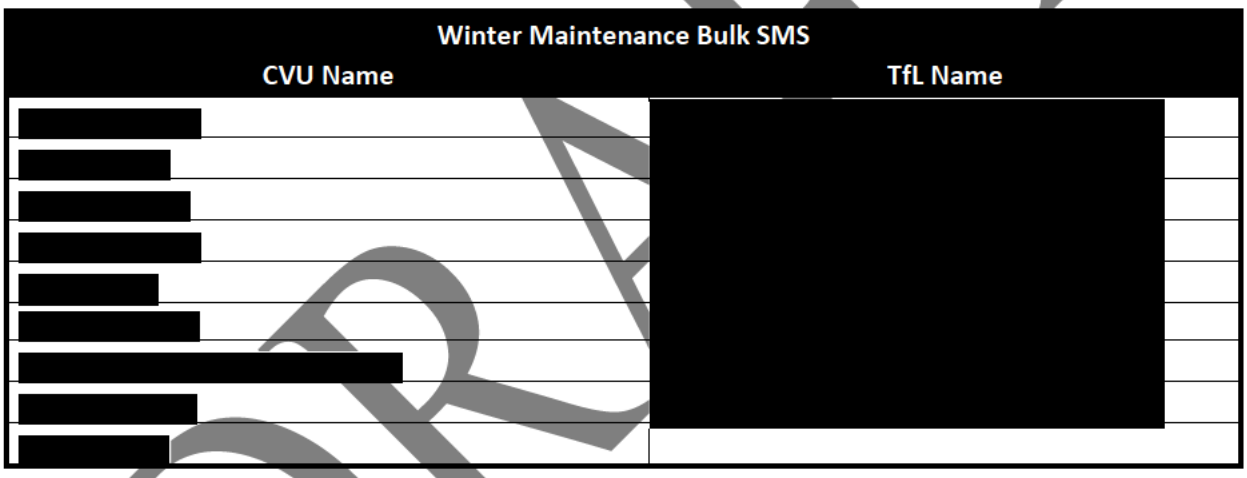
Appendix N - CVU Network Control Room Procedure

Winter Maintenance
How to respond to a callout for salting

What is gritting?
CVU is responsible for precautionary salting and snow clearance on the Central Area TLRN during the Winter Season (1st October - 30th April, unless otherwise extended). Salt is spread by specialised vehicles which can also be used to plough in periods of heavy snow-fall.

When you receive the call…
The TfL Duty Winter Maintenance Office (DWMO) will **email** before 15:00 and let you know if salting will need to take place that evening. Once this e-mail is received then the Control Room operator will prepare a bulk SMS text for the 'Winter Maintenance Group' notifying them of the treatment decision.

The control room operator will contact the Winter Maintenance Manager to confirm the notification and upon confirmation will issue the text message to the group.



Please reply by email to the DWMO to let them know that you have received the email notification.

The Winter Maintenance Manager or his appointed deputy will have responsibility for ensuring that decisions are then communicated to winter maintenance drivers and that treatment takes place.

Response Times
The Central Area consists of 12 routes, and 2 Super Cycle Highway Routes these have a response time of 2 hours to complete the route from start of route to completion of salting for carriageways and 4 hours for cycle ways. it is imperative that all information regarding scheduled treatments from TfL is passed on to the CVU Duty Winter Service Supervisor immediately.

Monitoring
To ensure that actions take place as planned, drivers are instructed to contact the NCR prior to and upon completion of routes to advise of treatment start and finish times. These times for each route will be recorded on the Daily Winter Service Notice by the Control Room operator.

Appendix O - Useful contacts list

TfL Staff

Name	Title	Location	Email Contact Details	Phone Contact
Andy Best	Head of Highways (Road Directorate)	London Streets, Transport for London, 7th Floor, Zone G2, Palestra, 197 Blackfriars Road, London SE1 8NJ	[redacted]	
Alan Davidson	Network Manager	London Streets, Transport for London, 7th Floor, Zone G2, Palestra, 197 Blackfriars Road, London SE1 8NJ		
[redacted]	Senior Route Manager	Galleons Reach 14 Armada Way Becton E6 7AB		
	Senior Route Manager	Galleons Reach 14 Armada Way Becton E6 7AB		
	Route Manager (Hackney, Islington, Tower Hamlets)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Route Manager (East)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Route Manager (Lambeth, Southwark, Wandsworth)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Route Manager (Hackney)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Assistant Route Manager (Tower Hamlets)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Assistant Route Manager (Camden)	Galleons Reach 14 Armada Way Becton E6 7AB		
	Assistant Route Manager (City of London)	Galleons Reach 14 Armada Way Becton E6 7AB		

Name	Title	Location	Email Contact Details	Phone Contact
Patrick Kearns	Assistant Route Manager (Southwark)	Galleons Reach 14 Armada Way Becton E6 7AB	[redacted]	[redacted] / TBA

LSTCC Staff

Name	Title	Location	Email Contact Details	Phone Contact
Esmon George	Operations Manager	25 Eccleston Place, London, SW1W 9NF	[redacted]	[redacted]
John Tenton	Assistant Operations Manager	26 Eccleston Place, London, SW1W 9NF	[redacted]	[redacted]

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Working together to transform London's streets

Central Area Boroughs Staff

Name	Title	Location	Email Contact Details	Phone Contact
[redacted]	Traffic Manager (Camden)	Town Hall, Judd Street, London, WC1H 8EQ	[redacted]	[redacted]
	Traffic Manager (City of London)	PO Box 276, Guildhall, London, EC2P 2EJ		
	Traffic Manager (Hackney)	300 Mare Street, Hackney, London, SE5 8UB		
	Traffic Manager (Islington)	Town HALL, 222 Upper Street, London, N1 1XR		
	Traffic Manager (Kensington & Chelsea)	Directorate of Transportation & Highways Council Offices, 37 Pembroke Road, London, W8 6PW		
	Traffic Manager (Southwark)	Southwark Council, Town Hall, Peckham Road, London, SE5 8UB		
	Traffic Manager (Tower Hamlets)	Street Management, Mulberry Place, PO Box 55739, 5 Clove Crescent E14 1BY		
	Traffic Manager (Wandsworth)	Wandsworth Borough Council, The Town Hall, Wandsworth High Street, London, SW18 2PU		
	Director of Transportation (Westminster)	Westminster City Hall, 64 Victoria Street, London, SW1E 6QP		

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Working together to transform London's streets

Adjoining London Boroughs

Name	Title	Location	Email Contact Details	Phone Contact
[redacted]	Traffic Manager (Barnet)	North London Business Park, Oakleigh Road South, Southgate, N11 1 NP	[redacted]	
	Traffic Manager (Brent)	Transportation Service Unit, 2nd Floor, Brent House, 349-357 High Road, Wembley, Middlesex, HA9 6BZ		
	Traffic Manager (Bromley)	Directorate of Environmental Services, Civic Centre, Stockwell Close, Bromley, BR1 1UH		
	Traffic Manager (Croydon)	Taberner House, Park Lane, Croydon, CR9 1JT		
	Traffic Manager (Green-wich)	Greenwich Transportation, Peg-gy Middleton House, 50 Wool-wich New Road, London, SE18 6HQ		
	Traffic Manager (Hammer-smith & Fulham)	4th Floor, Town Hall Extension, King Street, Hammersmith, W6 9JU		
	Traffic Manager (Haringey)	1st Floor (North), River Park House, High Road, Wood Green, London, N22 8HQ		

Name	Title	Location	Email Contact Details	Phone Contact
[redacted]	Traffic Manager (Kingston upon Thames)	Guildhall 2, High Street, Kingston upon Thames, KT1 1EU	[redacted]	
	Traffic Manager (Lewisham)	Town Hall, Catford, London, SE4 4RU		
	Traffic Manager (Merton)	Environmental & Regeneration, Merton Council, Merton Civic Offices, London Road, Morden, SM4 5DX		
	Traffic Manager (Newham)	Head of Public Realm, 25 Nelson Street, East Ham, London, E6 6EH		
	Traffic Manager (Richmond upon Thames)	Traffic & Transport, Civic Centre, 44 York Street, Twickenham, TW1 3BZ		
	Traffic Manager (Waltham Forest)	Argall Avenue, Leyton, London, E10		

Appendix P - Personnel schedule

To be supplied by Area Managers

Appendix Q - List of salt bins

There are no salt bins in the Central Area.

Appendix R - Location of Bus Depots

GARAGES IN THE CENTRAL REGION.

Garages are located either on: a TfL Road Network, a Council road or a Private road.

ARRIVA LONDON NORTH

GARAGE	CODE	ADDRESS	GARAGE ON A:
ASH GROVE	AE	Mare Street, Hackney, E8 4RH.	Local Council Road (Hackney).
EXIT'S & ENTRANCE	On to / from Ash Grove to / from Mare Street.		NOTE - Some vehicle parking is out in the open.

CLAPTON	CT	Bohemia Place, Mare Street, Hackney, E8 1DU.	Local Council Road (Hackney).
EXIT'S & ENTRANCE	Using Bohemia Place on to / from Mare Street.		

STAMFORD HILL	SF	Rookwood Road, N16 6SS.	Local Council Road (Hackney).
EXIT'S & ENTRANCE	On to / from Rookwood Road.		NOTE – Ravensdale Road and Castlewood Road may require gritting.

CT PLUS

GARAGE	CODE	ADDRESS	GARAGE ON A:
HACKNEY ASH GROVE	HK	Mare Street, Hackney, E8 4RH.	Local Council Road (Hackney).
EXIT'S & ENTRANCE	On to / from Ash Grove to / from Mare Street.		NOTE- Some vehicles are parked in the open.

LONDON UNITED

GARAGE	CODE	ADDRESS	GARAGE ON A:
SHEPHERDS BUSH	S	Wells Road, Shepherds Bush, W12 8DA.	Local Council Road (Hammersmith & Fulham).
EXIT'S & ENTRANCE	On to / from Wells Road.		

HOUNSLOW	AV	Kingsley Road, Hounslow, Middlesex, TW3 1PA.	Local Council Road (Hounslow)
EXIT'S & ENTRANCE	Exit on to Kingsley Road and entrance from London Road.		NOTE – Some vehicle parking is in the open.

HOUNSLOW HEATH	WK	Unit C1, Tamian Way, Green Lane, Hounslow, Middlesex, TW4 6BL.	Local Council Road (Hounslow).
EXIT'S & ENTRANCE	On to / from Tamian Way.		NOTE – Some vehicle parking is in the open

STAMFORD BROOK	V	74, Chiswick High Road, Hammersmith, W4 1SY.	**TfL Road Network** (Hounslow).
EXIT'S & ENTRANCE	On to / from Chiswick High Road.		NOTE - Some vehicle parking is in the open.

PARK ROYAL	PK	Atlas Road, Acton, NW10 6DN.	Local Council Road (Ealing).

EXIT'S & ENTRANCE	On to / from Atlas Road.	NOTE - All vehicles parked in the open.

METROLINE

GARAGE	CODE	ADDRESS	GARAGE ON A:
HOLLOWAY	**HT**	37A, Pemberton Gardens, N19 5RR.	Local Council Road (Islington).
EXIT'S & ENTRANCE	Exit on to the southern end of Pemberton Gardens and entrance from the northern end of Pemberton Terrace.		NOTE – Monnery Road will also require gritting. Some vehicle parking is out in the open.

KINGS CROSS	**KC**	The Old Potatoes Yard, Wharf Road, York Way, N1	Private Road onto Local Council Road (Islington).
EXIT'S & ENTRANCE	Exit on to / via private road onto York Way.		NOTE - Vehicle parking is out in the open.

TOWER TRANS-IT

GARAGE	CODE	ADDRESS	GARAGE ON A:
WESTBOURNE PK.	**X**	Great Western Road, W9 3NW.	Local Council Road (Westminster)
EXIT'S & ENTRANCE	On to / from Great Western Road.		NOTE - Some vehicle parking is out in the open.

Cycle Hire Docking Stations

Euston Road	Camden	NW1 2DG	24	Live	Footway	529,515.810	182,463.000
Eversholt Street	Camden	NW1 1NX	16	Live	Footway	529,331.200	183,211.540
Warren Street Station	Camden	W1T 5BA	26	Live	Carriageway	529,270.360	182,256.690
Moorfields	City	EC2Y 9AL	26	Live	Carriageway	532,735.970	181,748.600
Moorfields (Ext)	City	EC2Y 9AL	28	Live	Carriageway	532,735.297	181,747.635
Wormwood Street	City	EC2M 3XF	16	Live	Carriageway	533,151.220	181,435.120
Norton Folgate	City	E1 6DB	23	Live	Footway	533,383.230	181,993.050
Lower Thames Street	City	EC3R 8LJ	24	Live	Footway	532,993.340	180,668.390
Victoria Embankment	City	EC4Y 0DS	20	Live	Carriageway	531,428.758	180,833.583
Snow Hill	City	EC1A 2AL	15	Live	Footway	531,678.310	181,527.824
Cheapside	City	EC2V 6DY	43	Live	Footway	532,427.000	181,173.000
Fore Street	City	EC2Y 5ET	19	Live	Footway	532,626.746	181,625.460
King Edward Street	City	EC1A 1HQ	20	Live	Footway	532,035.186	181,414.686
Monument Street	City	EC3R 8DZ	22	Live	Carriageway	533,009.761	180,702.514
Shoreditch High Street	Hackney	E1 6JE	26	Live	Carriageway	533,419.110	182,579.780
Shoreditch High Street (Extension)	Hackney	E1 6JE	14	Live	Carriageway	533,419.110	182,579.780
Old Street Station	Islington	EC1V 9NR	37	Live	Footway	532,702.700	182,488.500
Goswell Road (City Uni)	Islington	EC1V 8DU	17	Live	Footway	531,825.570	182,746.060
Farringdon Lane	Islington	EC1R 3GB	16	Live	Carriageway	531,331.830	182,207.370
City Road	Islington	EC1V 2PW	47	Live	Footway	531,880.290	182,981.450
West Cromwell Road	K&C	SW5 9QN	24	Live	Footway	525,173.730	178,736.490
Warwick Road	K&C	W14 8QZ	36	Live	Carriageway	524,679.820	179,056.820
Old Brompton Road	K&C	SW7 3RW	16	Live	Carriageway	526,368.130	178,456.820
Old Brompton Road (Ext)	K&C	SW7 3RW	15	Live	Carriageway	526,368.140	178,457.120
Gloucester Road (North)	K&C	SW7 4UB	16	Live	Carriageway	526,165.340	179,228.370
Gloucester Road (Central)	K&C	SW7 4PD	19	Live	Carriageway	526,207.250	179,066.740

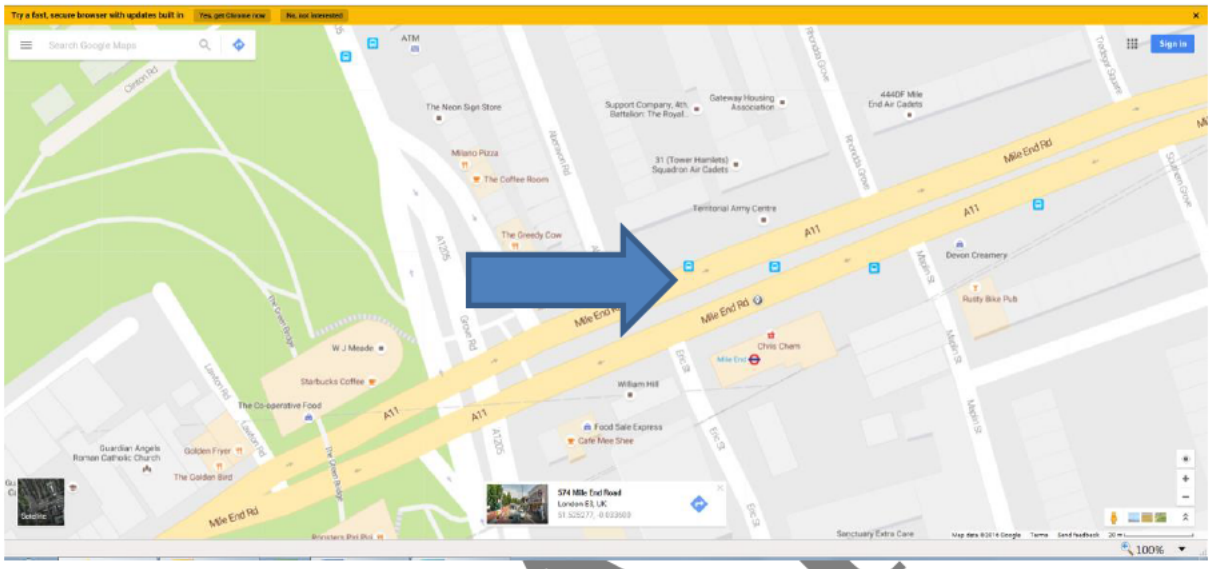
South Kensington Station	K&C	SW7 2LT	15	Live	Footway	526,871.130	178,855.660
Bramham Gardens	K&C	SW5 9BL	14	Live	Carriageway	525,731.420	178,354.020
Bramham Gardens (Ext)	K&C	SW5 9BL	15	Live	Carriageway	525,731.420	178,354.020
Addison Road	K&C	W14 8BZ	26	Live	Footway	524,268.200	179,873.550
Kennington Lane Rail Bridge (Extension)	Lambeth	SW8 1SS	17	Live	Footway	530,456.130	178,047.920
Vauxhall Cross	Lambeth	SW8 2LL	17	Live	Footway	530,320.050	177,997.000
Kennington Road Post Office	Lambeth	SE11 4QA	18	Live	Footway	531,280.470	177,896.160
Kennington Cross	Lambeth	SE11 5UQ	29	Live	Carriageway	531,216.310	178,356.440
Kennington Cross	Lambeth	SE11 5UQ	18	Live	Carriageway	531,216.550	178,356.360
Kennington Lane Tesco	Lambeth	SE11 5RG	15	Live	Footway	530,915.770	178,108.300
Oval Way	Lambeth	SE11 5LH	21	Live	Carriageway	530,818.290	178,083.320
Black Prince Road	Lambeth	SE11 6JH	19	Live	Carriageway	530,830.630	178,561.010
Stamford Street	Lambeth	SE1 9NQ	27	Live	Footway	531,156.740	180,205.310
Albert Embankment	Lambeth	SE1 7UB	24	Live	Footway	530,422.630	178,502.440
Kennington Oval	Lambeth	SE11 5SZ	32	Live	Carriageway	531,116.466	177,709.777
South Lambeth Road	Lambeth	SW8 1RJ	21	Live	Footway	530,321.194	177,533.143
Union Street	Southwark	SE1 0EL	17	Live	Footway	532,071.910	180,019.730
Tooley Street	Southwark	SE1 2UD	17	Live	Footway	533,382.530	180,032.300
Borough High Street	Southwark	SE1 1QN	21	Live	Footway	532,356.330	179,694.020
New Kent Road	Southwark	SE1 6AQ	33	Live	Footway	532,485.730	179,000.940
Harper Road	Southwark	SE1 6AW	42	Live	Carriageway	532,246.710	179,457.810
Great Dover Street	Southwark	SE1 4YF	33	Live	Carriageway	532,718.340	179,334.860
Long Lane	Southwark	SE1 4PZ	20	Live	Footway	532,975.830	179,529.990
Bricklayers Arms	Southwark	SE1 4TD	28	Live	Footway	532,977.220	179,083.300
Southwark Station	Southwark	SE1 8DA	82	Live	Footway	531,598.000	180,046.000
Kennington Road	Southwark	SE11 6LS	36	Live	Footway	531,234.800	179,111.160
Westminster Bridge Road	Southwark	SE1 7JE	26	Live	Footway	531,433.629	179,413.872

Gaywood Street	Southwark	SE1 6ER	45	Live	Footway	531,698.101	179,160.022
Great Suffolk Street	Southwark	SE1 0BE	21	Live	Carriageway	531,953.966	179,798.936
Duke Street Hill	Southwark	SE1 2SS	21	Live	Carriageway	532,844.560	180,330.780
Braham Street	Tower Hamlets	E1 8DX	34	Live	Footway	533,773.280	181,237.700
LMU Commercial Road	Tower Hamlets	E1 1LA	14	Live	Footway	534,288.830	181,328.180
Leman Street	Tower Hamlets	E1 8EU	16	Live	Footway	534,056.000	181,037.080
Leman Street (Ext)	Tower Hamlets	E1 8EU	21	Live	Footway	534,056.000	181,037.080
Brushfield Street	Tower Hamlets	EC2M 4AA	22	Live	Footway	533,380.930	181,755.970
Burdett Road	Tower Hamlets	E14 7FE	33	Live	Carriageway	536,849.477	181,538.192
Bow Road Station	Tower Hamlets	E3 2BL	42	Live	Footway	537,083.871	182,753.636
Bow Church Station	Tower Hamlets	E3 3AH	39	Live	Footway	537,537.034	182,889.765
Clapham Common Northside	Wandsworth	SW4 9SL	37	Live	Footway	527,969.710	175,203.370
Upper Richmond Road	Wandsworth	SW15 2SP	25	Live	Carriageway	524,304.900	174,930.540
Prince of Wales Drive	Wandsworth	SW11 4EX	21	Live	Carriageway	527,941.720	176,738.570
Battersea Park Road	Wandsworth	SW8 4DU	27	Live	Carriageway	529,137.840	177,253.180
Smugglers Way	Wandsworth	SW18 1EG	28	Live	Carriageway	525,719.730	175,117.510
Battersea Church Road	Wandsworth	SW11 3NG	25	Live	Carriageway	526,882.580	176,914.010
Ram Street	Wandsworth	SW18 1TL	25	Live	Carriageway	525,698.890	174,722.250
St. John's Wood Church	Westminster	NW8 7RN	50	Live	Carriageway	527,202.890	182,878.000
Wellington Road	Westminster	NW8 9ST	17	Live	Footway	526,852.570	183,153.220
Edgware Road Station	Westminster	W2 1DX	64	Live	Footway	527,088.930	181,705.260

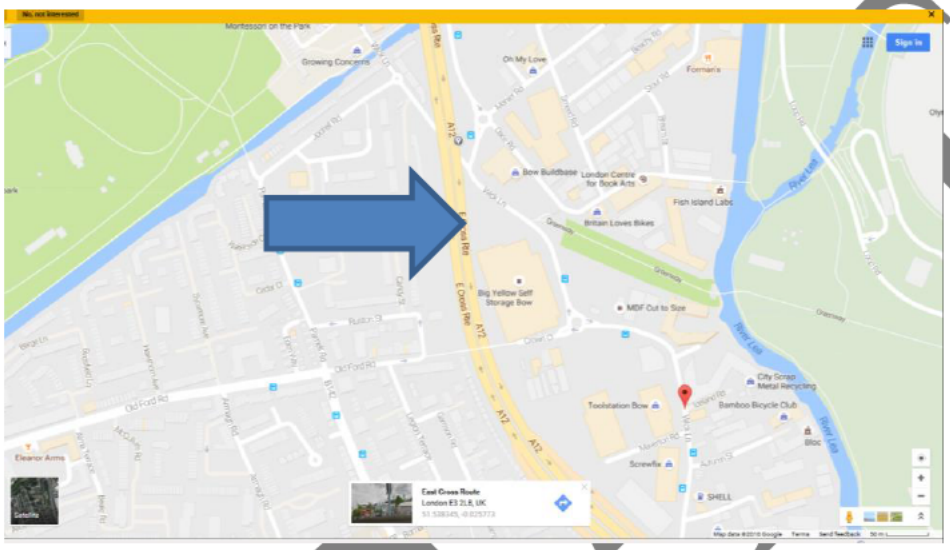
Lisson Grove	Westminster	NW8 8LW	18	Live	Carriageway	526,894.330	182,420.420
Park Road (Baker Street)	Westminster	NW1 4RB	22	Live	Footway	527,817.250	182,228.700
Baker Street	Westminster	W1U 8EP	22	Live	Footway	528,026.980	181,610.410
Upper Grosvenor Street	Westminster	W1K 7PE	18	Live	Carriageway	528,079.768	180,634.274
Ebury Bridge	Westminster	SW1W 8SJ	29	Live	Carriageway	528,590.411	178,457.418
Eccleston Place	Westminster	SW1W 9NE	19	Live	Carriageway	528,689.880	178,849.450
Embankment (Savoy)	Westminster	WC2R 0BJ	42	Live	Footway	530,628.750	180,643.740
Millbank Tower	Westminster	SW1P 4GT	24	Live	Footway	530,219.448	178,658.479
Vauxhall Bridge	Westminster	SW1V 3JL	35	Live	Footway	529,973.460	178,260.550
Knightsbridge	Westminster	SW1X 7YB	43	Live	Footway	528,128.940	179,815.180
Park Lane	Westminster	W1K 7TF	28	Live	Footway	527,974.950	180,619.170
Frampton Street	Westminster	W2 1NG	32	Live	Footway	526,699.990	182,071.190
St. John's Wood Road	Westminster	NW8 8UF	35	Live	Footway	526,721.140	182,510.280
Westminster University	Westminster	NW1 5LR	16	Live	Footway	528,104.350	182,009.430
Chelsea Bridge	Westminster	SW1W 8QN	15	Live	Footway	528,618.000	177,943.000
Grosvenor Road	Westminster	SW1V 3AE	29	Live	Footway	529,090.150	177,903.330
Park Lane	Westminster	W1K 1BE	18	Live	Footway	528,436.724	180,119.721

Appendix S - Location of Icelert Station

Mile End Road Cycle Way



A12 Victoria Park



Appendix T - Location of vulnerable areas/wet spots on the network

A12 Bow Underpass

A12 Old Ford

A12 Redpath Underpass

A3 Tibbetts Underpass

Camden

Camden Road -Opp 18-20 NB – CW profile.
Finchley Road 5 Harben Parade NB – FW profile.
Euston Road 30 Gordon Street jct WB – CW ped xing profile.
Euston Square/Eversholt Street west kerb jct Euston Road EB – CW ped xing profile.
Swinton Street WB – Opp 69 FW profile.

King's Cross Bridge Opp 5 SB – CW gully. Task Order C1_HTO/885 raised to clean Aco drains 16/09/2013.
Camden Road Opp 89-93 SB – FW profile.
Cardington Street south kerb jct Hampstead Road SB – CW profile.

Westminster

Victoria Embankment under Hungerford Bridge
Lower Grosvenor Place Junction of Buckingham Palace Road @ ped xing
Maida Vale Junction of Clarendon Terrace – Crossing point

RBKC

Pedestrian Island Holland Road Junction of Addison Crescent also has standing water issues since removal of PGR.
Chelsea Embankment, westbound, after Chelsea bridge approx 100m (drainage problems)

Lambeth

Cavendish Road - problem gullies around number 30-40
Clapham Common Tube - problem gullies

Islington

Seven Sisters Road, underneath Finsbury Park Railway footway
Kings Cross Road Outside number 2 (Police Station) two crossovers
Kings Cross Road Outside number 207 footway

Tower Hamlets

Commercial Street at the junction of Hanbury Street
Commercial Street at the junction of Bromehead Street

Hackney

Rectory Road Outside number 73.

Wandsworth

Upper Richmond Road outside East Putney Station footway

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Appendix U - Operative Information pack
Winter Maintenance Operative Log Form

Instruction Date: *(dd/mmm/yyyy)*		Time Instruction Received *(24-hour format)*	

Pre-Action Report	**Action instructions**	**Route**	
Drivers Name:		Vehicle Reg. No:	
Personal Welfare Check Carried Out and Confirmed Fit for Duty	Yes / No	Drivers Signature: ……	
Instructions Received From:		Winter Maintenance Duty Supervisor	
Planned Start time *(24-hour format)*	:	Hrs.	
Treatment / Rate of Spread g / m^2			
Dosage	8g/m^2 ☐ 12g/m^2 ☐ 20g/m^2 ☐ 2x20g/m^2 ☐ liquid used ltr		

Post Action Report	**Actions Carried Out**		
Started at: *(24-hour format)*	: Hrs	Finished at: *(24-hour format)*	: Hrs.
Start Mileage:		**End Mileage:**	
On-board weight on leaving	tonnes	Salt Used	tonnes
On-board weight on return	tonnes		
Weather Conditions:	Dry ☐ Rain ☐ Sleet ☐ Snow ☐ Fog ☐ High Wind ☐		
Traffic Conditions:	Lightly Trafficked ☐ Heavily Trafficked ☐ Congested Traffic ☐ RTC ☐		
Road Conditions:	Dry ☐ Wet ☐ Snow ☐		

Other Actions/Reports		
Time	Comments / Remarks	Reported to
Time	Detours or Route incomplete due to TM etc	Reported to

Driver	Signature	Print Name	Date
Checked by Supervisor	Signature	Print Name	Date

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Route Check / Familiarisation Form

Route no:		Date:	
Checked by:			
Vehicle used:			

Distance Travel km	Distance Treatment km	Total Dis-tance km	Comments

RAMS

See appendix K

Treatment Routes

See appendix D

See appendix E

APPENDIX V

Winter /Severe Weather Plan CVU

Index

1 Introduction

1.1 Purpose and Objectives

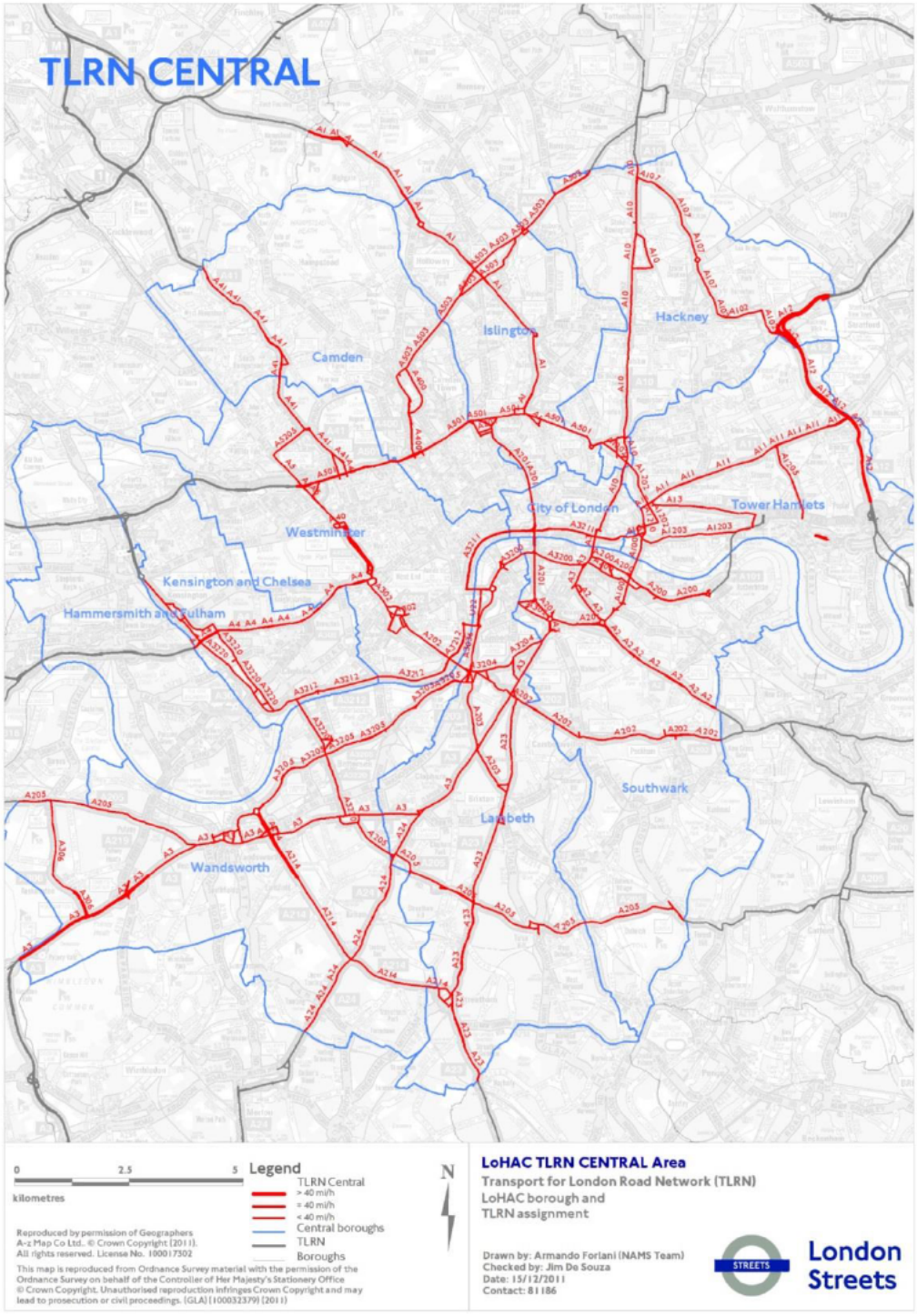
The purpose of this Severe Weather Plan ("the Plan") is to demonstrate how CVU will look to prepare and plan for severe weather.

1.2 Summary of Plan

The first stage will be to look at the weather reports and identify in the 5 day look-ahead reports for any sign of severe weather, if it looks as though severe weather might occur then the CVU Network Control Room, escalation contacts, supply chain partners and Core Services will be made aware.
The second stage will be to keep monitoring the reports and two days before to book in any extra resource that might be required depending on the severe weather that is predicted (e.g. high winds and heavy rain). Weather reports are monitored constantly using the twenty four and five day forecasts to cancel or request further resource if required.
The third stage will be the night before the severe weather is forecasted for and will involve, if heavy rain is forecast, then a pre-clean of known flooding hotspot locations will be sent to our drainage department for these areas to be jetted.

1.3 TLRN Information

The Transport for London Road Network (TLRN) is made up of roads that are owned and maintained by Transport for London (TfL).
Five per cent of the roads in London are TLRN but they carry about a third of the city's traffic. These are the key routes or major arterial roads in London.
The below map shows the routes CVU is responsible for within the Central Area Network.



1.4 CVU Network Control Room

The CVU Network Control Room (NCR) provides a 24 hour; 365 days a year service to the London Highways Alliance Contract Central Network. The NCR is the initial contact for all emergencies which occur on the TLRN. The Network Control Room Operators (NCROs) are trained to deal with most expected emergency situations on the TLRN. The Network Control Room works in close contact with the Emergency Response Units (ERU), London Streets Traffic Control Centre (LSTCC), London Streets Tunnels Operations Centre (LSTOC) and Emergency Services to mitigate accident delays and provide a quick and efficient service.
The Network Control Room Telephone Contact Details are as follows:

- [redacted] **– Emergency / Incident Contact Number**
- [redacted] **– NCR back up / ERU back up**
- [redacted] **– Near Miss Reporting**

The NCR will operate over three shifts Monday to Friday, which will be 7am to 3pm; 3pm to 11pm; 11pm to 7am. The shifts will be manned by two operators at all times. Saturdays and Sundays will be operated by two shifts, 7am to 7pm and 7pm to 7am.

1.5 Plan Owner

[redacted]
CVU Network Manager
CVU Highway Compound, 14 Armada Way, London E6 7AB

Mobile: [redacted]
E-mail: [redacted]

2 Resource Availability

The majority of our supply chain is available 24 hours a day, 7 days a week, throughout the year, unless the supplier advises otherwise in advance. The supply chain is also employed to assist CVU with emergency call outs and therefore is resourced to respond immediately once notified by CVU. Refer to the Incident Response Plan to determine the resource required and the availability of same.
Regular monitoring, planning and early booking of our supply chain will guarantee CVU have adequate resources to manage the TLRN effectively during severe weather events.
A list CVUs Emergency Response supply chain partners can be found here.

3 Stages of Severe Weather Procedure

3.1 Stage One

Stage one is about identifying the potential for severe weather early by looking at the ten day and two to five day weather forecast. Weather forecasts should continue to be checked daily by all operational staff involved, especially the NCROs. Regular monitoring of the weather ensures that if the severe weather event develops faster than first predicted it will not affect the preparation or operations of the response to the severe weather event.

When reviewing the forecasts the NCROs are looking for the presence of strong winds and signs of medium to heavy rain. When early stages of potential severe weather are identified by staff weather reports for that time will be continuously monitored.
If there is a chance of strong winds and heavy rain the following people must be notified within CVU:

- NCR
- NCR Manager
- Network Manager
- Operations Manager
- Depot Managers – North and South
- Drainage Supervisor
- Supply chain contractors as an informal warning to be prepared

The Asset Operations Manager at TfL, his chosen deputy and the on call person for TfL for the period of the rain should also be notified.

3.2 Stage Two

Stage two begins approximately two to three days prior to a potential severe weather event. Stages two and three are to be considered fluid and may be integrated if required.
Check weather forecast again to confirm a severe weather event is imminent and will impact the TLRN. Assess what resource will be required to deal with severe weather.
The NCROs or NCR Manager formally request resource from our supply chain. A formal emergency sub-contractor instruction form, or email instruction if further drainage resource required. This is to be done by the NCR or NCR Manager. Additional resource may be required from Core Services and this should be requested from the Operations Manager or Core Services Manager to assist in emergency response for the day and the Traffic Management department should be made aware to ensure sandbags are placed for major scheme works and potentially requiring their services during the day of severe weather.
At the very latest this stage can occur alongside stage three if the severe weather has escalated sooner than first forecast.

3.3 Stage Three

Stage three occurs the day or night before the time of the predicted severe weather. If heavy rain is forecast the Drainage Department will be instructed to clear as best as possible the compiled flooding hotspot list. The Hotspot List is compiled by the NCR from the previous month's flooding incidents. The Hotspot List is then mapped by the Asset Data team at CVU to provide a visual map of the areas of the TLRN that have been prone to flooding and are in need of proactive action and further remedial work.
All areas should be attended and jetted/cleaned as appropriate to ensure flooding is minimal. The NCR should be informed of any drainage works carried out in the 24 hours prior to a predicted severe weather event so that emergency response can be prioritised during the time of severe weather.
The ERU or further resource should also carry out checks to Traffic Management (TM) for major schemes and ensure sandbags are placed at the foot of barriers and the barriers tied together to secure TM stock. This reduces the risk of TM falling over and creating a hazard.

3.4 Time of Severe Weather

During the time of severe weather the resources that have been mobilised/ placed on standby will be used reactively as directed by the NCROs based on information received by the NCR. If no callouts are received by the NCROs, the resources will be directed to attend known hotspots for flooding to carry out prevention works or monitor the area for early signs of flooding. If there is flooding as a result of blockages or other drainage issues, supply chain resources will re-attend to these locations if the severe weather is prolonged. Incidents will be attended as and when they are called in and then the repair will be prioritised based on severity. Usual Incident Response Plan Procedures will be followed depending on the type of severe weather outlined in processes 3.03 Develop Incident Response Plan and 4.04 Respond to Incidents. If further resource is required a request should be directed towards the NCR Manager or Operations Manager, or in their absence, the Network Manager or Core Services Manager.

4 Reporting

If a Severe Weather Desk is established by TfL the NCR will send two hourly updates. The Severe Weather Desk will be located in the LSTCC to provide a holistic approach to all severe weather events on the entire TLRN in order to give support to the LSTCC and provide extra coordination assistance based on severity of flooding to the various LoHAC Control Rooms. The two hourly update will list incidents as a result of or relating to the severe weather event and the status of same, for example:

- *Victoria Embankment J/W Savoy Street – Fallen down tree – lane 1 closed, Gristwood and Tomms on site*
- *Albert Embankment – flooding – EEG on site*
- *Marylebone Road J/W Baker Street – Tree down – ERU on route*

The information contained in the two hourly update can be retrieved from either the completed call out worksheets or from a PEM report downloaded from NAMS Discoverer. This will save time for the NCROs in preparing the update.
The recipients of the two hourly update will be confirmed when the Severe Weather Desk is established as this will be manned by different staff members from TfL's Surface Transport team. The two hourly update should be sent to the following people at CVU:

1. NCR Manager;
2. Network Manager;
3. Drainage Supervisor;
4. Depot Managers;
5. Operations Manager;
6. Core Services Manager;
7. Head of Operations;
8. Managing Director;
9. Bronze, silver and gold contacts (as defined in the Incident Response Plan); and
10. Any other appropriate contacts as identified by the NCRO.

The two hourly update should also be sent to the following people at TfL:

1. Asset Operations Manager;
2. All Area Asset Operations Managers;
3. Representative on the Severe Weather Desk;

4. the LSTCC Information desk;
5. On call TfL representative; and
6. Any other appropriate contacts as identified by the NCRO.

The two hourly update is no longer required to be circulated after the TfL Severe Weather Desk has been stood down. The decision to stand down the TfL Severe Weather Desk will be made by TfL and the individual that is last on duty will notify the NCR the desk is being stood down.

5 Cross Border Collaboration

During a Severe Weather Event CVU may be asked to provide emergency response assistance to other LoHAC areas. Unless specifically requested to do so by the Severe Weather Desk, to assist other areas in their emergency response must be agreed by the NCR Manager or Network Manager, or if out of hours the Night Manager or Silver/Gold escalation contacts (as defined in the Incident Response Plan) which are distributed weekly by the NCR Manager.
Even if requested by the Severe Weather Desk, the persons listed above should be made aware so they can update their list of available resources.

6 Post Severe Weather Event

Following the severe weather event the NCR will collate a report of all incidents relating to severe weather within the specific period and send a report out to the TfL Central Highways Operations team. This report will be a report extract from NAMS and will be utilised to identify any areas CVU could improve on in the future.
Hot and cold de-briefs can be initiated by either the client or CVU.
In addition to the above, the Asset Data team at CVU will map all of the flooding callouts it received and will create a flooding hotspot map to identify trends from previous months. The Asset Data team will share that information with the TfL Central Highways Operations team to receive instructions for identified problem areas via the 4.01 Deliver Unplanned Maintenance Requirements process or via TfL raising a Highways Task Order.