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| COMHAIRLE CONTAE ÁTHA CLIATH THEAS SOUTH DUBLIN COUNTY COUNCIL |
| **South Dublin County Council** |
|  |
| **Procedures for the Execution of Winter Maintenance Operations in the Roads Department of South Dublin County Council** |
|  |
|  |
| Winter Maintenance System WMS 2019 - 2020 |

# 1. Table of Contents

1. Table of Contents 2

1.1 Document Management 4

1.2 Glossary of Terms 4

1.3 Purpose and Scope 5

1.4 Precautionary Gritting 6

1.5 Emergency Scenarios 6

1.6 Salt Bins for Public Use 6

1.7 Road Weather Information System Arrangements 7

2. Depots 8

3. Health & Safety 8

3.1 Drivers Daily Defect Report 8

3.2 Lone Working 8

4. Responsible Persons 9

4.1 Duty Engineers 2017 – 2018 9

4.2 Depot Inspectors and Assistant Foremen of Works (A/FOW) 2019 - 2020 9

5. Procedures and Rosters 10

5.1 Duties of the duty Engineer 10

5.2 Monday – Friday Procedure 10

5.3 Weekend (Sat. - Sun.) and Bank Holidays Procedure 11

5.5 Rates of Spread for Precautionary Salting 11

5.6 Treatment of snow already on the road after Precautionary Gritting 12

5.7 Treatment of Hard-Packed Snow and Ice 12

6. Appendices 13

6.1 Appendix 1 - Gritting Routes 13

6.2 Appendix 2 – Priority Routes 14

6.3 Appendix 3 - Salt Bin Locations 15

6.3.1 Appendix 3.1 - Salt Bin Locations & Coordinates 16

6.4 Appendix 4 – Risk Assessments 17

Chapter 1 RISK ASSESSMENT 17- Winter Maintenance / Gritting 17

Work Activity: Winter Gritting 17

HAZARDS 17

Persons Exposed To Risk 17

Work Description (including location) 17

Existing Controls 17

Further Controls 17

Monitoring Arrangements 18

Supervisor Checks 18

Personal Protective Equipment (last resort) 18

Initial Risk Rating (without any control measures) 18

Risk Reduction Rating (after controls introduced) 18

Risk Assessment Review 18

Chapter 1 RISK ASSESSMENT 26- Mounting and De-mounting Gritter 19

Work Activity: Mounting and Loading Gritting Trucks 19

HAZARDS 19

Persons Exposed To Risk 19

Work Description (including location) 19

Existing Controls 19

Further Controls 19

Monitoring Arrangements 20

Supervisor Checks 20

Personal Protective Equipment (last resort) 20

Initial Risk Rating (without any control measures) 20

Risk Reduction Rating (after controls introduced) 20

Risk Assessment Review 20

Chapter 1 RISK ASSESSMENT 42- Snow Plough 21

Work Activity: Snow Plough, mounting and operating 21

HAZARDS 21

Persons Exposed To Risk 21

Work Description (including location) 21

Existing Controls 21

Further Controls 21

Monitoring Arrangements 22

Supervisor Checks 22

Personal Protective Equipment (last resort) 22

Initial Risk Rating (without any control measures) 22

Risk Reduction Rating (after controls introduced) 22

Risk Assessment Review 22

Chapter 1 RISK ASSESSMENT 45- Teleporter 23

Foreseeable Risks 23

Initial Risk Rating (without any control measures) 23

Work Description (including location) 23

Generic / Existing Controls 23

Further Controls 24

6.5 Appendix 5 – Driver Checklist 25

6.6 Appendix 6 - Safe Working Alone System 29

# 1.1 Document Management

|  |  |  |
| --- | --- | --- |
| Date | Version | Author |
| 11/09/2014  16/10/2015  07/10/2016 | 2014 Rev01  2015 Rev 01  2016 Rev 01 | S. Tsang  S. Tsang  S. Tsang |
| 18/10 2017 | 2017 Rev 01 | G. Berrigan |

08/10/2018 2018 Rev 01 T O’ Grady

18/11/2019 2019 Rev 01 A. Taki

# 1.2 Glossary of Terms

|  |  |  |
| --- | --- | --- |
| N | N.P | National Primary |
|  | N.S | National Secondary |
| S | S.D.C.C | South Dublin County Council |
| W | WMS | Winter Maintenance System |

# 1.3 Purpose and Scope

South Dublin County Council (SDCC)’s road network consists of

* 63km National Roads
* 114km Regional Roads
* 789km Local Roads

Winter maintenance is confined to National, Regional and Local routes. National Primary routes are gritted by the NRA; National Secondary, Regional and Local routes are gritted by SDCC. The percentages of roads gritted by SDCC are summarized below in Table 1.

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Gritted**  **(km)** | **Total**  **(km)** | **%** |
| **National Secondary** | 13 | 13 | 100% |
| **Regional** | 114 | 114 | 100% |
| **Local** | 145 | 789 | 18.5% |

Table 1

There are 7 Gritting routes in SDCC. These Gritting Routes can be seen in Appendix 1.

The purpose of this document is to identify the processes, procedures and control measures employed by South Dublin County Council and to ensure that Winter Maintenance works are carried out in accordance with procedural and Health and Safety requirements. All members of staff involved with Winter Maintenance shall be fully acquainted with this Winter Maintenance Strategy and will have access to copies of it.

# 1.4 Precautionary Gritting

The primary aim is to keep these roads safe and as free as possible from winter hazards.

In order to do this, SDCC Roads Department spreads salt on these roads before ice or snow is expected (called Precautionary Gritting), this operation of pre-salting is timed to be completed before the onset of freezing or snowfall.

|  |  |  |
| --- | --- | --- |
|  | **Road** |  |
| **Route 1** | Lucan |  |
| **Route 2** | Clondalkin |  |
| **Route 3** | Saggart |  |
| **Route 4** | Tallaght |  |
| **Route 5** | Kimmage |  |
| **Route 6** | Ballyboden |  |
| **Route 7** | N81 |  |

Table 2

# 1.5 Emergency Scenarios

If snow or ice settles, snow ploughing, and salting is put into action. South Dublin County Council is constantly striving to improve the winter maintenance service.

Priority routes have been prepared to deal with emergency scenarios such as sudden snowstorms or prolonged periods of freezing temperatures. S.D.C.C has also prepared specific routes to deal with; reduced driver numbers, low salt and heavy snowfall.

Priority Routes can be seen in Appendix 2.

# 1.6 Salt Bins for Public Use

In the 2011-2012 season, a trial was carried out which involved leaving Salt Bins at 15 specified locations throughout the county (3 per electoral area). These locations are in local estates and areas with severe slopes that are not on our salting routes but have been identified as problem areas during icy conditions. For the 2019-2020 season there are a total of 39 locations where salt bins are located.

These Salt Bins will be kept stocked with salt so that members of the public can treat a road if they deem it required. Instructions on spread rate will be provided. The salt bins are locked and the local resident’s association nominates a member of the public as a keyholder.

Salt Bin locations can be seen in Appendix 3.

# 1.7 Road Weather Information System Arrangements

The Ice Prediction System is supplied by:

Vaisala TMI Ltd

Vaisala House

349 Bristol Road

Birmingham

Vaisala in conjunction with Met Eireann issue forecasts daily. The server for the network Ice Prediction System is housed at the Vaisala office in Birmingham.

The Ice Prediction System polls the outstations on the network at maximum intervals of one hour. This may be reduced to shorter intervals depending on conditions during the winter season.

The weather station for SDCC is located on the N81 at the Mahons Lane junction.

# 2. Depots

SDCC currently operates Winter Maintenance operations from Ballymount and Palmerstown Depots. The Ballymount Depot Salt Barn is in close proximity to the M50. The Palmerstown Depot Salt Barn is adjacent to the N4.

# 3. Health & Safety

SDCC will ensure so far, as is reasonably practicable:

* Safe and healthy working conditions,
* Safe equipment and systems of work,
* Provision of appropriate information, instruction, training and supervision,

This procedural document should be read in conjunction with

* Roads Maintenance – Risk Assessments (Mounting and Loading Gritter, Gritting Roads, Snow Plough and Teleporter)

Risk Assessments in Appendix 4 below.

# 3.1 Drivers Daily Defect Report

Before any driver can leave a depot to carry out a salting run, they must carry out a checklist on the vehicle to ensure that there are no obvious defects with it.

This checklist can be seen in Appendix 5.

# 3.2 Lone Working

Where Lone working occurs, the procedures outlined in Appendix 6 below shall be utilised.

# 4. Responsible Persons

Winter Maintenance coordinator:

Michael Glynn, Senior Executive Engineer, Road Maintenance

# 4.1 Duty Engineers 2017 – 2018

|  |  |  |
| --- | --- | --- |
| **Duty Engineer's Name & Initials** | **Office Phone No** | **Office E-mail Address** |
| Tony O'Grady (TOG) | 01 4149000 ext. 3225 | [togrady@sdublincoco.ie](mailto:togrady@sdublincoco.ie) |
| John McCormack (JMcC) | 01 4149000 ext. 3149 | [jmccormack@sdublincoco.ie](mailto:jmccormack@sdublincoco.ie) |
| Michael Glynn (MG) | 01 4149000 ext. 9235 | [mglynn@sdublincoco.ie](mailto:mglynn@sdublincoco.ie) |
| Caitriona Lambert (CL) | 01 4149000 ext. 3232 | [clambert@sdublincoco.ie](mailto:clambert@sdublincoco.ie) |
| Mark Costello (MC) | 01 4149000 ext. 3149 | [mcostello@sdublincoco.ie](mailto:mcostello@sdublincoco.ie) |
| Aws Taki (AT) | 01 4149000 ext. 3222 | ataki@sdublincoco.ie |

The 2019 - 2020 roster for Duty Engineers can be seen in Appendix 7.

# 4.2 Depot Inspectors and Assistant Foremen of Works (A/FOW) 2019 - 2020

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Depot** | **Routes** |  |
|  |
| Paddy Hearns | Palmerstown | 1, 2, 3 |  |
| Willie O’ Neill | Palmerstown | 1, 2, 3 |  |
| Paul Rooney | Ballymount | 4,5,6,7 |  |
| Tony Murphy | Ballymount | 4,5,6,7 |  |
| Mick Redmond | Ballymount | 4,5,6,7 |  |
|  |  |  |  |

# 5. Procedures and Rosters

A roster of Duty Engineers to give 24-hour coverage has been agreed to manage information from Met. Eireann and Vaisala. The Duty Engineer will have authority to instruct treatment as required. Consultation with the Winter Maintenance Coordinator will be carried out as necessary.

The Duty Engineer will also ensure plant and personnel are mobilised. The Duty Engineer will instruct the Inspector/Assistant Foreman of Works (A/FOW) when a decision to treat has been made. The Inspector/A/FOW will ensure the drivers are instructed and ready to treat the road at the time required. The Inspector/A/FOW will take instruction from the Duty Engineer.

# 5.1 Duties of the duty Engineer

The Gritting Phase will be activated by the Duty Engineer in the event of ice or adverse weather prediction from the Vaisala service. This is normally issued before 2.30pm in the afternoon.

Gritting shall commence at the time determined by the Duty Engineer normally at 7pm and 5am if necessary. As the Vaisala forecast and data is available at 2.30 pm therefore it is expected that the callout is given as early as possible particularly on a Friday in order that arrangements can be made before personnel finish work.

# 5.2 Monday – Friday Procedure

* The Duty Engineer checks the Vaisala and forecast at or before 2.30pm each day.
* In the event of the forecast of ice conditions the Duty Engineer notifies the Inspector/A/FOW on call before 3.30pm, of routes to be pre-salted and time of commencement.
* The Inspector/A/FOW then notifies the drivers and the Machinery Yard Foreman on call for that week.
* The Duty Drivers proceed to their parking depots at the end of their normal working day and fit the salt spreaders.
* The Inspector/ A/FOW notifies the loader driver, proceeds to the salt depot at the end of normal working time and prepares the depot for loading of salt.
* At the designated time, the drivers will collect their machines, load salt and grit their prearranged routes. On completion the driver will return the spreader to its parking location.
* The Inspector/A/FOW will be on standby in the event of breakdown.
* From the call out time, the Inspector/A/FOW will monitor the operations and in the event of breakdown will call out a fitter or activate the standby salt spreader whichever he feels appropriate.

# 5.3 Weekend (Sat. - Sun.) and Bank Holidays Procedure

The gritting duty roster is as above

* The Duty Engineer checks the Vaisala and forecast at or before 2.30pm each day.
* In the event of the forecast of ice conditions he notifies the Inspector /A/FOW on call before 3.30pm, of routes to be pre-salted and time of commencement.
* The Inspector/A/FOW notifies the drivers and Machinery Yard Foreman on call for that week, of the time of callout.
* The Inspector/A/FOW notifies the loader driver, proceeds to the salt depot at the time appointed and prepares the depot for loading of salt.
* The Duty Drivers proceed to the depot at the appointed time, load salt, proceeds to complete assigned routes. On completion the driver will return the salt spreader to its parking location.

**5.4 Winter Maintenance Duty Engineers’ Roster**

The 2019-2020 roster for Duty Engineers can be seen in Appendix 7.

# 5.5 Rates of Spread for Precautionary Salting

It is intended that Precautionary Action forms the major part of winter operations.

For frost and road surface temperatures at or above -2ºC, salt shall be spread at 10-20 g/m2 dependent on local conditions and the immediate forecast.

If freezing conditions are expected after rain or frost and the road surface temperature is below -2ºC, spread rates will be increased to 20-30 g/m2 according to the amount of moisture present and the temperature expected. Unless freezing conditions coincide with rainfall, salting shall be delayed as long as possible to reduce loss of salt by run-off.

If continuous snow is forecast, salt shall be spread at 30-40 g/m2 according to the anticipated severity of the snowfall. Every effort will be made to ensure enough salt is applied before snow starts to stick to the road to melt the initial snowfall and to provide a wet surface.

The spread rates for precautionary salt treatments are summarized below.

|  |  |  |
| --- | --- | --- |
| ***Weather Conditions*** | ***Definition*** | ***Salt Spread RATE (gram/square metre)*** |
| **Light** | Frost and/or light snow | 10 |
| **Moderate** | Freezing conditions after rain | 20 to 30 |
| **Severe** | Continuous snow | 30 to 40 |

For a single precautionary treatment on all Priority 1 and 2 routes at a spread rate of 10 g/m2, the tonnage of salt required would be 19t. This would be on a night when a hoar frost is expected, and the road surface temperature will be at or above -2°C.

# 5.6 Treatment of snow already on the road after Precautionary Gritting

Snow ploughing will commence on major routes as shown in Appendix 2 as directed by the Duty Engineer. Each pass of the plough shall be supplemented by an application of salt at a rate as per the table above. Special salting may be necessary to deal with melted water from snow, which may freeze at night, and a watch will be kept for such conditions.

# 5.7 Treatment of Hard-Packed Snow and Ice

If the previous procedures are carried out successfully then the formation of hard-packed snow should be prevented. However, in cases where hard-packed snow and ice occur and provided that the ice is no more than 20mm thick and the air temperature is below -5ºC, then removal shall be carried out by successive salt applications of 20-40 g/m2.

# 6. Appendices

# A close up of a map Description automatically generated6.1 Appendix 1 - Gritting Routes

# A close up of a map Description automatically generated6.2 Appendix 2 – Priority Routes

# A close up of a map Description automatically generated6.3 Appendix 3 - Salt Bin Locations

# 6.3.1 Appendix 3.1 - Salt Bin Locations & Coordinates

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Lucan** |  | **Rathfarnham** | |  |
| Ardeevin | [53.354878, -6.457864](https://www.google.ie/maps/place/53%C2%B021'17.6%22N+6%C2%B027'28.3%22W/@53.3534076,-6.4575146,16z/data=!4m14!1m7!3m6!1s0x4867724e54f16a4f:0xf422e32117ffbb76!2sArdeevin+Ave,+Lucan,+Co.+Dublin!3b1!8m2!3d53.3536483!4d-6.4568611!3m5!1s0x0:0x0!7e2!8m2!3d53.354878!4d-6.4578635?authuser=1) | Parlands Ave | | [53.274549, -6.340890](https://www.google.ie/maps/place/53%C2%B016'28.4%22N+6%C2%B020'27.2%22W/@53.2749868,-6.3406346,287m/data=!3m1!1e3!4m14!1m7!3m6!1s0x48670b19855c4c91:0x220c11b3e0a53c50!2sWoodstown+Park,+Ballycullen,+Dublin!3b1!8m2!3d53.2748283!4d-6.3287622!3m5!1s0x0:0x0!7e2!8m2!3d53.2745489!4d-6.34089?authuser=1) |
| Sarsfield Park | [53.359006,-6.444999](https://www.google.ie/maps/place/53%C2%B021'32.4%22N+6%C2%B026'42.0%22W/@53.3584554,-6.443072,15.5z/data=!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3590057!4d-6.4449996?authuser=1) | Moyville | | [53.279578, -6.295941](https://www.google.ie/maps/place/53%C2%B016'46.5%22N+6%C2%B017'45.4%22W/@53.2795491,-6.2961161,241m/data=!3m1!1e3!4m14!1m7!3m6!1s0x48670bbabae1a901:0x65ba5f7e2c98f88a!2s16+Moyville,+Rathfarnham,+Dublin,+D16+RP22!3b1!8m2!3d53.279501!4d-6.2942363!3m5!1s0x0:0x0!7e2!8m2!3d53.2795781!4d-6.2959412?authuser=1) |
| Woodfarm | [53.351973, -6.378222](https://www.google.ie/maps/place/53%C2%B021'07.1%22N+6%C2%B022'41.6%22W/@53.3546162,-6.378029,15z/data=!4m9!1m2!2m1!1swoodfarm+lucan!3m5!1s0x0:0x0!7e2!8m2!3d53.351973!4d-6.3782233?authuser=1) | Palmer Park / Pearse Brothers Park | | [53.281155, -6.286711](https://www.google.ie/maps/place/53%C2%B016'52.2%22N+6%C2%B017'12.2%22W/@53.2809049,-6.2872867,287m/data=!3m1!1e3!4m14!1m7!3m6!1s0x48670bb9c6e48e81:0x1494ab21c1c54b2b!2s16+Pearse+Brothers+Park,+Rathfarnham,+Dublin,+D16+H362!3b1!8m2!3d53.2803138!4d-6.2861431!3m5!1s0x0:0x0!7e2!8m2!3d53.2811549!4d-6.286711?authuser=1) |
| Lucan Heights | [53.357686,-6.442150](https://www.google.ie/maps/place/53%C2%B021'27.7%22N+6%C2%B026'31.7%22W/@53.3584554,-6.443072,15.5z/data=!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3576866!4d-6.4421484?authuser=1) | Prospect Manor | | [53.274712, -6.301062](https://www.google.ie/maps/place/53%C2%B016'29.0%22N+6%C2%B018'03.8%22W/@53.274712,-6.3016105,170m/data=!3m2!1e3!4b1!4m14!1m7!3m6!1s0x48670baecbae54b7:0xb62e8288105676e6!2sProspect+Manor,+Dublin!3b1!8m2!3d53.2745153!4d-6.3009281!3m5!1s0x0:0x0!7e2!8m2!3d53.2747118!4d-6.3010622?authuser=1) |
| Airlie Heights | [53.352475, -6.462986](https://www.google.ie/maps/place/53%C2%B021'08.9%22N+6%C2%B027'46.8%22W/@53.3524758,-6.4635332,174m/data=!3m2!1e3!4b1!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.352475!4d-6.4629865?authuser=1) | Church Lane at Tourville | | [53.299949, -6.287813](https://www.google.ie/maps/place/53%C2%B017'59.8%22N+6%C2%B017'16.1%22W/@53.3000337,-6.2879658,682m/data=!3m1!1e3!4m14!1m7!3m6!1s0x48670b92b2cb684d:0x4feddb3bc8af5a1c!2sTourville,+Church+Ln,+Rathfarnham,+Dublin+14!3b1!8m2!3d53.3000337!4d-6.286011!3m5!1s0x0:0x0!7e2!8m2!3d53.2999491!4d-6.2878127?authuser=1) |
| Lucan Garda Station | [53.356030,-6.450813](https://www.google.ie/maps/place/53%C2%B021'21.7%22N+6%C2%B027'02.9%22W/@53.3584554,-6.443072,15.5z/data=!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3560298!4d-6.4508146?authuser=1) | Grangebrook | | [53.275963, -6.284201](https://www.google.ie/maps/place/53%C2%B016'33.5%22N+6%C2%B017'03.1%22W/@53.2763906,-6.2851153,341m/data=!3m1!1e3!4m14!1m7!3m6!1s0x48670bb71c93f693:0x2158c72c689f4cb1!2s16+Grangebrook+Ave,+Rathfarnham,+Dublin,+D16+Y2F1!3b1!8m2!3d53.2767709!4d-6.2851818!3m5!1s0x0:0x0!7e2!8m2!3d53.2759629!4d-6.2842011?authuser=1) |
| Brookvale | [53.356455, -6.445812](https://www.google.ie/maps/place/53%C2%B021'23.2%22N+6%C2%B026'44.9%22W/@53.3584554,-6.443072,15.5z/data=!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3564556!4d-6.4458123?authuser=1) | Boden Park | | [53.281360, -6.302745](https://www.google.ie/maps/place/53%C2%B016'52.9%22N+6%C2%B018'09.9%22W/@53.28136,-6.3032935,170m/data=!3m2!1e3!4b1!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2813601!4d-6.3027448?authuser=1) |
| Chapel Hill | [53.360000,-6.439059](https://www.google.ie/maps/place/53%C2%B021'36.0%22N+6%C2%B026'20.6%22W/@53.361027,-6.442283,15.5z/data=!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3599997!4d-6.4390585?authuser=1) | Ballyboden Library | | [53.281463, -6.293376](https://www.google.ie/maps/place/53%C2%B016'53.3%22N+6%C2%B017'36.2%22W/@53.281463,-6.2939245,170m/data=!3m2!1e3!4b1!4m9!1m2!2m1!1sBallyboden+liberary+,+County+Dublin!3m5!1s0x0:0x0!7e2!8m2!3d53.2814633!4d-6.2933763?authuser=1) |
|  |  |  | |  |
| **Clondalkin** |  | **Other locations** | |  |
| Floraville | [53.319842, -6.384441](https://www.google.ie/maps/place/53%C2%B019'11.4%22N+6%C2%B023'04.0%22W/@53.3198126,-6.3852659,470m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3198421!4d-6.3844408?authuser=1) | Fairstown | | [53.256479, -6.355764](https://www.google.ie/maps/place/53%C2%B015'23.3%22N+6%C2%B021'20.8%22W/@53.2642112,-6.3688003,4556m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2564784!4d-6.3557625?authuser=1) |
| Monastery Heath | [53.319522, -6.381303](https://www.google.ie/maps/place/53%C2%B019'10.3%22N+6%C2%B022'52.7%22W/@53.3177544,-6.3906405,2292m/data=!3m1!1e3!4m9!1m2!2m1!1sFloraville+clondalkin!3m5!1s0x0:0x0!7e2!8m2!3d53.3195211!4d-6.3813025?authuser=1) | Cozy Kats Lodge | | [53.247494, -6.341356](https://www.google.ie/maps/place/53%C2%B014'51.0%22N+6%C2%B020'28.9%22W/@53.2642112,-6.3688003,4556m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.247495!4d-6.3413537?authuser=1) |
| Highdown Hill | [53.291238, -6.510902](https://www.google.ie/maps/place/53%C2%B017'28.5%22N+6%C2%B030'39.3%22W/@53.29125,-6.511314,682m/data=!3m1!1e3!4m14!1m7!3m6!1s0x486776b7b87395b3:0xa96feecbc43b8fa6!2sHighdown+Hill,+Highdownhill,+Co.+Dublin!3b1!8m2!3d53.29125!4d-6.50912!3m5!1s0x0:0x0!7e2!8m2!3d53.2912378!4d-6.5109021?authuser=1) | CONROY'S LANE | | [53.260101, -6.356336](https://www.google.ie/maps/place/53%C2%B015'36.4%22N+6%C2%B021'22.8%22W/@53.2642112,-6.3688003,4556m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2601015!4d-6.3563365?authuser=1) |
| Callaighstown | [53.251934, -6.503188](https://www.google.ie/maps/place/53%C2%B015'07.0%22N+6%C2%B030'11.5%22W/@53.2522668,-6.5041368,766m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2519404!4d-6.5031767?authuser=1) | Parklands Court | | [53.274549, -6.340890](https://www.google.ie/maps/place/53%C2%B016'28.4%22N+6%C2%B020'27.2%22W/@53.2642112,-6.3688003,4556m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2745487!4d-6.3408923?authuser=1) |
| Garda Station at Orchard Road | [53.323189, -6.394456](https://www.google.ie/maps/place/53%C2%B019'23.5%22N+6%C2%B023'40.0%22W/@53.323291,-6.3945965,146m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.3231885!4d-6.394456?authuser=1) | Ballymaice Lane | | [53.254184, -6.383372](https://www.google.ie/maps/place/53%C2%B015'15.1%22N+6%C2%B023'00.1%22W/@53.2642112,-6.3688003,4556m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2541838!4d-6.3833731?authuser=1) |
|  |  |  | |  |
| **Tallaght Central** |  |
| Sylvan Avenue | [53.303746, -6.365814](https://www.google.ie/maps/place/53%C2%B018'13.5%22N+6%C2%B021'56.9%22W/@53.3033049,-6.3676324,405m/data=!3m1!1e3!4m14!1m7!3m6!1s0x486774aee067efb9:0x1800c7a937ea5610!2sBelgard+Heights,+Dublin!3b1!8m2!3d53.2989441!4d-6.380905!3m5!1s0x0:0x0!7e2!8m2!3d53.3037459!4d-6.3658141?authuser=1) |
| Hermitage Drive | [53.283140, -6.277703](https://www.google.ie/maps/place/53%C2%B016'59.3%22N+6%C2%B016'39.7%22W/@53.2864633,-6.2760538,1706m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.28314!4d-6.2777022?authuser=1) |
| Hermitage View | [53.282748, -6.276617](https://www.google.ie/maps/place/53%C2%B016'57.9%22N+6%C2%B016'35.8%22W/@53.2864633,-6.2760538,1706m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2827487!4d-6.2766159?authuser=1) |
| Idrone Ave | [53.284968, -6.317426](https://www.google.ie/maps/place/53%C2%B017'05.9%22N+6%C2%B019'02.7%22W/@53.2850056,-6.317255,90m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.284968!4d-6.3174257?authuser=1) |
|  |  |
|  |  |
| **Tallaght South** |  | |
| Killinarden | [53.267769, -6.396160](https://www.google.ie/maps/place/53%C2%B016'04.0%22N+6%C2%B023'46.2%22W/@53.268005,-6.3958911,482m/data=!3m1!1e3!4m14!1m7!3m6!1s0x486774e1332742fb:0x8e9ba0f036cb68bf!2sKillinardan,+Co.+Dublin!3b1!8m2!3d53.2671421!4d-6.3982065!3m5!1s0x0:0x0!7e2!8m2!3d53.2677688!4d-6.3961599?authuser=1) | |
| Ellensborough | [53.269589, -6.369132](https://www.google.ie/maps/place/53%C2%B016'10.5%22N+6%C2%B022'08.9%22W/@53.2665361,-6.3792515,1670m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2695891!4d-6.3691333?authuser=1) | |
| Ellensborough (DeerPark PI) | [53.268871, -6.372320](https://www.google.ie/maps/place/53%C2%B016'07.9%22N+6%C2%B022'20.4%22W/@53.2689835,-6.3725926,78m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2688705!4d-6.3723198?authuser=1) | |
| Horans Lane | [53.269134, -6.394143](https://www.google.ie/maps/place/53%C2%B016'08.9%22N+6%C2%B023'38.9%22W/@53.2680458,-6.3958835,482m/data=!3m1!1e3!4m14!1m7!3m6!1s0x486774e1332742fb:0x8e9ba0f036cb68bf!2sKillinardan,+Co.+Dublin!3b1!8m2!3d53.2671421!4d-6.3982065!3m5!1s0x0:0x0!7e2!8m2!3d53.269134!4d-6.3941429?authuser=1) | |
| Ballymana Lane | [53.263819, -6.385915](https://www.google.ie/maps/place/53%C2%B015'49.8%22N+6%C2%B023'09.3%22W/@53.2638384,-6.3860495,70m/data=!3m1!1e3!4m14!1m7!3m6!1s0x4867751f6bd69d2d:0xfa52a701df46c99a!2sBallymana+Lane,+Co.+Dublin!3b1!8m2!3d53.2637494!4d-6.3859182!3m5!1s0x0:0x0!7e2!8m2!3d53.2638191!4d-6.385915?authuser=1) | |
| Knocklyon Ave | [53.288588, -6.324017](https://www.google.ie/maps/place/53%C2%B017'18.9%22N+6%C2%B019'26.5%22W/@53.288379,-6.3233508,69m/data=!3m1!1e3!4m6!3m5!1s0x0:0x0!7e2!8m2!3d53.2885886!4d-6.3240159?authuser=1) | |

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# 6.4 Appendix 4 – Risk Assessments

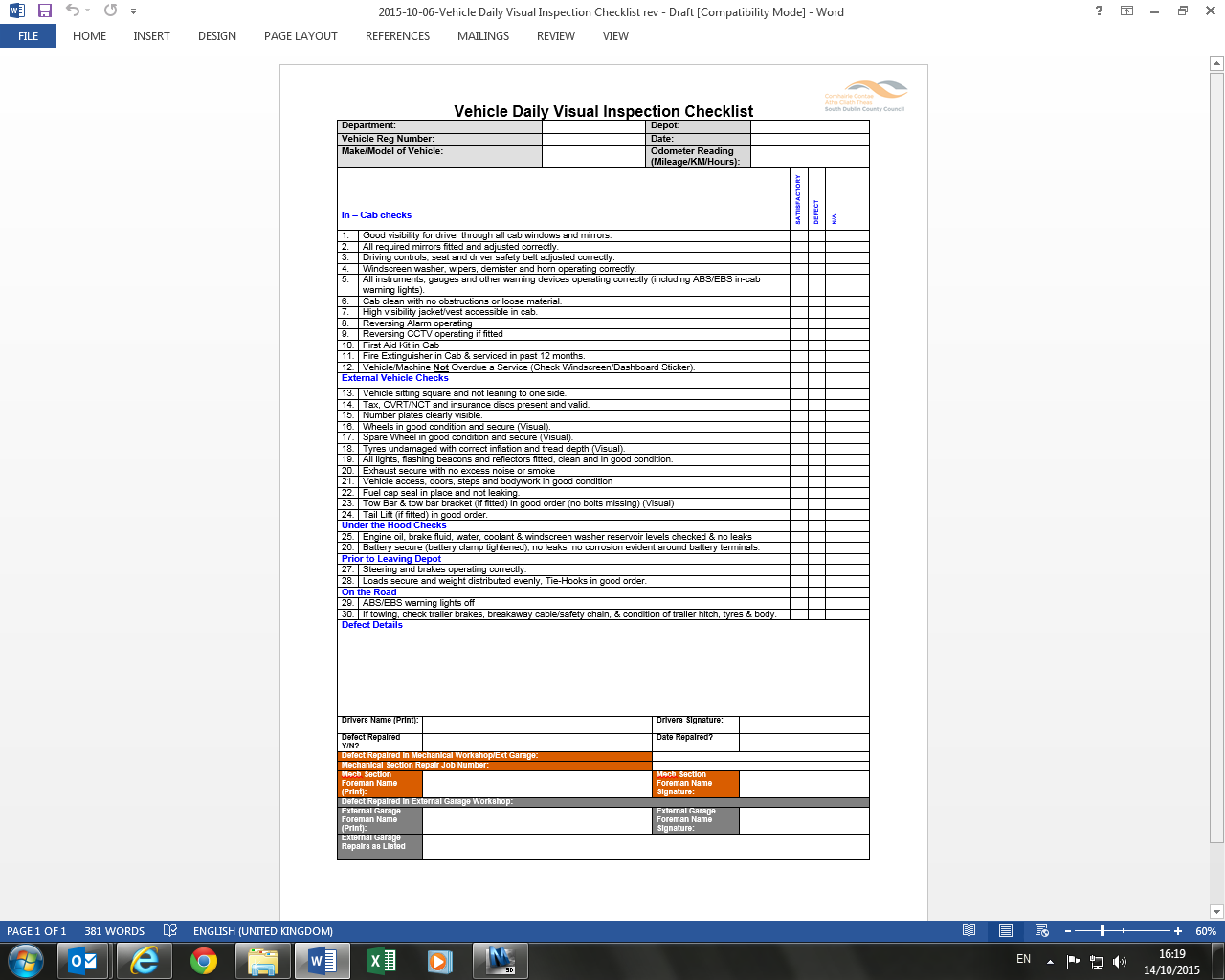
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|  | | | | | RISK ASSESSMENT 17- Winter Maintenance / Gritting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | Ref: RDS/MB/RA/0260 | | | | | | | | | | | | |
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| Risk Rating: Substantial Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Date: 24/5/2019 | | | | | | | | | | | | |
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| Work Activity: Winter Gritting | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assessed by: Rd Mntce Safety Committee  Reviewed by: MG, T O’G | | | | | | | | | | | | |
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| HAZARDS | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Collisions | | | | | | | | | | | | | | | | | | | | | | |  | | | |
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| Reversing truck | | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| Truck sliding off the road | | | | | | | | | | | | | | | | | | | | | | |  | | | |
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| Gritter dismounting from truck while in motion | | | | | | | | | | | | | | | | | | | | | | |  | | | |
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| Persons Exposed To Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public | | | | | | | | | | | ✓ | | | | | | Other contractors/employees | | | | | | | | | | | | | | | | **✓** | | | | Visitors | | | | | | | | | | | | | | **✓** | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Work Description (including location) | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Application of grit to public roads using gritting unit attached to truck during hours of darkness | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Existing Controls | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | Appropriate PPE must be worn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Gritter must be strapped to truck body by nylon straps before truck moves off. New straps are provided on an annual basis. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Drivers specially trained in the mounting and operation of gritters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | A helper travels in each truck with the driver | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | First aid kits, head lamps and torch in each truck. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Each truck has a set of winter tyres put on at the start of the season | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Equipment checked on an annual basis | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Further Controls | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  | | | | | | | **IRISK ASSESSMENT 17** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | Ref: RDS/MB/RA/0260 | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring Arrangements | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | Monitor compliance with risk assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Monitor wearing of PPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supervisor Checks | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | Check that PPE is being worn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Check that new starts have undergone induction and appropriate training  Check that drivers have been fully trained in the mounting and operation of gritters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | Check that safe systems of work are being followed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Information, Instruction and Training | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | | Risk Assessment and safe systems of work Communicated through Tool box Talks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Use of PPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Induction training for new employees  Manual handling training | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Personal Protective Equipment (last resort) | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| WEARHAT$FOOTPRO$HARNES$OVERALL$SPEX$WELDER$VISOR2$EARMUFF$DUSMASK$RESPRAT$GLOVE$LIFJCKT4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Initial Risk Rating (without any control measures) | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Severity Rating (A)** | | | | | | | | | | | | | | | | | **Exposure Rating (B)** | | | | | | | | | | | | | | | | | | **Exposure Probability Rating (C)** | | | | | | | | | | | | | | | | | |
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| Multiple fatality | | | | | | | | | | | 15 | | | | | | 1 Person | | | | | | | | | | | | | | 2 | | | | Exposure would rarely occur | | | | | | | | | | | | 4 | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatality | | | | | | | | | | | **12** | | | | | | 2 – 5 Persons | | | | | | | | | | | | | | **4** | | | | Exposure unlikely to occur | | | | | | | | | | | | 8 | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Major injury (hospitalisation) | | | | | | | | | | | 9 | | | | | | 6 – 20 Persons | | | | | | | | | | | | | | 6 | | | | Exposure likely to occur | | | | | | | | | | | | **12** | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reportable injury | | | | | | | | | | | 6 | | | | | | 21 – 100 Persons | | | | | | | | | | | | | | 8 | | | | Exposure occurs regularly | | | | | | | | | | | | 16 | | | | | |
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| Minor accident | | | | | | | | | | | 3 | | | | | | 100 + Persons | | | | | | | | | | | | | | 10 | | | | Exposure certain to occur | | | | | | | | | | | | 20 | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Rating Calculation Risk = A X (B + C) = **192 High Risk** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Reduction Rating (after controls introduced) | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| **Severity Rating (A)** | | | | | | | | | **9** | | | | **Exposure Rating (B)** | | | | | | | | | | | | | | | | **4** | | | | **Exposure Probability Rating (C)** | | | | | | | | | | | | | | | | **8** | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Rating Calculation Risk = A X (B + C) = 108 **Substantial Risk** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Low Risk** = 18 – 59 **Medium Risk** = 60 – 89 **Substantial Risk** = 90 - 129 **High Risk** = 130 - 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Assessment Review | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| As and when process changes or yearly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date of Risk Assessment………01/10/2013…  Reviewed. ………….……………24/5/2019…… ……….…………….…………… | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  | | | | | | RISK ASSESSMENT 26- Mounting and De-mounting Gritter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | Ref: RDS/MB/RA/0330 | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Rating: Medium Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Date: 31/05/2019 | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Work Activity: Mounting and Loading Gritting Trucks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | Assessed by: Rd Mntce Safety Committee  Reviewed by: MG, T O’G | | | | | | | | | | | | |
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| HAZARDS | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Reversing truck | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| Mounting gritter (insertion of pins) – hand injury | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
| Gritter dismounting from truck while in motion | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
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| Manual handling  Trips & Slips | | | | | | | | | | | | | | | | | | | | | | | |  | | | |
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| Persons Exposed To Risk | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Public | | | | | | | | | | | |  | | | | | | Other contractors/employees | | | | | | | | | | | | | | | | **✓** | | | | Visitors | | | | | | | | | | | | | |  | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Work Description (including location) | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Mounting of gritters on to the bed of a truck and demounting the gritter | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Existing Controls | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | | Appropriate PPE must be worn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Gritter must be strapped to truck body by nylon straps before truck moves off. New straps are provided at the start of each season | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Drivers specially trained in the mounting and operation of gritters. Straps to be used when mounting and dismounting. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Gritter legs must be raised and pinned before truck moves off | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Tail board to be lifted off by forklift | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Each driver has a helper to assist these works. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | First aid kits are provided in each truck | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Spinner to be mounted and dismounted by driver and operative, never individually | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Truck must be fully switched off while plates are being removed from above worm. | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Operatives are not to enter the gritted bed unless machine is fully switched off | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | All drivers and helpers are to be aware of the emergency stop button | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Further Controls | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  | | | | | | | | **IRISK ASSESSMENT 26** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | Ref: RDS/MB/RA/0330 | | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Monitoring Arrangements | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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|  |  | | Monitor compliance with risk assessment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Monitor wearing of PPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Supervisor Checks | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | |
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|  |  | | Check that PPE is being worn | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Check that new starts have undergone induction and appropriate training  Check that drivers have been fully trained in the mounting and operation of gritters | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | Check that safe systems of work are being followed | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Information, Instruction and Training | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | | |
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|  |  | | | Risk Assessment and safe systems of work communicated through Tool Box Talks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Use of PPE | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  |  | | | Induction training for new employees  Manual handling training | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Personal Protective Equipment (last resort) | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | | |
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| WEARHAT$FOOTPRO$HARNES$OVERALL$SPEX$WELDER$VISOR2$EARMUFF$DUSMASK$RESPRAT$GLOVE$LIFJCKT4 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Additional notes on PPE** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Initial Risk Rating (without any control measures) | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Severity Rating (A)** | | | | | | | | | | | | | | | | | | **Exposure Rating (B)** | | | | | | | | | | | | | | | | | | **Exposure Probability Rating (C)** | | | | | | | | | | | | | | | | | | |
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| Multiple fatality | | | | | | | | | | | | 15 | | | | | | 1 Person | | | | | | | | | | | | | | 2 | | | | Exposure would rarely occur | | | | | | | | | | | | 4 | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Fatality | | | | | | | | | | | | **12** | | | | | | 2 – 5 Persons | | | | | | | | | | | | | | **4** | | | | Exposure unlikely to occur | | | | | | | | | | | | 8 | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Major injury (hospitalisation) | | | | | | | | | | | | 9 | | | | | | 6 – 20 Persons | | | | | | | | | | | | | | 6 | | | | Exposure likely to occur | | | | | | | | | | | | **12** | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Reportable injury | | | | | | | | | | | | 6 | | | | | | 21 – 100 Persons | | | | | | | | | | | | | | 8 | | | | Exposure occurs regularly | | | | | | | | | | | | 16 | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Minor accident | | | | | | | | | | | | 3 | | | | | | 100 + Persons | | | | | | | | | | | | | | 10 | | | | Exposure certain to occur | | | | | | | | | | | | 20 | | | | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Rating Calculation Risk = A X (B + C) = **192 High Risk** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| Risk Reduction Rating (after controls introduced) | | | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Severity Rating (A)** | | | | | | | | | | **6** | | | | **Exposure Rating (B)** | | | | | | | | | | | | | | | | **4** | | | | **Exposure Probability Rating (C)** | | | | | | | | | | | | | | | | **8** | | | |
|  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |  | | | | **Exposure Rating (B)** |
| Risk Rating Calculation Risk = A X (B + C) = **72 Medium Risk** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| **Low Risk** = 18 – 59 **Medium Risk** = 60 – 89 **Substantial Risk** = 90 - 129 **High Risk** = 130 - 450 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Risk Assessment Review | | | | | | | | | | | | | | | | | | | |  | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| As and when process changes or yearly | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Date of Risk Assessment………01/10/2013…  Reviewed. ………….………………31/05/2019… ……….…………….…………… | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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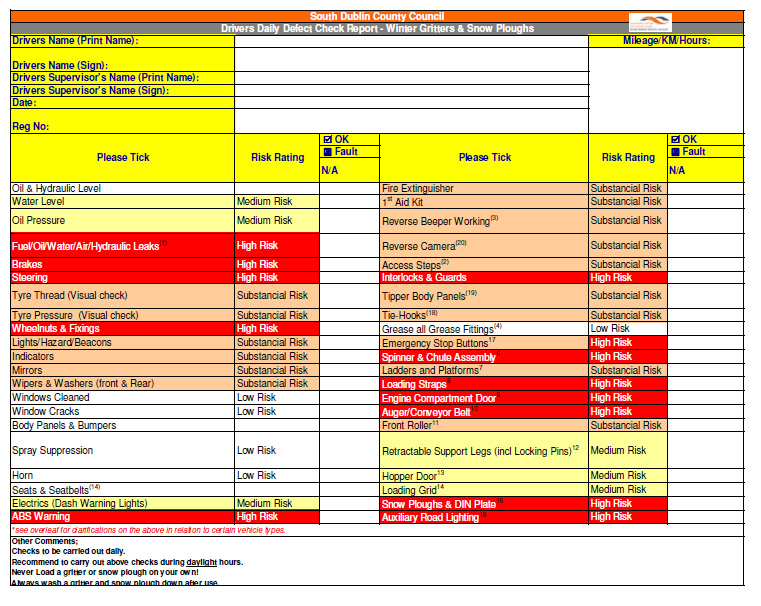
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | RISK ASSESSMENT 42- Snow Plough | | | | | | | | | |  | Ref: RDS/MB/RA/0480 | |
|  | | | | | | | | | | | | | | | |
| Risk Rating: Medium Risk | | | | | | | | | | | | | | Date: 11/06/2019 | |
|  | | | | | | | | | | | | | | | |
| Work Activity: Snow Plough, mounting and operating | | | | | | | | | | | | | | Assessed by: Rd Mntce Safety Committee  Reviewed by: MG, T O’G | |
|  | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | |
| HAZARDS | | | | | | | | | |  | | | | | |
|  | | | | |  | | | | |  | | | | | |
| Back injury | | | | | | |  | | |
|  | | | | | | |  | | |
| Hand injury | | | | | | |  | | |
|  | | | | | | |  | | |
| Eye injury (hydraulic oil under pressure) | | | | | | |  | | |
|  | | | | | | |  | | |
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|  | | | | | | |  | | |
| Persons Exposed To Risk | | | | | | | | | | | | | | | |
| Public | | | |  | | Other contractors/employees | | | | | **✓** | Visitors | | |  |
|  | | | | | | | | | | | | | | | |
| Work Description (including location) | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | |
| Snow plough, mounting and operating | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | |
| Existing Controls | | | | | | | |  | | | | | | | |
|  |  |  | | | | | | | | | | | | | |
|  |  | Truck to approach snow plough in end–on position | | | | | | | | | | | | | |
|  |  | Snow plough and truck to be on level ground | | | | | | | | | | | | | |
|  |  | Hydraulic hoses to be in good condition | | | | | | | | | | | | | |
|  |  | Appropriate PPE must be worn | | | | | | | | | | | | | |
|  |  | Exclusion zone around operation. | | | | | | | | | | | | | |
|  |  | Only adequately maintained machinery permitted for use | | | | | | | | | | | | | |
|  |  | Eye protection must be worn when mounting the snow plough. (danger from hydraulic oil under pressure) | | | | | | | | | | | | | |
|  |  | Ploughs must be parked on a stand on concrete at the same level as the truck | | | | | | | | | | | | | |
|  |  | 2 people present when mounting ploughs | | | | | | | | | | | | | |
|  |  |  | | | | | | | | | | | | | |
|  |  |  | | | | | | | | | | | | | |
| Further Controls | | | | | | | | |  | | | | | | |
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|  | | | | **RISK ASSESSMENT 42** | | | | | | | | | |  | Ref: RDS/MB/RA/0480 | |
|  | | | | | | | | | | | | | | | | |
| Monitoring Arrangements | | | | | | | | | |  | | | | | | |
|  |  |  | | | | | | | | | | | | | | |
|  |  | Monitor compliance with safe system of work | | | | | | | | | | | | | | |
|  |  | Monitor for pedestrians / workers in the area | | | | | | | | | | | | | | |
|  |  | Ensure defects are reported | | | | | | | | | | | | | | |
| Supervisor Checks | | | | | | | | | |  | | | | | | |
|  |  |  | | | | | | | | | | | | | | |
|  |  | Monitor wearing of PPE | | | | | | | | | | | | | | |
|  |  | The supervisor shall undertake regular inspection of plant | | | | | | | | | | | | | | |
|  |  | Ensure pre-use checks are carried out and defects reported | | | | | | | | | | | | | | |
|  |  | Ensure safe system of work communicated | | | | | | | | | | | | | | |
| Information, Instruction and Training | | | | | | | | | |  | | | | | | |
|  |  | |  | | | | | | | | | | | | | |
|  |  | | Operator training in safe use of equipment | | | | | | | | | | | | | |
|  |  | | Manual handling | | | | | | | | | | | | | |
|  |  | | Safe system of work explained & communicated through Tool Box Talks | | | | | | | | | | | | | |
|  |  | | Training register to be kept | | | | | | | | | | | | | |
| Personal Protective Equipment (last resort) | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| WEARHAT$FOOTPRO$HARNES$OVERALL$SPEX$WELDER$VISOR2$EARMUFF$DUSMASK$RESPRAT$GLOVE$ LIFJCKT4  ✓  ✓  ✓  ✓ | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Additional notes on PPE** | | | | | | | | | | | | | | | | |
| Eye protection must be worn when mounting the snow plough (danger from hydraulic oil under pressure) | | | | | | | | | | | | | | | | |
| Initial Risk Rating (without any control measures) | | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| **Severity Rating (A)** | | | | | | | | **Exposure Rating (B)** | | | | | **Exposure Probability Rating (C)** | | | | |
|  | | | | | | | | | | | | | | | | | |
| Multiple fatality | | | | | | 15 | | 1 Person | | | | **2** | Exposure would rarely occur | | | 4 | |
|  | | | | | | | | | | | | | | | | | |
| Fatality | | | | | | 12 | | 2 – 5 Persons | | | | 4 | Exposure unlikely to occur | | | 8 | |
|  | | | | | | | | | | | | | | | | | |
| Major injury (hospitalisation) | | | | | | **9** | | 6 – 20 Persons | | | | 6 | Exposure likely to occur | | | **12** | |
|  | | | | | | | | | | | | | | | | | |
| Reportable injury | | | | | | 6 | | 21 – 100 Persons | | | | 8 | Exposure occurs regularly | | | 16 | |
|  | | | | | | | | | | | | | | | | | |
| Minor accident | | | | | | 3 | | 100 + Persons | | | | 10 | Exposure certain to occur | | | 20 | |
|  | | | | | | | | | | | | | | | | | |
| Risk Rating Calculation Risk = A X (B + C) = **126 Substantial Risk** | | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | | |
| Risk Reduction Rating (after controls introduced) | | | | | | | | | |  | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Severity Rating (A)** | | | | | **6** | | **Exposure Rating (B)** | | | | **2** | **Exposure Probability Rating (C)** | | | | **8** |
|  | | | | | | | | | | | | | | | | |
| Risk Rating Calculation Risk = A X (B + C) = **60 Medium Risk** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Low Risk** = 18 – 59 **Medium Risk** = 60 – 89 **Substantial Risk** = 90 - 129 **High Risk** = 130 - 450 | | | | | | | | | | | | | | | | |
| Risk Assessment Review | | | | | | | | |  | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| As and when process changes or yearly | | | | | | | | | | | | | | | | |
| Date of Risk Assessment………17/09/13….  Review date… Date 11/06/2019………….………………… ……….…………….…………… | | | | | | | | | | | | | | | | |

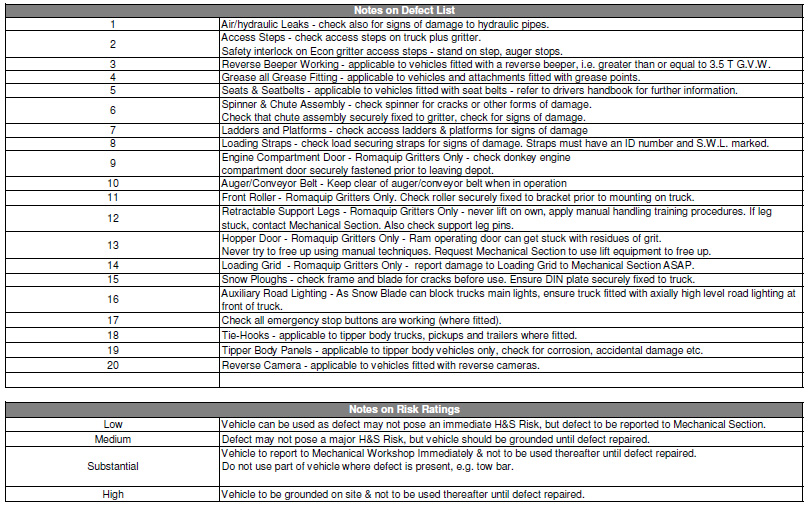
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | RISK ASSESSMENT 45- Teleporter | | | | | | | | |  | Ref: | | | |
|  | | | | | | | | | | | | | | | | |
| Risk Rating: Substantial Risk | | | | | | | | | | | | | Date: 11/06/2019 | | | |
|  | | | | | | | | | | | | | | | | |
| Work Activity: Use of Teleporter | | | | | | | | | | | | | Assessed by: S. Fox  Reviewed by: MG, T O’G | | | |
|  | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Foreseeable Risks | | | | | | | |  | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Hazard** | | | | **Hazard** | | | | |
|  | | | |  | | | | |
| Falls from height | | | | Plant malfunction | | | | |
|  | | | |  | | | | |
| Collision with other vehicles | | | | Crush injury | | | | |
|  | | | |  | | | | |
| Overturning | | | |  | | | | |
|  | | | |  | | | | |
| Collision with pedestrians | | | |  | | | | |
|  | | | |  | | | | |
|  | | | |  | | | | |
|  | | | |  | | | | |
|  | | | |  | | | | |
|  | | | |  | | | | |
| Initial Risk Rating (without any control measures) | | | | | | | | **Highlight appropriate figure** | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Severity Rating (A)** | | | | | | **Exposure Rating (B)** | | | | | **Exposure Probability Rating (C)** | | | | | |
|  | | | | | | | | | | | | | | | | |
| Multiple fatality | | | | | 15 | 1 Person | | | | 2 | Exposure would rarely occur | | | 4 | | |
|  | | | | | | | | | | | | | | | | |
| Fatality | | | | | **12** | | 2 – 5 Persons | | | **4** | Exposure unlikely to occur | | | 8 | | |
|  | | | | | | | | | | | | | | | | |
| Major injury (hospitalisation) | | | | | 9 | 6 – 20 Persons | | | | 6 | Exposure likely to occur | | | **12** | | |
|  | | | | | | | | | | | | | | | | |
| Reportable injury | | | | | 6 | 21 – 100 Persons | | | | 8 | Exposure occurs regularly | | | 16 | | |
|  | | | | | | | | | | | | | | | | |
| Minor accident | | | | | 3 | 100 + Persons | | | | 10 | Exposure certain to occur | | | 20 | | |
|  | | | | | | | | | | | | | | | | |
| Persons Exposed To Risk | | | | | | | | | | | | | | | | |
| Public | | | | |  | Other contractors/employees | | | | **✓** | Visitors | | | |  |
|  | | | | | | | | | | | | | | | | |
| **Risk Rating Calculation** Risk = A X (B + C) = **192 High Risk** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Low Risk** = 18 - 59 **Medium Risk** = 60 - 89 **Substantial Risk** = 90 – 129 **High Risk** = 130 – 450 | | | | | | | | | | | | | | | | |
| Where risk levels are substantial or high, additional controls must be introduced to reduce the risk to the lowest level practicable | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Work Description (including location) | | | | | | | |  | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Use of Teleporter | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Generic / Existing Controls | | | | | | | |  | | | | | | | | |
|  |  | Only trained personnel (SOLAS CSCS or equal approved) are to operate these machines. | | | | | | | | | | | | | | |
|  |  | Planned maintenance program applies to this equipment. | | | | | | | | | | | | | | |
|  |  | Thorough Examination Certificate must be current and with machine. | | | | | | | | | | | | | | |
|  |  | Teleporter should not to be overloaded in excess of manufacturer's recommendations. | | | | | | | | | | | | | | |
|  |  | Passengers must not be carried on this vehicle. | | | | | | | | | | | | | | |
|  |  | Do not to be leave unattended with engines running or boom raised. | | | | | | | | | | | | | | |
|  |  | Palletised loads must be checked for security before carriage. | | | | | | | | | | | | | | |
|  |  | Daily driver checks must be made including brake testing and that mirrors are in tact and functional. | | | | | | | | | | | | | | |
|  |  | Vehicles must not be driven at excessive speeds; only in accordance with workplace conditions. | | | | | | | | | | | | | | |
|  |  | At blind corners, signs and audio visual warnings to be considered. | | | | | | | | | | | | | | |
|  |  | Extra care to be taken when working on slopes, especially when crossing gradients. | | | | | | | | | | | | | | |
|  |  | A helper is to be used where drivers vision is impaired or operating in congested areas. | | | | | | | | | | | | | | |
|  |  | Vehicles must be checked by drivers before use and secured afterwards. | | | | | | | | | | | | | | |
|  |  | Site Manager must ensure speed restrictions are enforced, and monitor use on sloping ground. | | | | | | | | | | | | | | |
|  |  | Do not lift more than the SWL | | | | | | | | | | | | | | |
|  |  |  | | | | | | | | | | | | | | |
| Further Controls | | | | | | | |  | | | | | | | | |
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# 6.5 Appendix 5 – Driver Checklist









# 6.6 Appendix 6 - Safe Working Alone System

The Salt Spreading Operations are carried to prevent the occurrence of icy conditions on roads, the main period of activity is from mid-October to April 30th, but it is not exclusive to this period.

The operation when activated is scheduled each night to finish approximately two hours before the onset of icy conditions on the road. The equipment consists of a truck and a gritter mounted on the truck. The gritters are located in the Machinery Yard and the Salt used is stored in the salt barns.

**Hazards**

The Risk Assessments of the winter salting activity refers to the activity of lone working and lists the controls as follows.

* In the event that a driver operates the Salt Spreading Unit without an attendant, a Safe Working Alone System must be put in place.
* A communication procedure and an emergency procedure must form part of the system.
* An arrangement for periodic checks must be included.

**Safe Working Alone System**

The following is the lone working procedure to comply with these controls

1. **Before leaving the depot**
   1. Complete check of machine
   2. Complete check of controls
   3. Complete communications check with designated contact
2. **During Route**
   1. Check in with designated contact at approximately 30-minute intervals or agreed timing

(Specific check in locations and timings should be agreed with the supervisor and recorded to coincide with specific points on the route e.g. end of specific section of road, suitable stop point, etc)

* 1. Check in with designated contact on completion of route

**Stop Procedure**

In the event of stopping during the route, the following shall be the procedure

* Park in a safe location
* Communicate with the designated contact

(When leaving the cab, inform the designated contact that you are leaving the cab, for what purpose and how long you expect to be out of the cab)

* Contact your designated contact on return to the cab
* Personnel Should never mount the Bridge of the Salt Spreader unattended

**Breakdown Procedure**

* In the event of breakdown during the route, the following shall be the procedure

Park in a safe location

* Communicate with the designated contact
* Remain in the cab and await instructions from your supervisor.

**Duty Engineer Roster 2019-2020**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Winter Service Duty Engineer' Roster for the Period 14th October 2019 to 30th April 2020* | | | | |  |  |  |
| **Local Authority Name:** | | | **SOUTH DUBLIN COUNTY COUNCIL** | | | |  |
|  |  |  |  |  |  |  |  |
| Week Starting Monday | Duty Engineer's Initals | Week Starting Monday | Duty Engineer's Initals | Week Starting Monday | Duty Engineer's Initals | Week Starting Monday | Duty Engineer's Initals |
| 14/10/2019 | TOG | 02/12/2019 | MG | 20/01/2020 | CL | 09/03/2020 | AT |
| 21/10/2019 | TOG | 09/12/2019 | MG | 27/01/2020 | CL | 16/03/2020 | AT |
| 28/10/2019 | TOG | 16/12/2019 | MG | 03/02/2020 | MC | 23/03/2020 | AT |
| 04/11/2019 | JMcC | 23/12/2019 | MG | 10/02/2020 | MC | 30/03/2020 | TOG |
| 11/11/2019 | JMcC | 30/01/2019 | MG | 17/02/2020 | MC | 06/04/2020 | TOG |
| 18/11/2019 | JMcC | 06/01/2020 | CL | 24/02/2020 | MC | 13/04/2020 | TOG |
| 25/11/2019 | JMcC | 13/01/2020 | CL | 02/03/2020 | AT | 20/04/2020 | TOG |
|  |  |  |  |  |  |  |  |
| **Duty Engineer's Name & Initials** | | **Office Phone No** | | **Office E-mail Address** | |  | |
| Tony O'Grady (TOG) | | 01 4149000 ext 3225 | | [togrady@sdublincoco.ie](mailto:togrady@sdublincoco.ie) | |  | |
| John McCormack (JMcC) | | 01 4149000 ext 3149 | | [jmccormack@sdublincoco.ie](mailto:jmccormack@sdublincoco.ie) | |  | |
| Michael Glynn (MG) | | 01 4149000 ext 9235 | | [mglynn@sdublincoco.ie](mailto:mglynn@sdublincoco.ie) | |  | |
| Caitriona Lambert (CL) | | 01 4149000 ext 3232 | | [clambert@sdublincoco.ie](mailto:clambert@sdublincoco.ie) | |  | |
| Mark Costello (MC) | | 01 4149000 ext 3149 | | mcostello@sdublincoco.ie | |  | |
| Aws Taki (AT) | | 01 4149000 ext 3222 | | ataki@sdublincoco.ie | |  | |
|  |  |  |  |  |  |  |  |
| Send to: CAFO, Met. Eireann, Glasnevin Hill, Dublin 9. Attention Duty SMO. E-Mail: [forecasts@met.ie](mailto:forecasts@met.ie) | | | | | |  |  |
| Copy to Owen Smith, Transport Infrastructure Ireland, Parkgate Business Centre, Parkgate St., Dublin 8. E-Mail: [owen.smith@tii.ie](mailto:owen.smith@tii.ie) | | | | | | | |