

4TH GENERATION TERM CONTRACT FOR MANAGEMENT  
AND MAINTENANCE OF THE SCOTTISH TRUNK ROAD  
NETWORK NORTH EAST UNIT

# WINTER SERVICE PLAN

## 1<sup>st</sup> October 2015 to 15<sup>th</sup> May 2016



Client:  
Trunk Road and Bus Operations  
Transport Scotland  
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Glasgow  
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|                      | <b>Name</b>          | <b>Date</b>      |
|----------------------|----------------------|------------------|
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| <b>Checked By</b>    | <i>Tom Barnes</i>    | <i>July 2015</i> |
| <b>Authorised By</b> | <i>Andy Thompson</i> | <i>July 2015</i> |

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| 3                  | Bob Ogg                  | Winter Service Manager           | BEAR Scotland Ltd        |
| 4                  | Allan Cuthbert           | Operations Manager               | BEAR Scotland Ltd        |
| 5                  | Kevin McRae              | Assistant Operations Manager     | BEAR Scotland Ltd        |
| 6                  | Colin Watson             | Network Manager                  | BEAR Scotland Ltd        |
| 7                  | Alasdair Allen           | Roads Manager                    | BEAR Scotland Ltd        |
| 8a-f               | Various                  | Duty Officers                    | BEAR Scotland Ltd        |
| 10                 | Various                  | Control Room                     | BEAR Scotland Ltd        |
| 11                 | Eddie Ross               | Operating Company Rep (NW)       | BEAR Scotland Ltd        |
| 12                 | Kevin W. Campbell        | Winter Services Manager (NW)     | BEAR Scotland Ltd        |
| 13                 | Martin Thompson          | Winter Resilience Manager        | Transport Scotland       |
| 14                 | Morag MacKay             | Network Manager                  | Transport Scotland       |
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| 18                 | TBC                      | Winter Service Manager (SW)      | Scotland TranServ        |
| 19                 | Nick Russell             | Winter Service Manager (SE)      | Amey                     |
| 20                 | Inspector                | Trunk Road Patrol Group          | Police Scotland          |
| 21                 | Stirling Council         | Head of Roads                    | Stirling Council         |
| 22                 | Aberdeenshire Council    | Head of Roads                    | Aberdeenshire Council    |
| 23                 | Aberdeen City Council    | Head of Roads                    | Aberdeen City Council    |
| 24                 | Dundee City Council      | Head of Roads                    | Dundee City Council      |
| 25                 | Fife Council             | Head of Roads                    | Fife Council             |
| 26                 | Perth & Kinross Council  | Head of Roads                    | Perth & Kinross Council  |
| 27                 | Angus Council            | Head of Roads                    | Angus Council            |
| 28                 | Moray Council            | Head of Roads                    | Moray Council            |
| 29                 | Highland Council         | Head of Roads                    | Highland Council         |
| 30                 | Clackmannanshire Council | Head of Roads                    | Clackmannanshire Council |
| 31                 | Winter Manager           | WPR DBFO                         | Aberdeen Roads           |
| 32                 | Winter Manager           | FBOC Contract                    | Amey                     |

## **1.0 MANAGEMENT ARRANGEMENTS**

### **1.1 Winter Service Manager**

#### **1.1.1 Name**

The Winter Service Manager will be Bob Ogg.

#### **1.1.2 Qualifications**

Bob has an HND in Civil Engineering and is a National Freight CPC holder.

#### **1.1.3 Experience**

Bob has more than 19 years experience in managing winter maintenance operations and is the current Winter Maintenance Manager for the North East Unit.

#### **1.1.4 Responsibilities**

The Winter Service Manager is responsible for producing the Winter Service Plan for consent by Transport Scotland. He is responsible for the operation, review and development of that Plan throughout the winter season, thus ensuring the Operating Company fully discharges its responsibilities under the contract.

The Winter Service Manager has overall responsibility for winter maintenance activities including:

- collection and management of weather data
- maintaining salt stock levels and their storage facilities
- achieving response times for precautionary treatment, patrols and snow clearance
- plant and communications
- the ice prediction, weather forecasting service and weather radar system
- training of staff and operatives
- preparation and updating of rotas for Duty staff
- maintaining electronic records & manual records
- providing an annual winter service report
- liaising with third parties
- communication with Transport Scotland during severe weather events
- participation in weekly conference call with Transport Scotland
- implementing additional resources when required
- reporting weekly salt stock levels to the National Salt User Group through the DfT portal
- ensuring completion of Daily Action Plans and uploading to CMS

#### **1.1.5 Winter Service Duty Officers (Duty Officers)**

The Winter Manager will be supported by 6 No. Duty Officers working on a rotational basis. These posts are an integral part of the service as they provide immediate support and guidance to the Winter Control Room staff, allowing them to process the information being received whilst the Duty Officers interpret the forecast, make decisions on treatment and prepare the Daily Action Plan.



Duty Officers are:

- Euan Burnett
- Les A. Watt
- Scott Douglas
- Fraser MacRae
- Mike Smart
- Arthur Clark

Euan has 12 years trunk road maintenance experience. Earlier in his career he had spells in the winter control room. Euan has been involved in the management of the winter service since 2009.

Les has 9 years trunk road maintenance experience. He has been involved in the winter service in a supervisory role for 7 years and has been involved in management of the service for 3 years.

Scott has 31 years trunk road maintenance experience. He has been involved in the winter service in a supervisory role for 9 years and has been involved in management of the service for 5 years.

Fraser has 11 years trunk road maintenance experience. He has been involved in the winter service in a supervisory role for 11 years and has been involved in management of the service for 6 years.

Mike has 8 years trunk road maintenance experience. He has been involved in the winter service in a supervisory role for 2 years and has been involved in management of the service for 2 years.

Arthur has 10 years trunk road maintenance experience. He has been involved in the winter service in a supervisory role for 2 years and has been involved in management of the service for 2 years.

The Winter Service Duty Officer can be contacted via the Winter Control Room number in 1.3.3. During periods of severe weather the Duty Officers will assist in the Winter Control Room.

## **1.2 Winter Service Duty Staff**

1.2.1 Not applicable

1.2.2 Winter Service Duty Controllers (Duty Controllers)

The Duty Controllers will work on a rotational basis in the Winter Control located in our Perth office. There will be one dedicated Duty Controller for each Unit working alongside each in the Control Room.

The Duty Controllers operate 24 hours and shall monitor the system, complete all records as required and remain in contact with all winter drivers ensuring any changes to road conditions are reported.

- Kenny Dallas
- Angie McGregor
- Bill Park
- Sheila Thomson



### 1.2.3 Qualifications

All the Duty Officers and Controllers named will be fully trained in basic Road Meteorology including the use, and interpretation, of ice prediction systems.

### 1.2.4 Experience

All Duty Officers shall have previous experience of monitoring the road sensor system and making decisions on treatment resulting from the receipt of the forecast information from the supplier.

### 1.2.5 Responsibilities

- **Duty Officer:** the role of the Duty Officer is primarily to interpret the daily forecast received, liaise with the weather forecaster and decide on required treatment and subsequently prepare the Daily Action Plan. Thereafter the Duty Officer will be available to advise the Duty Controller on further treatment. The Duty Officer has the authority to mobilise support for the control room and additional resources for treatment if required. Even on nights with little activity the Duty Officer will be in contact with winter controllers. These calls will be logged.
- **Duty Controller:** the Duty Controller will be based in our Winter Control Room with the primary responsibility of monitoring the ice prediction system, surface patrols (mobile sensors) and condition patrols (DSP 310) and notifying the Duty Officer of any changes. The Duty Controller has authority to escalate any proposed action but cannot reduce this without prior agreement with the Duty Officer.

A Duty Officer will be available to assist the Duty Controller at all times and when there are planned actions he will be in the control room.

## 1.3 Monitoring Arrangements

### 1.3.1 Monitoring arrangements during normal working hours

During normal working hours monitoring will be carried out by the Control Room staff from 1<sup>st</sup> October to 15<sup>th</sup> May.

- Contact with expert weather forecaster provider include “change triggers”
- Feedback from inspectors during normal working hours
- Monitoring of ice sensors
- Compilation of daily action plan
- Monitoring RST trend against forecast
- Use of weather & traffic Scotland cameras
- Weather Radar
- Thermal maps where available
- Communications from external parties.
- Mobiles sensors
- Feedback from patrols

When severe snow conditions are forecast additional resources shall be deployed into the control room & an additional control room opened in the North of the unit to assist with operational decisions & control of operations during the snow event.

### **1.3.2 Monitoring arrangements outwith normal working hours**

Outwith normal working hours (between 4pm and 8am) the control room staff shall monitor road conditions and will assess conditions relative to the original forecast. The following aids will be used to assist in this process:

- Contact with expert weather forecaster provider including “change triggers”.
- Monitoring of ice sensors
- Monitoring RST trend against forecast
- Use of weather & Traffic Scotland cameras
- Weather Radar
- Thermal maps where available
- Communications from external parties.

In the event of immediate adverse conditions, the Duty Officer will call out the relevant stand-by crews directly, instructing them to undertake specified reactive treatment.

The Dedicated 24/7 winter control room shall be in place and controllers shall be at hand to monitor the road conditions utilising the following tools.

- Feedback from winter patrols
- Mobile sensors
- Road condition information from new sensors
- When severe snow conditions are forecast additional resources shall be deployed into the control room & an additional control room opened in the North of the unit to assist with operational decisions & control of operations during the snow event.

### **1.3.3 Winter Control Room**

The North East winter control room will be based at BEAR Scotland's Perth Office and will be operated on a rotational basis by four dedicated North East Duty Controllers when no winter actions are being carried out. This control room also administers the North West Unit, A92 DBFO and M80 DBFO Contracts.

The Control Room will operate on a 24/7 basis.

The following mobile number is answered by the control room staff:

**07764 659888**

Alternatively the landline number for the North East Unit is 08454 130199.

The Control Room will have access to all relevant contact phone numbers and winter maintenance systems such as Vaisala Bureau, Masternaut (BEAR Scotland vehicles), communications log database, thermal maps and weather radar.

When winter actions are being carried out the Duty Controllers will be assisted by the Duty Officer based in Perth as required by S7P2.

There will also be a dedicated telephone line for Police Scotland within the Winter Control Room. This will allow direct contact at all times between Police Scotland and our Duty Manager. This number will only be issued to Police Scotland.

## **1.4 Personnel Resources**

The resources detailed below will be the minimum numbers involved in delivering the winter service:

- 1 No. Winter Service Manager, supported by:
- 6 No. Winter Service Duty Officers
- 4 No. Winter Service Duty Controllers
- 58 No. Winter drivers
- 22 No. Patrol drivers

## **1.5 Call-Out Arrangements**

### **1.5.1 Call-out arrangements during normal working hours**

A winter rota will be prepared at the beginning of the winter season for staff and operatives involved in the winter service for that season. The rota will include contact details for all personnel involved and controlled copies will be issued to each individual prior to the commencement of every winter season.

Any changes to the rota will be communicated to the relevant parties involved in providing the winter service.

During normal working hours it will be the responsibility of the Winter Service Duty Officer to ensure that a clear line of communication is kept to all key personnel involved in providing the winter service for that week.

It is anticipated that the requirement for call-out will be minimal from the beginning of November until the end of March, when a dayshift/nightshift system will be in place, with drivers immediately available on the Unit 5 days per week during the normal working week. Outside this period there will be 24 standby covered by two shifts.

From 1 October to 31 October and 1 April to 15 May driver standby rotas will be in place.

### **1.5.2 Call-out arrangements outwith normal working hours**

It is the role of the Winter Service Duty Officer to contact the appropriate drivers and advise of the required winter action treatment. The personnel on the roster at shall be available to mobilise and commence treatment on the carriageway within 1 hour of being contacted.

### **1.5.3 Contact arrangements during normal working hours**

Each individual involved in providing the winter service shall be issued with a mobile phone to allow easy contact. When drivers are rostered for any given week, cognisance of this will be taken into account when planning normal daily duties. This will ensure that drivers still have the ability to respond quickly to any call to carry out a winter service action at short notice within the contractual response times.

### **1.5.4 Contact arrangements outwith normal working hours**

A standby roster will be prepared detailing which individuals will be utilised in the event of action being required. Home and mobile telephone contact numbers will be available for all individuals.

### 1.5.5 Mobilisation times

Depots have been sited in locations where both the Trunk Road gritting routes and drivers are easily accessible; this ensures that drivers are consistently able to access the start of each precautionary treatment within one hour of a call from their home. To assist in the speed of access to the gritting routes, spreaders will be pre-loaded on any night when action is a possibility.

### 1.5.6 Winter Staff Duty Roster

| DUTY OFFICER ROTA 2015-2016 |               |
|-----------------------------|---------------|
| DATE                        | DUTY OFFICER  |
| 25/09/2015                  | Arthur Clark  |
| 02/10/2015                  | Scott Douglas |
| 09/10/2015                  | Mike Smart    |
| 16/10/2015                  | Les Watt      |
| 23/10/2015                  | Euan Burnett  |
| 30/10/2015                  | Fraser Macrae |
| 06/11/2015                  | Arthur Clark  |
| 13/11/2015                  | Scott Douglas |
| 20/11/2015                  | Mike Smart    |
| 27/11/2015                  | Les Watt      |
| 04/12/2015                  | Euan Burnett  |
| 11/12/2015                  | Fraser Macrae |
| 18/12/2015                  | Arthur Clark  |
| 25/12/2015                  | Mike Smart    |
| 01/01/2016                  | Scott Douglas |
| 08/01/2016                  | Les Watt      |
| 15/01/2016                  | Euan Burnett  |
| 22/01/2016                  | Fraser Macrae |
| 29/01/2016                  | Arthur Clark  |
| 05/02/2016                  | Mike Smart    |
| 12/02/2016                  | Scott Douglas |
| 19/02/2016                  | Les Watt      |
| 26/02/2016                  | Euan Burnett  |
| 04/03/2016                  | Fraser Macrae |
| 11/03/2016                  | Arthur Clark  |
| 18/03/2016                  | Mike Smart    |
| 25/03/2016                  | Scott Douglas |
| 01/04/2016                  | Les Watt      |
| 08/04/2016                  | Euan Burnett  |
| 15/04/2016                  | Fraser Macrae |
| 22/04/2016                  | Arthur Clark  |
| 29/04/2016                  | Mike Smart    |
| 06/05/2016                  | Scott Douglas |
| 13/05/2016                  | Les Watt      |
| NAME                        |               |
| Scott Douglas               | 07833 133015  |
| Les Watt                    | 07764 774911  |
| Mike Smart                  | 07764 659901  |
| Arthur Clark                | 07809 584486  |
| Fraser McRae                | 07764 659804  |
| Euan Burnett                | 07764 324584  |

## **1.6 Communications Equipment**

Good communication systems are essential for effective winter maintenance management and the following systems will be adopted:

- telecommunications – land line and cellular GSM.
- satellite tracking of BEAR Scotland vehicles.
- e-mail.
- Airwave communication
- internet – refer Communications Plan
- social media eg Twitter, Facebook, blogs etc - refer to Communications Plan

All depots will be contactable by both land line telephone and facsimile. In addition, all managers, supervisors, prime plant and winter maintenance units will have individual GSM mobile telephones so that they can be contacted at all times. In the case of winter maintenance vehicles, hands-free mobile phones are fitted.

BEAR Scotland vehicles will be fitted with an integrated satellite tracking system to deliver our communications needs, management system and produce an auditable trail for the company.

BEAR will implement a policy whereby all users who have a desktop personal computer or a laptop computer will have their own individual e-mail address. This is carried out by a Wide Area Network system; the various secondary depots are linked by ISDN or analogue lines to the Central Office, which is in turn linked by Kilostream or ISDN lines to the main central servers controlling the IT network.

Information and data can be exchanged quickly around the Unit, with our internal and external customers, emergency services, Statutory Authorities and between our shareholders using Microsoft Outlook as the e-mail software. Social media such as Twitter will be also used as an information tool.

Airwave communication is fitted to both Cat A & B patrol vehicles with drivers fully trained in the use of the system.

## **1.7 Training for Managers and Other Staff**

### **1.7.1 Details of previous training**

All our current Officers/ Supervisors have been trained in Basic Road Meteorology and the use of Ice Prediction Systems. All our current winter drivers have been trained to a level equivalent to SVQ/City & Guilds level or equivalent in winter maintenance.

### **1.7.2 Details of proposed training**

Prior to the commencement of the winter season, a training programme will be carried out for all personnel involved in providing the winter service. This will include the following:

Refresher training for Officers and Supervisors on decisions, communication, contract requirements etc. to be provided by the Winter Service Manager.

Seminar for winter drivers detailing routes, contract requirements, response times, treatment times, communication, health & safety, areas requiring special attention and importance of providing good quality service. This again will be provided by the Winter Service Manager.

New recruits to the winter service will be fully trained prior to any involvement in providing the winter service. All drivers will be formally trained to SVQ/City & Guilds level or equivalent in winter maintenance.

BEAR staff will also participate when requested in the annual “snow desk” winter scenario training.

## **2.0 WEATHER FORECASTING**

### **2.1 Purpose**

It is the intention that the weather forecasts by expert meteorologists give an accurate indication of weather conditions so that the personnel involved in the provision of winter service are able to prepare a winter action plan which shall prevent or anticipate prevailing weather conditions and allow sufficient time to pre-treat the carriageway prior to the onset of snow or ice.

### **2.2 Methodology**

The method used to produce both the short and long range weather forecasts is via a combination of a number of weather models. These models combine energy balance techniques with current and historic site specific information to provide the most accurate possible forecasts of future road conditions.

The road model forecasts can be updated as frequently as necessary using actual data from road sensors and data from comprehensive meteorological databases, which is monitored and updated by our forecasters around the clock.

### **2.3 Weather Forecasting Service**

An expert weather forecasting service will be provided by Meteo Group. The service shall consist of the provision of the following:

- 36 hour forecast text
- 2-10 day text forecast
- 36 hour forecast graphs for each forecast outstation within North East unit
- Evening updates to both 36 hour text & forecast graphs
- Forecast consultancy service for advice 24/7.
- Time step thermal maps where available.

The above will allow the Duty Officer to prepare a daily winter action plan by 15:00 hours each day, advising of all carriageway pre-treatments to be carried out for that day.

#### **2.3.1 Route Based Climatic Domains**

Route based climatic domains will be related to the 20g treatment routes. Route specific temperature forecasts will be provided for each day of the Winter Service season.

Effective monitoring of this will be carried out by patrol vehicles which are all equipped with Surface Temperature Sensors.

#### **2.3.2 Weather Radar**

Weather radar shall be used via an internet based site, which will give short range forecast up to 3 hours in advance and with the facility to time-step the movement of the prevailing weather conditions. The radar improves the accuracy of assessing the timing, nature and intensity of precipitation, particularly snowfall.

#### **2.3.3 Ice Sensors and weather forecast sites**

31 No. Ice Sensors are strategically placed throughout the network. The sensors will be polled at intervals of 20 minutes between 1 October and 15 May. All data will be collected by the Ice Prediction System's Master Station, accessible by computer. Weather forecast sensors have added functionality to allow modelling of the temperature characteristics of the road pavement. They assist in producing road-specific weather forecasts.

Sensors are calibrated twice per year (prior to start of season and during the winter season) and their performance monitored electronically with any issues being checked out on site, as required.

#### **2.3.4 Thermal mapping**

Thermal maps are no longer used in the North East Unit

### **2.4 Computer Systems**

There are a number of computer systems used to interrogate forecast and sensor data to enable the Winter Service Manager and Winter Service Duty Officers make the most appropriate decisions for winter service actions. These computerised systems include as follows:-

- Bureau service – for collection of ice sensor data. The bureau service is provided by Vaisala and composes of a large central database which collects data from all ice sensors at up to 20 minute intervals. Meteo Groups daily and 2-10 day weather forecasts are also stored on the bureau.
- Vaisala Icecast viewer which allows the Winter Service Manager and Winter Service Duty Officers interrogate the bureau to give the most up to date conditions at the ice sensor locations on the Trunk road network. This allows them to make informed decisions in relation to winter service actions and direct resources appropriately. Meteo Group forecasts can also be accessed from the bureau via Icecast viewer allowing action plans to be created and these action plans monitored against forecasts.
- Also in addition to Icecast viewer the bureau sensor data can be accessed via a web based system from any terminal which has internet access and where the user has the appropriate user name and password. The Icenet system gives similar data to the Icecast system with the ability to access full archive data going back six years.
- An internet based system supplied by Meteo Group called ROADCAST will also be utilised to access forecast data along with weather radar images. Weather radar images are particularly useful for predicting and monitoring precipitation conditions.
- Sharepoint is BEAR Scotland's company intranet which holds all the Management System information and electronic records.

Access to computerised Daily Winter Action Plans both planned and actual for Transport Scotland and PAG shall be via the BEAR Scotland intranet site Winter Log. The winter log database shall contain all action plans which can be viewed by typing the required date into the query and viewing either the planned or the actual action plan for the requested date.

The new mobile road sensors (Vaisala DSP310 Road Condition Sensor) on the patrol vehicles will show live data & archived data from the sensors & this data shall be accessed via the Vaisala website. These will be fitted to 2 of the NE Unit Patrol vehicles. The other 2 DSP310 sensors are fitted to NW Unit Patrol vehicles.



Additional Patrol sensors shall be fitted to all frontline spreaders which shall supply additional data for operators & controllers throughout the season.

### **3.0 MONITORING ARRANGEMENTS FOR AREAS REQUIRING SPECIAL ATTENTION**

During the winter season, drivers/ inspectors will be instructed to pay particular attention to these areas. Any problems or potential problems identified will be actioned appropriately and communicated to the Duty Officers/Duty Controllers, who will record in the communications log such incidences and actions as carried out by the drivers.

In addition during the winter patrol period, patrol drivers will be instructed, where locations are identified on the patrol routes, to pay particular attention to these areas and act accordingly, advising controllers of such incidences so that these can be recorded in the communications log.

Gradient Locations – The winter service patrol drivers will monitor these areas during their patrol and will carry out spot treatments as required. For forecast snow conditions bags of 50% abrasive aggregate/ 50% salt will be placed on the verge prior to the onset of the snow to be used to assist large goods vehicles maintain traction. Fastrac tractors and those of the supply chain partners, which can be used to tow large goods vehicles, will be deployed to those areas as required. The tractors are specially fitted out to be able to tow large goods vehicles and the drivers have been trained to the relevant sector scheme.

Any additional areas identified during the winter season will be brought to the attention to the Duty staff and added to the appropriate annex. When severe weather is forecast areas requiring special attention will receive additional treatments as detailed in Annex 7.2 F. These locations will be regularly reviewed and amended as necessary. BEAR Scotland's Planned Maintenance Team has carried out surfacing and drainage works at some of the known run-off areas during 2014. It would be prudent to monitor these areas through the coming season before removing them from Annex.

### **4.0 DECISION MAKING**

#### **4.1 Role of the Winter Service Manager**

The role of the Winter Service Manager is to ensure that all procedures detailed in the winter service plan are adhered to and that the most effective action plans are adopted each day to keep the carriageways and footways free from snow and ice.

It will be the duty of the Winter Service Manager to hold regular reviews throughout the winter season to address any problems which may have occurred. This will take the form of briefings to all key staff on nights where difficult road conditions have been experienced. The philosophy will be to have a 'preventative' approach rather than 'reactive' approach in all decision making.

The Winter Service Manager will authorise the daily action plan, which will be developed by the Duty Officer.

#### **4.2 Role of the Winter Service Duty Officer**

The Duty Officer is responsible for decision making, monitoring the ice detection system, including updated forecasts and any dialogue with weather forecasters, to assess whether any changes are required to the daily action plan. Where any changes to the daily action plan are considered necessary then the Duty Officer will relay this information to the Depot Supervisors (BEAR Scotland and Aberdeen City Council) confirming the decision.

The Duty Controllers will assist the Duty Officer in monitoring the ice detection system. The Duty Controllers will contact the Duty Officer if there is any significant change from the forecast road surface temperatures and precipitation. Particularly overnight the Duty Controllers can upgrade actions if conditions deteriorate. The Duty Controllers cannot cancel actions without the Duty Officers consent.

When snow is forecast the Duty Officer shall take into account forecast elevations of snow using Appendix WSP 9 when making the planned treatment decisions.

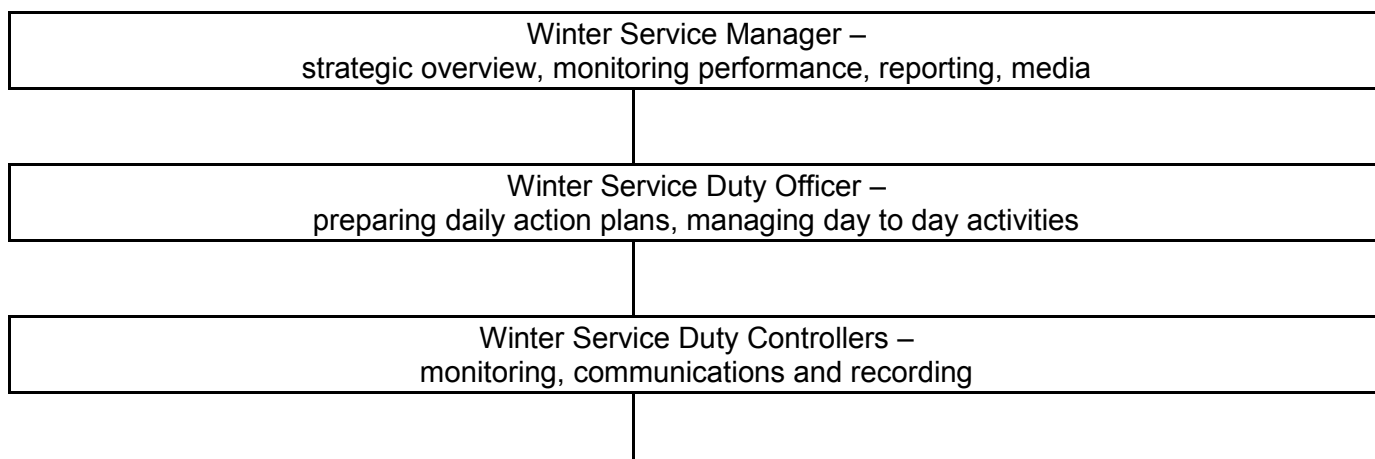
#### 4.3 Role of the Winter Service Duty Controller

The Duty Controller will assist the Duty Officer and Duty Supervisor in providing the winter service. The Duty Controller will assist in the monitoring of the ice prediction system and will notify the Duty Officer of any changes. The Duty Controller is allowed to escalate any proposed action but cannot reduce this without prior agreement with Duty Officer. In addition they will be responsible for recording all winter maintenance activities and checking treatment times and salt usage.

Duty Controllers are responsible for the maintenance and updating of operational records including the following:

- Annex 7.2/K Treatment Matrix will be used to make treatment decisions
- treatment records & Patrol records
- material usage
- road closure locations and times
- logs of communications to and from vehicles on route & any other sources
- software faults
- electronic data from data loggers
- reserve and additional plant paper records.
- social media updates
- upload of Daily Action Plans to CMS

#### Summary of the Winter Maintenance Management Arrangements



#### 4.4 Winter Service Patrol Mobilisation

The requirement to carry out a Winter Service Patrol will be established as part of the preparation of the daily action plan and instruction will be given as appropriate in accordance with Schedule 7 Pt 2 cl 2.7.4 where the road surface temperature is less than or equal to 3 °C.

Routes have been designed to comply as follows:-

Cat A patrols shall operate from 02:00 – 10:00 at two hourly intervals as per Schedule 7 Part 2 Clause 2.7.10. and shall between patrols sit on route at prescribed locations.

The route for the motorway is designed so that the patrol vehicle, when working, is able to attend any location on its route within 30 minutes of a call from the Winter Duty Service Officer. The routes for “A” class roads are designed so that the patrol, when working, is able to attend any location within 30 minutes of receiving a call from the Winter Service Duty Officer. The eight “A” patrols alternate between a one hour patrol and a one hour standby on each route.

Cat B patrols shall operate from 00:00 to 09:00 at 3 hourly intervals i.e. 00:00 – 03:00, 03:00 – 06:00 & 06:00 – 09:00.

Patrols times may be amended from the above times should the weather forecast predict severe winter weather which may result in traffic delays and disruptions to users caused by snow and ice conditions.

The winter service patrols will operate outwith the specified times when forecasts indicate a high risk of severe conditions due to snow or ice. The vehicles will be used for snow clearance duties on any part of the trunk road network outwith the normal patrol times. During the normal patrol times their snow clearance duties will be restricted to their patrol routes. The operational shift pattern used allows these patrols to be operated continuously 24 hours per day.

Patrol routes are detailed in Appendix WSP1.

#### **4.5 Proposals for precautionary and additional de-icing treatments when low confidence forecasts shall be issued for variable road and weather conditions**

Precautionary treatments will be provisionally identified on an action plan prepared each day by 1500hrs following receipt of an expert weather forecast relayed through the ice prediction system. Treatments will be in accordance with the treatment matrices detailed in *Annex 7.2/J*. Thereafter and in particular where forecasts are of low confidence, conditions will continue to be monitored by Controllers; and where conditions require further precautionary treatments, these will be ordered whether part of the action plan or not.

#### **4.6 Proposals for monitoring the effectiveness of de-icing materials**

Winter Duty staff will use a variety of methods to assist with assessing the effectiveness of the de-icing materials which have been spread on the carriageway. These methods include:

- Ice stations detail residual salt and give alarms to indicate low residual salt under certain conditions, however, it should be remembered that particularly in drying out conditions such readings may be unreliable
- Warnings and alarms from ice stations
- Experience of local areas and previous actions
- Feedback from patrol drivers & road condition sensors
- Advice from weather forecasters, particularly on likely precipitation (use of weather radar) which may cause salt to be washed from carriageway
- Feedback from external parties such as Police Scotland.

All of the above will be used by the Duty staff to make an informed decision as to the status of residual salt on the carriageway, and whether further pre-treatment is required.

#### **4.7 Road Closure snow gate operational procedures**

There are no snow gates in the North East Unit. Police Scotland will make the decision to close any road and will also make the decision to re-open the road with the guidance of the OC. There are however, recently installed 'Virtual gates' on the A96 at Glens of Foudland the implementation procedure for these gates is detailed in Section 18 Snow Gates of this Winter Service Plan.

#### **4.8 Activation of snow and ice and hidden message signs**

Where hidden message signs are erected and the decision has been taken to close a road, consultation will be held with Police Scotland to ascertain as far is practicable whether it is safe in the circumstances for an employee to be deployed to uncover these signs. If it is deemed safe, a winter driver will be deployed by the Winter Service Duty Officer to uncover the hidden message signs. Regular contact with any such employees will be kept between the driver(s) and the winter controller to ensure the safety of the employee and that the hidden message signs have been uncovered. The location of snow and ice and hidden message signs are detailed in Paragraph 16 (x).

#### **4.9 Road surface temperatures forecast below MINUS 7 °C**

When Road surface temperatures are forecast to be less than MINUS 7 °C consultation with the Director shall be held with a view to potentially utilising alternative de-icers which are more effective at such temperatures.

A method statement for use of alternative de-icers is included in Appendix WSP 11.

### **5.0 LIAISON & COMMUNICATION**

Our plans for liaison & communication with following people and organisations are as follows:

#### **5.1 The Director**

At the completion of each winter season, BEAR Scotland will prepare an annual report in accordance with Annex 7.2/B of Part 2 of Schedule 7. This report will be submitted to the Director prior to 31 May; and within 14 days, an annual review meeting will be held to discuss the contents of the report and performance of BEAR for the winter season just ended. Comments will be taken on board by BEAR in the preparation of the Winter Service Plan (WSP) for the forthcoming season and amendments to the previous WSP made prior to submission by 31 July.

On a daily basis BEAR's Daily winter action plan will be uploaded to the winter database which Transport Scotland and PAG Plus have access to view.

During periods of prolonged severe weather, BEAR will update the Director at regular intervals of conditions on the Trunk Road network. If a road is closed due to severe weather conditions, the Director will be immediately informed by a phone call or text message, and confirmed in writing via email within 12 hours of the closure.

#### **5.2 Police Scotland**

For compiling the annual Winter Service Plan, an annual meeting will be held with Police Scotland so that any amendments can be introduced prior to submitting the WSP to the Director for his approval. The meeting shall take the form of reviewing the draft WSP for the forthcoming season. Police Scotland will comment on what they see as problem areas which may be improved upon.

During the winter season, it is essential that good communication lines are kept between BEAR and Police Scotland. This is particularly the case during periods of severe weather. A dedicated phone line will be set up for the emergency services and should only be known to them, thus enabling Winter Service Duty Officers to clearly identify emergency calls from any emergency service including Police Scotland.

BEAR will also liaise closely with Police Scotland during severe weather to ensure that a consistent message is given to media and road users as to road conditions at any moment.

### **5.3 Traffic Scotland Operator**

BEAR will ensure in conjunction with Police Scotland, that during periods of severe weather, a consistent message is given to the Traffic Scotland Operator so that accurate messages can be displayed on the variable message signs and on the Traffic Scotland Internet web site.

BEAR's Daily winter action plan shall be submitted to the Traffic Scotland operator on a daily basis by no later than 15:00 hours.

### **5.4 Adjacent Road Authorities**

Adjacent road authorities and highway authorities will be issued with a copy of the Winter Service plan.

BEAR will issue daily to all adjacent road authorities its daily winter action plan and receive the same in return.

Winter issues shall also be an item on the agenda at liaison meetings with all adjacent road and highway authorities.

### **5.5 Adjacent Trunk Road Operating Companies & DBFOs**

Adjacent Trunk Road Operating Companies & DBFOs will be issued with a copy of the Winter Service plan.

BEAR will issue daily to all adjacent Trunk Road operating companies & DBFOs its daily winter action plan and receive the same in return.

Winter issues will also be an item on the agenda at liaison meetings with all adjacent Trunk Road operating companies & DBFOs

### **5.6 Network Rail**

There are no railway crossings on the North East Unit, however on a daily basis the BEAR Scotland daily winter action plan will be submitted to Network Rail.

### **5.7 Communications Strategy**

We will discuss winter service provision at the regular liaison meetings held with the adjacent local authorities and Operating Companies to ensure that there are no issues at boundary interfaces. We will also undertake liaison meetings with Police Scotland prior to the start of the winter season to apprise them of the details of the Winter Service Plan.

On a day to day basis our procedures will ensure that we have robust systems in place to notify all relevant organisations of the winter service actions we plan to carry out. We will also have procedures to request Traffic Scotland, where appropriate, to display specific winter service related messages on the variable message signs installed across the trunk road network.

We will use a variety of social media forums to proactively inform the travelling public of the winter service we will provide. For example, Twitter messages will advise the public of the daily forecast, the action to be taken and when it will be carried out.

We are currently in the process of developing a service information centre which will be incorporated within the Unit specific web site. This will provide information about our winter service provision to the public.

## **6.0 COMMUNICATIONS – See 5.0 above**

## **7.0 MUTUAL AID ARRANGEMENTS**

### **7.1 Mutual Aid**

**7.1.1** BEAR will liaise closely with already well established winter maintenance contacts within all local authorities to co-ordinate resources including labour, plant & salt to assist any party requiring mutual aid.

Management of mutual aid shall be agreed & co-ordinated at a senior management level and shall be recorded in full detail.

Mutual aid shall only be executed when the following conditions have been satisfied:-

- Trunk Road network in free flowing condition with no snow hazards
- Weather forecast is showing no imminent snowfall
- Agreement to free resources is agreed to by Transport Scotland

We have mutual aid arrangements in place with the following bodies:-

- Aberdeen, Inverness & Dundee airports
- Kinross Services
- St. Fergus terminal
- Mossmorran
- Neighbouring Local Authorities and Operating Companies
- AWPR – Aberdeen Roads

BEAR Scotland shall supply to local communities in extreme conditions 1 tonne bags of salt on receipt of order from the Director.

## **8.0 WINTER SERVICE PATROLS**

### **8.1 Winter Service Plant and Reporting**

**8.1.1** From 1 November to 31 March inclusive Winter Service Patrols shall be carried out on those sections of Trunk Roads identified in Appendix WSP1 Table 7.2/J/2 and the plant designated to carryout these patrols shall be detailed in Appendix WSP1 Table 7.2/J/1.

**8.1.2** Each patrol route shall complete a detailed report on completion of their shift as detailed in Appendix WSP 8/2

## **9.0 TREATMENT ROUTES**

### **9.1 Precautionary Treatment Routes**

Precautionary treatment routes for carriageways have been separately identified and numbered while individual route cards have been provided as Appendix WSP2 to Annex 7.2/J. There is also a summary table of all routes which includes the loading & alternative loading points for the spreaders.

All routes have been designed to ensure that treatment time will be completed within 2 hours of commencement. Furthermore, each route has been assessed to ensure that the contractual response time in Paragraph 3.2.1 of Part 2 of Schedule 7 Part 2 of one hour will be met. In the design of these routes due cognisance has been taken of likely driver's locations and the need to ensure that rota's are carefully managed in this regard. On some occasions it may be necessary to pre-load spreading vehicles as instructed by the Winter Service Officer.

Should for whatever reason the normal access to a route be blocked, this route will be accessed from an alternative depot, which will be detailed in WSP2 to Annex 7.2/J, and/or making use of diversion routes using local authority road network.

A map of each proposed route has been provided in WSP2 to Annex 7.2/J.

Treatment of 2+1 junctions & sections will be undertaken in accordance with requirements set out on Schedule 7 Part 2 Clause 3.3.8 with the spread pattern adjusted to suit.

Treatment of all precautionary routes will include areas deemed to be contiguous with and included in the total width of the main carriageway as included in Schedule 7 Part 2 Clause 3.3.6. Non-contiguous laybys shall not receive precautionary treatment. However where ice is present and following snowfall the non-contiguous laybys shall be cleared once the carriageway is cleared of snow.

BEAR will carry out treatment to all Category A footways, footpaths and cycle facilities as identified in WSP 13.

A combination of footpath spreaders and hand spreading will be used to pretreat such facilities as required. Salt bins will be strategically positioned to assist in the carrying out of this function. Utilisation of both sensors & patrols shall be used to monitor conditions on all footways to ensure treatment can be carried out within contractual timescales.

It is proposed that all treatment for carriageways will be carried out using pre-wetted salt in accordance with Para 5.1.3 of Schedule 7 Part 2.

It is proposed that all treatments for footways, footbridges and cycle facilities will be carried out in accordance with Schedule 7 Part 2 Cl 3.1.15.



Treatments will be carried out as per the requirements as detailed in WSP 13. Maps showing footway treatment locations and footway classifications are shown in WSP 13

Whilst we will comply fully with the requirement in Paragraph 1.4.3 of Schedule 7 Part 2 to have trained drivers for each item of front line Winter Constructional Plant, it is also proposed to have a roster of four drivers for each precautionary treatment route in order to fully comply with driver's hours regulations.

**9.1.1** In urban areas there are no separate cycling facilities from the carriageway in the North East unit.

## **10.0 SNOW AND ICE CLEARANCE**

### **10.1.1 Snow Clearing**

Where hard packed snow and ice not exceeding 20mm thick has formed, and the air temperature is above minus 5°C, removal will be achieved by successive spreading of de-icing material. Below minus 5°C or where the snow or ice is more than 20mm thick great care will be taken as the use of de-icing material alone can result in an uneven and slippery surface. A single sized abrasive aggregate of particle size of 6mm, or 5mm sharp sand and having low fines content will be added to the de-icing material on a 1:1 ratio. Reversion to the use of de-icing material only will be made as soon as possible. Abrasive aggregates will be considered as a supplement in urban areas where de-icing material alone would provide an unacceptably slippery surface.

During prolonged periods of snowfall at locations where the use of salt for de-icing is prohibited, ploughing will be continuous followed by repeated applications of de-icing chemical. If snow becomes hard packed consideration will be given to applying 5mm sharp sand to aid traction while snow clearing operations are being carried out.

### **10.1.2 Description of Arrangements and Resources for Snowfall**

Once a forecast of significant snowfall is received we will implement the Snow Forecast Resource Deployment Matrix in Table 7.2/K/2.

All Front Line, Reserve and Additional Winter Service Plant, apart from snow blowers, will be equipped with snow ploughs to effectively clear ice and snow. Details of Service Winter Plant are provided in Appendix WSP4 of this document. Ploughing routes can be found in [Table 7.2.J.5](#).

Table 7.2.K.4 sets out the conditions and de-icing spread rates for snow and ice clearance of carriageways.

BEAR Scotland will, so far as is reasonably practicable, ensure sufficient resources are mobilised to prevent snow or ice from remaining on Trunk Roads, and put into place specific arrangements to ensure that these resources are mobilised to ensure that the timescales for snow clearance laid out in Annex 7.2/D Table 7.2.D.1 are achieved.

The WSDO will determine the requirements to mobilise sufficient resources and fit ploughs from the 2-5 day weather forecast. Winter Service shifts and the preparation of de-icing and ploughing equipment will be instructed by the WSDO, subject to prior approval by the Winter Service Manager.

Details of snow blowers, loading shovels, de-icing vehicles fitted with plough blades and other Winter Service Plant provided directly by BEAR Scotland and through Supply Chain Arrangements can be found in Section 11 of this document.

## ANNEX 7.2/D – Snow Clearance

**Table 7.2.D.1 – Snow Clearance**

| Condition Criteria   | Category A Patrol Routes   |           | Non Category A Patrol Routes   |  |
|--|--|-----------|--|--|
|  | Dual Carriageways & Motorways  |           | Dual Carriageways  | Wide Single 2+1 (WS 2 + 1) & Single Carriageways |
|  | Number of Existing Lanes   |           | Number of Existing Lanes   |  |
|  | 2  | 3 or More | 2  | 1 or 2 (WS 2 + 1)                                |
|  | Minimum number of lanes in each direction free from ice and snow as far as is reasonably practicable |           | Minimum number of lanes in each direction free from ice and snow as far as is reasonably practicable (except where snow gates) |  |
| Snow at any time   | 1  | 2         | 1  | 1  |
| Following clearance of minimum lanes or the cessation of snow fall all lanes are to be clear of snow | 6 hours  | 6 hours   | 12 hours   | 12 hours   |

### 10.1.3 Road Closure Procedure Including Use of Snow Gates

There are no snow gates in the NE Unit

### 10.1.4 Prolonged Snowfall Strategy

During prolonged periods of snowfall, ploughing will be continuous from the onset of snow to prevent a build-up of snow and compaction by traffic. Ploughing will continue until the Trunk Roads are clear of snow and ice. Reserve and Additional Winter Service Plant will be used, as necessary, to supplement Front Line Winter Service Plant in snow conditions.

When planning and carrying out snow clearance, BEAR Scotland will pay particular attention to the layout of the carriageway in terms of the overall number of lanes and the location of entrance and exit slip lanes. Snow clearance of slip roads will be co-ordinated with main carriageway clearance, and a clear path kept open between those entry and exit points where frequent lane changes are necessary.

For dual carriageways and wide single carriageway roads, echelon ploughing will be carried out utilising two snow plough vehicles moving in the same direction, one behind the other in adjacent lanes. Irregular windrows caused by ploughing passes, especially those that weave from one lane to another are dangerous, and will be avoided, as they may tempt drivers to overtake by squeezing into the partly cleared lane. Lanes will be completely cleared, such that any windrows of snow remaining form a smooth and continuous line with no sudden encroachments into the cleared path. Clearance of snow from contiguous and remote laybys will be carried out once the main carriageway, junction areas and crossovers have been cleared of snow.

In extreme conditions BEAR Scotland will supply bulk bag salt supplies to communities to enable self help where approved by Transport Scotland.

Care will be taken to avoid damage to road surfaces, road studs, roadside furniture and structures. At roadworks, traffic management equipment must not be disrupted. An accumulation of ploughed snow creating a ramp adjacent to safety fences and concrete barriers will be avoided.

Where conventional ploughing or snow ploughing is not possible, for example:

- in built up areas,
- in exceptional circumstances when the snow on the road is deep and cannot be removed by conventional ploughing or snow blowing
- when de-icing treatment over packed snow is likely to provide an unacceptable surface,
- when the traffic is insufficient to disperse the snow,

BEAR Scotland will lift, remove and dispose of snow and ice and/or utilise snow blowers, with the snow being directed onto adjacent land (where BEAR Scotland has obtained the prior agreement of the landowner and the Scottish Environmental Protection Agency). Such operations will be followed by de-icing treatment.

When snowploughing or snow blowing operations are undertaken care will be taken that snow does not build up across:

- railway tracks or against gates
- bridges
- parapets
- fences and safety fences
- walls and other boundaries

Speeds of ploughing vehicles will be regulated, particularly at features such as underbridges where snow could be thrown over the bridge parapet, and adjacent to the central reserve where snow could be pushed into the opposing carriageway. When ploughing snow, other vehicles will not be overtaken unless stationary.

Recognising that additional resources may be required for echelon ploughing in snow conditions, [Table 7.2.J.4](#) details snow ploughing routes.

BEAR Scotland will immediately notify the Traffic Scotland Operator by telephone following a major incident which has caused or will cause significant disruption to traffic flow

**10.1.5** When ploughing wide single carriageway roads to remove snow accumulations from the two-lane section of three lane sections of road, the priority will be to keep lane 2 open to traffic, and the procedure will be to plough snow from lane 2 into lane 1 initially. Once lane 2 is free of snow, all resources will concentrate on lane 1, ploughing snow towards the carriageway channel. This particularly applies to WS 2+1 roads and roads with crawler lanes.

Resources shall be deployed to ensure that footways, footbridges & cycle facilities are cleared of snow and ice in accordance with Paragraph 3.2.4 of Schedule 7 Part 2. In essence all Category A & B footways as detailed in Annex 7.2/E shall be clear of all snow and ice by 0800 hours or within two hours of snow ceasing to fall during the period 0600 hours to 1800 hours. Category C footways shall be clear of all snow and ice by 1700 hours the following weekday. Maps showing details of the footways, footbridges and cycle facilities are detailed in Appendix WSP 2. Mobilisation of the above resources will be based on network condition reports received from winter drivers who have been carrying out ploughing at affected locations or from any other third party report where footway conditions have been identified as requiring removal of snow or ice.

When severe snow conditions are forecast the precautionary treatments on steep inclines as detailed in Annex 7.2.F.3 shall include additional spread rates at these locations with the rate at these locations being increased to 40g/m<sup>2</sup>.

In extreme conditions, such as when temperatures drop below levels at which sodium chloride is ineffective, the Operating Company shall use alternative de-icing materials in accordance with the guidance on use of such materials, to be provided by the Director and subject to his written consent.. Such alternative de-icing material shall be described in the Operating Company's Winter Service Plan.

Where appropriate consideration will be given to deploying additional measures such as using a Raiko ice breaker or using de-icing agents such as Ecothaw.

During precautionary treatments, all Winter Service Plant shall be driven in a manner appropriate to the prevailing weather conditions, and within the speed limit, but not exceeding 40 miles per hour.

**10.1.6 Vertical Barriers** – there are permanent concrete barriers at A90 Powrie Brae, north of Dundee and A90 Brechin Bypass. Care will be taken to ensure that deep lying snow is ploughed away from these vertical barriers by the use of tandem ploughing to the left verge.

#### **10.1.7 Plans Showing the Location of the Footways, Footbridges and Cycle Facilities in Categories A, B, C and D**

The maps included in WSP2 in Section 15 shows the location of Category A, B C and D footways, footbridges and cycle facilities within the North East Unit.

We recognise the importance of footways to local communities and will prioritise clearance in accordance with the requirements of Annex 7.2/E. During snowfall sufficient resources, supplemented by our supply chain partners, will be deployed to clear snow from Category A, B and C footways particularly. These resources will utilise small tractors with ploughs, small footway snow blowers and mini-excavators as appropriate and necessary.

We will encourage community self-help during winter conditions through engagement with local community councils. We will seek their assistance with the precautionary treatment of Category C and D footways and clearance of snow from the Category D footways. Where there is a willingness to co-operate we will provide them with self-help kits of backpack brine sprayers, intermediate bulk containers of brine, hand-push salt spreaders, salt stocks, snow shovels and personal protective clothing. Training and induction into safe working methods will also be provided to all volunteers.

Monitoring arrangements with the self-help communities will be put in place using our safety inspectors to ensure that stocks of brine and salt are replenished when required. The safety inspectors will also be responsible for monitoring the salt levels in the salt bins located throughout the network.

Where hard packed snow or ice (not exceeding 20 mm) is present and the air temperature is above 5 °C consideration will be given to the use of alternative de-icers.



## 10.2 Road Closures

Any decision to close a road will normally be taken by Police Scotland. This decision will normally be relayed by Police Scotland to the Control Room, using the dedicated phone line. The Winter Service Incident Liaison Officer is responsible for liaison with the Police Scotland.

The Winter Service Duty Officer, the Director (TRBO) and Traffic Scotland will be informed immediately by telephone, and in writing within 12 hours, of any decision to close a road, or of other major problems encountered within the Unit due to winter weather conditions.

Police Scotland will normally notify the other Emergency Services of any road closures and arrange for the provision of advance warning signs and/or will activate variable message signs where appropriate.

The Duty Staff will also notify the local Roads Authorities of any relevant trunk road closures.

## 11.0 GUIDANCE ON DEALING WITH FREEZING RAIN

### Guidance on dealing with 'Freezing Rain'

This advice has been prepared to assist service providers in developing procedures for taking the necessary actions both in advance of and during an occurrence of freezing rain. The advice is not intended to prescriptively define how freezing rain should be dealt with, as this is an issue for the individual service provider and is dependant on local circumstances.

It is recognised that the prediction of freezing rain is difficult and the action necessary to deal with it is problematic but service providers need to consider and plan actions to be taken when such events occur. It is important that all details of the actions intended for dealing with the phenomenon of freezing rain are documented in Winter Service Plans.

Considering the limits in the effectiveness of treatments in dealing with freezing rain it is essential that all practical measures be implemented to provide warning to road users of the hazardous conditions.

Measures for dealing with freezing rain fall into three main areas: advance planning, operational arrangements, and hazard mitigation. These measures are considered in further detail as follows:

### 11.1 Advance Planning

Advance planning includes consideration of the potential impact of freezing rain and development of contingency arrangements to mitigate the effects. These contingency arrangements should be documented in the Winter Service Plan. Other aspects of advance planning include training and exercises.

Specific measures that should be considered include:

Prior to the commencement of the winter season, agreement should be reached with Police Scotland and, where applicable, Traffic Scotland on procedures for dealing with occurrences of freezing rain and any incidents that may occur during or following such conditions.

Outline operational arrangements should be developed and documented within the Winter Service Plan. Although the adverse effects of freezing rain can impact across any part of the network particular consideration should be given to those parts where the impact may be more significant such as on gradients or difficult alignments.

## 11.2 Operational Arrangements

Operational arrangements should include details of treatment regimes. In general, freezing rain should be treated in a similar manner to snow, i.e. treatment in advance of and during the event and then treatment following as required.

Specific measures that should be considered include:

If the condition of freezing rain is anticipated contact with Police Scotland, adjoining service providers and Local Authorities is to be made to acquaint them of the possibility and the proposed action.

Prior to the arrival of the freezing rain a pre-treatment is to be made in the same manner as would be made prior to snow falling.

Constant monitoring of the situation is to be made and an additional treatment is to be carried out immediately the rain commences and continued until such time that the rain has ceased or the temperature of the road has risen above freezing.

Freezing rain usually occurs along the line of an incoming warm front. If possible, to ensure maximum effectiveness of the salt, the advance treatment should be made in the same direction and immediately in advance of the weather front. Use should be made of weather radar where available, to help determine the timing of treatment. Consideration should be given to stationing vehicles at the point on the route where the weather front will first hit in order that timely treatments can be undertaken.

Some salt will inevitably be lost during and following treatment and therefore careful consideration needs to be given to the requirement for continued successive treatments.

## 11.3 Hazard Mitigation

The very nature of freezing rain means that treatments will have virtually no effect initially and ice will form on the carriageway. Mitigation of the hazard is therefore a significant aspect of the actions taken in response to freezing rain. The main action is to inform road users of the hazard but more pro-active measures might be required. For example, consideration should be given to closing the road as the rain arrives and holding the traffic (rather than diverting) until such times as it is deemed safe to proceed. Such considerations will need to be made on a local basis taking into account local circumstances.

Specific measures that should be considered include:

Where available fixed or mobile Variable Message Signs should be used to warn road users of the hazard. The existing established procedures for requesting VMS settings to be made should be followed well in advance. The following legend is currently the most appropriate for use in these circumstances:

|                        |
|------------------------|
| SKID RISK<br>SLOW DOWN |
|------------------------|

Traffic Scotland's Press Officer should be contacted in order that the local media can be advised as necessary.

Where available, use of variable mandatory speed limits should be considered. This will require arrangements and protocols to be established with Police Scotland or Traffic Scotland National Control Centre (TSNCC) as part of the advance planning procedures.

Consideration should be given to the use of rolling blocks and convoy arrangements to either hold or slow traffic down both just prior to and during the event. This will require arrangements and protocols

to be established with Police Scotland or TSNCC Operations Managers as part of the advance planning procedures

In addition to the arrangements made in respect of advance planning, operational procedures and hazard mitigation it will be necessary to consider the arrangements to be implemented should any incidents occur as a result of the freezing rain. This may, for example, include liaison with Police Scotland or TSNCCs to provide advance warning to recovery companies. Procedures for giving such advance warning would need to be established in advance with Police Scotland and TSNCCs and documented within the Winter Service Plan.

## 12.0 DE-ICING MATERIALS

### 12.1 Type

De-icing materials will primarily comprise rock salt and potassium acetate. In extreme conditions, such as when temperatures drop below levels at which sodium chloride is effective, BEAR Scotland will consider the use of alternative de-icing materials such as Magnesium Chloride, in accordance with the guidance on use of such materials which has been provided by the Director and subject to his written consent. In such an event, BEAR Scotland will provide the Director with a method statement on how the alternative de-icing material is to be used and liaise closely with SEPA in the event of its usage. See Appendix WSP 11 Alternative De-Icer Method Statement for precautionary treatment using alternative de-icing materials..

### 12.2 Specification

Potassium Acetate used for de-icing Operations will comply with the Ministry of Defence Specification 68-118 (De-icing/Anti-Icing Fluid for Run Ways).

Potassium Acetate will be applied to the locations given in Figure 10/1, including 200 metres beyond the limits of the bridge as per Annex 7.2/1.

| Location            | Depot | Carriageway Precautionary Treatment Route applying Potassium Acetate (See Figure 8/4 and 8/5) |
|---------------------|-------|---|
| M90 Friarton Bridge | Perth | Route 20-7 / 40-10 (dual purpose de-icing vehicle)  |

**Figure 10/1: Potassium Acetate Treatment Locations**

Precautionary treatment using potassium acetate will be spread at a rate of 0.01 litres/m<sup>2</sup>.

Salt for de-icing, including brining salt for use in pre-wetting, will be 6.3mm grading particle size complying with BS 3247 and treated with an anti-caking agent.

For pre-wetting salt, the percentage of salt brine added to salt for spreading Operations will be 30% of the total weight of spread material, and the saturated salt in the brine solution before combination will be between 20% and 23%. Brine will be produced in purpose built salt saturators sited at Perth, Lochgelly, Dundee, Edzell, Aberdeen, Stirlinghill, Keith & Inverness depots. These saturators will automatically produce and store brine of the correct concentration and transfer it to saddle tanks located on the spreaders by means of an integrated pump. Daily checking of brine concentration in the saturators will be carried out by Depot Supervisors by means of a refractometer, and records held electronically. The saturators will be serviced on an annual basis.





Typical analyses from our salt suppliers are shown in Figures 10/2 and 10/3.

| Chemical Analysis                 |            | BS3247        | SSC typical |
|-----------------------------------|------------|---------------|-------------|
|                                   |            | percent       | percent     |
| Total Chlorides expressed as NaCl |            | 90.0 minimum  | 91.0        |
| Insolubles                        |            | 7.0 maximum   | 6.5         |
| CaSO <sub>4</sub>                 |            | 2.5 maximum   | 2.5         |
| H <sub>2</sub> O                  |            | 4.0 maximum   |             |
| Particle size distribution        | BS3247     | SSC typical   |             |
| Mesh size (mm)                    | % retained | % retained    |             |
| +6.30                             | 0          | 0             |             |
| +5.60                             |            | 0             |             |
| +2.36                             | 20 – 70    | 30            |             |
| +1.18                             |            | 0             |             |
| +0.30                             | 80 minimum | 87            |             |
| Reagent Addition                  |            | Typical (ppm) |             |
| Anti-caking agent                 |            | 80ppm         |             |

**Figure 10/2: Typical Specification for Dry Salt Supplied by Cleveland Potash**

| Chemical Analysis                 |            | BS3247        | PS typical |
|-----------------------------------|------------|---------------|------------|
|                                   |            | Percent       | percent    |
| Total Chlorides expressed as NaCl |            | 90.0 minimum  | 98.5       |
| Insolubles                        |            | 7.0 maximum   | 0.5        |
| CaSO <sub>4</sub>                 |            | 2.5 maximum   | 1.0        |
| H <sub>2</sub> O                  |            | 4.0 maximum   | 1.0        |
| Particle size distribution        | BS3247     | PS typical    |            |
| Mesh size (mm)                    | % retained | % retained    |            |
| +6.30                             | 0          | 0             |            |
| +5.60                             |            | 1             |            |
| +2.36                             | 20 – 70    | 35            |            |
| +1.18                             |            | 63            |            |
| +0.30                             | 80 minimum | 90            |            |
| Reagent Addition                  |            | Typical (ppm) |            |
| Anti-caking agent                 |            | 30ppm         |            |

**Figure 10/3: Typical Specification for Brining Salt Supplied by Peacock Salt**

### 12.3 Storage and Testing Methods

BEAR Scotland will undertake environmental risk assessments of all depots to identify measures necessary to ensure that SEPA guidelines and requirements are adhered to. Materials will be stored within a covered structure or within bulk containers and in accordance with current planning and environmental regulations.

As de-icing salt is removed from storage areas, a positive slope will be maintained to avoid danger to operatives and Winter Service Plant from the collapse of stockpile cliff walls. BEAR Scotland will ensure that de-icing material stockpiles are managed and safeguarded effectively and those stockpiles do not become contaminated with foreign matter likely to cause damage to Winter Service Plant and affect other Trunk Road users, by storing all salt on either a concrete or bituminous base.

At all loading points, the moisture content of the stored salt will not exceed 4%. This will be achieved by either storing the salt under a covered structure.

Moisture content at existing salt stocks will be measured at monthly intervals throughout each Winter Period. As a minimum, the salt will be tested at the base, centre and top of the stockpile. The results will be recorded on an electronic data base which will be available for access at any time by the Director and PAG. Should the moisture content of salt used for de-icing exceed 4%, spread rates will be increased by 100% for spread rates up to and including 20gm/m<sup>2</sup>.

Within 10 days of new salt deliveries, salt will be tested in accordance with BS 812 at a UKAS accredited laboratory operated by The Highland Council (Inverness), Tayside Contracts (Perth) or Weeks (Glasgow), and results recorded to ascertain:

- Moisture content (1 test per 500 tonnes)
- Particle size distribution (1 test per 500 tonnes)
- Chloride content (1 test per 1500 tonnes)
- Soluble sulphate compounds (1 test per 1500 tonnes)

To ensure that BEAR Scotland does not receive salt which does not comply with BS 3247, all our salt suppliers will be ISO 9001 accredited. In the event that a supplier delivers de-icing salt which is non-compliant, the following procedure will be implemented:

The supplier will be notified as soon as possible

The severity and type of failure will be analysed

If the failure can be rectified (i.e. moisture content) then a solution will be sought with the supplier

If the failure cannot be corrected, arrangements will be made with the supplier to deliver further supplies of de-icing salt and remove the supplies which failed.

Salt stored in depots found, through monthly testing, to be non-compliant with BS 3247, will be quarantined in a separate stockpile and will not be used for treating the Unit.

### 12.4 Suppliers

BEAR Scotland has developed arrangements with national de-icing material suppliers:

- Cleveland Potash Ltd. Boulby Mine, Loftus, Saltburn-by-the-Sea Cleveland, TS13 4UZ
- Peacock Salt, Jura Terminal, North Harbour, Ayr, KA8 8AE
- OMEX Environmental Ltd, Bardney Airfield, Topholme, Lincoln LN3 5TP
- Safecote Ltd, Winnington Hall, Northwich, Cheshire, CW8 4DU

## **12.5 Stock Levels**

Salt stocks will be continuously monitored and managed. During the winter period, a detailed weekly return of salt received and salt used will be made by each Winter Service Supervisor to the Winter Service Manager, utilising a standard form. During snow conditions a daily report of salt usage will be submitted. This continuous monitoring will ensure salt stocks are replenished timeously. Salt stocks will be surveyed midway through, and at the end of, each season to verify the actual tonnages remaining at each depot, and allow any necessary stock reconciliation to be made.

The procurement of salt will be on a call off basis and triggered by minimum stock levels at each depot. The Winter Service Manager is responsible for the ordering of salt. The salt is predominantly shipped in by our supplier and constant dialogue ensures that when ships are available, including 'ship sharing' with other parties, salt is delivered.

During the winter period, salt stock monitoring reports will be made to the Director using the salt reporting system portal at <http://winter.atkinsglobal.com/Scotland/> on the first working day of each month.

When requested by the Director, daily or weekly salt monitoring reports will be provided. Also as per ANNEX 7.2/L – Salt Stock Monitoring Report shall be provided.

The minimum cumulative stock levels of de-icing material which will be held throughout the winter season are detailed in Appendix WSP 3.

## **13.0 STRATEGIC SALT STOCKS**

Where ordered by the Director, BEAR Scotland will procure and store strategic salt stocks by:

- an agreed procurement process agreed with the Director.
- strategic salt store area shall be at Errol where 25,000 tonnes can be held
- arranging haulage from delivery point to the strategic salt depots,
- managing and maintaining the stockpile,
- maintaining accurate stock records,
- monitoring stock using an approved weighbridge facility,
- rotating stock to avoid deterioration,
- liaison with third parties to determine requirements for supply of strategic salt,
- arranging loading and haulage of strategic salt to third party depots, and
- invoicing third parties for all costs related to the provision of strategic salt.
- Currently there is 12,000 tonnes of strategic salt held at Balmedie quarry with a further 6,000 tonnes of vacuum salt at Perth Harbour with the NE unit.

Strategic salt will be stored at Errol.

## **14.0 WINTER SERVICE PLANT**

### **14.1 Front Line & Reserve Winter Service Plant**

Front Line Winter Service Plant and reserve Winter Service Plant will undertake precautionary treatments and snow and ice clearance to the total width of carriageways including slip roads, hard strips, turning lanes, central reserve crossovers, lay-bys, bus bays and the like.

Details of the above are provided in Appendix WSP 4 tables 7.2.J.8 to 10

#### **14.1.1 Additional Winter Service Plant**

Additional Winter Service Plant is detailed in Appendix WSP 4 Table 7.2.J.11

#### **14.1.2 Loading Winter Service Plant**

Details of loading winter service plant available within the Unit for loading front line, reserve and additional winter Service plant are shown in Appendix WSP 4 Table 7.2.J.12.

### **14.2 Calibration of Winter Service Plant**

In September and January of each Annual Period, the Operating Company shall calibrate all equipment for spreading de-icing material:

- (i) in accordance with the requirements of British Standard 1622:1989, or
- (ii) where British Standard 1622:1989 does not provide for the calibration of any de-icing spreading equipment, in a manner proposed in writing by the Operating Company and consented to in writing by the Director. As a minimum the Operating Company shall provide details of the Winter Service Plant supplier's calibration method to the Director, and
- (iii) in accordance with the requirements of the specific material being used.

September testing shall comply with the requirements of tests 'A' and 'B' and January testing shall comply with the requirements of test 'B' of British Standard 1622:1989.

Re-calibration and testing shall be carried out after repairs to the spreading equipment and at other times when necessary to ensure the accuracy of de-icing material spreading.

All calibration and re-calibration shall be independently carried out and certified. Calibration certificates shall be held in accordance with the requirements of the Winter Service Plan and the Operating Company's Management System.

#### **14.2.1 Calibration Certification**

Calibration of spreaders will be carried out in accordance with the National Winter Service Research Group document 'Best Practice Guidance for Spreading Salt'.

All calibrations will be carried out in BEAR Scotland depots. The certification for these independent calibrations will be held in the Central Office, in accordance with our documented Quality Management System. Copies of the calibration certificates will be held in the relevant depot for the vehicle. Calibration Certificates will be available for inspection by the Director and the Performance Audit Group at any time.

Re-calibration and testing will be carried out after repairs to the spreading equipment and at other times when necessary to ensure the accuracy of de-icing material spreading.

### **15.0 Compounds Depots and Facilities**

A schedule of compounds, depots and facilities covering the network within the North East Unit is included in Appendix WSP 5 Table 7.2.J.13

## 16.0 Maps Drawings and Graphical Information

There are currently no Present Weather Detectors in the North East Unit

### Maps

(i) Precautionary Treatment Routes – all maps detailed in Appendix WSP2

(ii) Treatment routes for footways – included in Appendix WSP 13 below.

(iii) Winter patrol route maps see Appendix WSP10

(iv) Ploughing route maps see Appendix WSP2

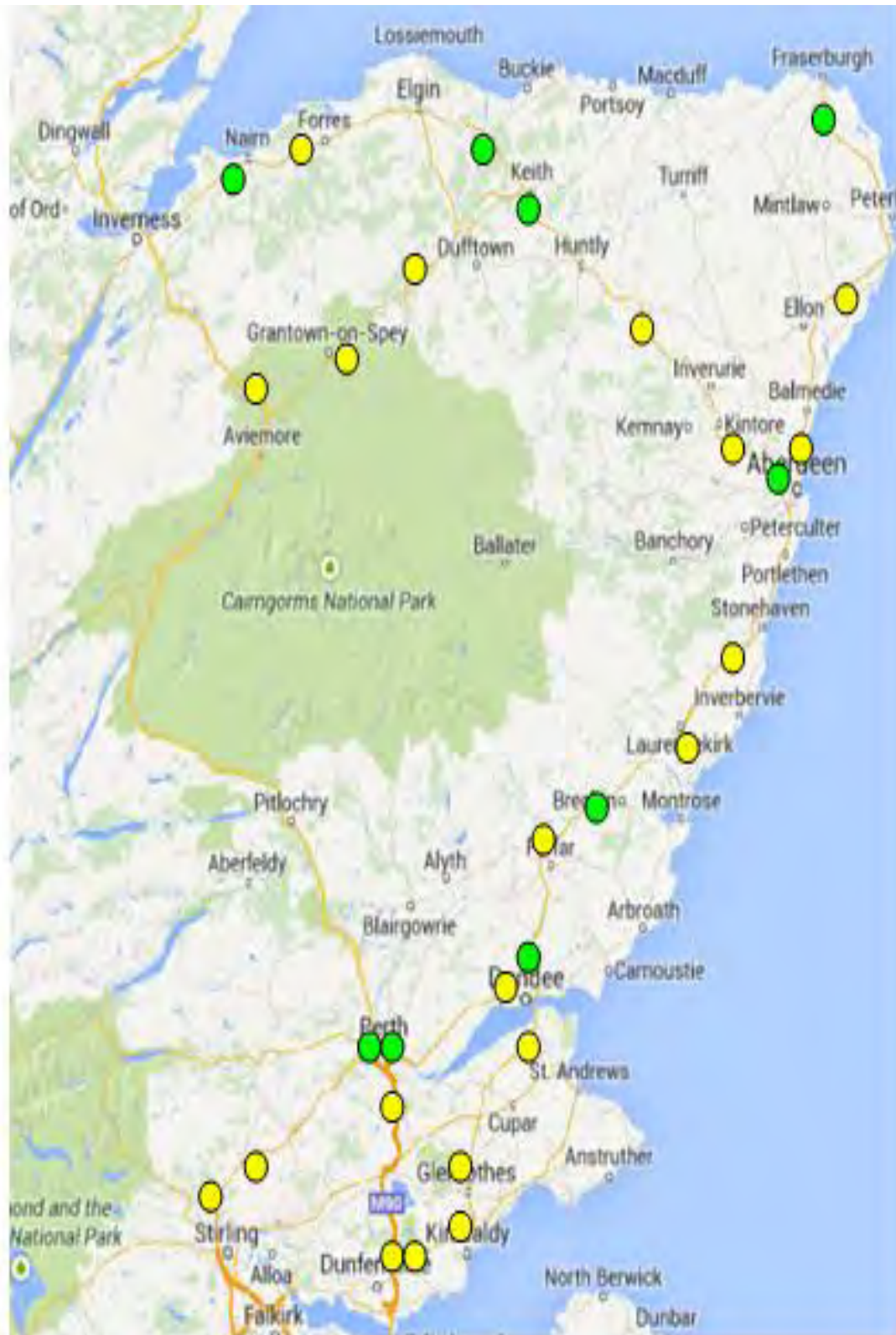
### (v) Location of Forecast Weather Stations

| ROAD NO.   | LOCATION               | TYPE                |
|------------|------------------------|---------------------|
| A9         | Balhaldie              | Vaisala with camera |
| A9         | Inveralmond            | Vaisala             |
| <b>A9</b>  | <b>Loaninghead</b>     | Vaisala with camera |
| A90        | Charlestown            | Vaisala with camera |
| A90        | Fiddes                 | Vaisala with camera |
| <b>A90</b> | <b>Forfar</b>          | Vaisala with camera |
| A90        | Fraserburgh            | Vaisala             |
| <b>A90</b> | <b>Laurencekirk</b>    | Vaisala with camera |
| A90        | Starr Inn Farm         | Vaisala with camera |
| A90        | North Anderson Drive   | Vaisala             |
| A90        | Bridge of Don          | Vaisala with camera |
| A90        | Stracathro             | Vaisala             |
| A90        | Todhills               | Vaisala             |
| <b>A90</b> | <b>Toll of Birness</b> | Vaisala with        |

|            |                            |                            |
|------------|----------------------------|----------------------------|
|            |                            | camera                     |
| <b>A92</b> | <b>New Inn</b>             | Vaisala with camera        |
| A92        | Cowdenbeath EFRR 1         | Vaisala                    |
| A92        | Cluny EFRR 2               | Vaisala with camera        |
| A92        | Sandford                   | Findlay Irvine with camera |
| <b>A95</b> | <b>Ballindalloch</b>       | Vaisala with camera        |
| A95        | Grantown                   | Vaisala with camera        |
| A95        | Avielochan (on A9 NW unit) | Vaisala with camera        |
| <b>A96</b> | <b>Brodie</b>              | Vaisala with camera        |
| A96        | Fochabers                  | Vaisala                    |
| <b>A96</b> | <b>Foudland</b>            | Vaisala with camera        |
| A96        | Keith                      | Vaisala                    |
| A96        | Delnies                    | Findlay Irvine             |
| <b>A96</b> | <b>Tyrebagger</b>          | Vaisala with camera        |
| <b>M90</b> | <b>Glenfarg</b>            | Vaisala with camera        |
| M90        | Kelty                      | Vaisala with camera        |
| M90        | Rosyth                     | Vaisala                    |
| A90        | Friarton Bridge            | Vaisala                    |

Location Plan showing the ice sensor locations are shown on the next page.





#### Ice Sensors Location

Sites with Bi-directional cameras



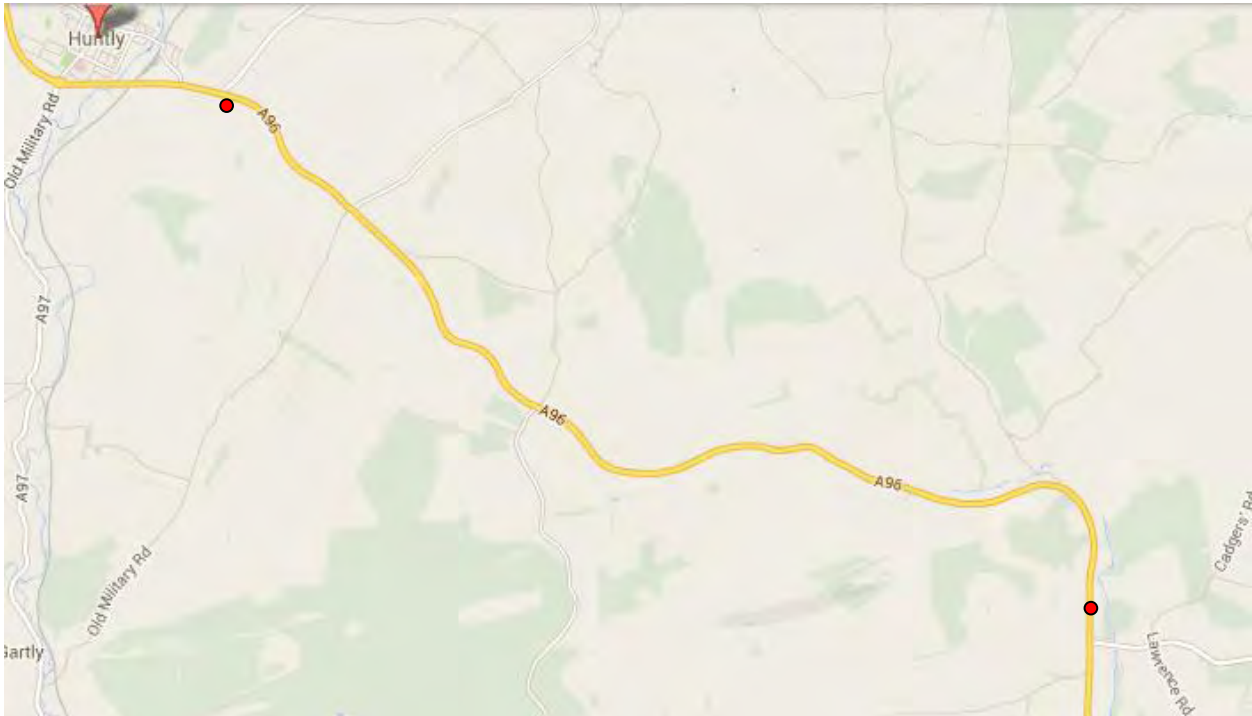
Sites with no cameras



**\*\* NOTE:** Cowdenbeath is indicated on the map but no longer has a camera.



**(vi) Location of signs for Virtual snow gates**



(vii) There are no snow fences in the North East Unit

(viii) There are no shelter belts in the North East Unit

(ix) Snow poles





### (x) Locations of Snow and Ice Hidden Message Signs

| Road Number | Location | Detailed Description   |
|-------------|----------|--|
| A96         | Huntly   | Approach to Huntly roundabout southbound                           |
| A96         |          | At the A920 junction at Colpy facing traffic turning from the A920 |
| A96         |          | At the A920 junction at Colpy facing northbound                    |
| A96         |          | Northbound approach to Oyne Fork Junction                          |
| A9          | Perth    | Approach to Inveralmond Roundabout                                 |



### Location of Snow & Ice Hidden Message Signs

**NOTE:** There is a sign on the A9 on the north bound approach to Inveralmond roundabout which refers to the A9 in the North West Unit. This will be controlled by the NW Unit.

(xi) Locations of Salt Bins and Salt Heaps

| Road Number | Snow Fence (Meters) | Snow Gates (Number) | Salt Bins (Number) | Salt Heaps (Number) |
|-------------|---------------------|---------------------|--------------------|---------------------|
| A90         | -                   | -                   | 5                  | -                   |
| A96         | -                   | -                   | 3                  | 3                   |
| A95         | -                   | -                   | 2                  | 2                   |



3 No. New additional Grit bins shall be deployed at the footbridges through Dundee, Strathmartine Road, Old Glamis Road & Claverhouse Road.

## 17.0 COMPILING AND MAINTAINING RECORDS

Records of decisions, amendments to decisions, actions taken and patrol communications will all be maintained on electronic logs in the Winter Maintenance Control Room. It is the responsibility of the Duty Officer to ensure all winter records (electronic and 'hard' copies) are collated and maintained.

The vehicle data logs will be interrogated for effectiveness and efficiency of the operations. A daily report on the preceding day's winter maintenance operations will be submitted to the Winter Service Manager for perusal and action where required. In addition, records as detailed in Annex 7.2/G of Part 2 of Schedule 7 will be held in appropriate electronic logs.

Spreaders are weighed at the start and end of each treatment. These weights are phoned through to the winter control room staff. Should usage be 10% below the targeted weight for the precautionary treatment of the route then a retreatment of the entire route will be undertaken unless the forecast or actual hazard for ice or snow has passed.

The following list identifies typical records required, which will be held electronically:

- Summary forecast and actual weather data
- Decisions taken when and by whom
- Planned and actual treatment records
- Planned and actual response times achieved
- Planned and actual commencement times
- Completion times
- Planned and actual routes times as per Appendix WSP 6 and 7
- Planned and actual spread rates
- Observations and actions taken by Winter Service Patrols as per Appendix WSP 8
- Output from Constructional Plant on-board data capture devices
- Winter Constructional Plant downtime and software faults
- Winter Constructional Plant deployment records (including Global Positioning System records) and driver / operator logs
- Logs for telephone/electronic mail and two-way communications calls
- Loading point de-icing stocks and replenishment orders
- Ice prediction system records
- Complaints by members of the public and Trunk Road users
- Accidents resulting from weather conditions
- Road closures due to weather conditions
- Weights and (volumes as appropriate) for amount of de-icing material(s) spread for each route
- Amount of de-icing material spread and the cumulative amount spread during the current Winter Service Period
- Plough usage
- Number of treatment days (capability) of de-icing material available for each depot based on six treatments per route per day at 20 grammes per square metre
- Weather forecasts and actual weather experienced
- Pre and mid season road sensor calibration systems
- Actual salt stocks held including strategic salt stocks
- The weather forecast accuracy and
- Any other relevant information
- Winter Service Plant calibration certificates

A shared area shall be set up on the BEAR Scotland central computer server where all appropriate files to which Transport Scotland and Performance Audit Group require access will be stored. These files shall be updated on a regular basis to ensure that the data stored is as up to date as possible. The



remote access for all files stored on the shared area shall be read only access to ensure the integrity of files.

Transport Scotland and PAG shall have full access to the Vaisala Icelert system which includes all ice sensor data such as road surface temperature, road surface state etc.

Duty officers shall receive further training on the importance of timely & accurate record keeping to ensure that all records are kept updated as close to each weather event as possible.

All telephone calls to and from the control room shall be recorded & shall be stored on the BEAR Scotland computer system which can be readily accessed on request via the internet.

The daily winter action plan shall be uploaded to the Traffic Scotland website daily by 15:00 hours.

## 18.0 SNOW POLES

Snow poles will be inspected by inspectors both on safety inspections and detailed inspections in accordance with Part 1 of Schedule 7. Defects will be categorised as Cat 1 or 2 Defects as appropriate, and repairs programmed to ensure compliance with such priorities.

Replacement of damaged or missing snow poles will be carried out in accordance with the time scales set down for Cat 1 and 2 Defects in Part 1 of Schedule 7.

Where a detailed inspection has identified a refurbishment programme of snow poles is required, a bid with costs will be submitted to the Director for approval. Once approval is given, works will be programmed as soon as possible after approval is received.

Due to location and numbers of snow poles in the North East Unit, a small reserve stock with a minimum of 25 snow poles shall be held at the Keith Depot.

### Locations of Snow Poles

| Route A95 |         |                            |                       |     |       |
|-----------|---------|----------------------------|-----------------------|-----|-------|
| Link      | Section | Start Location             | End Location          | No. | Link  |
| 10935     | 05      | Junction A970 Achnagonalin | Brig a Brown Junction | 12  | 10935 |
| 10935     | 05      | Junction A970 Achnagonalin | Brig a Brown Junction | 12  | 10935 |
| 10940     | 05      | Brig a Brown Junction      | Balmenach Junction    | 36  | 10940 |
| 10940     | 05      | Brig a Brown Junction      | Balmenach Junction    | 49  | 10940 |
| 10945     | 45      | Tormore                    | Moray Boundary        | 7   | 10945 |
| 10950     | 05      | Moray Boundary             | Cragganmore           | 29  | 10950 |
| 10950     | 20      | Marypark                   | Carron Junction       | 78  | 10950 |
| 10950     | 20      | Marypark                   | Carron Junction       | 100 | 10950 |
| 10960     | 30      | Rosarie                    | Haughs Junction       | 40  | 10960 |
| 10960     | 30      | Rosarie                    | Haughs Junction       | 37  | 10960 |

| Route A96 |         |                         |                    |     |       |
|-----------|---------|-------------------------|--------------------|-----|-------|
| Link      | Section | Start Location          | End Location       | No. | Link  |
| 17640     | 00      | A920 jcn                | Ythanwells         | 16  | 17640 |
| 17640     | 00      | A920 jcn                | Ythanwells         | 8   | 17640 |
| 17640     | 14      | Ythanwells              | Clinkstone         | 8   | 17640 |
| 17640     | 42      | Whinbrae Climbing lane  |                    | 6   | 17640 |
| 17640     | 58      | End of climbing lane    | end of Newtongarry | 19  | 17640 |
| 17640     | 58      | End of climbing lane    | end of Newtongarry | 23  | 17640 |
| 17675     | 20      | Buckie junction         | Mulben junction    | 19  | 17675 |
| 17675     | 20      | Buckie junction         | Mulben junction    | 18  | 17675 |
| 17675     | 70      | Dramlachs climbing lane |                    | 27  | 17675 |
| 12640     | 95      | Brodie climbing lane    |                    | 12  | 12640 |



## 19.0 SNOW GATES

There are currently no physical snow gates in the North East Unit but there are virtual snow gates on the A96 at the Glens of Foudland.

Signs have been erected on the A96 just north of A920 nr Kirkton of Culsalmond and east of the A96 near Huntly. These signs are being trialled as a concept entitled 'virtual gates'. The purpose of the signs is to allow rapid notification of a closure of the A96 between the gates. The point of closure is most likely to be at Glens of Foudland which is prone to closure during heavy snowfall.

The early notification will allow vehicles approaching the closed area the opportunity to turnaround and use an alternative route, or alternatively wait at a safer location until the road reopens. Where time permits a physical closure will be implemented to reinforce the warning.

Ongoing monitoring of the virtual gates shall be continued throughout the season to assess their effectiveness with de-briefings carried out following any implementation of the gates with both the Police Scotland & local authorities to identify any issues

The following procedure shall be used when the Virtual Gates are required to be closed:-

### Implementation Procedure

BEAR Scotland notify Police Scotland and Local authorities of need to close A96 due to snow (or stranded vehicle)

Police Scotland instruct the road to be closed.

BEAR activate virtual gate signs.

Using BEAR NE emergency phone send following text message to phone number 07881354780 for Kirkton of Culsalmond sign & 07881354781 for Huntly sign

Message 1 'SignonA83WW'

BEAR notify Traffic Scotland of closure.

BEAR deploy staff to implement physical closure in advance of gates.

Traffic Scotland instigates VMS signing notifying of closure.

Traffic Scotland create incident, web story etc

### Removal Procedure

BEAR Scotland and Police Scotland agree the road is fit to reopen.

BEAR Scotland remove physical closure (if there was time to deploy)

BEAR Scotland notifies Police Scotland that the physical closure has been lifted.

BEAR Scotland deactivate virtual gates

Using BEAR NE emergency phone send following text message to phone number 07881354780 for Kirkton of Culsalmond sign & 07881354781 for Huntly sign

Message 2 'SignoffA83WW'

BEAR Scotland notifies Traffic Scotland that the road has reopened.

Traffic Scotland advise A96 reopened on VMS, web etc.

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## **20.0 VARIABLE MESSAGE SNOW AND ICE AND HIDDEN MESSAGE SIGNS**

### **20.1 Operating and liaison Procedures**

Details of the locations of variable message snow and ice and hidden message signs are contained in Section 15 Maps Drawings and Graphical Information Section 15 (x). These signs shall be maintained in accordance with the requirements of Schedule 7 Part 1.

These signs shall be inspected prior to the commencement of each winter season to ensure their suitability for use throughout the Winter Service period.

The Duty Officer/ Supervisor will liaise with Police Scotland to co-ordinate the activation of such signs when closing roads.

## **21.0 SALT BINS AND SELF HELP SALT HEAPS**

### **21.1 Stock level monitoring and replenishment procedures**

Salt bins and heaps as detailed in Section 15 (xi) shall be checked on a weekly basis by inspectors. Where salt levels are identified of being low, inspectors shall inform the Winter Service Duty Officer, who will arrange for stock to be replenished as soon as possible.

Salt bins shall be placed on the network before 30 September ahead of each winter season. Where salt bins are damaged or vandalised they shall be replaced within 48 hours of this being identified.

## **22.0 SALT MEASUREMENT APPARATUS**

### **22.1 Details of equipment and locations and recording methods**

At our depots in Perth, Dundee, Lochgelly, Inverness, Stirlinghill, Tullos, Edzell and Keith weighbridges are installed in order to accurately record the quantities of salt being used.

These facilities will provide an electronic printout which will be held as a winter record; the facilities proposed will also be calibrated strictly in accordance with manufacturer's instructions.

The Operating Company shall provide the minimum operational salt stock levels at the start of the Winter Service Period as detailed in Appendix WSP3 to table 7.2/J/7 of this WSP. If stocks have reduced to 90 percent on 21 December in any Winter Service Period, the Operating Company shall restock to 100 percent of the full pre-season stocks.

Each depot will have brine storage tanks capable of holding sufficient brine that would allow treatment of all routes simultaneously from that depot at maximum spread rates plus an additional 20 per cent above the minimum to be held in reserve. See Table 7.2/J/7 – Brine Production and Storage.

## ANNEX 7.2/F – Locations of Known Areas Requiring Special Attention

In Appendix WSP 12 there is a detailed list of Areas Requiring Special Attention

**Table 7.2/F.1 Frost Susceptible Areas**

| Road Number | Location                       |
|-------------|--------------------------------|
| A90         | Bridge at Tippetty             |
| A96         | Roundabout near A9             |
| A96         | Inverurie Bypass               |
| A96         | Glens of Foudland              |
| A96         | North of Huntly near Westerton |
| A95         | Bridge of Avon                 |
| A90         | Near Candy farm                |
| A90         | Near Gateside Interchange      |
| A90         | Temple of Fiddes               |
| A9          | Blackford                      |
| A9          | Balhaldie                      |
| A92         | Sanford                        |
| M90         | Friarton Bridge                |
| A90         | Brechin Bypass                 |

**Table 7.2.F.2 Water Run Off Locations**

| Road Number | Location                           |
|-------------|------------------------------------|
| A95         | Dalvey bridge – Tormore            |
| A95         | Tom un Uird to Cromdale            |
| A95         | Gaich to Craggen                   |
| A95         | Drumullie to Kinveachy             |
| A95         | South of Advie                     |
| A96         | Skares – Bainshole                 |
| A96         | Carnie Junction – Coachford        |
| A96         | Portsoy Junction to Banff Junction |

### **Note:**

Water runoff locations will be recorded as Disruption Risk Sites through the Disruption Risk Management Plan and a risk assessment will be carried out using the standard approach to be supplied by Transport Scotland to determine whether the risk of disruption is “high” or “very high”

**Table 7.2.F.3 Steep Inclines**

| Road Number | Location                    |
|-------------|-----------------------------|
| M90         | Balmanno Hill               |
| M90         | Perth Southern Bypass       |
| A9          | Cairnie Braes               |
| A90         | Powrie Brae                 |
| A90         | Stonehaven                  |
| A96         | Dramlachs climbing lane     |
| A96         | Regent St Church Road Keith |
| A96         | Binforest climbing lane     |
| A96         | Ashgrove climbing lane      |
| A96         | Cairnie Brae                |
| A96         | Newtongarry climbing lane   |
| A96         | Tyrebagger                  |
| A95         | Poppin Brae                 |
| A95         | Craigellachie Poppin Brae   |
| A95         | Ballindalloch               |

## Appendix WSP 1

Winter Patrol Routes

**Table 7.2/J/1 – Winter Service Plant for all Winter Service Patrols**

| Type and Registration No | Depot Location | Specification including Capacity   | Quantity |
|--------------------------|----------------|------------------------------------|----------|
| GN56 EUM                 | Lochgelly      | 6m <sup>3</sup> pre-wet spreader   | 1        |
| GN06 UBC/GN56 EUJ        | Perth          | 6m <sup>3</sup> pre-wet spreader   | 2        |
| SV56 CVO/GN56 TZS        | Dundee         | 9/6m <sup>3</sup> pre-wet spreader | 2        |
| SV56 CVM                 | Edzell         | 9m <sup>3</sup> pre-wet spreader   | 1        |
| GN56 EUZ/GN56 EVF        | Stirlinghill   | 6m <sup>3</sup> pre-wet spreader   | 2        |
| GN56 EVD                 | Inverness      | 6m <sup>3</sup> pre-wet spreader   | 1        |
| GN56 EUT/GN56 EUL        | Keith          | 6m <sup>3</sup> pre-wet spreader   | 2        |

**Table 7.2/J/2 – Winter Service Patrol Routes**

| Category (A/B) | Route | Depot        | Route Description  | Depot to Route (km) | Time to Route (mins) | Patrol Length (km) | Avg Speed (km/hr) | Route Time (mins) | Route to Depot (km) |
|----------------|-------|--------------|--|---------------------|----------------------|--------------------|-------------------|-------------------|---------------------|
| A              | A1    | Lochgelly    | M90 Halbeath – Craigend;<br>M90 Craigend - Halbeath  | 10                  | 10                   | 76                 | 76                | 60.0              | 10                  |
| A              | A2    | Perth        | A9 Cairnie Braes – Keir R/a;<br>A9 Keir R/a -A9 Cairnie Braes  | 10                  | 10                   | 70                 | 70                | 60.0              | 10                  |
| A              | A3    | Perth        | A9 Cairnie Braes – Inveralmond –<br>Broxden, M90 Broxden – Barnhill, A90<br>Barnhill - Inchmichael;<br>A90 Inchmichael – Barnhill; M90<br>Barnhill – Broxden, A9 Broxden –<br>Inveralmond – Cairnie Braes. | 10                  | 10                   | 68                 | 68                | 60.0              | 10                  |
| A              | A4    | Dundee       | A90 Lochlands – Inchmichael;<br>A90 Inchmichael – Lochlands  | 23                  | 25                   | 68                 | 68                | 60.0              | 25                  |
| A              | A5    | Dundee       | A90 Lochlands – Drumnagair; A90<br>Drumnagair – Lochlands  | 23                  | 25                   | 72                 | 72                | 60.0              | 23                  |
| A              | A6    | Dundee       | A90 Drumnagair – Newtonhill; A90<br>Newtonhill – Drumnagair.   | 10                  | 10                   | 72                 | 72                | 60.0              | 10                  |
| A              | A7    | Stirlinghill | A96 Clinterty R/a – A90 Haudagain –<br>A90 Newtonhill; A90 Newtonhill -<br>A96 Haudagain – A96 Clinterty R/a   | 6                   | 6                    | 57                 | 57                | 60.0              | 6                   |
| A              | A8    | Stirlinghill | A90 B999 R/a – Haudagain R/a;<br>A90 Haudagain R/a – B999 R/a  | 20                  | 25                   | 14                 | 49                | 18                | 20                  |
| B              | B1    | Keith        | A96 Keith - Clinterty R/a;<br>A96 Clinterty R/a – Keith  | 5                   | 5                    | 72                 | 60                | 72.0              | 5                   |
| B              | B2    | Keith        | A95 Keith – Granish;<br>A95 Granish – Keith  | 5                   | 5                    | 76                 | 60                | 76.0              | 5                   |
| B              | B3    | Inverness    | A96 Inverness – Keith;<br>A96 Keith – Inverness  | 5                   | 10                   | 85                 | 60                | 85.0              | 5                   |



## Appendix WSP 2

### Precautionary Treatment Routes determined by the Operating Company Summary Table 7.2/I/4

Table 7.2/J/4 - Precautionary Treatment Routes determined by the Operating Company (Route Tonnages have been derived theoretically)

| Route No. | Depot        | Description                          | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @20g/m2 | Treatment type |
|-----------|--------------|--------------------------------------|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 20R01     | Stirlinghill | A90 Ellon to Fraserburgh             | 0.5                 | 1                    | 32                  | 53                 | 114               | 24                  | Tullos             | 7                      | 8.96                  | Pre-wet        |
| 20R02     | Inverness    | A96 Fochabers to Inverness           | 2                   | 3                    | 76                  | 48                 | 104.5             | 76                  | Keith              | 6.8                    | 10.34                 | Pre-wet        |
| 20R03     | Keith        | A96 Fochabers to Inverurie           | 14                  | 16                   | 78                  | 49                 | 105               | 43                  | Tullos             | 6.8                    | 10.61                 | Pre-wet        |
| 20R04     | Keith        | A95 Keith to Aviemore                | 6.8                 | 14                   | 87                  | 40                 | 116               | 84                  | Inverness          | 6                      | 10.44                 | Pre-wet        |
| 20R05     | Tullos       | A96 Inverurie to Aberdeen & Newburgh | 0.5                 | 1                    | 64                  | 41                 | 93                | 0.5                 | Keith              | 7                      | 8.96                  | Pre-wet        |
| 20R6      | Tullos       | A90 Aberdeen to Glasslaw             | 5                   | 10                   | 59                  | 54                 | 112.7             | 3                   | Edzell             | 7                      | 8.3                   | Pre-wet        |
| 20R07     | Dundee       | A90 Brechin to Glasslaw              | 3                   | 4                    | 65                  | 54                 | 105               | 13.5                | Edzell             | 7                      | 9.10                  | Pre-wet        |
| 20R08     | Dundee       | A90 Muirymfaulds to Stracathro       | 11                  | 13                   | 79                  | 54                 | 115               | 21                  | Edzell             | 7                      | 11.06                 | Pre-wet        |
| 20R09     | Dundee       | A90 Inchmichael to                   | 10                  | 13                   | 59                  | 54                 | 114               | 24                  | Perth              | 7                      | 8.26                  | Pre-wet        |

| Route No. | Depot     | Description                                  | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @20g/m2 | Treatment type |
|-----------|-----------|--|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
|           |           | Muiryfaulds and Dundee trunk roads           |                     |                      |                     |                    |                   |                     |                    |                        |                       |                |
| 20R10     | Perth     | A9 Perth Inveralmond to Loaninghead          | 0.5                 | 1                    | 62                  | 54                 | 99                | 2                   | Lochgelly          | 7                      | 8.68                  | Pre-wet        |
| 20R11     | Perth     | A9 Loaninghead to M9/A9 Keir (near Dunblane) | 25                  | 21                   | 58                  | 56                 | 102               | 45                  | Lochgelly          | 7                      | 8.12                  | Pre-wet        |
| 20R12     | Lochgelly | M90 Craigend (Perth) to Kinross              | 6                   | 12                   | 53                  | 58                 | 93                | 7                   | Perth              | 9                      | 9.54                  | Pre-wet        |
| 20R13     | Perth     | A90 Inchtute to Perth                        | 7                   | 14                   | 54                  | 62                 | 116               | 2.2                 | Lochgelly          | 7                      | 7.56                  | Pre-wet        |
| 20R14     | Lochgelly | A92 Lochgelly to Tay Bridge                  | 10                  | 13.5                 | 75                  | 52                 | 115               | 58                  | Dundee             | 7                      | 10.50                 | Pre-wet        |

**Table 7.2/J/5 - Precautionary Treatment Routes determined by the Operating Company (Route Tonnages have been derived theoretically)**

| Route No. | Depot        | Description                                  | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m2 | Treatment type |
|-----------|--------------|--|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 40R01     | Stirlinghill | A90 Fraserburgh - Ellon Dual                 | 0.5                 | 1                    | 53                  | 48                 | 107.0             | 20                  | Tullos             | 6.50                   | 13.80                 | Pre-wet        |
| 40R02     | Tullos       | A90 Rubislaw Roundabout - A90 Ellon Dual     | 10                  | 12                   | 44                  | 48                 | 78.0              | 25                  | Stirlinghill       | 7.00                   | 12.3                  | Pre-wet        |
| 40R03     | Tullos       | A96 Blackhall Roundabout - A96 Auchmill Road | 10                  | 10                   | 41                  | 48                 | 53.0              | 15                  | Stirlinghill       | 7.00                   | 11.48                 | Pre-wet        |
| 40R04     | Keith        | A96/A95 Jcn - A96 Blackhall R/B Inverurie    | 5                   | 5                    | 50                  | 48                 | 64.0              | 51                  | Tullos             | 6.50                   | 13.0                  | Pre-wet        |
| 40R05     | Keith        | A95 Aberlour - A96 Elgin Dr Grays R/B        | 24                  | 24                   | 47                  | 48                 | 59.4              | 27                  | Inverness          | 6.50                   | 12.2                  | Pre-wet        |
| 40R06     | Keith        | A95 Aberlour - A95 Granish                   | 24                  | 24                   | 52                  | 48                 | 66.0              | 75                  | Inverness          | 6.00                   | 12.48                 | Pre-wet        |

| Route No. | Depot        | Description   | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m2 | Treatment type |
|-----------|--------------|---|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 40R07     | Inverness    | A96 Inverness - A96 Elgin Dr Grays R/B              | 3                   | 3                    | 58                  | 48                 | 73.0              | 60                  | Keith              | 6.50                   | 15.08                 | Pre-wet        |
| 40R08     | Stirlinghill | A90 Rubislaw R/B Aberdeen - A90 Stonehaven Glasslaw | 10                  | 12                   | 49                  | 64                 | 87.0              | 32                  | Edzell             | 7.00                   | 13.72                 | Pre-wet        |
| 40R09     | Edzell       | A90 B974 Jcn - A90 Stonehaven Glasslaw              | 8                   | 8                    | 48                  | 64                 | 52.0              | 38                  | Tullos             | 7.00                   | 13.44                 | Pre-wet        |
| 40R10     | Dundee       | A90 Parkford Jcn - A90 B974 Jcn                     | 35                  | 35                   | 51                  | 64                 | 85.0              | 38                  | Edzell             | 7.00                   | 14.2                  | Pre-wet        |
| 40R11     | Dundee       | A90 Fintry Dr R/B - A90 Parkford Jcn                | 9                   | 10                   | 52                  | 64                 | 81.0              | 9                   | Edzell             | 7.00                   | 14.56                 | Pre-wet        |
| 40R12     | Dundee       | A90 Fintry Drive R/B - Kingsway - Inchmichael       | 9                   | 10                   | 47                  | 64                 | 57.0              | 12                  | Perth              | 7.00                   | 13.1                  | Pre-wet        |

| Route No. | Depot     | Description                   | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m2 | Treatment type |
|-----------|-----------|-------------------------------|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 40R13     | Perth     | A90 Inchtute - Perth          | 10                  | 10                   | 49                  | 64                 | 113.0             | 12                  | Dundee             | 7.00                   | 13.7                  | Pre-wet        |
| 40R14     | Lochgelly | A92 Redhouse - A92 Tay Bridge | 12                  | 12                   | 48                  | 55                 | 69.0              | 52                  | Dundee             | 7.00                   | 13.44                 | Pre-wet        |
| 40R15     | Perth     | A9 Loaninghead to Keir R/B    | 25                  | 25                   | 47                  | 64                 | 81.0              | 25                  | Lochgelly          | 7.00                   | 13.16                 | Pre-wet        |
| 40R16     | Perth     | A9 Loaninghead to Inveralmond | 1                   | 1                    | 48                  | 60                 | 60.0              | 1                   | Lochgelly          | 7.00                   | 13.44                 | Pre-wet        |
| 40R17     | Perth     | Broxden to Milnathort         | 5                   | 5                    | 40                  | 64                 | 72.0              | 28                  | Lochgelly          | 9                      | 14.4                  | Pre-wet        |
| 40R18     | Lochgelly | Halbeath - Milnathort         | 8                   | 8                    | 45                  | 64                 | 79.0              | 12                  | Perth              | 7                      | 12.6                  | Pre-wet        |
| 40R19     | Lochgelly | Halbeath - Redhouse           | 5                   | 5                    | 42                  | 60                 | 42.5              | 69                  | Perth              | 7.00                   | 11.76                 | Pre-wet        |
| 40R20     | Perth     | Friarton - Milnathort         | 10                  | 10                   | 22                  | 64                 | 32.8              | 28                  | Lochgelly          | 9.50                   | 8.4                   | Pre-wet        |

**Table 7.2.J.6 - Ploughing Routes determined by the Operating Company**

The following ploughing routes are based on the 40 g/m<sup>2</sup> precautionary treatment routes. The vehicles on the motorway and dual carriageway network will work in tandem on the main carriageway and slips to carry out echelon ploughing. The reserve vehicles will be deployed to assist as necessary.

| Route No. | Depot        | Description                                  | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m <sup>2</sup> | Treatment type |
|-----------|--------------|--|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------------------|----------------|
| 40R01     | Stirlinghill | A90 Fraserburgh - Ellon Dual                 | 0.5                 | 1                    | 53                  | 48                 | 107.0             | 20                  | Tullos             | 6.50                   | 13.80                             | Pre-wet        |
| 40R02     | Tullos       | A90 Rubislaw Roundabout - A90 Ellon Dual     | 10                  | 12                   | 44                  | 48                 | 78.0              | 25                  | Stirlinghill       | 7.00                   | 12.3                              | Pre-wet        |
| 40R03     | Tullos       | A96 Blackhall Roundabout - A96 Auchmill Road | 10                  | 10                   | 41                  | 48                 | 53.0              | 15                  | Stirlinghill       | 7.00                   | 11.48                             | Pre-wet        |
| 40R04     | Keith        | A96/A95 Jcn - A96 Blackhall R/B Inverurie    | 5                   | 5                    | 50                  | 48                 | 64.0              | 51                  | Tullos             | 6.50                   | 13.0                              | Pre-wet        |
| 40R05     | Keith        | A95 Aberlour - A96 Elgin Dr Grays R/B        | 24                  | 24                   | 47                  | 48                 | 59.4              | 27                  | Inverness          | 6.50                   | 12.2                              | Pre-wet        |
| 40R06     | Keith        | A95 Aberlour - A95 Granish                   | 24                  | 24                   | 52                  | 48                 | 66.0              | 75                  | Inverness          | 6.00                   | 12.48                             | Pre-wet        |

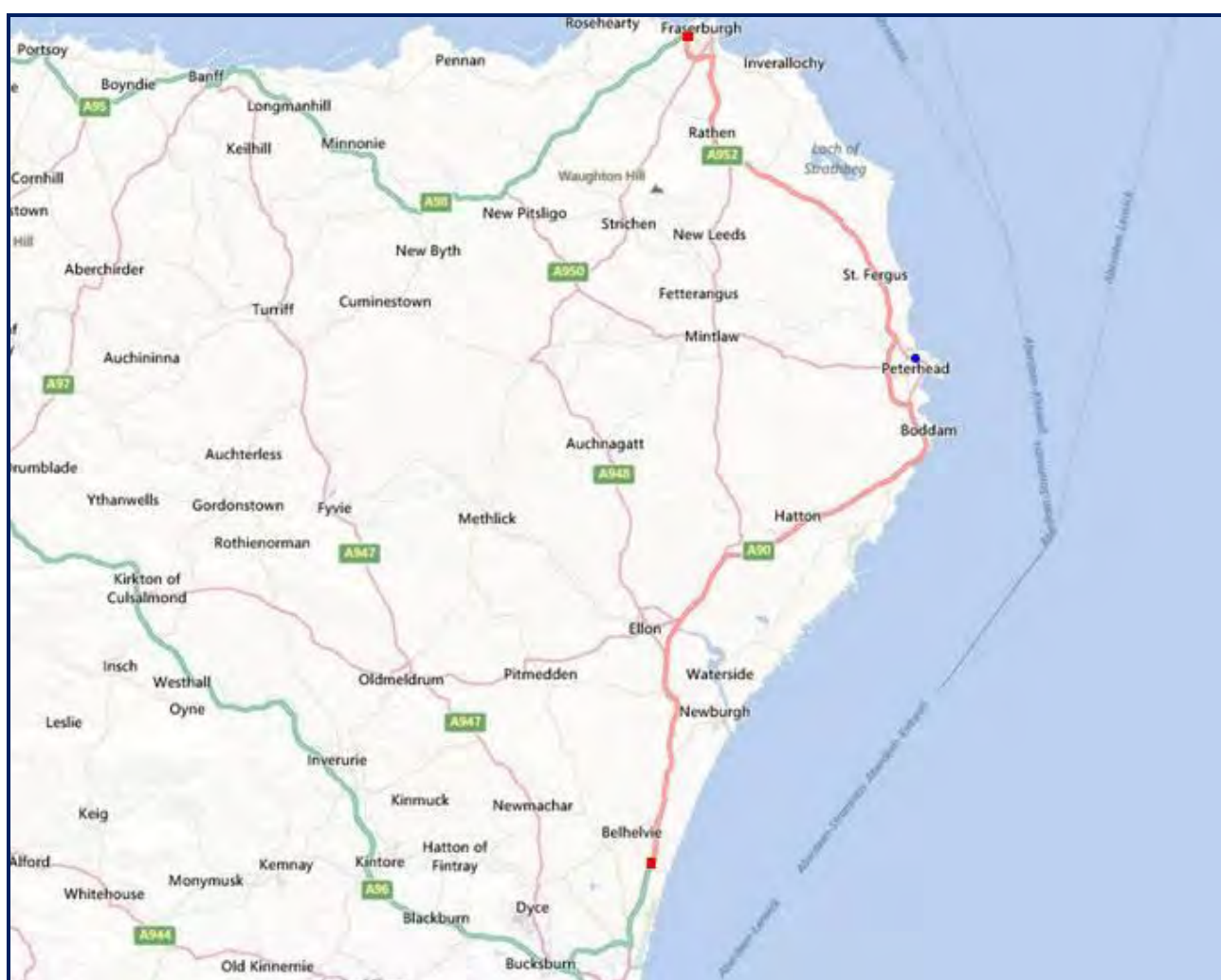


| Route No. | Depot        | Description   | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m2 | Treatment type |
|-----------|--------------|---|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 40R07     | Inverness    | A96 Inverness - A96 Elgin Dr Grays R/B              | 3                   | 3                    | 58                  | 48                 | 73.0              | 60                  | Keith              | 6.50                   | 15.08                 | Pre-wet        |
| 40R08     | Stirlinghill | A90 Rubislaw R/B Aberdeen - A90 Stonehaven Glasslaw | 10                  | 12                   | 49                  | 64                 | 87.0              | 32                  | Edzell             | 7.00                   | 13.72                 | Pre-wet        |
| 40R09     | Edzell       | A90 B974 Jcn - A90 Stonehaven Glasslaw              | 8                   | 8                    | 48                  | 64                 | 52.0              | 38                  | Tullos             | 7.00                   | 13.44                 | Pre-wet        |
| 40R10     | Dundee       | A90 Parkford Jcn - A90 B974 Jcn                     | 35                  | 35                   | 51                  | 64                 | 85.0              | 38                  | Edzell             | 7.00                   | 14.2                  | Pre-wet        |
| 40R11     | Dundee       | A90 Fintry Dr R/B - A90 Parkford Jcn                | 9                   | 10                   | 52                  | 64                 | 81.0              | 9                   | Edzell             | 7.00                   | 14.56                 | Pre-wet        |
| 40R12     | Dundee       | A90 Fintry Drive R/B - Kingsway - Inchmichael       | 9                   | 10                   | 47                  | 64                 | 57.0              | 12                  | Perth              | 7.00                   | 13.1                  | Pre-wet        |

| Route No. | Depot     | Description                   | Depot to Route (km) | Time to Route (mins) | Salting Length (km) | Aver Speed (km/hr) | Route Time (mins) | Route to Depot (km) | Alternative Access | Average Width of Route | Route Tonnage @40g/m2 | Treatment type |
|-----------|-----------|-------------------------------|---------------------|----------------------|---------------------|--------------------|-------------------|---------------------|--------------------|------------------------|-----------------------|----------------|
| 40R13     | Perth     | A90 Inchtute - Perth          | 10                  | 10                   | 49                  | 64                 | 113.0             | 12                  | Dundee             | 7.00                   | 13.7                  | Pre-wet        |
| 40R14     | Lochgelly | A92 Redhouse - A92 Tay Bridge | 12                  | 12                   | 48                  | 55                 | 69.0              | 52                  | Dundee             | 7.00                   | 13.44                 | Pre-wet        |
| 40R15     | Perth     | A9 Loaninghead to Keir R/B    | 25                  | 25                   | 47                  | 64                 | 81.0              | 25                  | Lochgelly          | 7.00                   | 13.16                 | Pre-wet        |
| 40R16     | Perth     | A9 Loaninghead to Inveralmond | 1                   | 1                    | 48                  | 60                 | 60.0              | 1                   | Lochgelly          | 7.00                   | 13.44                 | Pre-wet        |
| 40R17     | Perth     | Broxden to Milnathort         | 5                   | 5                    | 40                  | 64                 | 72.0              | 28                  | Lochgelly          | 9                      | 14.4                  | Pre-wet        |
| 40R18     | Lochgelly | Halbeath - Milnathort         | 8                   | 8                    | 45                  | 64                 | 79.0              | 12                  | Perth              | 7                      | 12.6                  | Pre-wet        |
| 40R19     | Lochgelly | Halbeath - Redhouse           | 5                   | 5                    | 42                  | 60                 | 42.5              | 69                  | Perth              | 7.00                   | 11.76                 | Pre-wet        |
| 40R20     | Perth     | Friarton - Milnathort         | 10                  | 10                   | 22                  | 64                 | 32.8              | 28                  | Lochgelly          | 9.50                   | 8.4                   | Pre-wet        |

The route cards, summary details and maps for the 20 g/m<sup>2</sup> and 40 g/m<sup>2</sup> routes and winter service patrols are as follows:

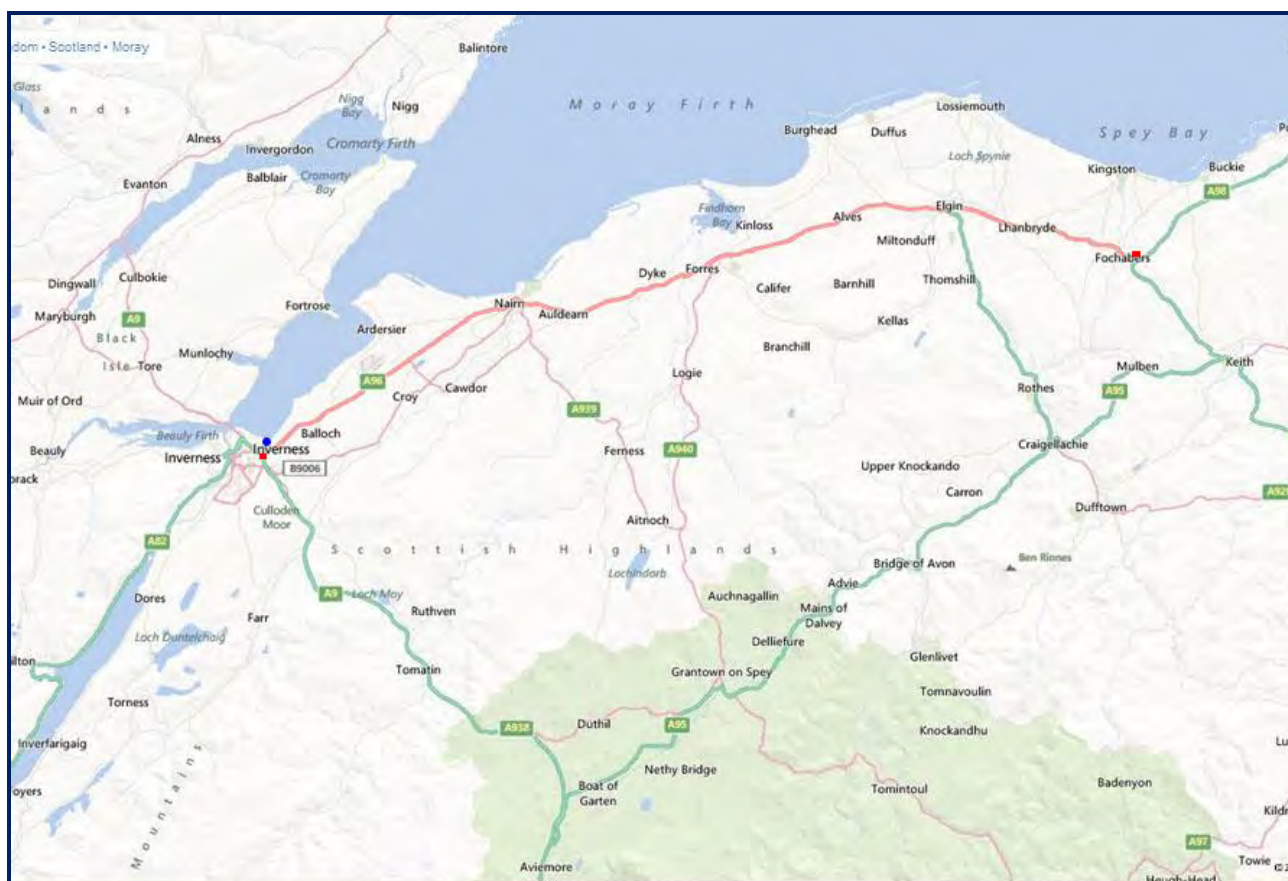
|                        |                 |                              |             |
|------------------------|-----------------|------------------------------|-------------|
| <b>Depot:</b>          | Stirlinghill    | <b>Route:</b>                | NE20R1      |
| <b>Spread Rate:</b>    | 20g/m²          | <b>Route Length:</b>         | 84.6 km     |
| <b>Treatment Type:</b> | Pre-wetted Salt | <b>Route Treated Length:</b> | 52.6 km     |
| <b>Depot to Route:</b> | 0.5 km          | <b>Route Time:</b>           | 114 mins    |
| <b>Depot to Route:</b> | 1 min           | <b>Route Coverage:</b>       | 7.36 tonnes |
| <b>Route to Depot:</b> | 20.0 km         | <b>Route Average Width:</b>  | 7 m         |
| <b>Route to Depot:</b> | 20.0 mins       | <b>Route Average Speed:</b>  | 53 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Tullos depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route            | From                             | To  | Distance (km) |
|---------------|------------------|----------------------------------|---|---------------|
| SALT          | A90 (northbound) | A90 Jcn with Stirlinghill quarry | A98 Junction Fraserburgh (including r'abouts & deceleration lanes at Peterhead Power Station) | 32            |
| TF            | A90 (southbound) | A98 Junction Fraserburgh         | A90 Jcn with Stirlinghill quarry  | 32            |
| SALT          | A90 (southbound) | A90 Jcn with Stirlinghill quarry | B9005 Roundabout at Ellon Dual  | 20.6          |
| <b>Totals</b> |                  |                                  |   | <b>84.6</b>   |

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Inverness          | <b>Route:</b>                | NE20R2       |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 77.6 km      |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 76 km        |
| <b>Depot to Route:</b> | 2 km               | <b>Route Time:</b>           | 104 mins     |
| <b>Depot to Route:</b> | 3 min              | <b>Route Coverage:</b>       | 10.34 tonnes |
| <b>Route to Depot:</b> | 76.0 km            | <b>Route Average Width:</b>  | 6.8 m        |
| <b>Route to Depot:</b> | 76.0 mins          | <b>Route Average Speed:</b>  | 48 km/h      |



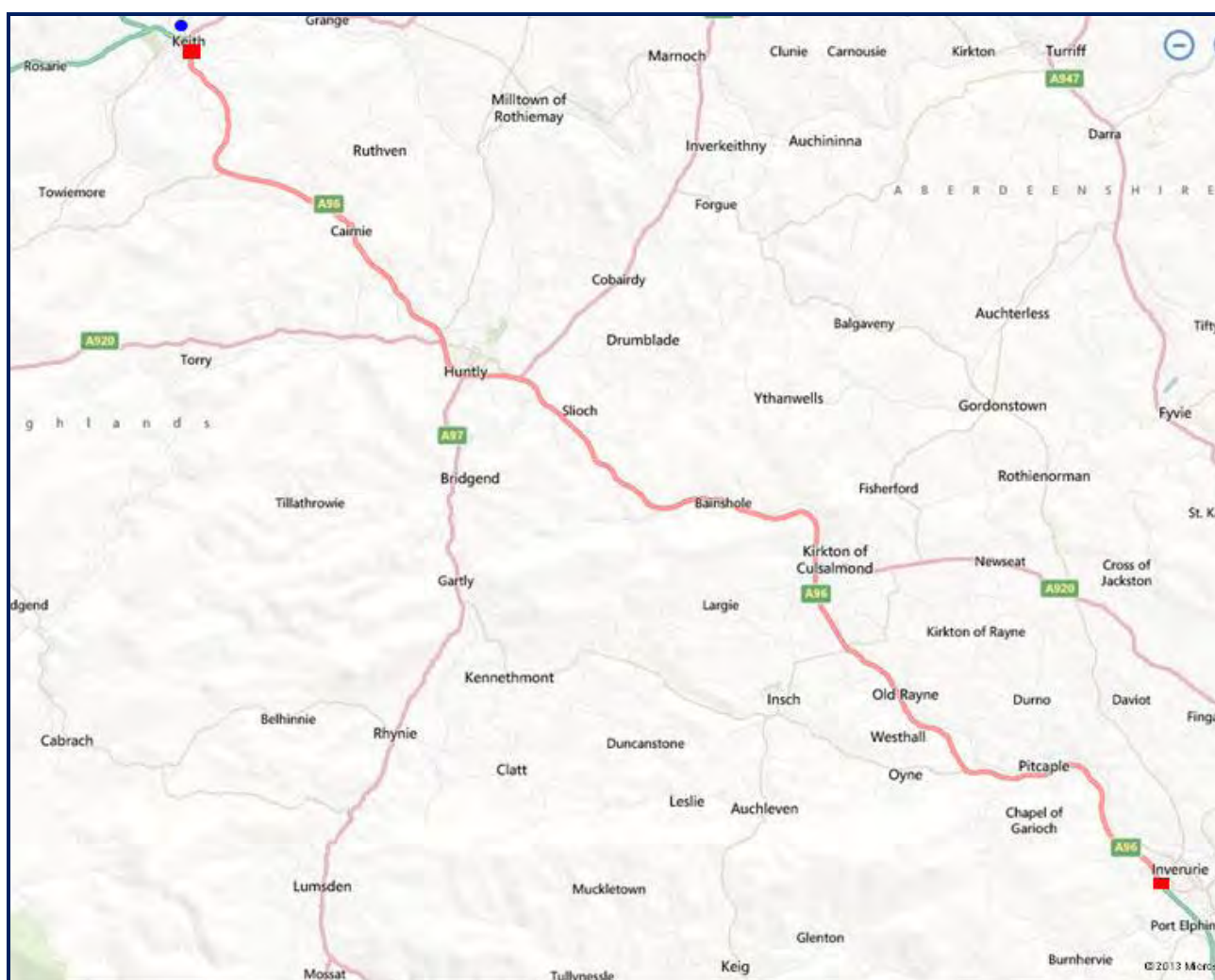
Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Keith depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation | Route           | From                      | To   | Distance (km) |
|-----------|-----------------|---------------------------|--|---------------|
| SALT      | A96 (eastbound) | A96 Raigmore Interchange  | A96 Smithton/Culloden Jcn                                    | 2             |
| TF        | A96 (westbound) | A96 Smithton/Culloden Jcn | A96 Dual section prior to Roundabout at Raigmore retail park | 0.6           |

|               |                    |  |   |             |
|---------------|--------------------|--|---|-------------|
| SALT          | A96<br>(westbound) | A96 Dual section prior to<br>Roundabout at Raigmore<br>retail park | Raigmore Interchange<br>(including roundabouts)           | 1           |
| TF            | A96<br>(eastbound) | A96 Raigmore Interchange   | A96 Smithton/Culloden Jcn                                 | 2           |
| SALT          | A96<br>(eastbound) | A96 Smithton/Culloden Jcn  | A96 Nairn Roundabout                                      | 20          |
| SALT          | A96<br>(eastbound) | A96 Nairn Roundabout   | A96 Elgin West<br>Roundabout (include all<br>roundabouts) | 35.5        |
| SALT          | A96<br>(eastbound) | A96 Elgin West<br>Roundabout                                       | A96 Elgin East roundabout<br>(include all roundabouts)    | 3.5         |
| SALT          | A96<br>(eastbound) | A96 Elgin East roundabout  | A96 Fochabers A98 Jcn                                     | 13          |
| <b>Totals</b> |                    |  |   | <b>77.6</b> |



|                        |                    |                              |            |
|------------------------|--------------------|------------------------------|------------|
| <b>Depot:</b>          | Keith              | <b>Route:</b>                | NE20R3     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 99 km      |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 65 km      |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 86 mins    |
| <b>Depot to Route:</b> | 5 min              | <b>Route Coverage:</b>       | 9.1 tonnes |
| <b>Route to Depot:</b> | 43.0 km            | <b>Route Average Width:</b>  | 6.8 m      |
| <b>Route to Depot:</b> | 43.0 mins          | <b>Route Average Speed:</b>  | 45 km/h    |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Tullos depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route           | From                  | To                           | Distance (km) |
|---------------|-----------------|-----------------------|------------------------------|---------------|
| TF            | A96 (westbound) | Keith Depot           | A96 Fochabers A98 Jcn        | 15            |
| SALT          | A96 (eastbound) | A96 Fochabers A98 Jcn | A96 Port Elphinstone R/about | 65.5          |
| <b>Totals</b> |                 |                       |                              | <b>80.5</b>   |

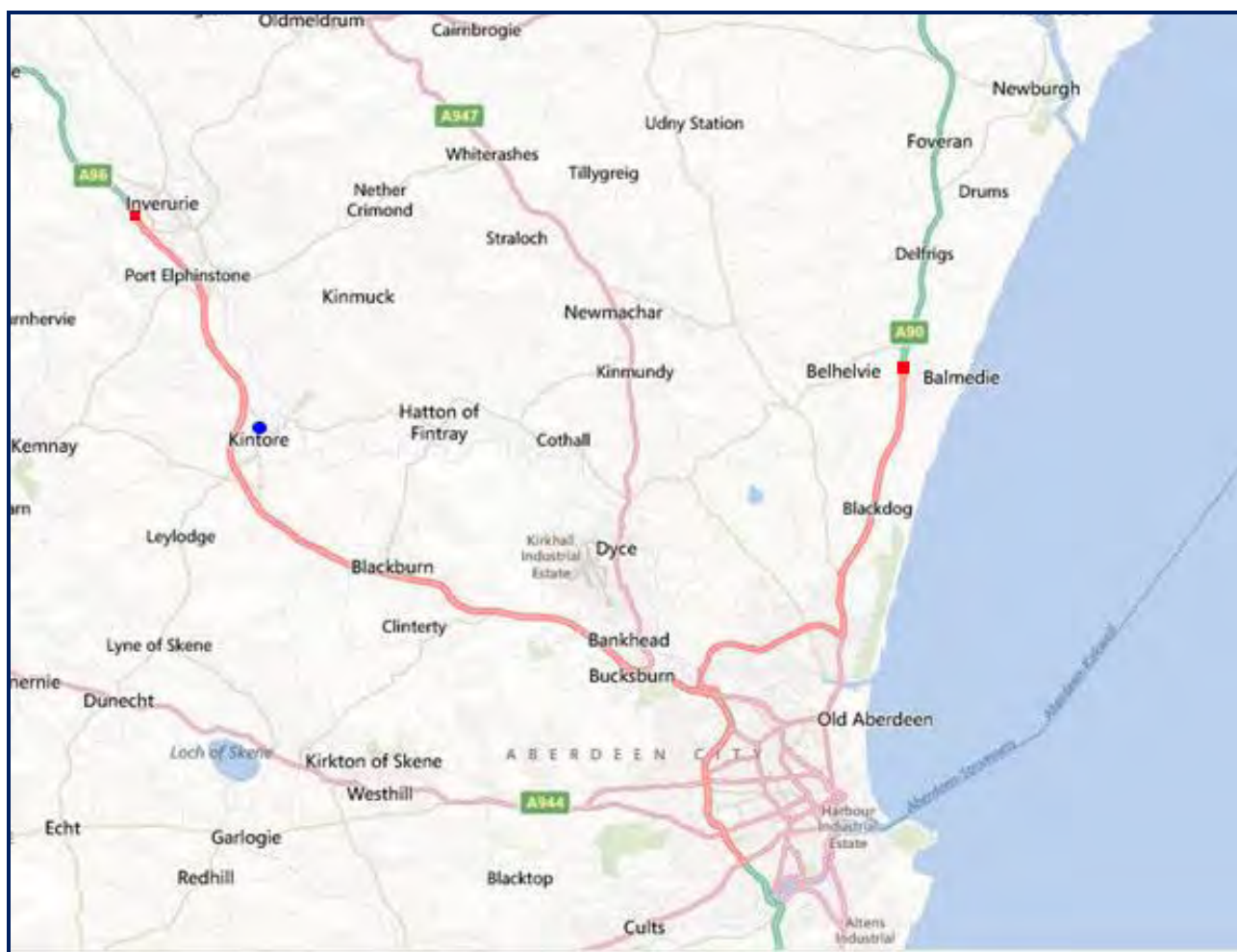
|                        |                    |                              |            |
|------------------------|--------------------|------------------------------|------------|
| <b>Depot:</b>          | Keith              | <b>Route:</b>                | NE20R4     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 74 km      |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 74 km      |
| <b>Depot to Route:</b> | 3 km               | <b>Route Time:</b>           | 98 mins    |
| <b>Depot to Route:</b> | 5 min              | <b>Route Coverage:</b>       | 8.9 tonnes |
| <b>Route to Depot:</b> | 80.0 km            | <b>Route Average Width:</b>  | 6 m        |
| <b>Route to Depot:</b> | 84.0 mins          | <b>Route Average Speed:</b>  | 45 km/h    |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Inverness depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route         | From                                     | To  | Distance (km) |
|---------------|---------------|--|---|---------------|
| SALT          | A95 (w/bound) | A96 / A95 Keith Jcn (including junction) | A9 Granish Junction, Aviemore (incl. A95/B9006 Tomintoul jcn & roundabouts at junctions with A939 and B9102 Grantown-on-Spey) (North West Unit to treat A9/A95 Granish Jcn) | 74            |
| <b>Totals</b> |               |  |   | <b>77</b>     |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Tullos             | <b>Route:</b>                | NE20R5      |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 69.6 km     |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 64.6 km     |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 101 mins    |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 9.04 tonnes |
| <b>Route to Depot:</b> | 5 km               | <b>Route Average Width:</b>  | 7 m         |
| <b>Route to Depot:</b> | 10 mins            | <b>Route Average Speed:</b>  | 41 km/h     |

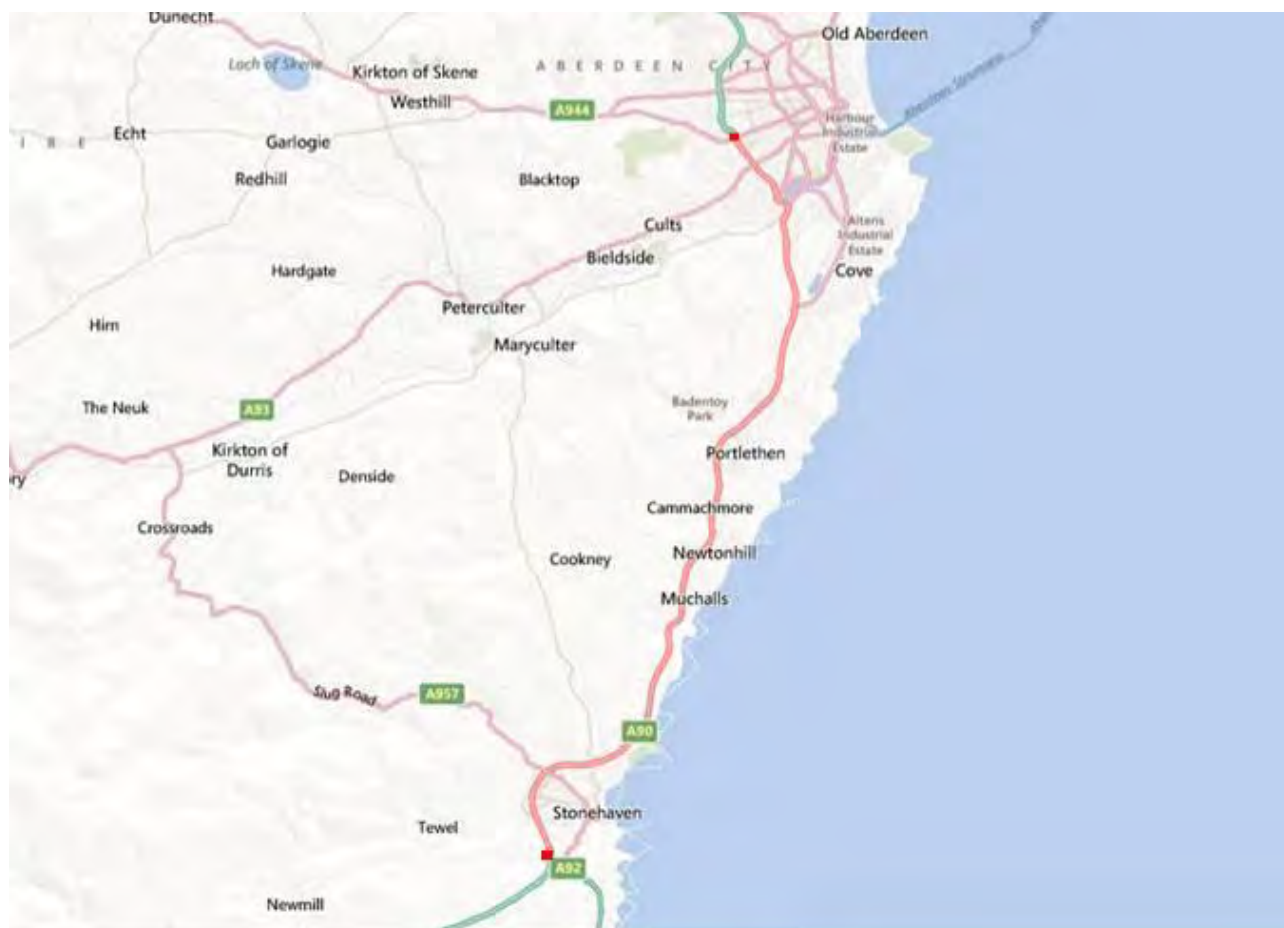


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Stirlinghill depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route            | From                         | To  | Distance (km) |
|---------------|------------------|------------------------------|---|---------------|
| SALT          | A90 (northbound) | A90 Bridge of Dee R/B        | A96 Haudagain R/B                           | 7             |
| SALT          | A96 (westbound)  | A96 Haudagain R/B            | A96 Bucksburn Roundabout                    | 4             |
| SALT          | A90 (westbound)  | A96 Bucksburn R/B            | A96 Port Elphinstone R/about                | 19            |
| SALT          | A90 (eastbound)  | A96 Port Elphinstone R/about | A96 Haudagain R/B (include all roundabouts) | 19            |
| SALT          | A90 (northbound) | A96 Haudagain R/B            | B999 Roundabout                             | 7.0           |
| SALT          | A90 (southbound) | B999 Roundabout              | A90 exhibition centre Roundabout            | 1.6           |
| TF            | A96 (southbound) | A90 Bridge of Don R/about    | A96 Haudagain R/B                           | 5             |
| SALT          | A90 (southbound) | A96 Haudagain R/about        | A90 Bridge of Dee R/B                       | 7             |
| <b>Totals</b> |                  |                              |   | <b>69.6</b>   |



|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Tullos             | <b>Route:</b>                | NE20R6      |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 95.3 km     |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 55.2 km     |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 105 mins    |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 7.73 tonnes |
| <b>Route to Depot:</b> | 3 km               | <b>Route Average Width:</b>  | 7 m         |
| <b>Route to Depot:</b> | 5 mins             | <b>Route Average Speed:</b>  | 54 km/h     |



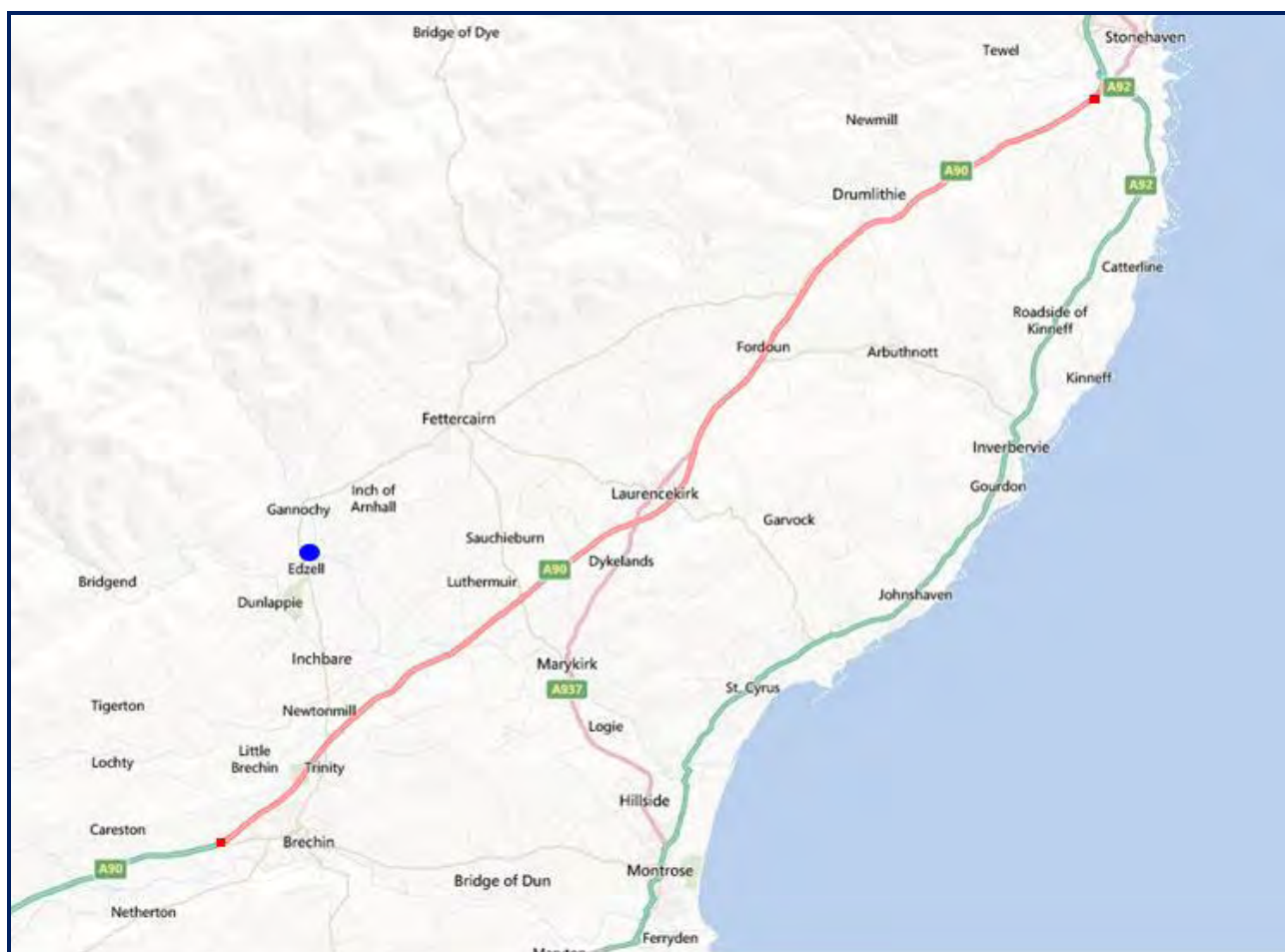
Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Edzell depot by utilising the trunk road and local road network should access be required from an alternative depot.



| Operation | Route                | Direction                                       | Route Description  | Distance (km) |
|-----------|----------------------|---|--|---------------|
| SALT      | A90 (southbound)     | Bridge of Dee R/B                               | A90 end Charlestown southbound off slip (incl all roundabouts)                                       | 4.6           |
| TF        | A956 (E/bound)       | A90 end Charlestown S/bound off slip            | Turn at Cove Jcn   | 0.45          |
| TF        | A956 (W/bound)       | Cove Jcn  | Start Charlestown N/bound on slip  | 0.9           |
| SALT      | A90 (N/bound)        | Start Charlestown N/bound on slip               | Bridge of Dee R/B  | 4.6           |
| TF        | A90 (S/bound)        | Bridge of Dee R/B                               | Charlestown Southbound off slip  | 4.6           |
| SALT      | A90 (S/bound)        | Charlestown Southbound off slip                 | End of S/bound off slip at Glasslaw Interchange (include increased width at Stonehaven north access) | 20            |
| TF        | Glasslaw Interchange | End of S/bound off slip at Glasslaw Interchange | Start of S/bound on slip at Glasslaw   | 0.1           |
| SALT      | A90 (S/bound)        | Start of S/bound on slip at Glasslaw            | End of S/bound on slip at Glasslaw   | 0.3           |
| SALT      | A90 (S/bound)        | End of S/bound on slip at Glasslaw              | Glasslaw Farm  | 0.3           |
| TF        | A90 (S/bound)        | Glasslaw Farm                                   | Midtown of Barras junction (turn)  | 1.8           |
| TF        | A90 (N/bound)        | Midtown of Barras junction                      | Glasslaw Farm  | 1.8           |
| SALT      | A90 (N/bound)        | Glasslaw Farm                                   | Glasslaw slip northbound   | 0.5           |
| SALT      | A90 (N/bound)        | Glasslaw slip N/bound                           | 1st road junction  | 0.2           |
| TF        | A90                  | 1st road junction                               | (turn)   |               |
| SALT      | A90                  | 1st road junction                               | A90 main carriageway   | 0.2           |
| SALT      | A90                  | A90 main carriageway                            | Bluehill junction (include increased width Muchalls/ Cookney & Cammachmore Jnc)                      | 17            |
| TF        | A90 (N/bound)        | Bluehill  | Craighill (turn)   | 0.2           |
| TF        | A90 (S/bound)        | Craighill                                       | Start of Charlestown off slip  | 0.2           |
| SALT      | A90                  | Start of Charlestown off slip                   | End of Charlestown off slip  | 0.5           |
| TF        | Local road           | End of Charlestown slip                         | Start of southbound Charlestown southbound on slip   | 0.1           |
| SALT      | A90 (southbound)     | Start of southbound Charlestown on slip         | End of southbound on slip / A90 main carriageway   | 0.6           |
| TF        | A90 (S/bound)        | A90 main c/way                                  | Portlethen SB OffSlip  | 3             |
| SALT      | A90 (S/bound)        | Portlethen SB OffSlip                           | Portlethen SB OnSlip   | 0.5           |
| TF        | A90 (S/bound)        | Portlethen SB OnSlip                            | Badentoy SB Offslip  | 0.6           |

| Operation     | Route         | Direction   | Route Description  | Distance (km) |
|---------------|---------------|---|--|---------------|
| SALT          | A90 (S/bound) | Badentoy SB Offslip   | Badentoy SB Onslip   | 0.8           |
| TF            | A90 (S/bound) | Badentoy SB Onslip  | Newtonhill Slip  | 2.7           |
| SALT          | A90 (S/bound) | Newtonhill Slip   | Roundabout   | 0.2           |
| SALT          | A90 (S/bound) | Roundabout  | A90 main carriageway (including Stonehaven north slip roads) | 0.2           |
| TF            | A90 (S/bound) | A90 main carriageway  | Spurryhillock Slip   | 8.2           |
| SALT          | A90           | Spurryhillock Slip  | Auchenblae Road  | 0.2           |
| TF            | A90           | Auchenblae Road   | Broomhill Road   | 0.5           |
| TF            | A90           | Broomhill Road  | Spurryhillock Slip   | 1.2           |
| SALT          | A90 (N/bound) | Spurryhillock Slip  | A90 main carriageway   | 0.2           |
| TF            | A90           | A90 main carriageway  | B979 Netherley Off Slip                                      | 1.7           |
| SALT          | A90           | Netherley Off Slip  | Mains of Ury (turn) – (if busy turn at Commodore Hotel)      | 0.6           |
| SALT          | A90           | Mains of Ury  | A90 main carriageway   | 0.7           |
| TF            | A90           | A90 main carriageway  | Newtonhill Slip  | 5.2           |
| SALT          | A90           | Newtonhill Slip   | Newtonhill Slip (turn at Cookney Road)                       | 0.5           |
| SALT          | A90           | Newtonhill Slip   | A90 main carriageway   | 0.5           |
| TF            | A90           | A90 main carriageway  | Badentoy NB OffSlip  | 3.1           |
| SALT          | A90           | Badentoy NB OffSlip   | Badentoy NB OnSlip   | 0.6           |
| TF            | A90 (N/bound) | Badentoy NB OnSlip  | Portlethen NB offslip  | 1             |
| SALT          | A90           | Portlethen NB offslip                                       | Portlethen NB onslip   | 0.5           |
| TF            | A90 (N/bound) | A90 main carriageway – end of N/bound on slip at Portlethen | Start of the northbound off slip at Harbour Flyover          | 2.8           |
| SALT          | A90 (N/bound) | Start of the N/bound off slip at Harbour Flyover            | Old Charlestown Road   | 0.8           |
| <b>Totals</b> |               |   |  | <b>95.3</b>   |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Dundee             | <b>Route:</b>                | NE20R7      |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 94 km       |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 65 km       |
| <b>Depot to Route:</b> | 3 km               | <b>Route Time:</b>           | 105 mins    |
| <b>Depot to Route:</b> | 4 min              | <b>Route Coverage:</b>       | 9.10 tonnes |
| <b>Route to Depot:</b> | 13.5 km            | <b>Route Average Width:</b>  | 7 m         |
| <b>Route to Depot:</b> | 15 mins            | <b>Route Average Speed:</b>  | 54 km/h     |



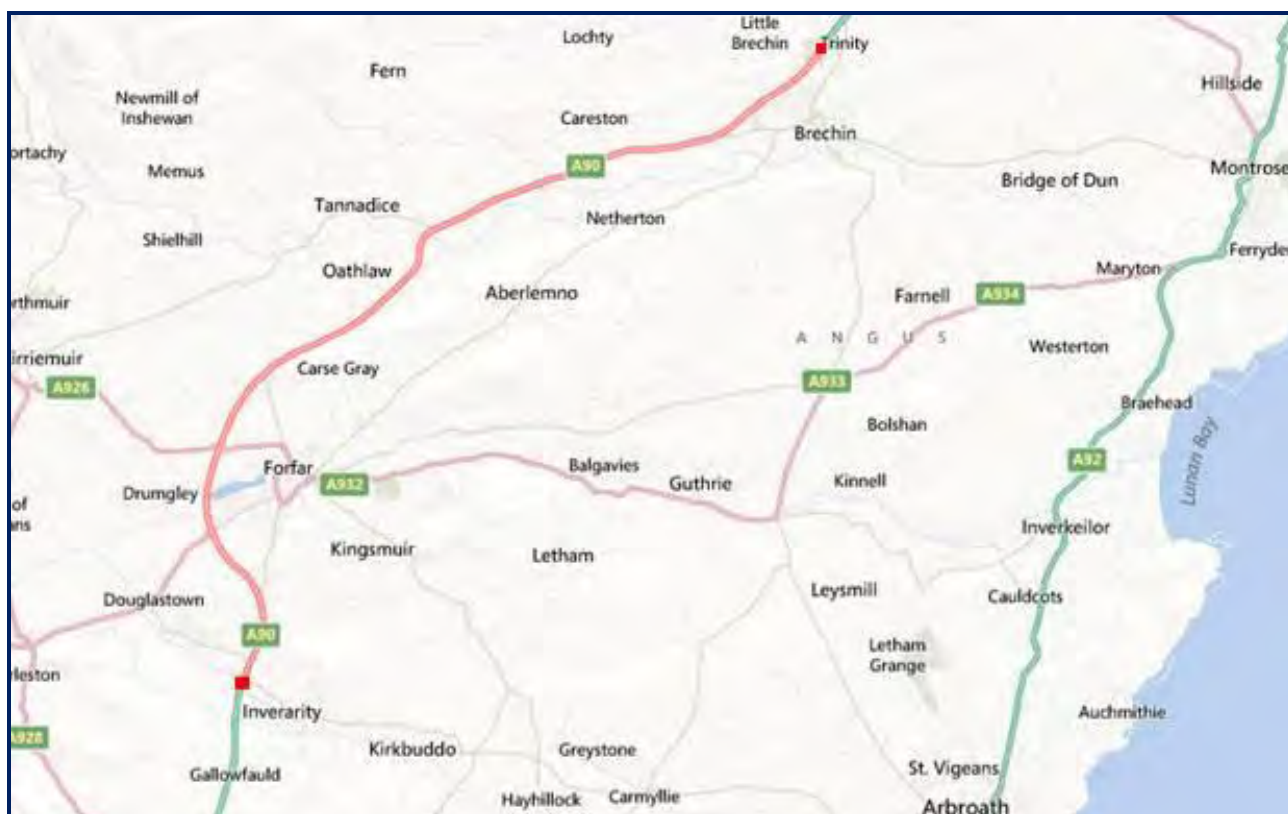
Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Dundee depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation | Route          | From                                    | To   | Distance (km) |
|-----------|----------------|---|--|---------------|
| SALT      | A90 (N/bound)  | Junction with A90 Northwater Bridge     | Just beyond Glasslaw Farm access. (include wider spread at Glencore Grain Area, Hillside, B974 Fettercairn/ Marykirk, B9120 St Cyrus/ Laurencekirk, B967 Arbutnot/ Inverbervie, Fordoun, Glenbervie/ Auchinblae, Drumlithie & Kinneff/ Inverbervie jcms) | 29.5          |
| TF        | A90 (N/bound)  | Just beyond Glasslaw Farm access        | Just before the northbound off slip at Glasslaw  | 1             |
| SALT      | A90 (N/bound)  | Just before N/bound off slip Glasslaw   | Just beyond the northbound on slip at Glasslaw   | 0.5           |
| TF        | A90 northbound | Just beyond northbound on slip Glasslaw | Spurryhillock – start of the Off Slip  | 0.5           |
| TF        | A957           | Spurryhillock – start of Off Slip       | A90 Junction   | 4             |
|           |                |   | (southbound)   |               |
| TF        | A90            | A90 Junction (southbound)               | Glasslaw – just before the Off Slip  | 2             |
|           | southbound     |   |  |               |
| SALT      | A90            | Glasslaw – just before Off Slip         | Glasslaw – just beyond the On Slip   | 0.5           |
|           | southbound     |   |  |               |
| TF        | A90 S/bound    | Glasslaw, just beyond Glasslaw on slip  | Just before Glasslaw Farm acces  | 0.5           |
| SALT      | A90 S/bound    | Just before Glasslaw Farm               | Start of the southbound off slip at Stracathro   | 32            |
| SALT      | A90 S/bound    | Start of S/bound off slip Stracathro    | End of the southbound off slip at Stracathro   | 0.5           |

|    |             |  |   |     |
|----|-------------|--|---|-----|
| TF | A90 S/bound | End of southbound off slip at Stracathro | Start of S/bound off slip at Keithock (Incl. wider spread at Drumlithie, Glenbervie/ Auchinblae, Fordoun, B974 Fettercairn, and Glencore Grain Area junctions | 3.5 |
|----|-------------|--|---|-----|

| Operation     | Route            | From   | To   | Distance (km) |
|---------------|------------------|--|--|---------------|
| SALT          | A90 (southbound) | Start of southbound off slip at Keithock     | End of the southbound off slip at Keithock   | 0.5           |
| TF            | A90 (southbound) | End of southbound off slip at Keithock       | Start of the southbound off slip at St Ann's | 4             |
| SALT          | A90 (southbound) | Start of S/bound off slip at St. Ann's       | End of the southbound on slip at St Ann's    | 0.5           |
| TF            | A90 southbound   | End southbound on slip St Ann's              | Careston Castle Jcn                          | 2.5           |
| TURN          | A90              | Careston C Jcn                               |  |               |
| TF            | A90 northbound   | Careston Castle Jcn                          | Start of northbound off slip at St Ann's     | 2.5           |
| SALT          | A90 northbound   | Start of the northbound off slip at St Ann's | End of the northbound on slip at St. Ann's   | 0.5           |
| TF            | A90 northbound   | End northbound on slip St Ann's              | Start of northbound off slip at Keithock     | 4             |
| SALT          | A90 northbound   | Start of N/bound off slip at Keithock        | End of N/bound on slip at Keithock           | 1             |
| TF            | A90 northbound   | End N/bound on slip Keithock                 | Start N/bound off slip at Stracathro         | 3.5           |
| SALT          | A90 northbound   | Start northbound off slip Stracathro         | End of N/bound on slip at Stracathro         | 0.5           |
| <b>Totals</b> |                  |  |  | <b>94</b>     |

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Dundee             | <b>Route:</b>                | NE20R8       |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 103 km       |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 79 km        |
| <b>Depot to Route:</b> | 11 km              | <b>Route Time:</b>           | 115 mins     |
| <b>Depot to Route:</b> | 13 min             | <b>Route Coverage:</b>       | 11.06 tonnes |
| <b>Route to Depot:</b> | 21 km              | <b>Route Average Width:</b>  | 7 m          |
| <b>Route to Depot:</b> | 25 mins            | <b>Route Average Speed:</b>  | 54 km/h      |



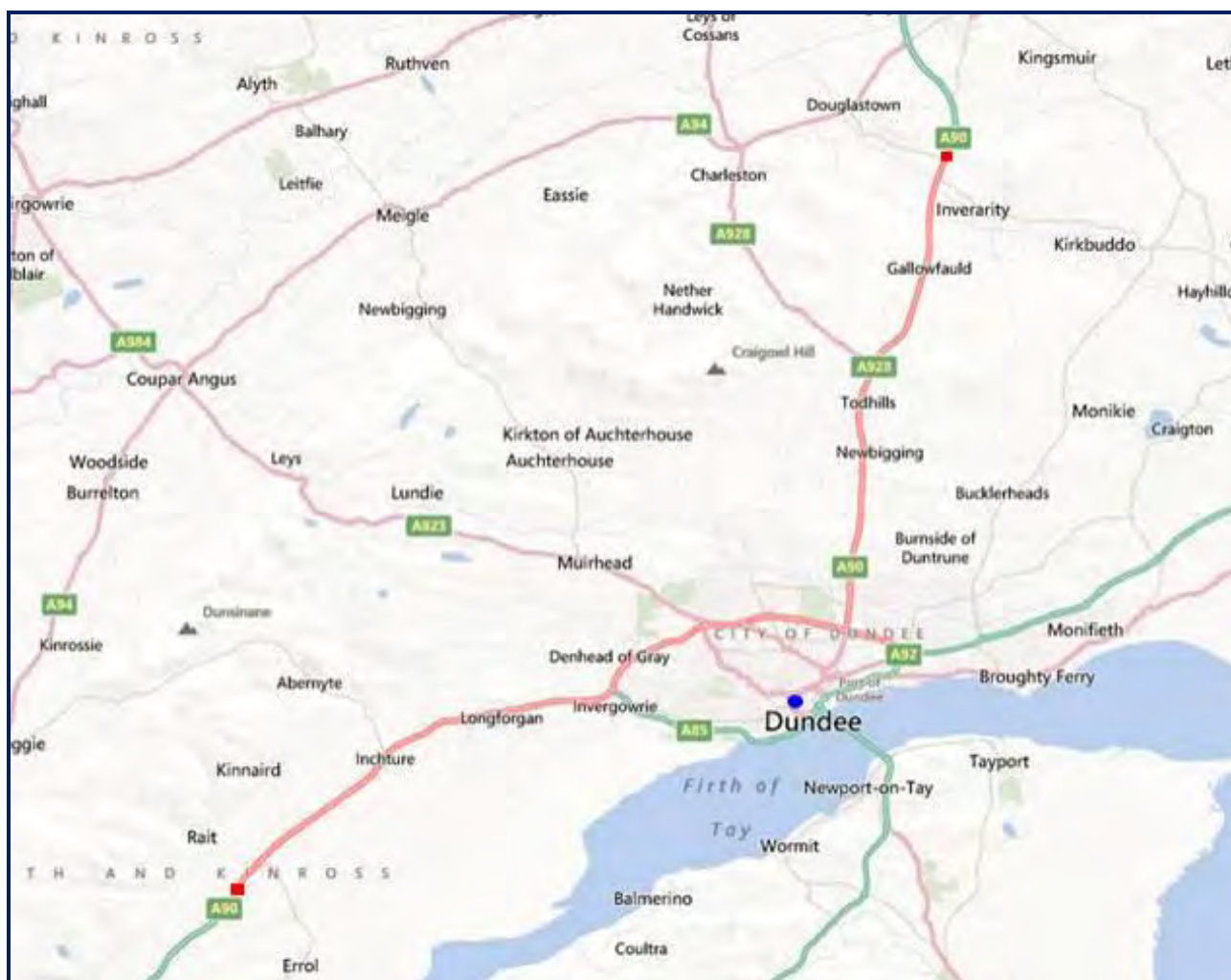
Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Edzell depot by utilising the trunk road and local road network should access be required from an alternative depot.



| Operation | Route                     | Direction                                  | Route Description  | Distance (km) |
|-----------|---------------------------|--|--|---------------|
| SALT      | A90 N/bound               | Emmock Roundabout                          | Beyond N/bound on slip at Stracathro (Include wider spread at Lochlands, B957 Finavon/ Tannadice plus hotel, diner and Careston jcn) | 42            |
| TF        | A90 N/bound               | Just beyond N/bound on slip at Stracathro  | Turn at Glencore Grain Area  | 1             |
| TF        | A90 S/bound               | Hillside Junction                          | Just before S/bound off slip at Stracathro   | 1             |
| SALT      | A90 S/bound               | Just before S/bound off slip at Stracathro | A90 Lochlands Jcn (Incl. wider spread at Little Chef/ Finavon central reserve)   | 25.5          |
| TURN      | A90 Lochlands Jcn         | A90 Lochlands Jcn                          |  |               |
| TF        | A90 N/bound               | A90 Lochlands Jcn                          | A94 Glamis Jcn   | 3.5           |
| SALT      | A90                       | Start of A94 N/bound off slip              | End of A94 northbound on slip  | 0.5           |
| TF        | A90 northbound            | End of A94 N/bound on slip                 | Start of A926 northbound off slip  | 2.5           |
| SALT      | A90                       | Start of A926 N/bound off slip             | End of A926 northbound off slip (incl. overbridge)   | 1             |
| TF        | A90 (northbound)          | End of A926 N/bound off slip               | A90 Quilkoe Jcn  | 2.5           |
| TURN      | A90 Quilkoe Jcn           | A90 Quilkoe Jcn                            |  |               |
| TF        | A90 (s/bound)             | A90 Quilkoe Jcn                            | Start of A926 offslip  | 2.5           |
| SALT      | A90 s/bound               | Start of A926 off slip                     | Just before roundabout at south side of flyover.   | 0.5           |
| TF        | A90/A926 off slip s/bound | End of off slip at roundabout.             | Start of on slip at roundabout.  | 0.2           |
| SALT      | A90/A926 on slip s/bound  | Start of on slip at roundabout.            | End of A90/A926 on slip  | 0.5           |
| TF        | A90 s/bound               | End of A90/A926 on slip                    | Start of southbound off slip at A94 Forfar   | 1.5           |
| SALT      | A90/A94 off slip s/bound  | Start s/bound off slip at A94 Forfar       | Just before roundabout at south side of underpass.   | 0.5           |
| TF        | A90/A94 off slip s/bound  | End off slip at roundabout.                | Start of on slip at roundabout.  | 0.2           |
| SALT      | A90/A94 slip sbound       | Start of on slip at roundabout.            | End of A90/A94 on slip.  | 0.5           |
| TF        | A90 S/bound               | End A90/A94 on slip                        | A90 Lochlands Junction   | 2             |

| Operation     | Route             | Direction                                 | Route Description                             | Distance (km) |
|---------------|-------------------|---|---|---------------|
| SALT          | A90 S/bound       | A90 Lochlands Junction                    | Muiryfaulds Junction (do loop at Muiryfaulds) | 5             |
| TF            | A90 N/bound       | Muiryfaulds Junction                      | Start of A90 Gateside Northbound off slip     | 1.5           |
| SALT          | A90 n/bound       | Start of A90 Gateside N/bound off slip    | End of A90 Gateside Northbound off slip       | 0.4           |
| TURN          | A90 Gateside      | A90 Gateside                              |   |               |
| TF            | A90 Gateside      | A90 Gateside northbound onslip            | End of A90 Gateside Northbound onslip         | 0.4           |
| SALT          |                   |   |   |               |
| TF            | A90 N/bound)      | End of A90 Gateside n/bound on slip       | Start of A90 Douglastown Northbound offslip   | 1.8           |
| SALT          | A90 N/bound       | Start of A90 Douglastown n/bound off slip | End of A90 Douglastown Northbound onslip      | 0.5           |
| TF            | A90 N/bound       | End of A90 Douglastown N/bound on slip    | A90 Lochlands Jcn                             | 2             |
| TURN          | A90 Lochlands Jcn | A90 Lochlands Jcn                         |   |               |
| TF            | A90 S/bound       | A90 Lochlands Jcn                         | Start of A90 Douglastown Northbound offslip   | 1.5           |
| SALT          | A90 S/bound       | Start of A90 Douglastown S/bound off slip | End of A90 Douglastown southbound onslip      | 1             |
| TF            | A90 S/bound       | End A90 Douglastown S/bound on slip       | Start of Gateside southbound offslip          | 1             |
| SALT          | A90 S/bound       | Start of Gateside S/bound off slip        | End of Gateside southbound offslip            | 0.2           |
| TURN          | A90 Gateside      | A90 Gateside                              |   |               |
| SALT          | A90 S/bound       | Start of Gateside S/bound on slip         | End of Gateside southbound onslip             | 0.2           |
| <b>Totals</b> |                   |   |   | <b>103</b>    |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | NE20R9      |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 96 km       |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 59 km       |
| <b>Depot to Route:</b> | 10 km              | <b>Route Time:</b>           | 114 mins    |
| <b>Depot to Route:</b> | 13 min             | <b>Route Coverage:</b>       | 8.26 tonnes |
| <b>Route to Depot:</b> | 24 km              | <b>Route Average Width:</b>  | 7 m         |
| <b>Route to Depot:</b> | 28 mins            | <b>Route Average Speed:</b>  | 54 km/h     |



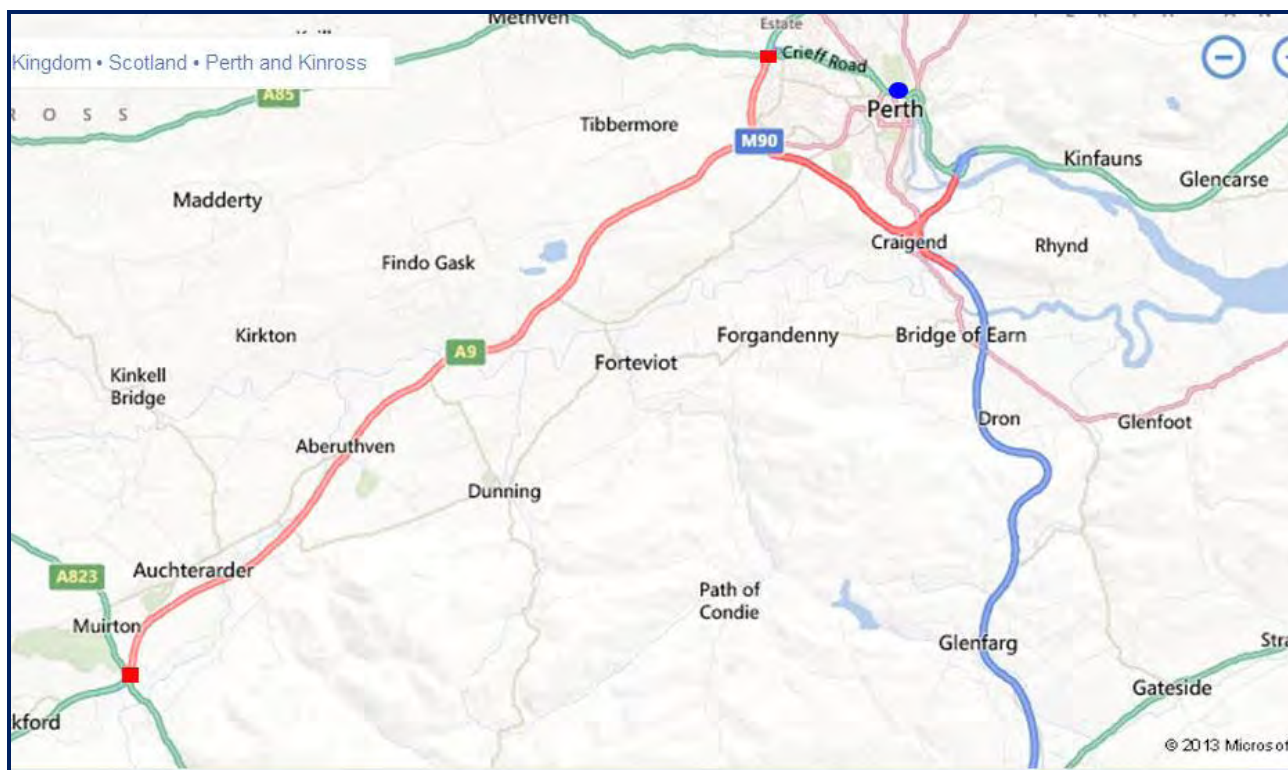
Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Perth depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation | Route         | Direction   | Route Description  | Distance (km) |
|-----------|---------------|---|--|---------------|
| SALT      | A92           | Junction with A92                                     | Mini r/about just west of Tay Road Bridge (incl. r/abouts & Tay Bridge mini r/about)   | 3.5           |
| SALT      | A92           | Mini r/about west of Tay Road Bridge                  | Junction with A92  | 3.5           |
| SALT      | A972          | Junction with A92                                     | Forfar Rd R/about (Jcn A972)   | 2             |
| SALT      | A90 n/bound   | Forfar Rd R/about (Jcn A972)                          | Emmock Road roundabout (including roundabout)  | 2             |
| TF        | A90 n/bound   | Emmock Rd R/about                                     | Turn at Gateside   | 9             |
| TF        | A90 s/bound   | Gateside  | Just before layby Muiryfaulds Jcn  | 1.5           |
| SALT      | A90 s/bound   | Before layby at Muiryfaulds jcn (NB treat main c/way) | Forfar Rd Roundabout (west)/ Kingsway Jcn (incl. wider spread Tealing, Kellas jcms     | 11            |
| SALT      | A972          | Forfar Road Roundabout (west)                         | Junction with A92 (including Forfar Rd (east), Pitkerro, Asda, Arbroath Rd Roundabouts | 3.5           |
| TF        | A972 w/bound  | Junction with A92                                     | A90 Forfar Road  | 2             |
| SALT      | A90 w/bound)  | A90 Forfar Road                                       | A90 Swallow Roundabout (including all roundabouts)                                     | 7.5           |
| SALT      | A90 eastbound | A90 Swallow R/about                                   | A90 Forfar Road  | 7             |
| TF        | A90 westbound | A90 Forfar Rd R/about                                 | A90 Kings Cross Interchange westbound offslip  | 3             |
| SALT      | A90 westbound | A90 Kings Cross Interchange w/bound off slip          | A90 Kings Cross Interchange westbound onslip   | 1             |
| TF        | A90 westbound | A90 Kings Cross Interchange w/bound on slip           | A90 Coupar Angus Road Interchange westbound off slip                                   | 1             |
| SALT      | A90 westbound | A90 Coupar Angus Rd Interchange w/bound off slip      | A90 Coupar Angus Rd Interchange westbound onslip                                       | 1             |
| TF        | A90 westbound | A90 Coupar Angus Rd Interchange w/bound on slip       | A90 Myrekirk Roundabout  | 2             |
| TF        | A90 e/bound   | A90 Myrekirk Roundabout                               | A90 Coupar Angus Rd Interchange eastbound off slip                                     | 2             |
| SALT      | A90 e/bound   | A90 Coupar Angus Rd Interchange eastbound off slip    | A90 Coupar Angus Rd Interchange eastbound on slip                                      | 1             |

| Operation     | Route                             | Direction   | Route Description                                | Distance (km)    |
|---------------|-----------------------------------|---|--|------------------|
| TF            | A90 e/bound                       | A90 Coupar Angus Rd Interchange eastbound on slip           | A90 Kings Cross Interchange eastbound off slip   | 1                |
| SALT          | A90 E/bound                       | A90 Kings Cross Interchange E/bound off slip                | A90 Kings Cross Interchange E/bound on slip      | 1                |
| TF            | A90 E/bound                       | A90 Kings Cross Interchange E/bound on slip                 | A90 Strathmartine Rd Roundabout                  | 0.5              |
| TF            | A90 westbound                     | A90 Strathmartine Road Roundabout                           | A90 Swallow Roundabout                           | 5                |
| SALT          | A90 (westbound)                   | Swallow Hotel Roundabout                                    | Just beyond Longforgan westbound on slip         | 4                |
| SALT          | A90 (westbound)                   | Just beyond Longforgan W/bound on slip                      | westbound offslip at Inchtute Interchange        | 3                |
| SALT          | A90 (Westbound)                   | Start w/bound off slip Inchtute Interchange                 | End of westbound offslip at Inchtute Interchange | 0.5              |
| SALT          | A90 (Westbound)                   | Start w/bound on slip Inchtute Interchange                  | End of westbound onslip at Inchtute Interchange  | 0.5              |
| TF            | A90 (Westbound)                   | End W/bound on slip Inchtute Interchange                    | Westbound off slip Inchmichael                   | 4                |
| SALT          | A90 (Westbound)                   | Westbound offslip Inchmichael                               | End of Eastbound onslip Inchmichael              | 0.75             |
| TF            | A90 (eastbound)                   | End of Eastbound onslip Inchmichael                         | Just before the eastbound offslip at Inchtute    | 4                |
| SALT          | A90 (eastbound)                   | Just before E/bound off slip at Inchtute                    | A90 Swallow Roundabout                           | 6.5              |
| TF & SALT     | A90 (westbound)                   | Swallow Hotel R/about (Salting Invergowrie layby & r/about) | Just Before start of Off Slip Longforgan         | TF 3<br>Salt 1.5 |
| SALT          | A90 Longforgan Underpass w/bound  | Just Before start of Westbound Off Slip Longforgan          | End of westbound Off Slip Longforgan             | 0.5              |
| TF            | A90 Longforgan Underpass e/bound) | End of Off Slip Longforgan w/bound                          | Start of Longforgan on slip (eastbound)          | 0.5              |
| SALT          |                                   | Start of Longforgan on slip e/bound                         | End of Longforgan on slip e/bound                | 0.5              |
| <b>Totals</b> |                                   |   |  | <b>96</b>        |



|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | NE20R10     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 103 km      |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 62 km       |
| <b>Depot to Route:</b> | 0.5 km             | <b>Route Time:</b>           | 99 mins     |
| <b>Depot to Route:</b> | 1 min              | <b>Route Coverage:</b>       | 8.68 tonnes |
| <b>Route to Depot:</b> | 2 km               | <b>Route Average Width:</b>  | 7.3 m       |
| <b>Route to Depot:</b> | 2 mins             | <b>Route Average Speed:</b>  | 54 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Lochgelly depot by utilising the trunk road and local road network should access be required from an alternative depot.

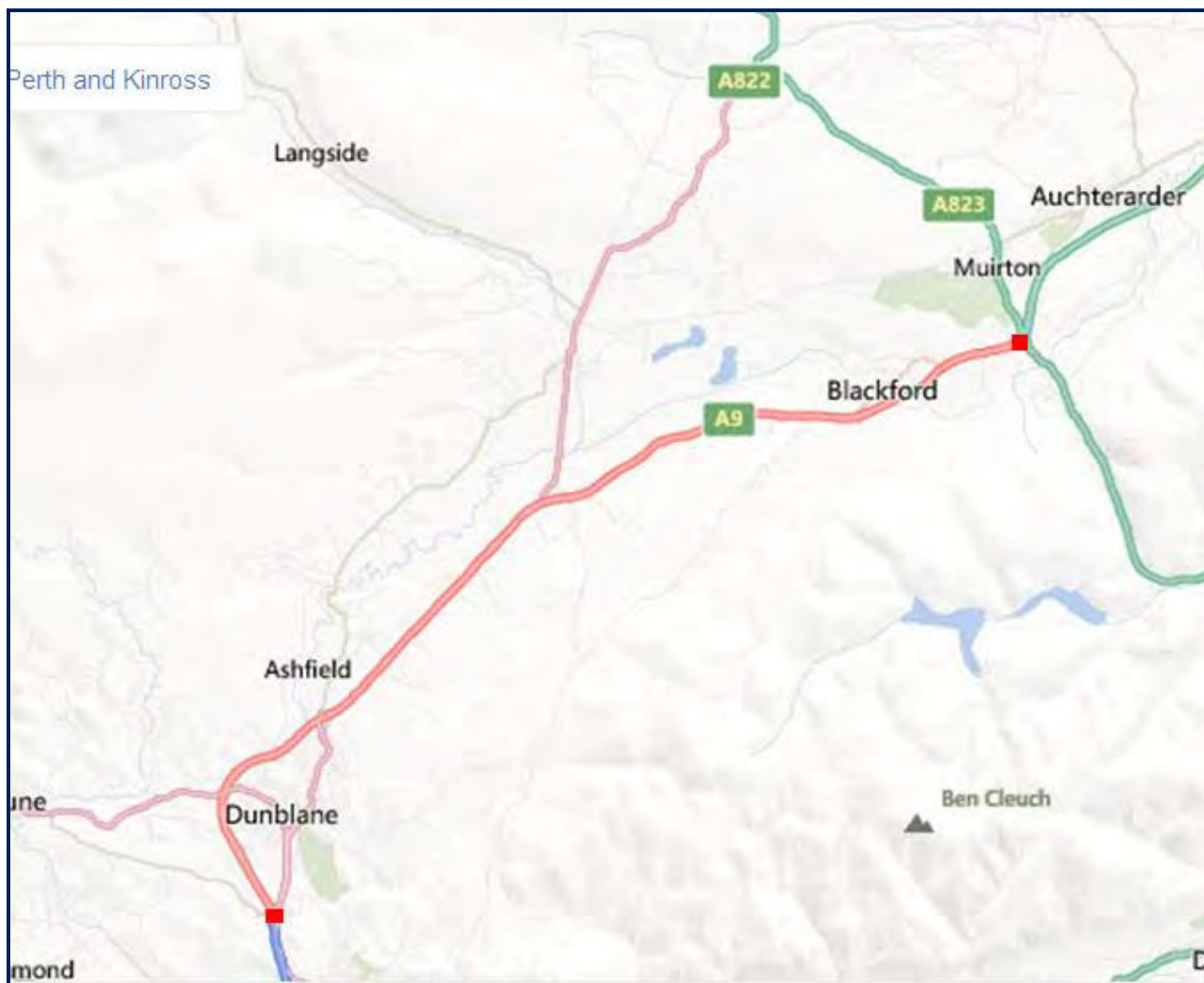


| Operation | Route                 | From   | To   | Distance (km) |
|-----------|-----------------------|--|--|---------------|
| TF        | A93 (westbound)       | Inveralmond Depot                                  | A9 Inveralmond roundabout  | 0.7           |
| SALT      | A9 (southbound)       | A9 Inveralmond Roundabout inc roundabout           | A9 Broxden roundabout inc roundabout   | 4.5           |
| SALT      | A9 (northbound)       | A9 Broxden roundabout (northbound)                 | A9 Inveralmond Roundabout  | 4.3           |
| TF        | A9 (southbound)       | A9 Inveralmond Roundabout                          | A85 off slip to Creiff Rd  | 1.3           |
| SALT      | A9 (southbound)       | A85 Creiff Rd off slip                             | Creiff rd (Tesco's) roundabout inc. roundabout   | 0.5           |
| SALT      | A9 (southbound)       | Creiff rd (Tesco's) roundabout                     | A85 Creiff rd on slip /A9 main carriageway   | 0.5           |
| TF        | A9 (Perth southbound) | A85 Creiff rd on slip /A9 main carriageway         | M90 / A9 Broxden   | 2.4           |
| SALT      | A9 (southbound)       | A9 Broxden   | Just after Aberuthven junction A824  | 13.2          |
| TF        | A9 (southbound)       | Just after Aberuthven junction A824                | A820 Loaninghead Off slip southbound   | 8.3           |
| SALT      | A9 (southbound)       | A820 Loaninghead Off slip southbound               | End of Loaninghead off slip  | 0.3           |
| TF        | A820 IC               | End of Loaninghead off slip                        | Start of Loaninghead on slip northbound  | 0.35          |
| SALT      | A9 (northbound)       | Start of Loaninghead on slip northbound            | End of loaninghead on slip northbound  | 0.5           |
| TF        | A9 (northbound)       | End of loaninghead on slip northbound              | Just before A824 Aberuthven off slip   | 8.1           |
| SALT      | A9 northbound         | Just before A824 Aberuthven off slip               | Broxden roundabout   | 12.7          |
| SALT      | M90 Southbound        | Broxden roundabout                                 | Just after the eastbound on slip at A85 Barnhill                                       | 7.2           |
| TF        | A90 Eastbound         | Just after the eastbound onf slip at A85 Barnhill  | Start of eastbound off slip to Kinfauns  | 3.3           |
| SALT      | A90 (Kinfauns I/C)    | Start of eastbound off slip to Kinfauns            | End of eastbound off slip to Kinfauns  | 0.3           |
| TF        | A90 (Kinfauns I/C)    | Turn at Farm Road end                              |  |               |
| TF        | A90 (Kinfauns)        | End of eastbound on slip                           | Start of Glendoik off slip   | 6.1           |
| SALT      | A90 Glendoik I/C      | Start of Glendoik off slip                         | End of Glendoik westbound on slip  | 0.8           |
| TF        | A90 Glendoik I/C      | End of Glendoik westbound on slip                  | Start of westbound off slip to Kinfauns  | 6             |
| SALT      | A90 Kinfauns I/C      | Start of westbound off slip to Kinfauns            | End of splitter island   | 0.35          |
| TF        | A90 Kinfauns I/C      | End of splitter island                             | Farm road end to turn  |               |
| SALT      | A90 Kinfauns I/C      | Farm road end                                      | End of westbound on slip   | 0.35          |
| TF        | A90 westbound         | End Kinfauns of westbound on slip                  | Just before the westbound off slip at A85 Barnhill                                     | 3.1           |
| SALT      | A85 Barnhill I/C      | Just before the westbound off slip at A85 Barnhill | Follow off slip towards Perth untitled link road heading back to Dundee at Nadics sign | 1             |
| SALT      | A85 Barnhill I/C)     | Start of link road                                 | End of link road   | 0.2           |

| Operation | Route   | From  | To  | Distance (km) |
|-----------|---|---|---|---------------|
| TF        | A85 Barnhill I/C)                                   | End of link road  | Junction at bottom of off slip from Friarton bridge northbound                                    | 0.35          |
| SALT      | A85 Barnhill I/C/ M90 Friarton Bridge               | Junction at bottom of off slip from Friarton bridge northbound                                    | Just beyond the end of the southbound on slip at Friarton bridge                                  | 0.5           |
| TF        | M90 Friarton bridge southbound                      | end of the southbound on slip at Friarton bridge  | Start of the off slip for M90 Broxden at south end of Friarton bridge                             | 1.5           |
| SALT      | M90 Craigend / Perth Southern bypass                | Start of the off slip (Craigend mid deck) for M90 Broxden   | M90 Broxden roundabout  | 5.1           |
| TF        | M90 Broxden   | Broxden roundabout  | Start of the southbound on slip at Broxden (via the park and ride roundabout                      | 1             |
| SALT      | Southbound on slip at Broxden                       | Start of the southbound on slip at Broxden  | End of the southbound on slip at Broxden  | 0.2           |
| TF        | M90 Perth Southern Bypass (southbound)              | End of the southbound on slip at Broxden  | Start of the off slip from Southern Bypass for M90 Southbound (top deck)                          | 4             |
| SALT      | M90 Craigend (top deck)                             | Start of the off slip from Southern Bypass for M90 Southbound (top deck)                          | End of the off slip from Southern Bypass for M90 Southbound (top deck)                            | 1.2           |
| TF        | M90 (southbound)                                    | End of the off slip from Southern Bypass for M90 Southbound (top deck)                            | Bridge of Earn  | 2.7           |
| SALT      | M90 Bridge of Earn (southbound)                     | Start of the short southbound slip road on to the A912  | A912  | 0.1           |
| TF        | Bridge of Earn                                      | A912  | Start of the short northbound slip road from the A912   | 0.1           |
| SALT      | M90 Bridge of Earn (northbound)                     | Start of the short northbound slip road from the A912   | End of the short northbound slip road from the A912   | 0.1           |
| TF        | M90 (northbound)                                    | Bridge of Earn  | Just before Jct 10 Off slip to (M90 southern bypass)  | 2.7           |
| SALT      | M90   | Just before Jct 10 Off slip to (M90 southern bypass)  | Just beyond the northbound on slip from M90 Perth southern bypass (just south of Friarton bridge) | 0.85          |
| TF        | M90 Friarton bridge (Northbound) / A85 Barnhill I/C | Just beyond the northbound on slip from M90 Perth southern bypass (just south of Friarton bridge) | Just before the Perth bound off slip at the north end of Friarton bridge                          | 1.5           |
| SALT      | A85 Barnhill Interchange                            | Just before the Perth bound off slip at the north end of Friarton Bridge                          | End of off slip to Perth at Junction from Perth   | 0.25          |
| TF        | A85 Barnhill Interchange                            | End of off slip to Perth at Junction from Perth   | Just before the link road for Dundee  | 1             |
| SALT      | A85 Barnhill  | Just before the link road for   | Toll house on Dundee  | 0.35          |

| Operation | Route       | From                           | To                | Distance (km) |
|-----------|-------------|--------------------------------|-------------------|---------------|
|           | Interchange | Dundee                         | road,Perth        |               |
| TF        | U/C         | Toll House, Dundee Road, Perth | Inveralmond Depot | 7             |
| Totals    |             |                                | 103               | 8.03          |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | NE20R11     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 96 km       |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 58 km       |
| <b>Depot to Route:</b> | 25 km              | <b>Route Time:</b>           | 102 mins    |
| <b>Depot to Route:</b> | 17.4 mins          | <b>Route Coverage:</b>       | 8.12 tonnes |
| <b>Route to Depot:</b> | 45 km              | <b>Route Average Width:</b>  | 7.3 m       |
| <b>Route to Depot:</b> | 45 mins            | <b>Route Average Speed:</b>  | 56 km/h     |



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| Operation | Route           | From  | To  | Distance (km) |
|-----------|-----------------|---|---|---------------|
| TF        | A9 (southbound) | Inveralmond Depot   | Just before Aberuthven junction A824  | 17.7          |
| SALT      | A9 (southbound) | Just before Aberuthven junction A824  | A9/M9 Keir R'about (incl. r'about) (Incl. wider spread at Blackford south & Greenloaning junctions) | 29.4          |
| SALT      | A9 (northbound) | A9/M9 Keir R'about (incl. r'about) (Incl. wider spread at Blackford south & Greenloaning junctions) | Start of A820 off slip northbound   | 2.5           |
| SALT      | A9 (northbound) | Start of A820 off slip northbound   | End of A820 on slip northbound  | 0.8           |
| TF        | A9 (northbound) | End of A820 on slip northbound  | Start of Queen Victoria slip northbound   | 2.1           |
| SALT      | A9              | Start of Queen Victoria slip northbound   | End of Queen Victoria off slip  | 0.2           |
| TF        | B8033           | End of Queen Victoria off slip  | Start of Queen Victoria southbound on slip  | 0.35          |
| SALT      | A9 (southbound) | Start of Queen Victoria southbound on slip  | End of Queen Victoria on slip southbound  | 0.5           |
| TF        | A9 (southbound) | End of Queen Victoria on slip southbound  | A820 Dunblane start of off slip   | 2             |
| SALT      | A9              | A820 Dunblane start of off slip   | A820 Dunblane end of on slip  | 0.85          |
| TF        | A9 (southbound) | A820 Dunblane end of on slip  | A9 Keir roundabout  | 2.1           |
| TF        | A9 (northbound) | A9 Keir roundabout  | A820 Dunblane start of northbound off slip  | 2.5           |

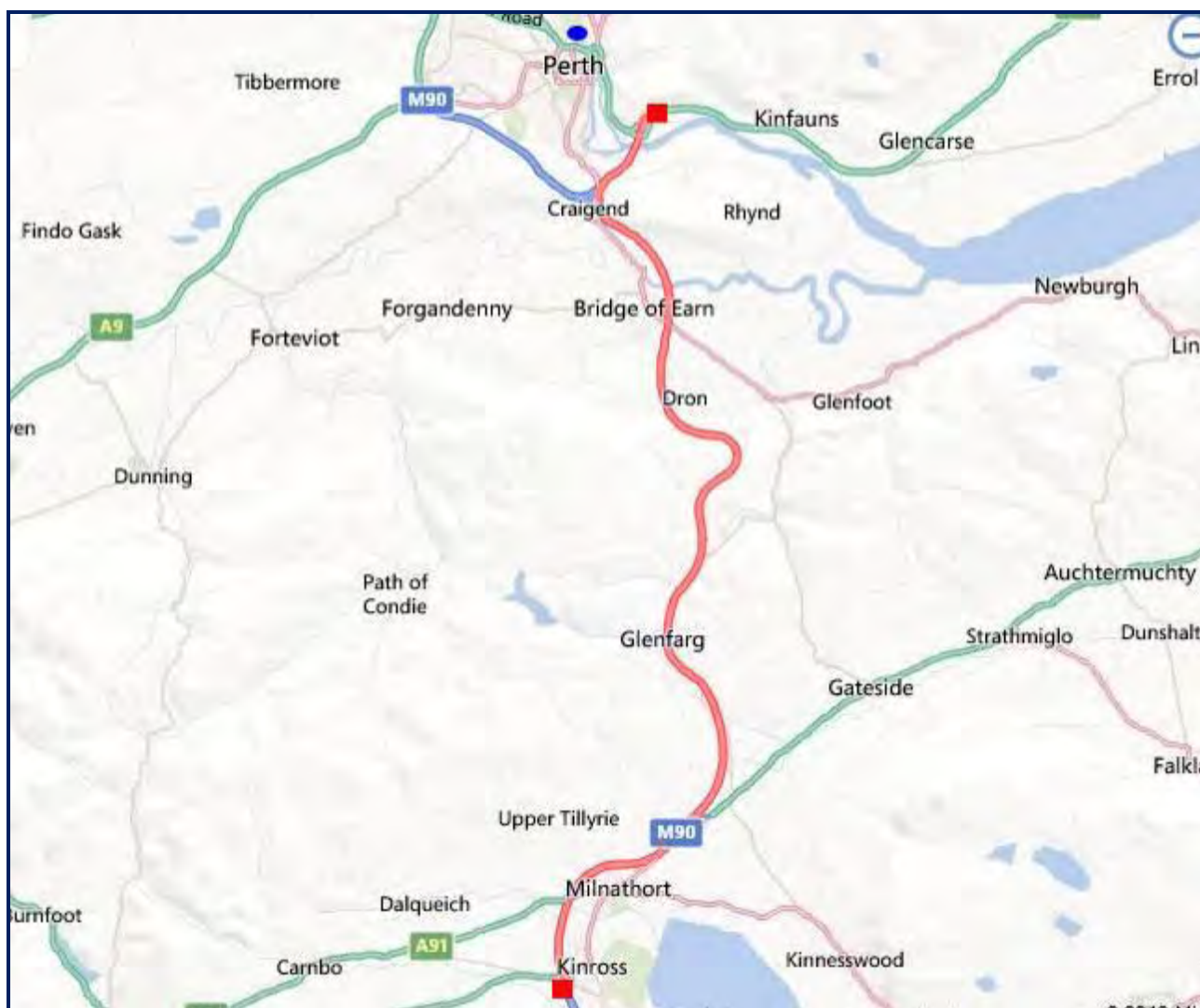
| Operation | Route           | From  | To   | Distance (km) |
|-----------|-----------------|---|--|---------------|
| SALT      | A9 (northbound) | A820 Dunblane start of northbound off slip  | Second Greenloaning exit (Millhill rd)     | 9.3           |
| SALT      | A9 (southbound) | A9 Queen Victoria off slip southbound       | End of Queen Victoria off slip southbound  |               |
| TF        | B8033           | End of Queen Victoria off slip southbound   | Start of Queen Victoria on slip northbound |               |
| SALT      | A9 (Northbound) | Start of Queen Victoria on slip northbound  | End of Queen Victoria on slip northbound   |               |
| TF        | A9 (northbound) | A9 End of Queen Victoria on slip northbound | Second Greenloaning exit                   |               |
| SALT      | A9 (northbound) | Second Greenloaning exit                    | End of Loaninghead A823 offslip            | 9.7           |
| TF        | A823            | End of Loaninghead A823 offslip             | Start of Loaninghead on slip southbound    | 0.25          |
| SALT      | A9              | Start of Loaninghead on slip southbound     | End of Loaninghead onslip southbound       | 0.5           |
| TF        | A9              | End of Loaninghead onslip southbound        | Blackford Jct                              | 3.1           |
| SALT      | A9              | Blackford Jct                               | In to Blackford B8081                      | 0.25          |
| TF        | B8081           | Blackford Jct                               | Loaninghead offslip northbound             | 3.7           |
| SALT      | A9              | Loaninghead offslip northbound              | A9 start of offslip to Aberuthven          | 8.7           |
| SALT      | A9/A824         | Aberuthven off slip                         | End of Aberuthven off slip                 | 0.25          |



| Operation | Route | From                        | To                        | Distance (km) |
|-----------|-------|-----------------------------|---------------------------|---------------|
|           | A824  | Turn at Aberuthven          |                           |               |
| SALT      | A824  | Start of Aberuthven on slip | End of Aberuthven on slip | 0.25          |
| TF        | A9    | End of Aberuthven on slip   | Perth Depot               | 17.4          |

**TOTALS**
**96**

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Lochgelly          | <b>Route:</b>                | NE20R12     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 131.9 km    |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 53 km       |
| <b>Depot to Route:</b> | 7.8 km             | <b>Route Time:</b>           | 114 mins    |
| <b>Depot to Route:</b> | 15 mins            | <b>Route Coverage:</b>       | 9.54 tonnes |
| <b>Route to Depot:</b> | 3 km               | <b>Route Average Width:</b>  | 7.3 m       |
| <b>Route to Depot:</b> | 6 mins             | <b>Route Average Speed:</b>  | 67 km/h     |



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| Operation | Route                    | From  | To   | Distance (km) |
|-----------|--------------------------|---|--|---------------|
| TF        | U/C                      | Lochgelly depot   | Start of off slip at Chapel eastbound                                    | 7.8           |
| SALT      | A92(eastbound)           | Start of off slip at Chapel eastbound                     | End of Chapel on slip eastbound inc. roundabout                          | 1.2           |
| TF        | A92(westbound)           | End of Chapel on slip eastbound                           | Start of Lochgelly off slip westbound                                    | 4.5           |
| SALT      | A92(westbound)           | Start of Lochgelly off slip westbound                     | Start of Crossgates off slip westbound                                   | 7.3           |
| SALT      | A92(westbound)           | Start of Crossgates off slip westbound                    | Start of M90 on slip northbound at Halbeath roundabout inc. roundabout's | 2             |
| SALT      | M90 Northbound           | Start of M90 on slip northbound at Halbeath               | End of off slip to Perth Edinburgh road at jct10 Craigend                | 37.7          |
| TF        | U/C                      | End of off slip to Perth Edinburgh road at jct10 Craigend | Tesco's roundabout Edinburgh road.                                       | 1.3           |
| TF        | U/C                      | Tesco's roundabout Edinburgh road                         | Edinburgh road/M90 Scoonieburn   | 1.3           |
| SALT      | M90 southbound           | Edinburgh road/M90 Scoonieburn                            | End of southbound off slip to Halbeath roundabout                        | 37.6          |
| TF        | M90 Halbeath interchange | End of southbound off slip to Halbeath roundabout         | Start of Halbeath on slip northbound                                     | 0.5           |
| TF        | M90 northbound           | Start of Halbeath on slip northbound                      | Start of off slip at Kelty Northbound                                    | 4             |
| SALT      | M90 northbound           | Start of off slip at Kelty northbound                     | End of on slip at Kelty northbound                                       | 1             |
| TF        | M90 northbound           | End of on slip at Kelty northbound                        | Start of Gairneybridge off slip northbound                               | 3.5           |
| SALT      | M90 northbound           | Start of Gairneybridge off slip northbound                | End of Gairneybridge off slip northbound                                 | 0.5           |
| TF        | B9097                    | End of Gairneybridge off slip northbound                  | Start of Gairneybridge on slip southbound                                | 0.5           |
| SALT      | M90 (southbound)         | Start of the southbound on slip at Gairneybridge          | End of the southbound on slip at Gairneybridge                           | 0.5           |
| TF        | M90 (southbound)         | End of the southbound on slip at Gairneybridge            | Start of the Southbound off slip at Kelty                                | 3.5           |
| SALT      | M90 (southbound)         | Start of the Southbound off slip at Kelty                 | End of the southbound on slip at Kelty                                   | 0.5           |
| TF        | M90 (southbound)         | End of the southbound on slip at Kelty                    | Start of the Southbound off slip at Halbeath                             | 4.5           |
| TF        | M90 (southbound)         | Start of the Southbound offslip at Halbeath               | End of the southbound offslip at Halbeath                                | 0.5           |
| SALT      | A92 eastbound            | End of the southbound off slip at Halbeath                | End of on slip at Crossgates eastbound                                   | 1.3           |
| SALT      | A92 eastbound            | End of on slip at Crossgates eastbound                    | End of on slip at Lochgelly eastbound                                    | 7.4           |
| TF        | A92                      | End of on slip at Lochgelly eastbound                     | Lochgelly depot  | 3             |



| Operation | Route | From | To | Distance (km) |
|-----------|-------|------|----|---------------|
|           |       |      |    |               |
| Totals    |       |      |    | 97            |

|                        |                    |                              |  |
|------------------------|--------------------|------------------------------|--|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                |  |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         |  |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> |  |
| <b>Depot to Route:</b> | 7 km               | <b>Route Time:</b>           |  |
| <b>Depot to Route:</b> | 14 mins            | <b>Route Coverage:</b>       |  |
| <b>Route to Depot:</b> | 6 km               | <b>Route Average Width:</b>  |  |
| <b>Route to Depot:</b> | 10 mins            | <b>Route Average Speed:</b>  |  |

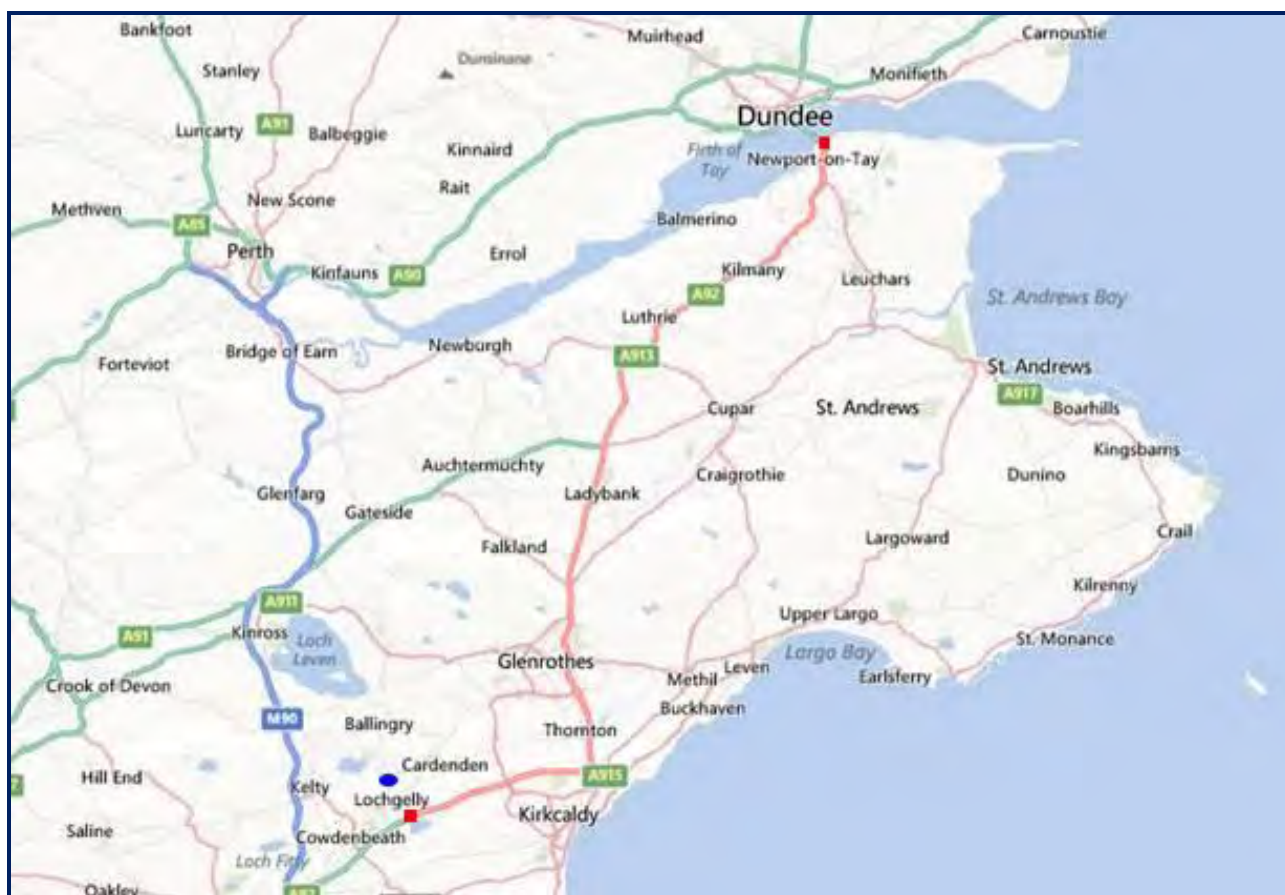
| Operation | Route                                | From  | To  | Distance (km) |
|-----------|--------------------------------------|---|---|---------------|
| TF        | U/C                                  | Inveralmond Depot   | Dundee Road Toll House  | 7             |
| SALT      | Dundee Road / A90 (eastbound)        | Dundee Road Toll House (eastbound) (including westbound on slip to A90 at Barnhill) | Start of the eastbound off slip at Inchmichael                      | 13.9          |
| SALT      | Inchmichael Interchange              | Start of the eastbound off slip at Inchmichael                                      | End of the westbound on slip at Inchmichael                         | 1             |
| TF        | A90 Westbound                        | End of the westbound on slip at Inchmichael   | Start of Glendoik Westbound offslip                                 | 3.0           |
| SALT      | A90 Glendoik Interchange (westbound) | Start of the westbound off slip at Glendoik   | End of splitter island westbound offslip at Glendoik                | 0.2           |
| TF        | A90 Glendoik Interchange             | End of splitter island westbound offslip at Glendoik                                | Start of plitter island eastbound onslip at Glendoik                | 0.5           |
| SALT      | A90 Glendoik Interchange (Eastbound) | Start of plitter island eastbound onslip at Glendoik                                | End of eastbound onslip at Glendoik I/C                             | 0.2           |
| TF        | A90 Eastbound                        | End of eastbound onslip at Glendoik I/C   | Start of Eastbound offslip at Inchmichael I/C                       | 3.0           |
| SALT      | A90 Inchmichael Interchange          | Start of westbound off slip at Inchmichael eastbound                                | Start of eastbound off slip at Inchture Interchange                 | 3.9           |
| SALT      | A90 Inchture interchange eastbound   | Start of eastbound off slip at Inchture Interchange                                 | End of eastbound offslip at inchture interchange                    | 0.4           |
| TF        | A90 Inchture Interchange (eastbound) | end of eastbound offslip at Inchture Interchange                                    | Start of eastbound onslip at B953 Inchture (just east of JG's diner | 0.85          |
| SALT      | A90 / B953 Junction                  | Start of eastbound onslip at B953 Inchture (just east of JG's diner                 | End of eastbound onslip at B953 Inchture (just east of JG's diner   | 0.1           |
| SALT      | A90 / B953 Junction                  | Start of eastbound onslip at B953 Inchture (just east of JG's diner                 | End of eastbound onslip at B953 Inchture (just east of JG's diner   | 0.1           |
| TF        | A90 / B953 Junction)                 | End of eastbound onslip at B953 Inchture (just east of JG's diner                   | Start of eastbound off slip at Longforgan interchange               | 2.5           |
| SALT      | A90 Longforgan                       | Start of eastbound off slip at  | End of eastbound off  | 0.2           |

|      |                             |  |  |      |
|------|-----------------------------|--|--|------|
|      | interchange                 | Longforgan interchange   | slip at Longforgan interchange                                       |      |
| TF   | A90 Longforgan interchange) | End of eastbound off slip at Longforgan interchange                  | Start of westbound on slip at Longforgan interchange                 | 0.2  |
| SALT | A90 Longforgan interchange  | Start of westbound on slip at Longforgan interchange                 | End of westbound on slip at Longforgan interchange I/C               | 0.2  |
| TF   | A90 westbound               | End of westbound on slip at Longforgan interchange I/C               | Start of westbound on slip at Inchture Interchange                   | 3.2  |
| SALT | A90 Westbound               | Start of westbound off slip at Inchture Interchange                  | End of westbound onslip at Inchture interchange                      | 0.6  |
| SALT | A90 Westbound               | End of westbound onslip at Inchture interchange                      | Just beyond the southbound on slip at Craigend                       | 19.8 |
| TF   | M90 (southbound)            | Just beyond the southbound on slip at Craigend                       | Start of the southbound off slip at Bridge of Earn                   | 2.7  |
| SALT | M90 Slips                   | Start of the southbound off slip at Bridge of Earn                   | End of the southbound on slip at Bridge of Earn                      | 1    |
| TF   | M90 (southbound)            | End of the southbound on slip at Bridge of Earn                      | Start of Kinross Off Slip  | 18   |
| SALT | M90 (southbound)            | Start of Kinross Off Slip  | End of Kinross on slip inc. roundabout                               | 1.5  |
| TF   | M90 (southbound)            | End of Kinross on  | Start of Gairneybridge off slip                                      | 3.9  |
| SALT | M90 (southbound)            | Start of Gairneybridge off slip                                      | End of Gairneybridge off slip  | 0.45 |
| TF   |                             | End of Gairneybridge off slip  | Start of Gairneybridge on slip northbound                            | 0.1  |
| SALT | M90 (northbound)            | Start of Gairneybridge on slip northbound                            | End of Gairneybridge on slip northbound                              | 0.5  |
| TF   | M90 (northbound)            | End of Gairneybridge on slip northbound                              | Start of Kinross off slip northbound                                 | 4    |
| SALT | M90 (northbound)            | Start of Kinross off slip northbound                                 | End Kinross on slip northbound                                       | 1    |
| TF   | M90 (northbound)            | End Kinross on slip northbound                                       | A91 Arlary Off Slip  | 4.6  |
| SALT | M90 (northbound)            | Arlary Off Slip  | <b>End of the Arlary dual carriageway – just beyond A91 junction</b> | 1.5  |
| SALT | M90 (southbound)            | <b>End of the Arlary dual carriageway – just beyond A91 junction</b> | End of Arlary On Slip  | 1.4  |
| TF   | M90 (southbound)            | End of Arlary On Slip  | Start of Milnathort off slip   | 2.7  |
| SALT | M90 (southbound)            | Start of Milnathort off slip   | End of Milnathort off slip   | 0.35 |
| TF   | A911                        | End of Milnathort off slip   | Start of Milnathort on   | 0.25 |



|               |                  |  | slip   |               |
|---------------|------------------|--|--|---------------|
| SALT          | M90 (northbound) | Start of M90 Northbound On Slip  | End of M90 Northbound On Slip                                  | 0.64          |
| TF            | M90 (northbound) | End of M90 Northbound On Slip  | Start of the northbound off slip at Bridge of Earn             | 16            |
| SALT          | M90 (northbound) | Start of the northbound off slip at Bridge of Earn                               | End of off slip at A912  | 0.45          |
| TF            | A912             | End of Off Slip at A912 junction – turn at Wicks o' Baiglie Road, Bridge of Earn | Start of the northbound on slip at Bridge of Earn              | 0.2           |
| SALT          | M90 (northbound) | Start of the northbound on slip at Bridge of Earn                                | End of the northbound on slip at Bridge of Earn                | 0.5           |
| TF            | M90 (northbound) | End of the northbound on slip at Bridge of Earn                                  | Just south of the Perth bound Off Slip at Junction 10 Craigend | 2.4           |
| <b>Totals</b> |                  |  |  | <b>115.59</b> |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Lochgelly          | <b>Route:</b>                | NE20R14     |
| <b>Spread Rate:</b>    | 20g/m <sup>2</sup> | <b>Route Length:</b>         | 117 km      |
| <b>Treatment Type:</b> | Pre-wetted Salt    | <b>Route Treated Length:</b> | 75 km       |
| <b>Depot to Route:</b> | 3 km               | <b>Route Time:</b>           | 110 mins    |
| <b>Depot to Route:</b> | 9 mins             | <b>Route Coverage:</b>       | 10.5 tonnes |
| <b>Route to Depot:</b> | 51 km              | <b>Route Average Width:</b>  | 7.25 m      |
| <b>Route to Depot:</b> | 51 mins            | <b>Route Average Speed:</b>  | 64 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Dundee depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation | Route                     | From                                       | To  | Distance (km) |
|-----------|---------------------------|--|---|---------------|
| TF        | U/C                       | Lochgelly Depot                            | A92 Lochgelly Junction                      | 3             |
| SALT      | A92 (westbound)           | A92 Lochgelly westbound on slip            | End of Lochgelly on slip westbound          | 0.5           |
| TF        | A92 (westbound)           | End of Lochgelly on slip westbound         | Start of off slip at Cowdenbeath westbound  | 2.9           |
| SALT      | A92 (Westbound)           | Start of off slip at Cowdenbeath westbound | End of off slip at Cowdenbeath westbound    | 0.4           |
| TF        | A92 (westbound)           | End of off slip at Cowdenbeath westbound   | Start of on slip at Cowdenbeath westbound   | 0.06          |
| SALT      | A92 (westbound)           | Start of on slip at Cowdenbeath westbound  | End of on slip at Cowdenbeath westbound     | 0.45          |
| TF        | A92 (westbound)           | End of on slip at Cowdenbeath westbound    | End of offslip at Crossgates westbound      | 3.3           |
| TF        | A92 crossgates roundabout | End of offslip at Crossgates westbound     | Start of on slip at Crossgates eastbound    | 0.5           |
| TF        | A92 eastbound             | Start of on slip at Crossgates eastbound   | Start of off slip at Cowdenbeath eastbound  | 3.5           |
| SALT      | A92 eastbound             | Start of off slip at Cowdenbeath eastbound | End of off slip at Cowdenbeath eastbound    | 0.28          |
| TF        | A92 eastbound             | End of off slip at Cowdenbeath eastbound   | Start of on slip at Cowdenbeath eastbound   | 0.06          |
| SALT      | A92 eastbound             | Start of on slip at Cowdenbeath eastbound  | End of on slip at Cowdenbeath eastbound     | 0.35          |
| TF        | A92 eastbound             | End of on slip at Cowdenbeath eastbound    | Start of off slip at Lochgelly eastbound    | 2.9           |
| SALT      | A92 eastbound             | Start of off slip at Lochgelly eastbound   | End of off slip at Lochgelly eastbound      | 0.35          |
| TF        | A92 eastbound             | End of off slip at Lochgelly eastbound     | Start of on slip at Lochgelly eastbound     | 0.06          |
| SALT      | A92 eastbound             | Start of on slip at Lochgelly eastbound    | Redhouse roundabout inc. Roundabout         | 9.8           |
| SALT      | A92 westbound             | Redhouse roundabout                        | Start of off slip at Chapel westbound       | 4             |
| SALT      | A92 westbound             | Start of off slip at Chapel westbound      | End of off slip at Chapel westbound         | 0.5           |
| Tf        | A92 Chapel roundabout     | End of off slip at Chapel westbound        | Start of on slip at Chapel East bound       | 0.5           |
| SALT      | A92 eastbound             | Start of on slip at Chapel East bound      | End of on slip at chapel eastbound          | 0.5           |
| TF        | A92 eastbound             | End of on slip at chapel eastbound         | Redhouse roundabout                         | 3.9           |
| TF        | A92 westbound             | Redhouse roundabout                        | Start of off slip at Chapel westbound       | 3.9           |
| SALT      | A92 westbound             | Start of off slip at Chapel westbound      | End of off slip at Lochgelly westbound      | 5.7           |
| TF        | A92 Eastbound             | End of off slip at Lochgelly westbound     | Redhouse roundabout                         | 9.6           |
| SALT      | A92 northbound            | Redhouse roundabout                        | Preston roundabout inc. roundabout          | 6.3           |
| SALT      | A92 southbound            | Preston roundabout                         | Redhouse roundabout inc. Bankhaed rounabout | 6.3           |
| TF        | A92 northbound            | Redhouse roundabout                        | Preston roundabout                          | 6.3           |

|               |                  |                                |  |               |
|---------------|------------------|--------------------------------|--|---------------|
| SALT          | A92 northbound   | Preston roundabout             | New Inn roundabout inc. roundabouts    | 4.5           |
| SALT          | A92 southbound   | New Inn roundabout             | End of dual section at Balfarg         | 2             |
| TF            | A92 southbound   | End of dual section at Balfarg | Tullis Russell Roundabout              | 1.4           |
| TF            | A92 Northbound   | Tullis Russell Roundabout      | New Inn roundabout                     | 3.5           |
| SALT          | A92 northbound   | New Inn roundabout             | Tay Bridge Roundabout (incl. all R/bs) | 30.2          |
| SALT          | A92 (southbound) | Tay Bridge Roundabout          | Forgan R/B                             | 2.5           |
| TF            | A92 (southbound) | Forgan R/B                     | Lochgelly depot                        | 51            |
| <b>Totals</b> |                  |                                |  | <b>117.01</b> |

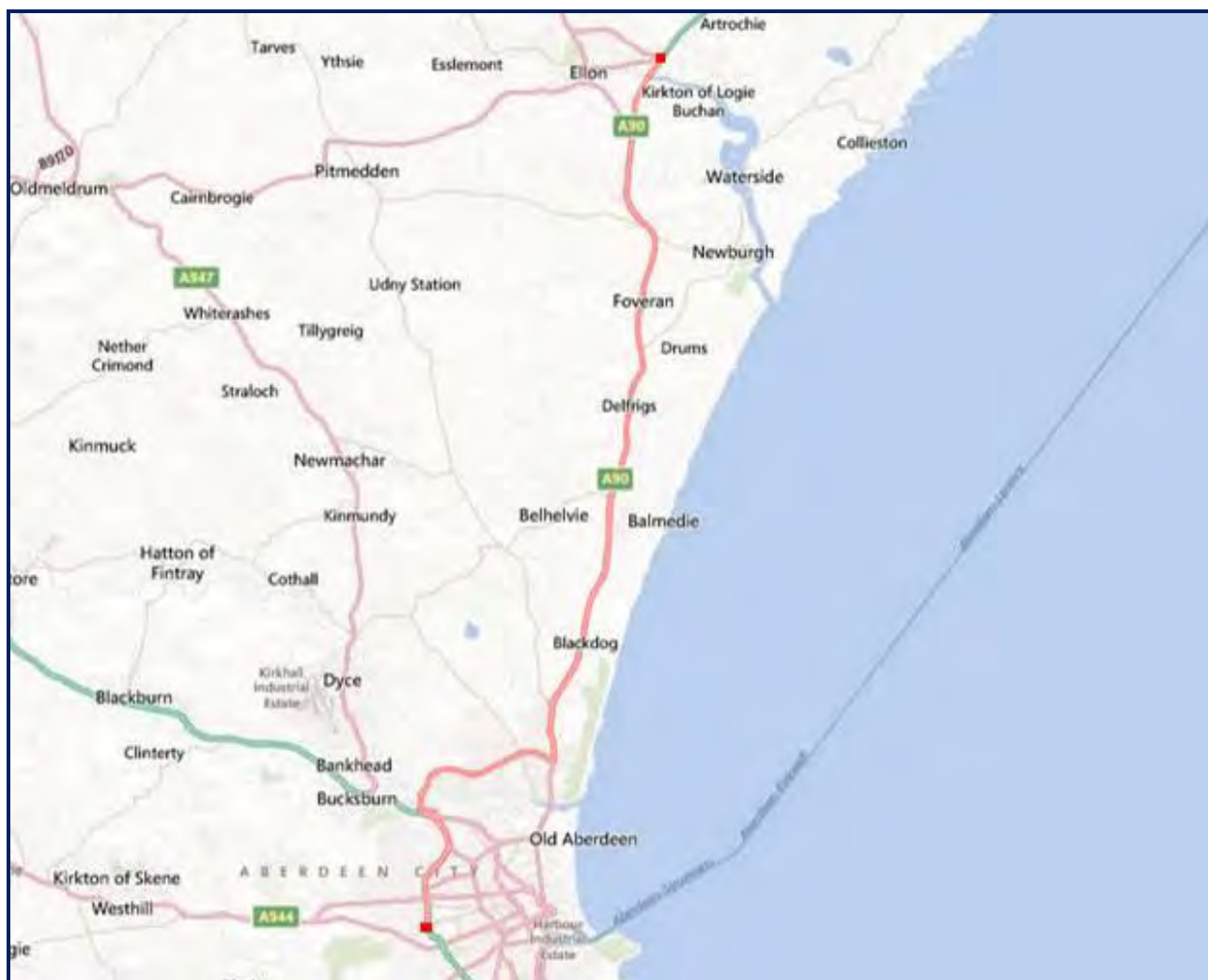
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| Operation     | Route | Direction | Route Description   | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Salt          | A90   | North     | Stirlinghill to A98 Junction Fraserburgh (including r'abouts & deceleration lanes at Peterhead Power Station) | 32.0          |
| Turn          | A90   |           | A98 Junction Fraserburgh  |               |
| Travel        | A90   | South     | A98 Junction Fraserburgh to Stirlinghill Quarry   | 32.0          |
| Salt          | A90   | South     | Stirlinghill Quarry to A90 Ellon Dual   | 21.0          |
| <b>Totals</b> |       |           |   | <b>85.5</b>   |



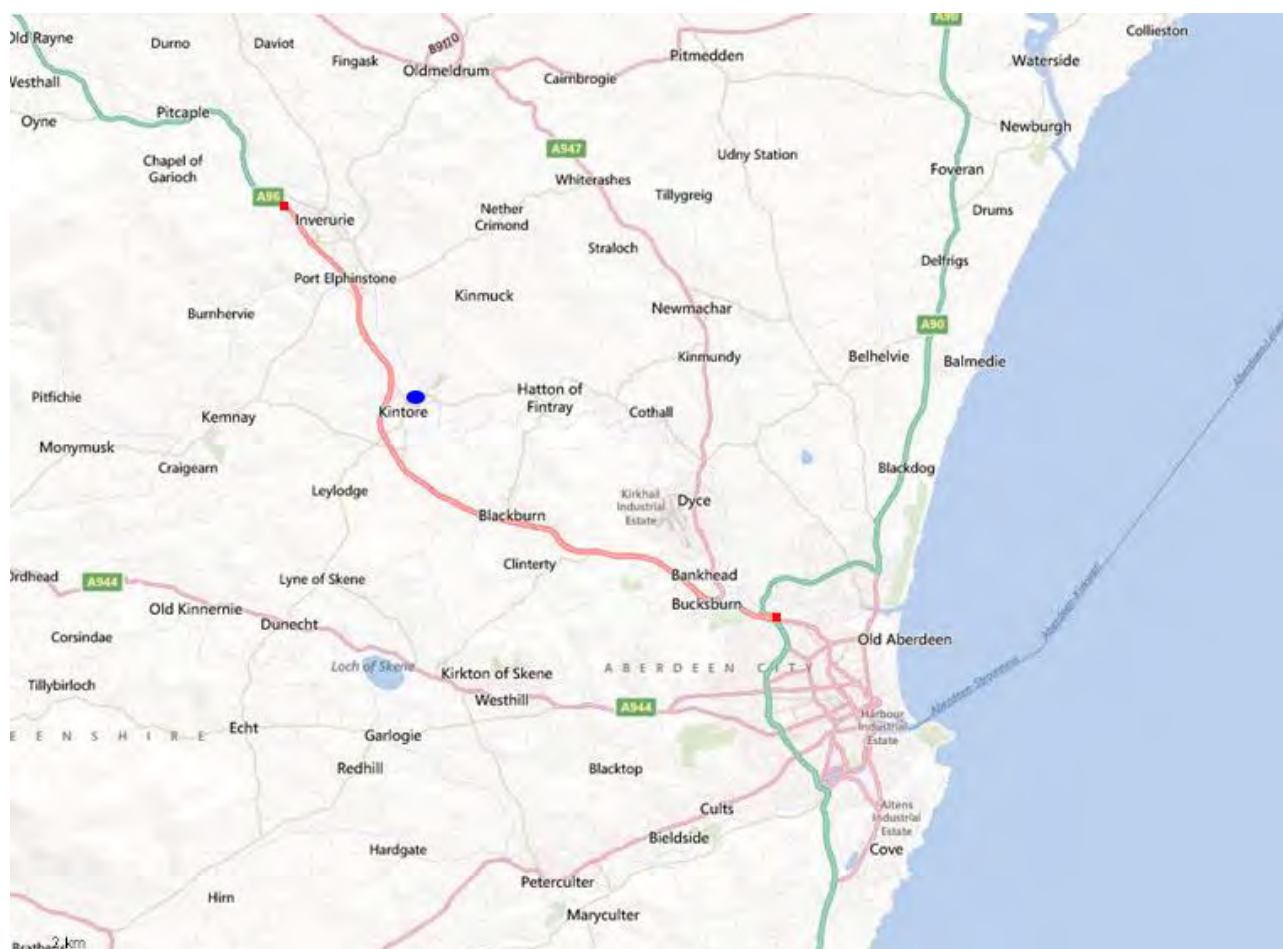
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|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Stirlinghill       | <b>Route:</b>                | NE40R2      |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 61.4 km     |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 44 km       |
| <b>Depot to Route:</b> | 20 km              | <b>Route Time:</b>           | 78 mins     |
| <b>Depot to Route:</b> | 24 min             | <b>Route Coverage:</b>       | 12.3 tonnes |
| <b>Route to Depot:</b> | 25.0 km            | <b>Route Average Width:</b>  | 7.0 m       |
| <b>Route to Depot:</b> | 29.0 mins          | <b>Route Average Speed:</b>  | 48 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Stirlinghill depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                              | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A90   | North     | A90 Haudagain Roundabout to A90 end Ellon Dual | 25.2          |
| Salt          | A90   | South     | A90 end Ellon Dual to Tippetty                 | 5.0           |
| Travel        | A90   | South     | Tippetty to Balmedie Dual                      | 8.0           |
| Salt          | A90   | South     | Balmedie Dual to Bridge of Don                 | 7.0           |
| Travel        | A90   | South     | Bridge of Don to Haudagain Roundabout          | 8.6           |
| Salt          | A90   | South     | Haudagian Roundabout to Rubislaw Roundabout    | 3.4           |
| Salt          | A90   | North     | Rubislaw Roundabout to Haudagain Roundabout    | 3.4           |
| <b>Totals</b> |       |           |  | <b>71.4</b>   |

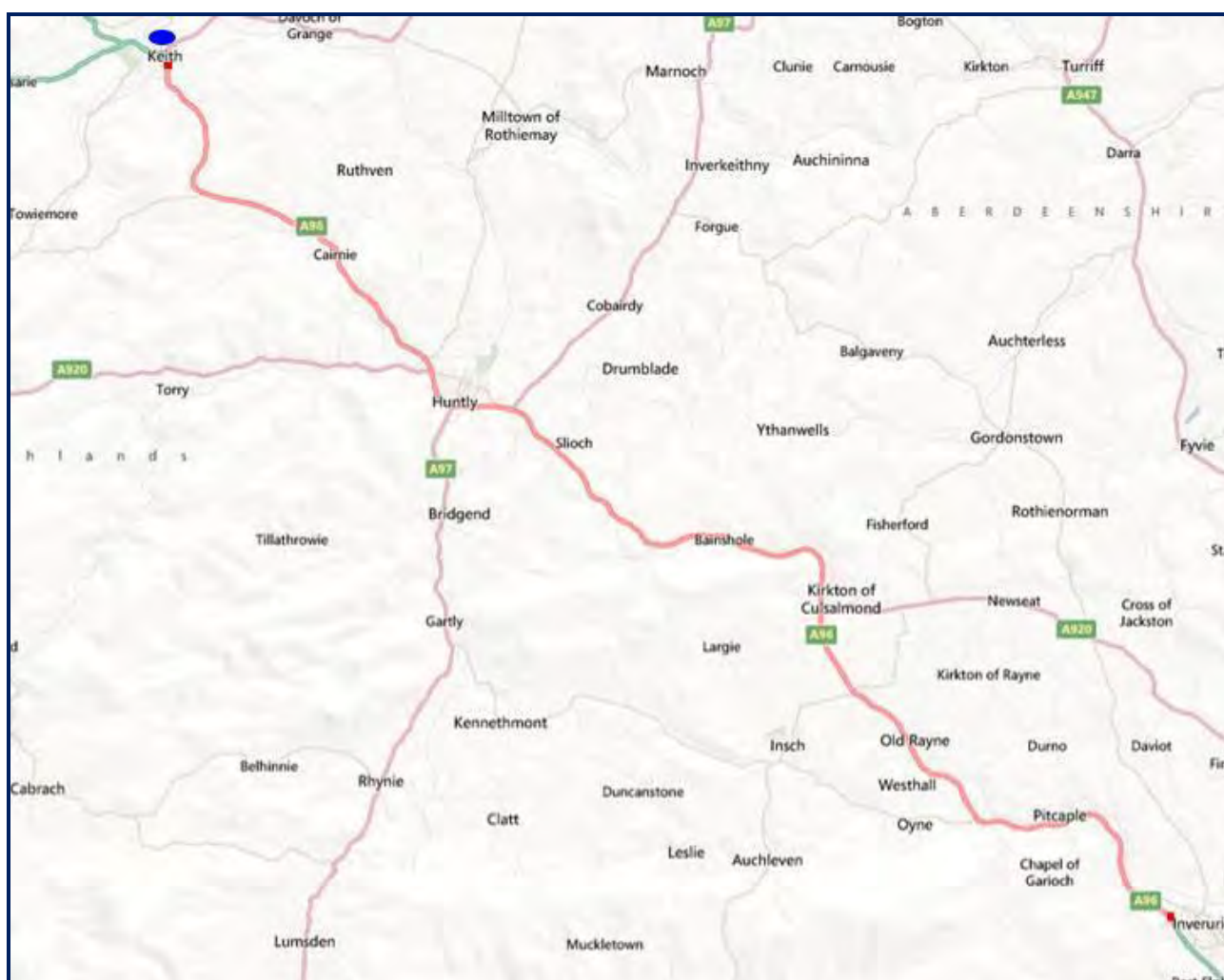
|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Tullos             | <b>Route:</b>                | NE40R3       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 41 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 41 km        |
| <b>Depot to Route:</b> | 10 km              | <b>Route Time:</b>           | 53 mins      |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 11.48 tonnes |
| <b>Route to Depot:</b> | 15.0 km            | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 18.0 mins          | <b>Route Average Speed:</b>  | 48 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Stirlinghill depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                            | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A96   | East      | Blackhall Roundabout to Haudagain Roundabout | 20.5          |
| Salt          | A96   | West      | Haudagain Roundabout to Blackhall Roundabout | 20.5          |
| <b>Totals</b> |       |           |  | <b>41</b>     |

|                        |                    |                              |           |
|------------------------|--------------------|------------------------------|-----------|
| <b>Depot:</b>          | Keith              | <b>Route:</b>                | NE40R4    |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 50 km     |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 50 km     |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 64 mins   |
| <b>Depot to Route:</b> | 5 min              | <b>Route Coverage:</b>       | 13 tonnes |
| <b>Route to Depot:</b> | 51.0 km            | <b>Route Average Width:</b>  | 6.5 m     |
| <b>Route to Depot:</b> | 55.0 mins          | <b>Route Average Speed:</b>  | 48 km/h   |

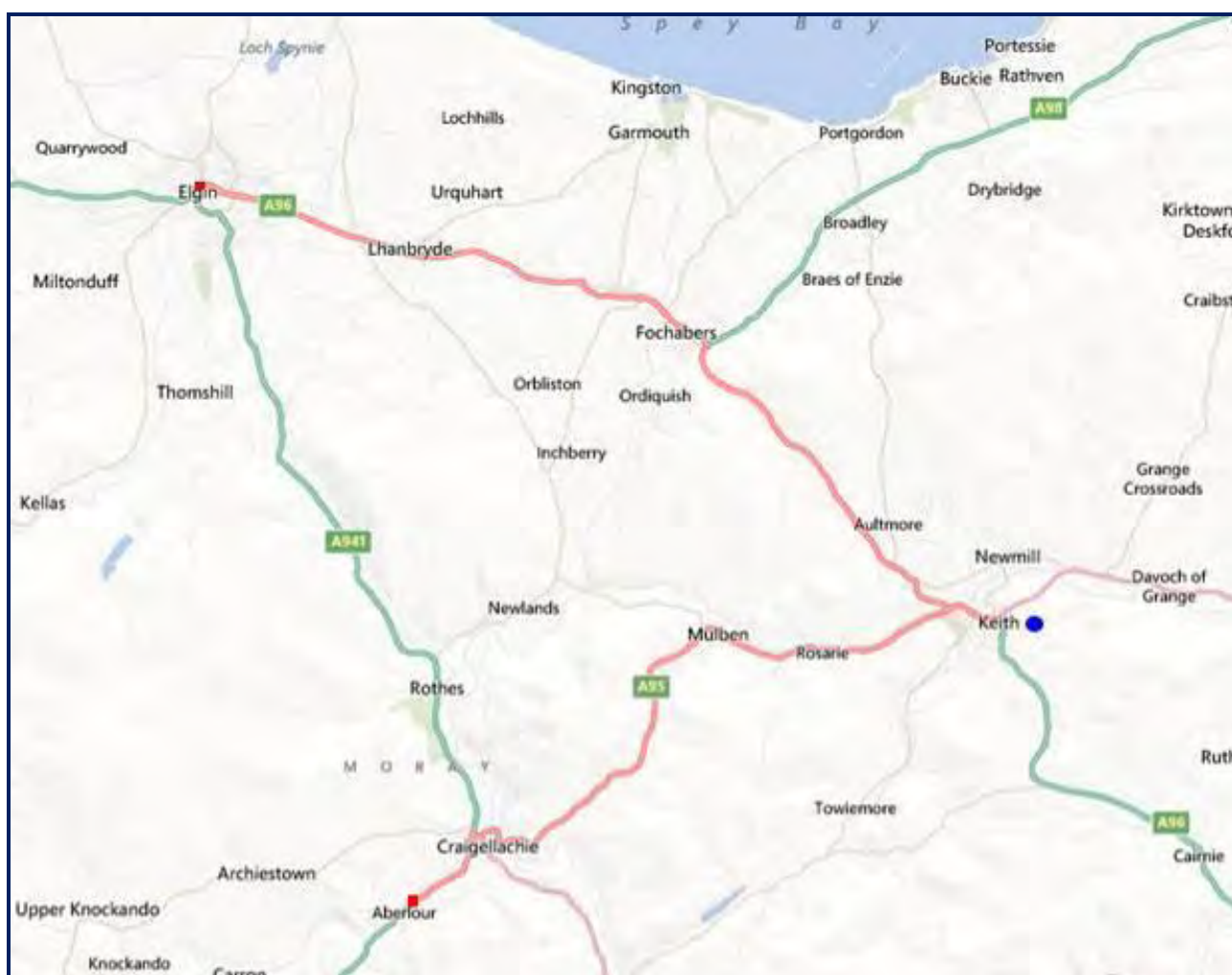


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Tullos depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                   | Distance (km) |  |
|---------------|-------|-----------|-------------------------------------|---------------|--|
| Salt          | A96   | East      | A95/A96 jcn to Blackhall Roundabout | 50            |  |
| <b>Totals</b> |       |           |                                     | <b>50</b>     |  |



|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Keith              | <b>Route:</b>                | NE40R5      |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 47 km       |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 47 km       |
| <b>Depot to Route:</b> | 24 km              | <b>Route Time:</b>           | 59.4 mins   |
| <b>Depot to Route:</b> | 24 min             | <b>Route Coverage:</b>       | 12.2 tonnes |
| <b>Route to Depot:</b> | 27.0 km            | <b>Route Average Width:</b>  | 6.5 m       |
| <b>Route to Depot:</b> | 27.0 mins          | <b>Route Average Speed:</b>  | 48 km/h     |

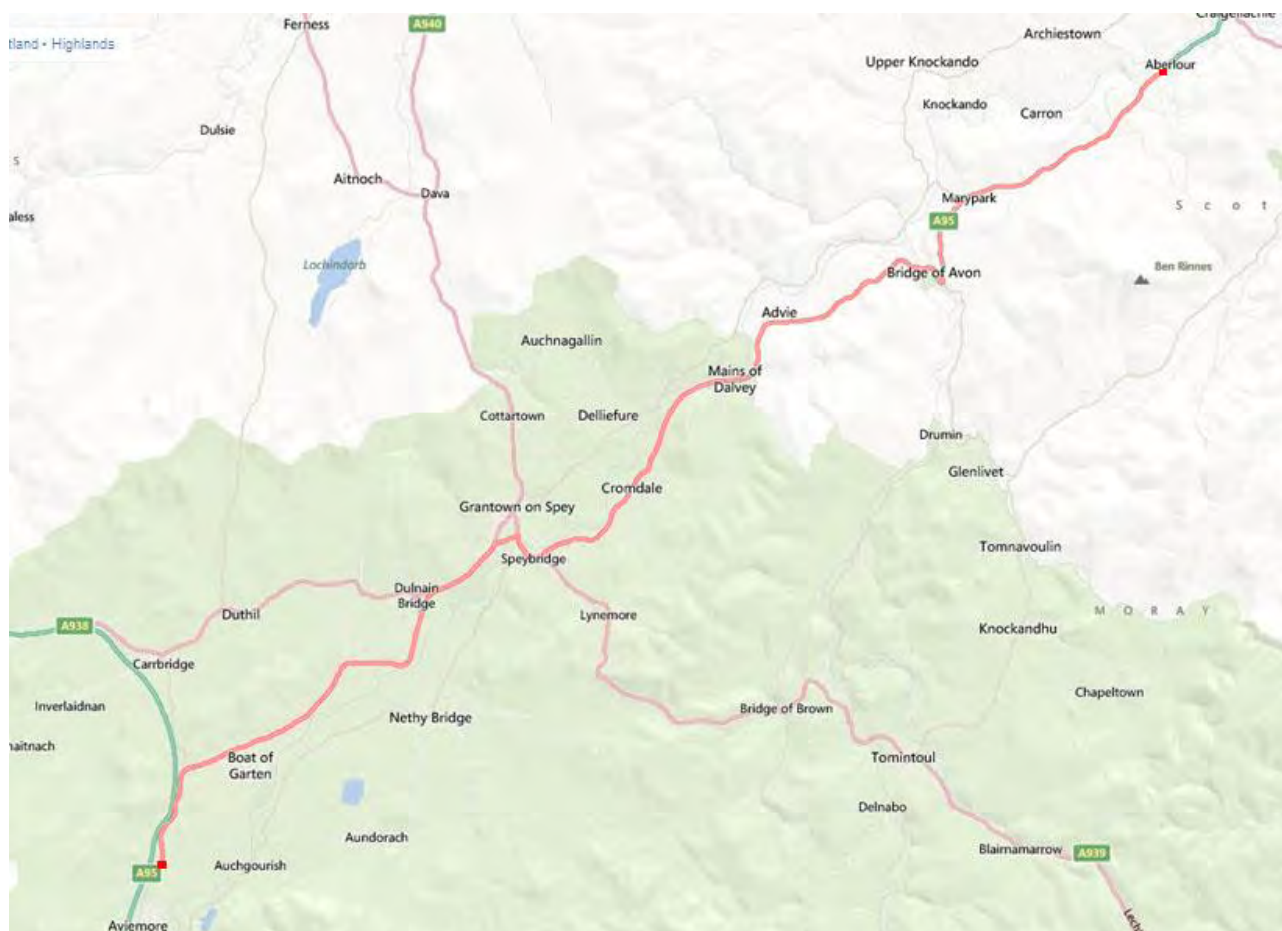


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Inverness depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                             | Distance (km) |  |
|---------------|-------|-----------|---|---------------|--|
| Salt          | A96   | East      | A95 Aberlour to A96 Elgin Dr Grays Roundabout | 47            |  |
| <b>Totals</b> |       |           |   | <b>47</b>     |  |



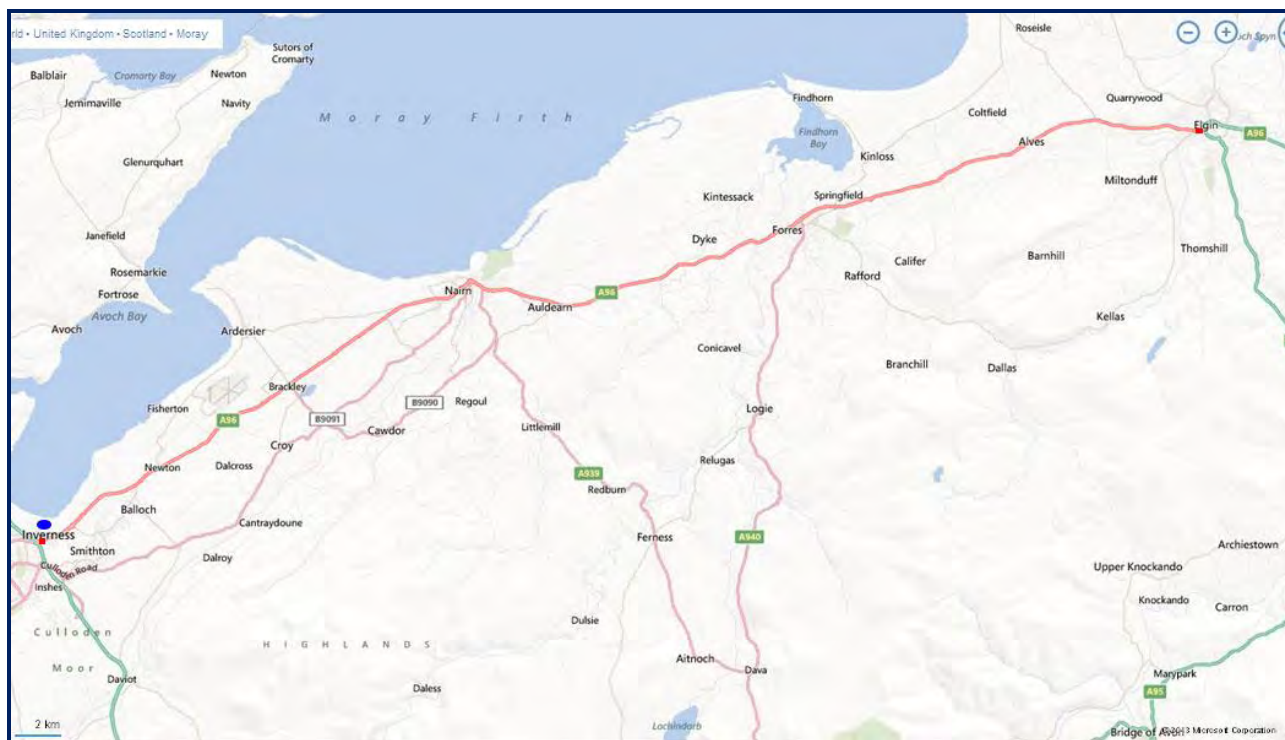
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|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Keith              | <b>Route:</b>                | NE40R6       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 52 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 52 km        |
| <b>Depot to Route:</b> | 24 km              | <b>Route Time:</b>           | 66 mins      |
| <b>Depot to Route:</b> | 24 min             | <b>Route Coverage:</b>       | 12.48 tonnes |
| <b>Route to Depot:</b> | 75.0 km            | <b>Route Average Width:</b>  | 6.0 m        |
| <b>Route to Depot:</b> | 75.0 mins          | <b>Route Average Speed:</b>  | 48 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Inverness depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description           | Distance (km) |  |
|---------------|-------|-----------|-----------------------------|---------------|--|
| Salt          | A96   | East      | A95 Aberlour to A95 Granish | 52            |  |
| <b>Totals</b> |       |           |                             | <b>52</b>     |  |

|                        |                    |                              |           |
|------------------------|--------------------|------------------------------|-----------|
| <b>Depot</b>           | Inverness          | <b>Route:</b>                | NE40R7    |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 60 km     |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 58 km     |
| <b>Depot to Route:</b> | 3 km               | <b>Route Time:</b>           | 75 mins   |
| <b>Depot to Route:</b> | 3 min              | <b>Route Coverage:</b>       | 15 tonnes |
| <b>Route to Depot:</b> | 60.0 km            | <b>Route Average Width:</b>  | 6.5 m     |
| <b>Route to Depot:</b> | 60.0 mins          | <b>Route Average Speed:</b>  | 48 km/h   |

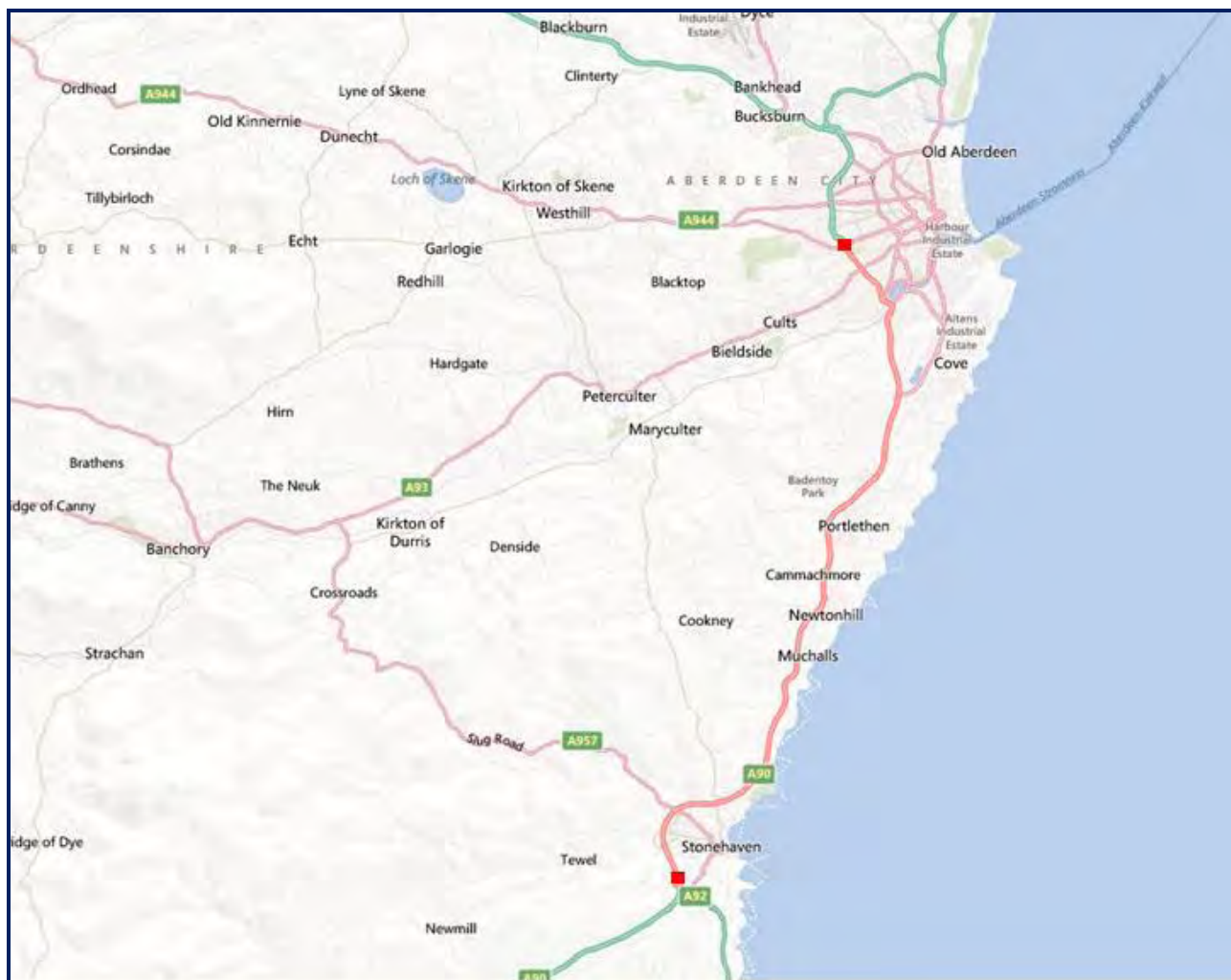


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Keith depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                                     | Distance (km) |  |
|---------------|-------|-----------|---|---------------|--|
| Salt          | A96   | East      | A96 Raigmore Interchange to A96 Smithton/Culloden Jcn | 2.0           |  |
| Turn          | A96   |           | A96 Smithton/Culloden Jcn                             |               |  |
| Salt          | A96   | West      | A96 Smithton/Culloden Jcn to A96 Raigmore Interchange | 2.0           |  |
| Travel        | A96   | East      | A96 Raigmore Interchange to A96 Smithton/Culloden Jcn | 2.0           |  |
| Salt          | A96   | East      | A96 Smithton/Culloden Jcn to A96 Elgin Dr Grays R/B   | 54            |  |
| <b>Totals</b> |       |           |   | <b>60</b>     |  |

**Depot:** Tullos **Route:** NE40R8

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 93.0 km      |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 49 km        |
| <b>Depot to Route:</b> | 10 km              | <b>Route Time:</b>           | 87 mins      |
| <b>Depot to Route:</b> | 12 min             | <b>Route Coverage:</b>       | 13.72 tonnes |
| <b>Route to Depot:</b> | 32.0 km            | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 32.0 mins          | <b>Route Average Speed:</b>  | 64 km/h      |

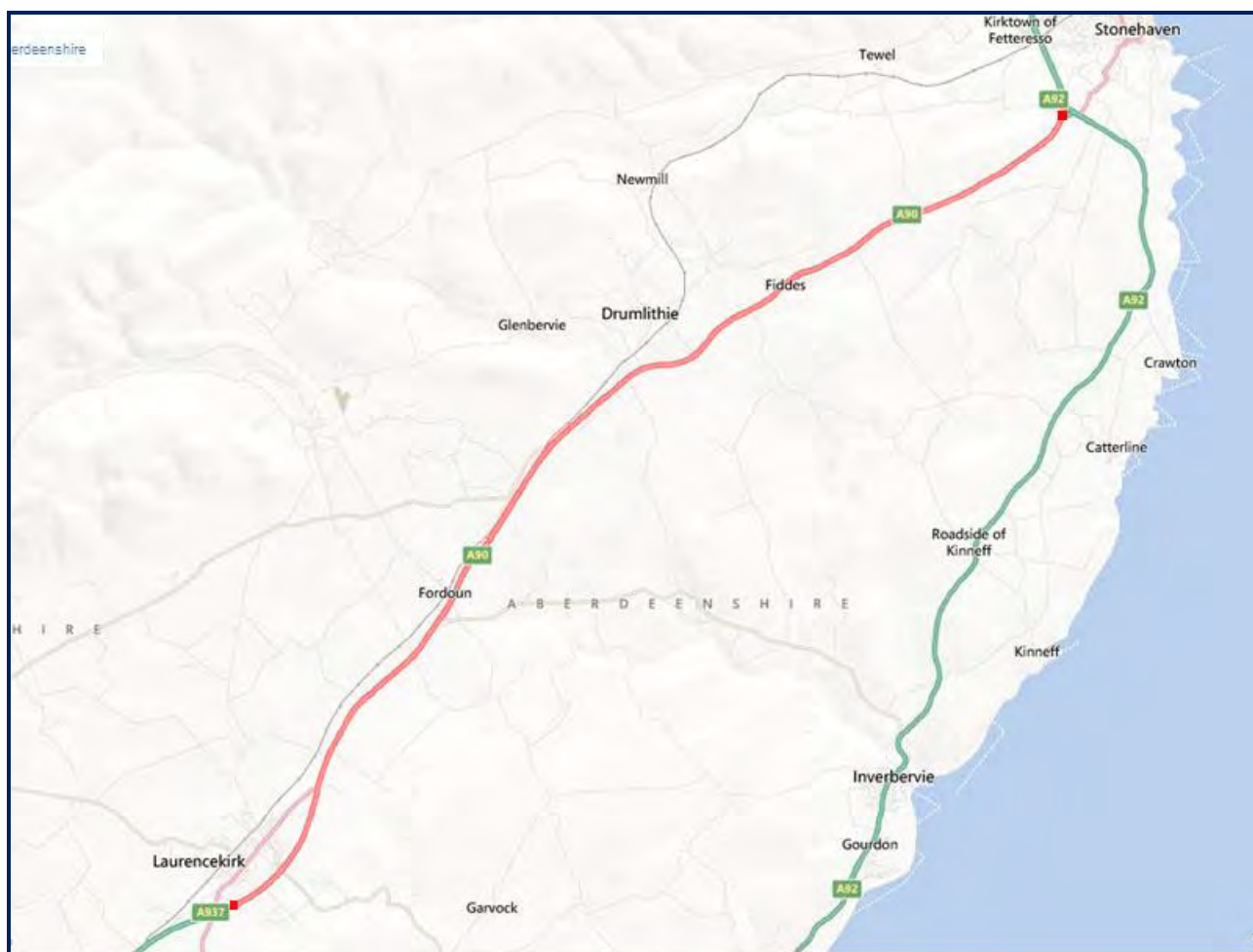


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Edzell depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                               | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Salt          | A90   | South     | Rubislaw Roundabout to Glasslaw I/C             | 23.6          |
| Salt          | A90   | North     | Glasslaw I/C to Rubislaw Roundabout             | 23.6          |
| Travel        | A90   | South     | Rubislaw Roundabout to Charlestown SB offslip   | 2.0           |
| Salt          | A90   | South     | Charlestown SB offslip to Charlestown SB onslip | 0.5           |
| Travel        | A90   | South     | Charlestown SB onslip to Hillside SB offslip    | 1.8           |
| Salt          | A90   | South     | Hillside SB offslip to Hillside SB onslip       | 0.5           |
| Travel        | A90   | South     | Hillside SB onslip to Portlethen SB offslip     | 2.0           |
| Salt          | A90   | South     | Portlethen SB offslip to Portlethen SB onslip   | 0.5           |
| Travel        | A90   | South     | Portlethen SB onslip to Newtonhill SB offslip   | 3.7           |
| Salt          | A90   | South     | Newtonhill SB offslip to Newtonhill SB onslip   | 0.5           |
| Travel        | A90   | South     | Newtonhill SB onslip to Glasslaw SB offslip     | 11            |
| Salt          | A90   | South     | Glasslaw SB offslip to Glasslaw SB onslip       | 0.5           |
| Turn          | A90   |           | Jcn South of Glasslaw                           |               |
| Travel        | A90   | North     | Jcn South of Glasslaw to Glasslaw NB offslip    | 1             |
| Salt          | A90   | North     | Glasslaw NB offslip to Glasslaw NB onslip       | 0.5           |
| Travel        | A90   | North     | Glasslaw NB onslip to Newtonhill NB offslip     | 11            |
| Salt          | A90   | North     | Newtonhill NB offslip to Newtonhill NB onslip   | 0.5           |
| Travel        | A90   | North     | Newtonhill NB onslip to Portlethen NB offslip   | 3.7           |
| Salt          | A90   | North     | Portlethen NB offslip to Portlethen NB onslip   | 0.5           |
| Travel        | A90   | North     | Portlethen NB onslip to Hillside NB offslip     | 2.0           |
| Salt          | A90   | North     | Hillside NB offslip to Hillside NB onslip       | 0.5           |
| Travel        | A90   | North     | Hillside NB onslip to Charlestown NB offslip    | 1.8           |
| Salt          | A90   | North     | Charlestown NB offslip to Charlestown NB onslip | 0.5           |
|               |       |           |   |               |
| <b>Totals</b> |       |           |   | <b>93</b>     |



|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Edzell             | <b>Route:</b>                | NE40R9       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 56.0 km      |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 48 km        |
| <b>Depot to Route:</b> | 8 km               | <b>Route Time:</b>           | 52 mins      |
| <b>Depot to Route:</b> | 8 min              | <b>Route Coverage:</b>       | 13.44 tonnes |
| <b>Route to Depot:</b> | 38.0 km            | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 38.0 mins          | <b>Route Average Speed:</b>  | 64 km/h      |

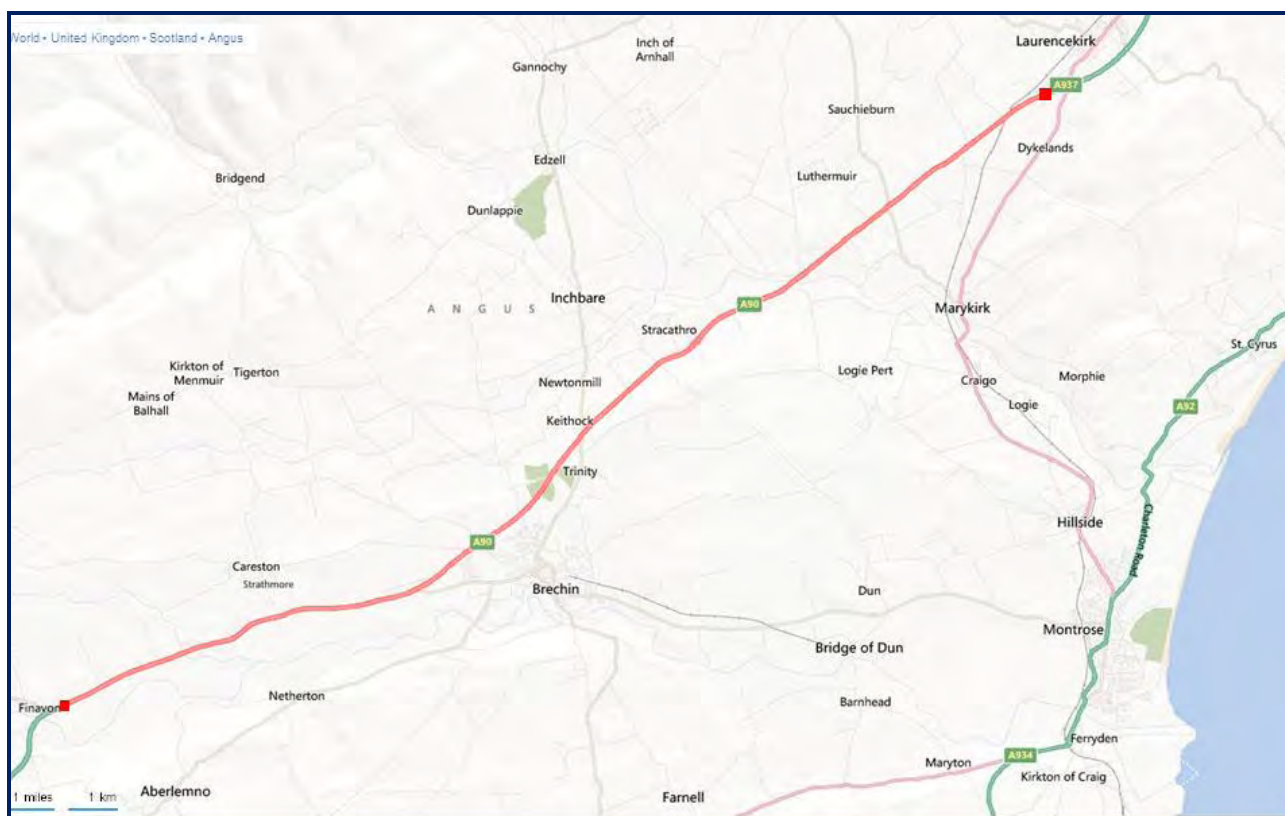


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Tullos depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                               | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Salt          | A90   | North     | A90 B974 Jcn to A90 Glasslaw Jcn NB onslip      | 26.0          |
| Travel/Turn   | A90   | North     | A90 Glasslaw Jcn NB onslip to Spurryhillock Jcn | 2.0           |
| Travel        | A90   | South     | Spurryhillock Jcn to Glasslaw Jcn SB offslip    | 2.0           |
| Salt          | A90   | South     | Glasslaw Jcn SB offslip to A90 B974 Jcn         | 26.0          |
| <b>Totals</b> |       |           |   | <b>56</b>     |



|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Dundee             | <b>Route:</b>                | NE40R10     |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 91 km       |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 51 km       |
| <b>Depot to Route:</b> | 35 km              | <b>Route Time:</b>           | 85 mins     |
| <b>Depot to Route:</b> | 35 min             | <b>Route Coverage:</b>       | 14.2 tonnes |
| <b>Route to Depot:</b> | 38.0 km            | <b>Route Average Width:</b>  | 7.0 m       |
| <b>Route to Depot:</b> | 38.0 mins          | <b>Route Average Speed:</b>  | 64 km/h     |

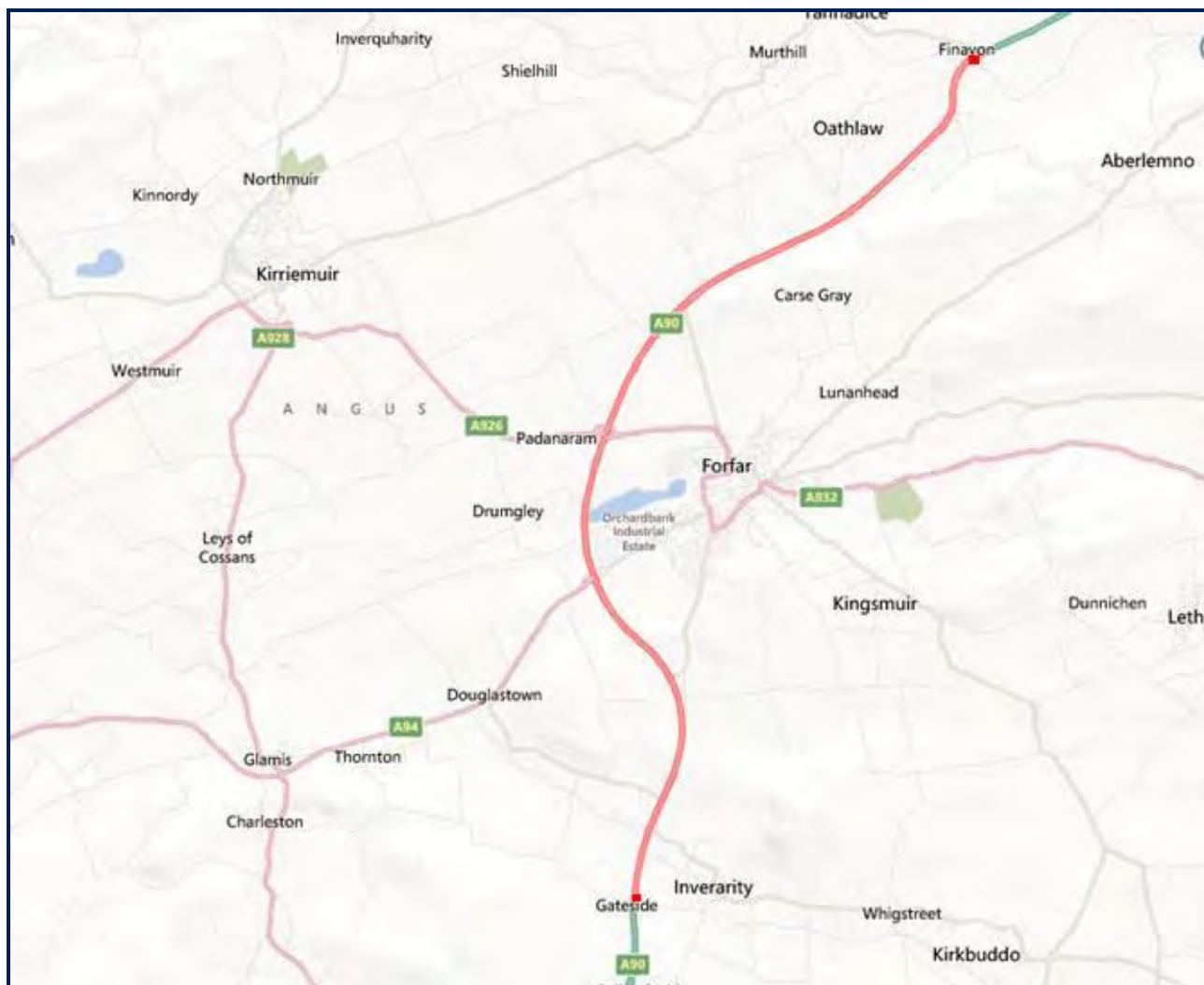


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Edzell depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation   | Route | Direction | Route Description                       | Distance (km) |
|-------------|-------|-----------|---|---------------|
| Salt        | A90   | North     | Finavon Jcn to A90 B974 Jcn             | 25            |
| Travel/Turn | A90   | North     | A90 B974 Jcn to B9120 Jcn               | 1.5           |
| Travel      | A90   | South     | B9120 Jcn to A90 B974 Jcn               | 1.5           |
| Salt        | A90   | South     | A90 B974 Jcn to Finavon Jcn             | 25            |
| Turn        | A90   |           | Parkford Jcn                            |               |
| Travel      | A90   | North     | Parkford Jcn to St Annes Jcn NB offslip | 12.5          |
| Salt        | A90   | North     | St Annes Jcn NB offslip to St Annes Jcn | 0.62          |

| Operation     | Route | Direction | Route Description                                   | Distance (km) |
|---------------|-------|-----------|---|---------------|
|               |       |           | NB onslip   |               |
| Travel        | A90   | North     | St Annes Jcn NB onslip to Keithock NB offslip       | 6.0           |
| Salt          | A90   | North     | Keithock Jcn NB offslip to Keithock Jcn NB onslip   | 1.0           |
| Travel        | A90   | North     | Keithock Jcn NB onslip to A90 Stracathro NB offslip | 2.8           |
| Salt          | A90   | North     | A90 Stracathro NB offslip to Stracathro NB onslip   | 0.5           |
| Travel/Turn   | A90   | North     | Stracathro NB onslip to Northwater Bridge           | 2.0           |
| Travel        | A90   | South     | to Northwater Bridge to Stracathro SB offslip       | 2.0           |
| Salt          | A90   | South     | Stracathro SB offslip to Stracathro SB onslip       | 1.0           |
| Travel        | A90   | South     | Stracathro SB onslip to Keithock SB offslip         | 2.8           |
| Salt          | A90   | South     | Keithock SB offslip to Keithock SB onslip           | 0.5           |
| Travel        | A90   | South     | Keithock SB onslip to St Annes SB offslip           | 6.0           |
| Salt          | A90   | South     | St Annes SB offslip to St Annes SB onslip           | 0.5           |
| <b>Totals</b> |       |           |   | <b>91</b>     |

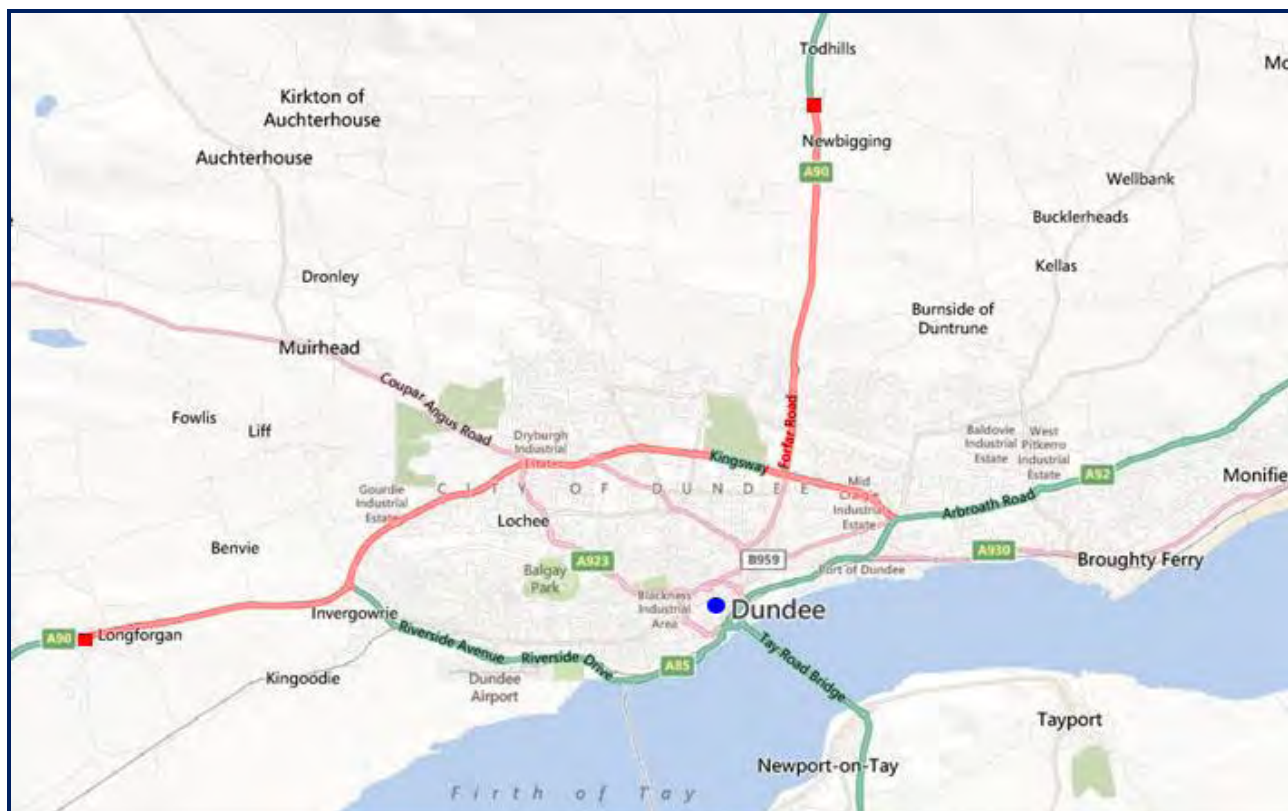
|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Dundee             | <b>Route:</b>                | 40R11        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 86 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 52 km        |
| <b>Depot to Route:</b> | 9 km               | <b>Route Time:</b>           | 81 mins      |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 14.56 tonnes |
| <b>Route to Depot:</b> | 9 km               | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 10 mins            | <b>Route Average Speed:</b>  | 64 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Edzell depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                               | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Salt          | A90   | North     | Tealing to Finavon Jcn                          | 22            |
| Turn          | A90   |           | Finavon Jcn                                     |               |
| Salt          | A90   | South     | Finavon Jcn to Fintry Dr Roundabout             | 22            |
| Travel        | A90   | North     | Fintry Dr Roundabout to Gateside NB offslip     | 10.0          |
| Salt          | A90   | North     | Gateside NB offslip to Gateside NB onslip       | 0.5           |
| Travel        | A90   | North     | Gateside NB onslip to Douglastown NB offslip    | 1.0           |
|               |       |           |   |               |
| Salt          | A90   | North     | Douglastown NB offslip to Douglastown NB onslip | 1.0           |
| Travel        | A90   | North     | Douglastown NB onslip to Glamis NB offslip      | 4.0           |
| Salt          | A90   | North     | Glamis NB offslip to Glamis NB onslip           | 0.5           |
| Travel        | A90   | North     | Glamis NB onslip to Kirrie NB offslip           | 2.2           |
| Salt          | A90   | North     | Kirrie NB offslip to Kirrie NB onslip           | 0.5           |
| Travel/Turn   | A90   | North     | Kirrie NB onslip to Parkford Jcn                | 5.0           |
| Travel        | A90   | South     | Parkford Jcn to Kirrie SB offslip               | 5.0           |
| Salt          | A90   | South     | Kirrie SB offslip to Kirrie SB onslip           | 0.5           |
| Travel        | A90   | South     | Kirrie SB onslip to Glamis SB offslip           | 2.2           |
| Salt          | A90   | South     | Glamis SB offslip to Glamis SB onslip           | 0.5           |
| Travel        | A90   | South     | Glamis SB onslip to Douglastown SB offslip      | 4.0           |
| Salt          | A90   | South     | Douglastown SB offslip to Douglastown SB onslip | 1.0           |
| Travel        | A90   | South     | Douglastown SB onslip to Gateside SB offslip    | 1.0           |
| Salt          | A90   | South     | Gateside SB offslip to Gateside SB onslip       | 0.5           |
| <b>Totals</b> |       |           |   | <b>86</b>     |

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Dundee             | <b>Route:</b>                | 40R12        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 58.0 km      |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 47 km        |
| <b>Depot to Route:</b> | 9 km               | <b>Route Time:</b>           | 57.0 mins    |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 13.16 tonnes |
| <b>Route to Depot:</b> | 12 km              | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 12 mins            | <b>Route Average Speed:</b>  | 64 km/h      |

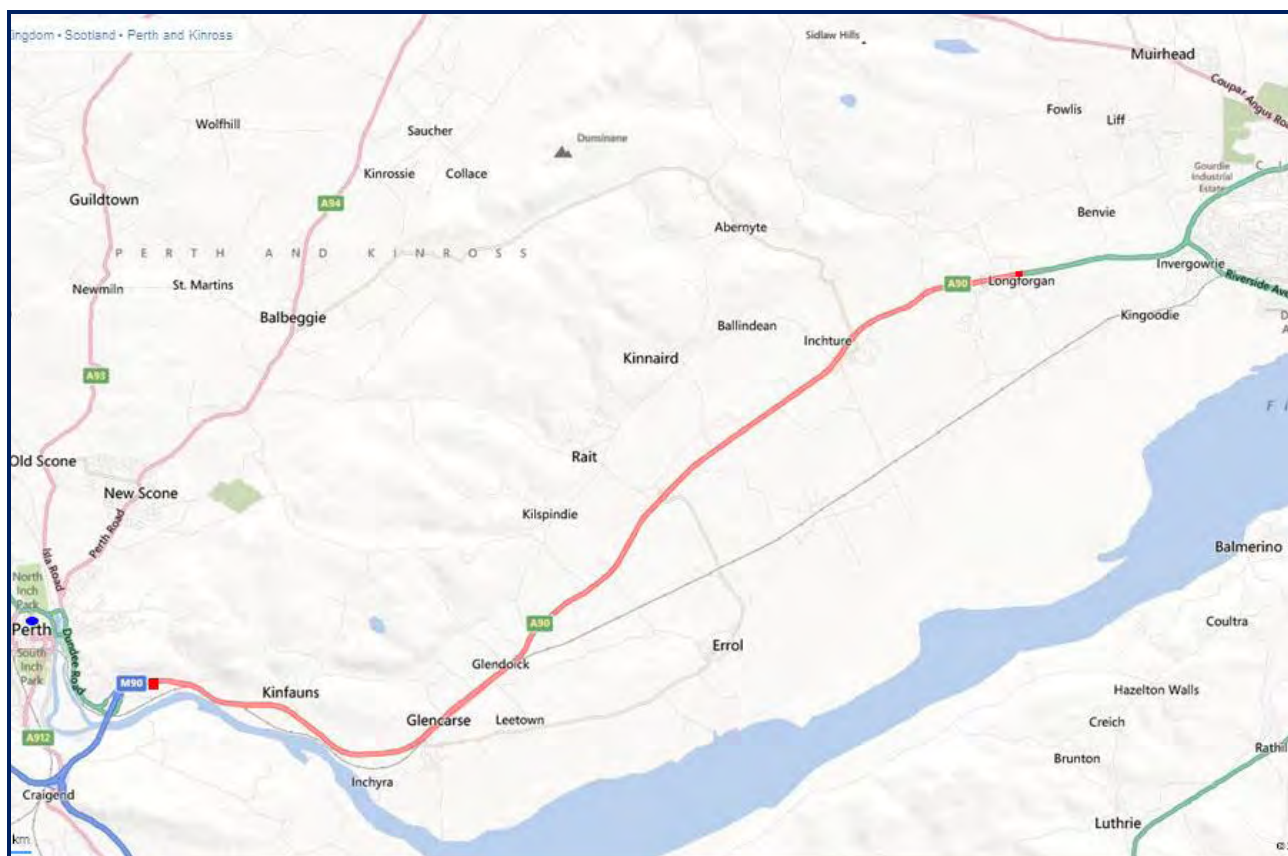


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Perth depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route        | Direction | Route Description                                 | Distance (km) |
|---------------|--------------|-----------|---|---------------|
| Salt          | A92          | South     | A92 Scott Fyffe R/B to Discovery Quay Jcn         | 3.0           |
| Turn          | A90          |           | Discovery Quay Jcn                                |               |
| Salt          | A92/A972/A90 | West      | Discovery Quay Jcn to Longforgan WB offslip       | 14.3          |
| Salt          | A90          |           | Longforgan WB offslip to Longforgan EB onslip     | 1.0           |
| Salt          | A90/A972     | East      | Longforgan EB onslip to A92 Scott Fyffe R/B       | 14            |
| Travel        | A972         | West      | A92 Scott Fyffe R/B to Forfar Rd Jcn              | 2.0           |
| Salt          | A90          | North     | Forfar Rd Jcn to Tealing                          | 6             |
| Salt          | A90          | South     | Tealing to Forfar Rd Jcn                          | 6             |
| Travel        | A90          | West      | Forfar Rd Jcn to Kings Cross WB offslip           | 2.5           |
| Salt          | A90          | West      | Kings Cross WB offslip to Kings Cross WB onslip   | 0.5           |
| Travel        | A90          | West      | Kings Cross WB onslip to Coupar Angus WB offslip  | 1.0           |
| Salt          | A90          | West      | Coupar Angus WB offslip to Coupar Angus WB onslip | 0.5           |
| Travel        | A90          | West      | Coupar Angus WB onslip to Myrekirk R/b turn       | 2.0           |
| Travel        | A90          | East      | Myrekirk R/b to Coupar Angus EB offslip           | 2.0           |
| Salt          | A90          | East      | Coupar Angus EB offslip to Coupar Angus EB onslip | 1.0           |
| Travel        | A90          | East      | Coupar Angus EB onslip to Kings Cross EB offslip  | 1.0           |
| Salt          | A90          | East      | Kings Cross EB offslip to Kings Cross EB onslip   | 1.0           |
| <b>Totals</b> |              |           |   | <b>58</b>     |



|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | 40R13       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 121.5 km    |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 49 km       |
| <b>Depot to Route:</b> | 10 km              | <b>Route Time:</b>           | 113 mins    |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 13.7 tonnes |
| <b>Route to Depot:</b> | 12 km              | <b>Route Average Width:</b>  | 7.0 m       |
| <b>Route to Depot:</b> | 12 mins            | <b>Route Average Speed:</b>  | 60 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Dundee depot by utilising the trunk road and local road network should access be required from an alternative depot.



| Operation   | Route | Direction | Route Description                                       | Distance (km) |
|-------------|-------|-----------|---|---------------|
| Salt        | A90   | East      | Tollhouse to Longforgan EB onslip                       | 20.8          |
| Travel/Turn | A90   | East      | Longforgan EB onslip to Swallow R/B                     | 2.5           |
| Travel      | A90   | West      | Swallow R/B to Longforgan WB offslip                    | 2.5           |
| Salt        | A92   | South     | Longforgan WB offslip to North End Friarton Br          | 20            |
| Travel/Turn | M90   | South     | North End Friarton Br to Br of Earn I/C                 | 5.0           |
| Travel      | M90   | North     | Br of Earn I/C to Craigend Broxden offslip              | 3.0           |
| Salt        | M90   | North     | Craigend Broxden offslip to merge with southern bypass  | 1.0           |
| Travel      | M90   | North     | merge with southern bypass to Broxden                   | 4.0           |
| Travel      | M90   | South     | Broxden to North End Friarton Br offslip                | 6.0           |
| Salt        | A90   | East      | North End Friarton Br offslip to End Dundee Road onslip | 0.5           |
| Travel      | A90   | East      | End Dundee Road onslip to Glendoik EB offslip           | 9.0           |
| Salt        | A90   | East      | Glendoik EB offslip to Glendoik EB onslip               | 0.5           |
| Travel      | A90   | East      | Glendoik EB onslip to Inchmichael EB offslip            | 4.5           |
| Salt        | A90   | East      | Inchmichael EB offslip to Inchmichael EB onslip         | 1.0           |
| Travel      | A90   | East      | Inchmichael WB onslip to Inchtute EB offslip            | 4.0           |
| Salt        | A90   | East      | Inchtute EB offslip to Inchtute EB onslip               | 1.0           |
| Travel      | A90   | East      | Inchtute EB onslip to Longforgan EB offslip             | 2.0           |
| Salt        | A90   | East/West | Longforgan EB offslip to Longforgan WB offslip          | 1.0           |
| Travel      | A90   | West      | Longforgan WB offslip to Inchtute WB offslip            | 2.0           |
| Salt        | A90   | West      | Inchtute WB offslip to Inchtute WB onslip               | 1.0           |
| Travel      | A90   | West      | Inchtute WB onslip to Inchmichael WB offslip            | 4.0           |
| Salt        | A90   | West      | Inchmichael WB offslip to Inchmichael WB onslip         | 1.0           |
| Travel      | A90   | West      | Inchmichael WB onslip to Glendoik WB offslip            | 4.5           |
| Salt        | A90   | West      | Glendoik WB offslip to Glendoik WB onslip               | 0.5           |
| Travel      | A90   | West      | Glendoik WB onslip to Br of Earn I/C                    | 15.0          |

| Operation     | Route | Direction | Route Description   | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Travel        | M90   | East      | Br of Earn I/C to Craigend Edinburgh rd offslip           | 3.0           |
| Salt          | M90   | East      | Craigend Edinburgh rd offslip to End Edinburgh rd offslip | 0.5           |
| Turn          |       |           | Friarton Road   |               |
| Travel        | U/C   | South     | Friarton Road to start Scoonieburn slip                   | 0.5           |
| Salt          | M90   | South     | start Scoonieburn slip to end scoonieburnslip             | 1.0           |
| <b>Totals</b> |       |           |   | <b>121.5</b>  |

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Lochgelly          | <b>Route:</b>                | 40R14        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 63 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 48 km        |
| <b>Depot to Route:</b> | 12 km              | <b>Route Time:</b>           | 69 mins      |
| <b>Depot to Route:</b> | 12 min             | <b>Route Coverage:</b>       | 13.44 tonnes |
| <b>Route to Depot:</b> | 52 km              | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 60 mins            | <b>Route Average Speed:</b>  | 55 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Dundee depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                             | Distance (km) |
|---------------|-------|-----------|---|---------------|
| Salt          | A92   | North     | A92 Redhouse Roundabout to New Inn Roundabout | 10            |
| Salt          | A92   | South     | New Inn Roundabout to South Balfarg Jcn       | 2             |
| Travel        | A92   | South     | South Balfarg Jcn to Preston Roundabout       | 3.0           |
| Salt          | A92   | South     | Preston Roundabout to Redhouse Roundabout     | 6.0           |
| Travel        | A92   | North     | A92 Redhouse Roundabout to New Inn Roundabout | 10.0          |
| Salt          | A92   | North     | New Inn Roundabout to Tay Bridge Roundabout   | 30            |
| Salt          | A92   | South     | Tay Bridge Roundabout to Forgan Roundabout    | 2             |
| <b>Totals</b> |       |           |   | <b>63</b>     |

|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | 40R15        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 86 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 47 km        |
| <b>Depot to Route:</b> | 25 km              | <b>Route Time:</b>           | 81 mins      |
| <b>Depot to Route:</b> | 25 min             | <b>Route Coverage:</b>       | 13.16 tonnes |
| <b>Route to Depot:</b> | 25 km              | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 25 mins            | <b>Route Average Speed:</b>  | 64 km/h      |

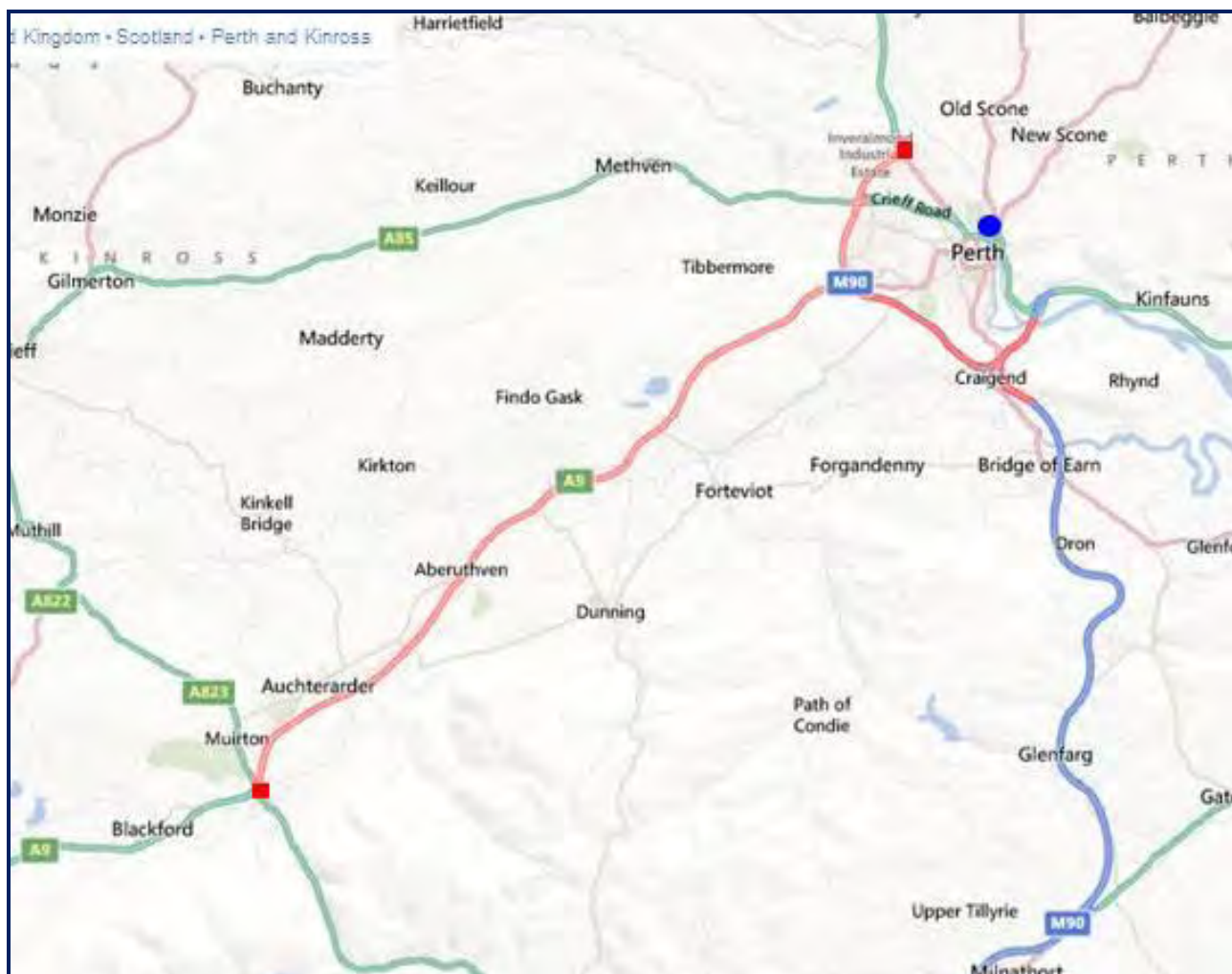


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Lochgelly depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                                      | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A9    | South     | Loaninghead SB offslip to Keir Roundabout              | 19            |
| Salt          | A9    | North     | Keir Roundabout to Auchterarder South Jcn              | 19.5          |
| Turn          | A9    |           | Auchterarder South Jcn                                 |               |
| Travel        | A9    | South     | Auchterarder South Jcn to start Loanighead SB onslip   | 1.5           |
| Salt          | A9    | South     | start Loanighead SB onslip to end Loanighead SB onslip | 1.0           |
| Travel        | A9    | South     | end Loanighead SB onslip to Queen Vic SB offslip       | 15            |
| Salt          | A9    | South     | Queen Vic SB offslip to Queen Vic SB onslip            | 0.5           |
| Travel        | A9    | South     | Queen Vic SB onslip to A820 SB offslip                 | 2.5           |
| Salt          | A9    | South     | A820 SB offslip to A820 SB onslip                      | 1.0           |
| Travel        | A9    | South     | A820 SB onslip to Keir Roundabout                      | 2.0           |
| Travel        | A9    | North     | Keir Roundabout to A820 NB offslip                     | 2.0           |
| Salt          | A9    | North     | A820 NB offslip to A820 NB onslip                      | 1.0           |
| Travel        | A9    | North     | A820 NB onslip to Queen Vic NB offslip                 | 2.5           |
| Salt          | A9    | North     | Queen Vic NB offslip to Queen Vic NB onslip            | 0.5           |
| Travel        | A9    | North     | Queen Vic NB onslip to Loaninghead NB offslip          | 15            |
| Salt          | A9    | North     | Loaninghead NB offslip to End Loaninghead NB offslip   | 0.5           |
| <b>Totals</b> |       |           |  | <b>86</b>     |



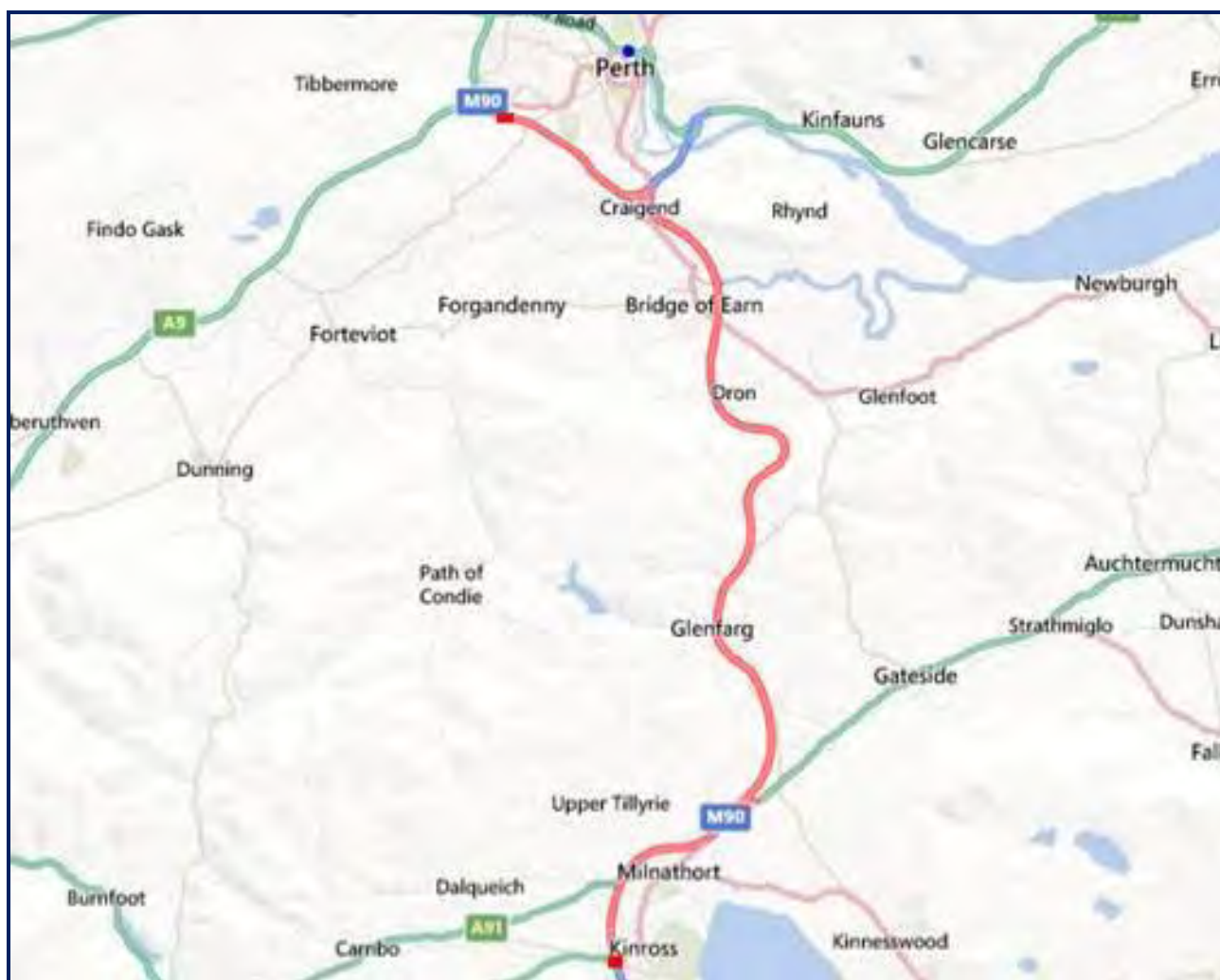
|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | 40R16        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 59 km        |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 48 km        |
| <b>Depot to Route:</b> | 1 km               | <b>Route Time:</b>           | 60 mins      |
| <b>Depot to Route:</b> | 1 min              | <b>Route Coverage:</b>       | 13.44 tonnes |
| <b>Route to Depot:</b> | 1 km               | <b>Route Average Width:</b>  | 7.0 m        |
| <b>Route to Depot:</b> | 1 mins             | <b>Route Average Speed:</b>  | 60 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Lochgelly depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description                                    | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A9    | South     | Inveralmond Roundabout to End Loaninghead SB offslip | 26            |
| Salt          | A9    | North     | End Loaninghead SB offslip to Inveralmond Roundabout | 26            |
| Turn          | A9    |           | Inveralmond Roundabout                               |               |
| Travel        | A9    | South     | Inveralmond Roundabout to A85 SB offslip             | 1.0           |
| Salt          | A9    | South     | A85 SB offslip to A85 SB onslip                      | 1.0           |
| Travel        | A9    | South     | A85 SB onslip to Broxden Roundabout                  | 2.0           |
| Travel        | A9    | North     | Broxden Roundabout to A85 NB offslip                 | 2.0           |
| Salt          | A9    | North     | A85 NB offslip to A85 NB offslip                     | 1.0           |
| <b>Totals</b> |       |           |  | <b>59</b>     |

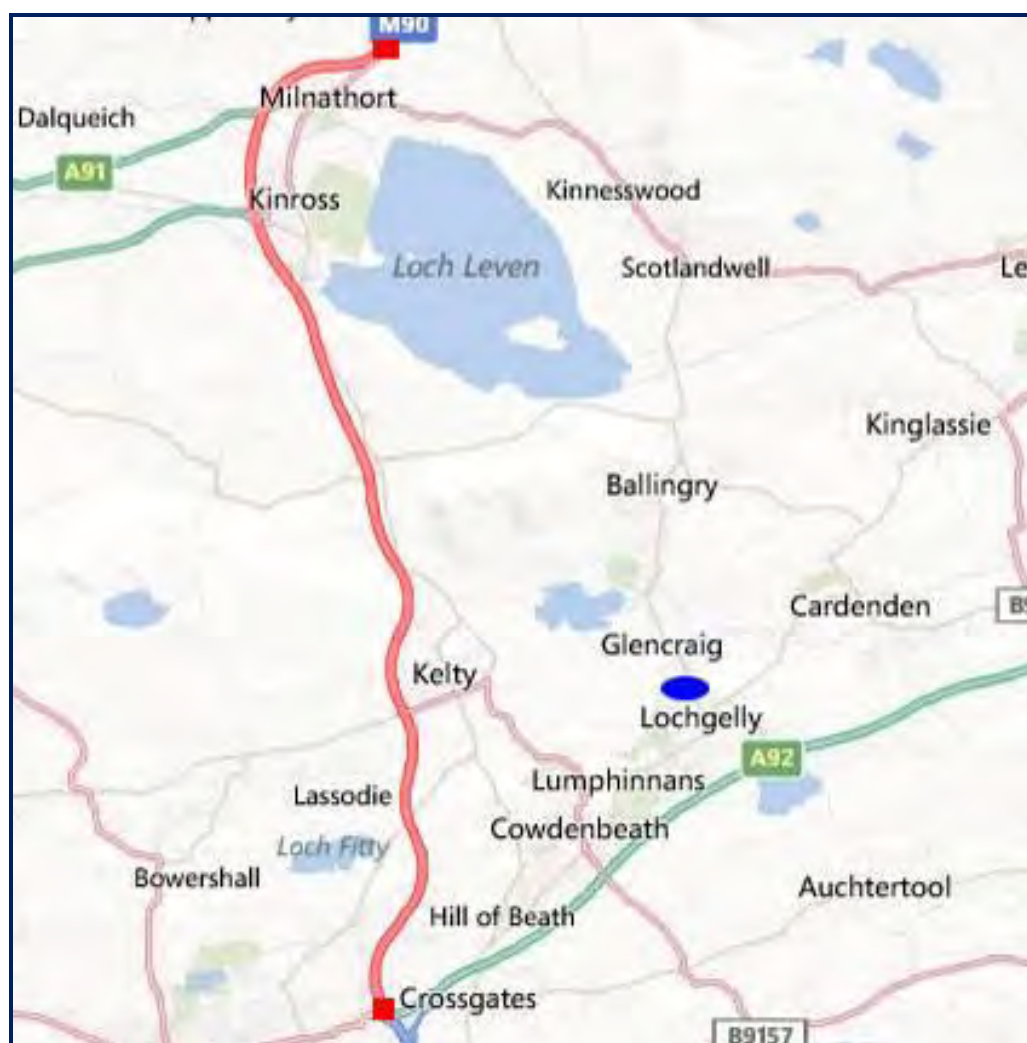
|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | 40R17       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 77.5 km     |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 40 km       |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 72 mins     |
| <b>Depot to Route:</b> | 5 min              | <b>Route Coverage:</b>       | 14.4 tonnes |
| <b>Route to Depot:</b> | 28 km              | <b>Route Average Width:</b>  | 9.0 m       |
| <b>Route to Depot:</b> | 28 mins            | <b>Route Average Speed:</b>  | 64 km/h     |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Lochgelly depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description  | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | M90   | South     | Broxden Roundabout to End Milnathort SB offslip              | 25.5          |
| Salt          | M90   | North     | End Milnathort SB offslip to End Milnathort NB onslip        | 1.0           |
| Travel        | M90   | North     | End Milnathort NB onslip to Br of Earn NB offslip            | 16.0          |
| Salt          | M90   | North     | Br of Earn NB offslip to Br of Earn NB onslip                | 1.0           |
| Travel        | M90   | North     | Br of Earn NB onslip to start NB offslip to Broxden          | 3.0           |
| Salt          | M90   | North     | start NB offslip to Broxden to North End Friarton Br offslip | 2.0           |
| Salt          | M90   | North     | North End Friarton Br offslip around Barnhill                | 1.0           |
| Salt          | M90   | South     | Onslip SB to Friarton Br to offslip Craigend Mid-deck        | 2.0           |
| Salt          | M90   | North     | offslip Craigend Mid-deck to Broxden Roundabout              | 4.5           |
| Travel        | M90   | South     | Broxden Roundabout to Offslip to Friarton EB                 | 4.0           |
| Salt          | M90   | East      | Offslip to Friarton EB to End offslip to Friarton EB         | 1.0           |
| Travel        | M90   | East      | End offslip to Friarton EB to A90 Kinfauns EB offslip        | 5.0           |
| Salt          | A90   | East      | A90 Kinfauns EB offslip to A90 Kinfauns EB onslip            | 0.5           |
| Travel/Turn   |       |           | A90 Kinfauns EB onslip to Glencarse I/C                      | 3.5           |
| Travel        | A90   | West      | Glencarse I/C to Kinfauns WB offslip                         | 3.5           |
| Salt          | A90   | West      | Kinfauns WB offslip to Kinfauns WB onslip                    | 0.5           |
| Travel        | A90   | West      | Kinfauns WB onslip to Barnhill WB offslip                    | 3.0           |
| Salt          | A90   | West      | Barnhill WB offslip to Toll house                            | 1.0           |
| <b>Totals</b> |       |           |  | <b>77.5</b>   |

|                        |                    |                              |             |
|------------------------|--------------------|------------------------------|-------------|
| <b>Depot:</b>          | Lochgelly          | <b>Route:</b>                | 40R18       |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 84.1 km     |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 45 km       |
| <b>Depot to Route:</b> | 8 km               | <b>Route Time:</b>           | 79 mins     |
| <b>Depot to Route:</b> | 8 min              | <b>Route Coverage:</b>       | 12.6 tonnes |
| <b>Route to Depot:</b> | 12 km              | <b>Route Average Width:</b>  | 7.0 m       |
| <b>Route to Depot:</b> | 12 mins            | <b>Route Average Speed:</b>  | 64 km/h     |

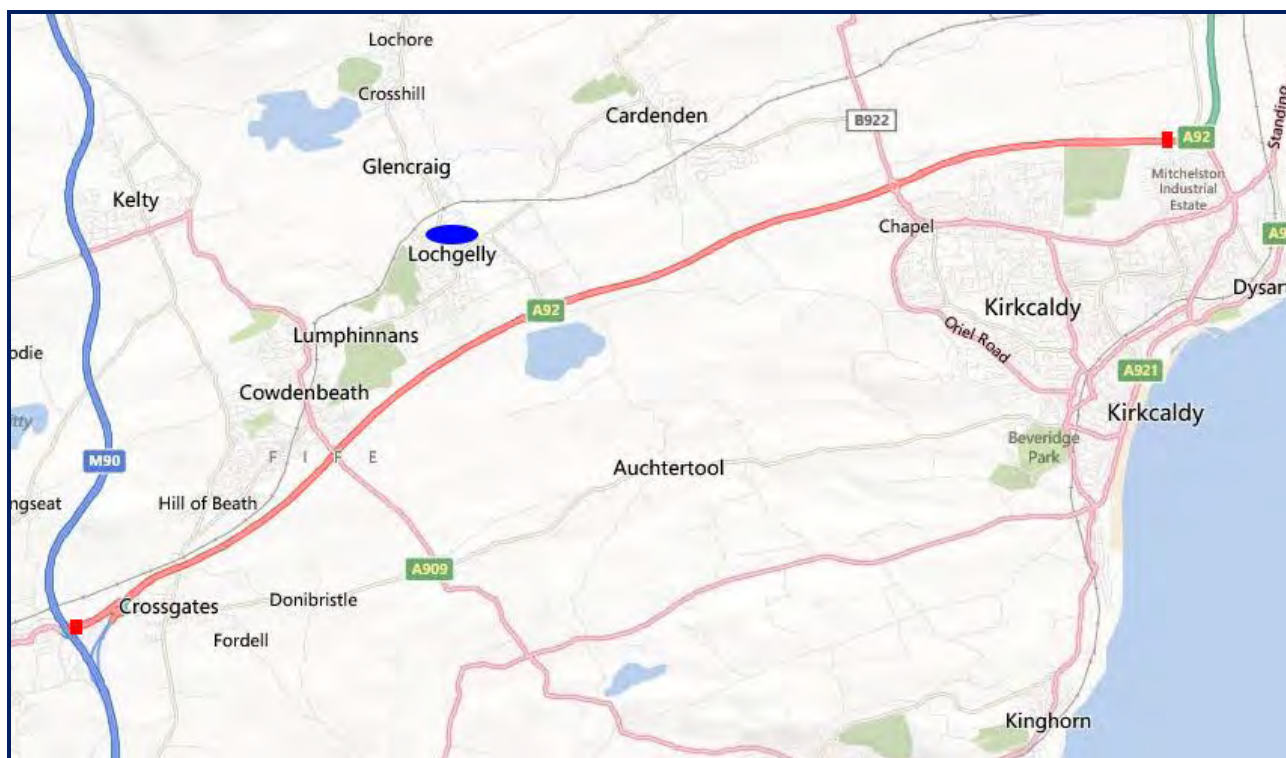


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Perth depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description  | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A92   | South     | Start onslip J2 A to End onslip J2A                            | 1.1           |
| Travel/Turn   | M90   | South     | End onslip J2A to Admiralty Roundabout                         | 5.0           |
| Travel        | M90   | North     | Admiralty Roundabout to Halbeath NB offslip                    | 5.0           |
| Salt          | M90   | North     | Halbeath NB offslip to Arlary NBoffslip                        | 20            |
| Salt          | A91   |           | Arlary NBoffslip to Arlary SB onslip                           | 2.0           |
| Salt          | M90   | South     | Arlary SB onslip to Halbeath SB offslip                        | 20            |
| Salt          | M90   |           | Halbeath SB offslip to Halbeath NB onslip including roundabout | 1.5           |
| Travel        | M90   | North     | Halbeath NB onslip to Kelty NB offslip                         | 5.0           |
| Salt          | M90   | North     | Kelty NB offslip to Kelty NB onslip                            | 1.0           |
| Travel        | M90   | North     | Kelty NB onslip to Gairneybridge NB offslip                    | 4.0           |
| Salt          | M90   | North     | Gairneybridge NB offslip to Gairneybridge NB onslip            | 1.0           |
| Travel        | M90   | North     | Gairneybridge NB onslip to Kinross NB offslip                  | 4.0           |
| Salt          | M90   | North     | Kinross NB offslip to Kinross NB onslip                        | 1.0           |
| Travel/Turn   | M90   | North     | Kinross NB onslip to Arlary I/C                                | 1.0           |
| Travel        | M90   | South     | Arlary I/C to Kinross SB offslip                               | 1.5           |
| Salt          | M90   | South     | Kinross SB offslip to Kinross SB onslip                        | 1.0           |
| Travel        | M90   | South     | Kinross SB onslip to Gairneybridge SB offslip                  | 4.0           |
| Salt          | M90   | South     | Gairneybridge SB offslip to Gairneybridge SB onslip            | 1.0           |
| Travel        | M90   | South     | Gairneybridge SB onslip to Kelty SB offslip                    | 4.0           |
| Salt          | M90   | South     | Kelty SB offslip to Kelty SB onslip                            | 1.0           |
| <b>Totals</b> |       |           |  | <b>84.1</b>   |



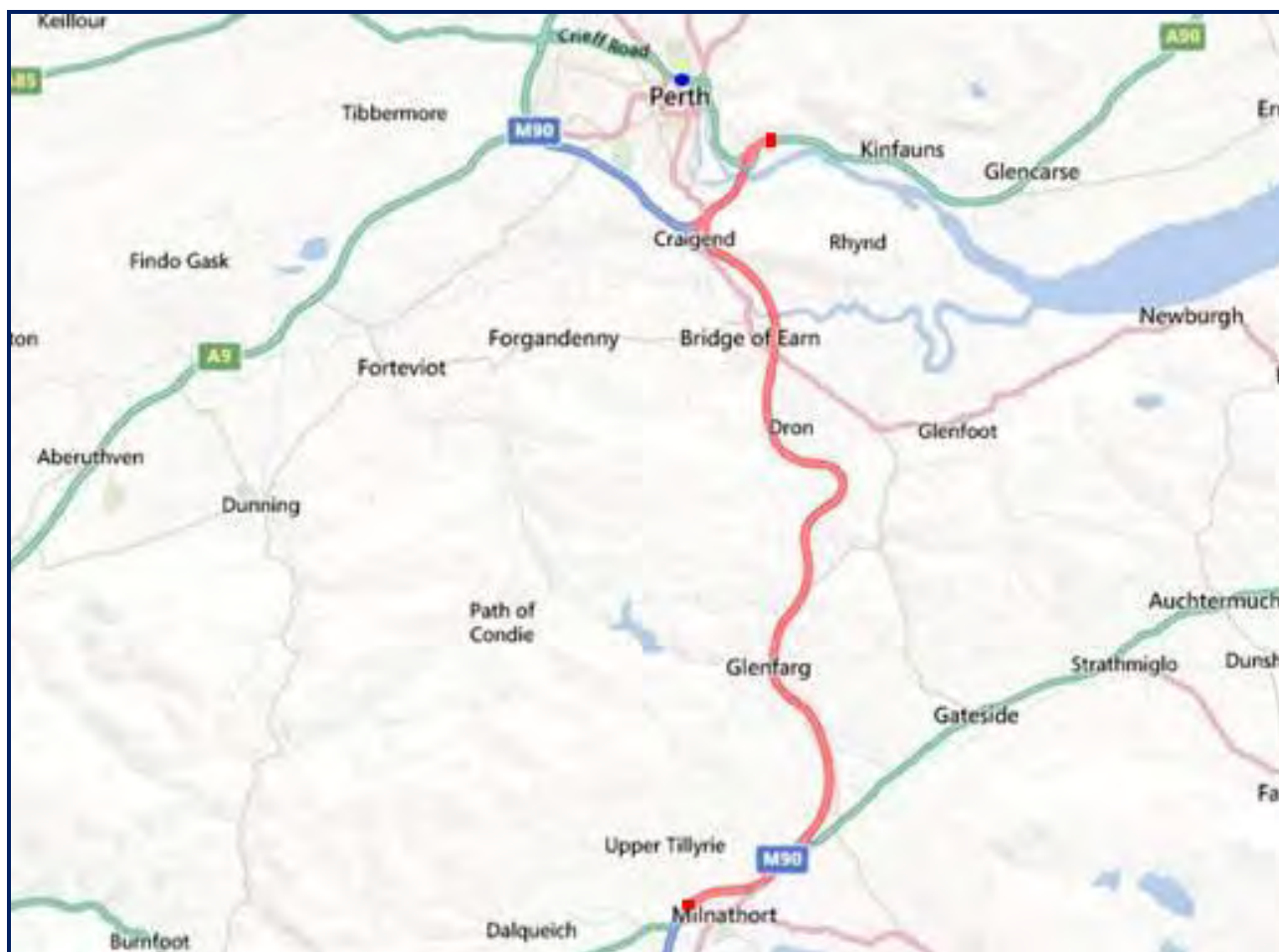
|                        |                    |                              |              |
|------------------------|--------------------|------------------------------|--------------|
| <b>Depot:</b>          | Lochgelly          | <b>Route:</b>                | 40R19        |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 73.5 km      |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 42 km        |
| <b>Depot to Route:</b> | 5 km               | <b>Route Time:</b>           | 69 mins      |
| <b>Depot to Route:</b> | 5 min              | <b>Route Coverage:</b>       | 11.76 tonnes |
| <b>Route to Depot:</b> | 14 km              | <b>Route Average Width:</b>  | 7.5 m        |
| <b>Route to Depot:</b> | 14 mins            | <b>Route Average Speed:</b>  | 60 km/h      |



Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Perth depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation     | Route | Direction | Route Description  | Distance (km) |
|---------------|-------|-----------|--|---------------|
| Salt          | A92   | West      | Lochgelly WB onslip to A92 Halbeath Roundabout (include crossgates roundabout) | 9.0           |
| Salt          | A92   | East      | A92 Halbeath Roundabout to Redhouse Roundabout                                 | 18.0          |
| Salt          | A92   | West      | Redhouse Roundabout to Lochgelly WB onslip                                     | 10            |
| Travel        | A92   | West      | Lochgelly WB onslip to Cowdenbeath WB offslip                                  | 3.0           |
| Salt          | A92   | West      | Cowdenbeath WB offslip to Cowdenbeath WB onslip                                | 1.0           |
| Travel/Turn   |       |           | Cowdenbeath WB onslip to Crossgates I/C  | 3.5           |
| Travel        | A92   | East      | Crossgates I/C to Cowdenbeath EB offslip                                       | 3.5           |
| Salt          | A92   | East      | Cowdenbeath EB offslip to Cowdenbeath EB onslip                                | 1.0           |
| Travel        | A92   | East      | Cowdenbeath EB onslip to Lochgelly EB offslip                                  | 3.0           |
| Salt          | A92   | East      | Lochgelly EB offslip to Lochgelly EB onslip                                    | 1.0           |
| Travel        | A92   | East      | Lochgelly EB onslip to Chapel EB offslip                                       | 5.0           |
| Salt          | A92   | East      | Chapel EB offslip to Chapel EB onslip  | 1.0           |
| Travel        | A92   | East      | Chapel EB onslip to redhouse Roundabout  | 4.0           |
| Travel        | A92   | West      | redhouse Roundabout to Chapel WB offslip                                       | 4.0           |
| Salt          | A92   | West      | Chapel WB offslip to Chapel WB onslip  | 1.0           |
| Travel        | A92   | West      | Chapel WB onslip to Lochgelly WB offslip                                       | 5.0           |
| Salt          | A92   | West      | Lochgelly WB offslip End lochgelly WB offslip                                  | 0.5           |
| <b>Totals</b> |       |           |  | <b>73.5</b>   |

|                        |                    |                              |            |
|------------------------|--------------------|------------------------------|------------|
| <b>Depot:</b>          | Perth              | <b>Route:</b>                | 40R20      |
| <b>Spread Rate:</b>    | 40g/m <sup>2</sup> | <b>Route Length:</b>         | 38 km      |
| <b>Treatment Type:</b> | Pre-wetted salt    | <b>Route Treated Length:</b> | 22 km      |
| <b>Depot to Route:</b> | 10 km              | <b>Route Time:</b>           | 36 mins    |
| <b>Depot to Route:</b> | 10 min             | <b>Route Coverage:</b>       | 8.4 tonnes |
| <b>Route to Depot:</b> | 28 km              | <b>Route Average Width:</b>  | 9.5 m      |
| <b>Route to Depot:</b> | 28 mins            | <b>Route Average Speed:</b>  | 64 km/h    |

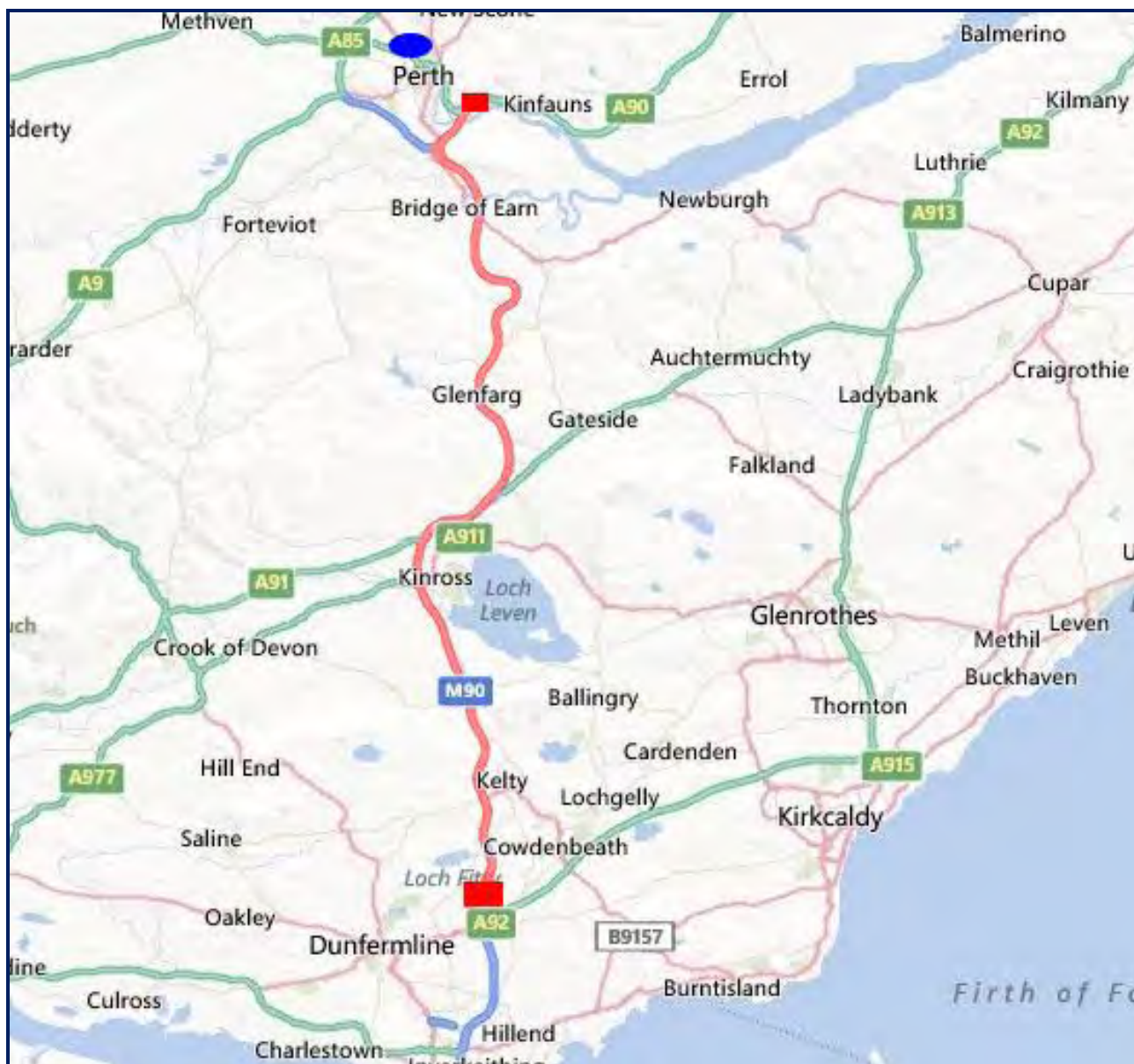


Alternative Access: In the event of any blockage on the trunk road network that would require alternative access the frontline vehicle will treat to the point of the blockage and then use the local road network to reach the remainder of the route. A vehicle will be provided from the Lochgelly depot by utilising the trunk road and local road network should access be required from an alternative depot.

| Operation   | Route | Direction | Route Description                             | Distance (km) |
|-------------|-------|-----------|---|---------------|
| Salt        | M90   | South     | Br of Earn SB offslip to Br of Earn SB onslip | 1.0           |
| Travel/Turn | M90   | South     | Br of Earn SB onslip to Milnathort I/C        | 16.0          |
| Salt        | M90   | North     | Milnathort NB onslip to Craigend I/C          | 21.0          |
|             |       |           | <b>Total</b>                                  | <b>38</b>     |

**Table 7.2/J/3 - Winter Patrol Routes**

|                        |           |                             |         |
|------------------------|-----------|-----------------------------|---------|
| <b>Depot:</b>          | Lochgelly | <b>Route:</b>               | A1      |
| <b>Route Length:</b>   | 75.64     | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 10 Km     | <b>Route Average Speed:</b> | 75.64   |
| <b>Depot to Route:</b> | 8 mins    |                             |         |
| <b>Route to Depot:</b> | 10 Km     |                             |         |
| <b>Route to Depot:</b> | 8 mins    |                             |         |

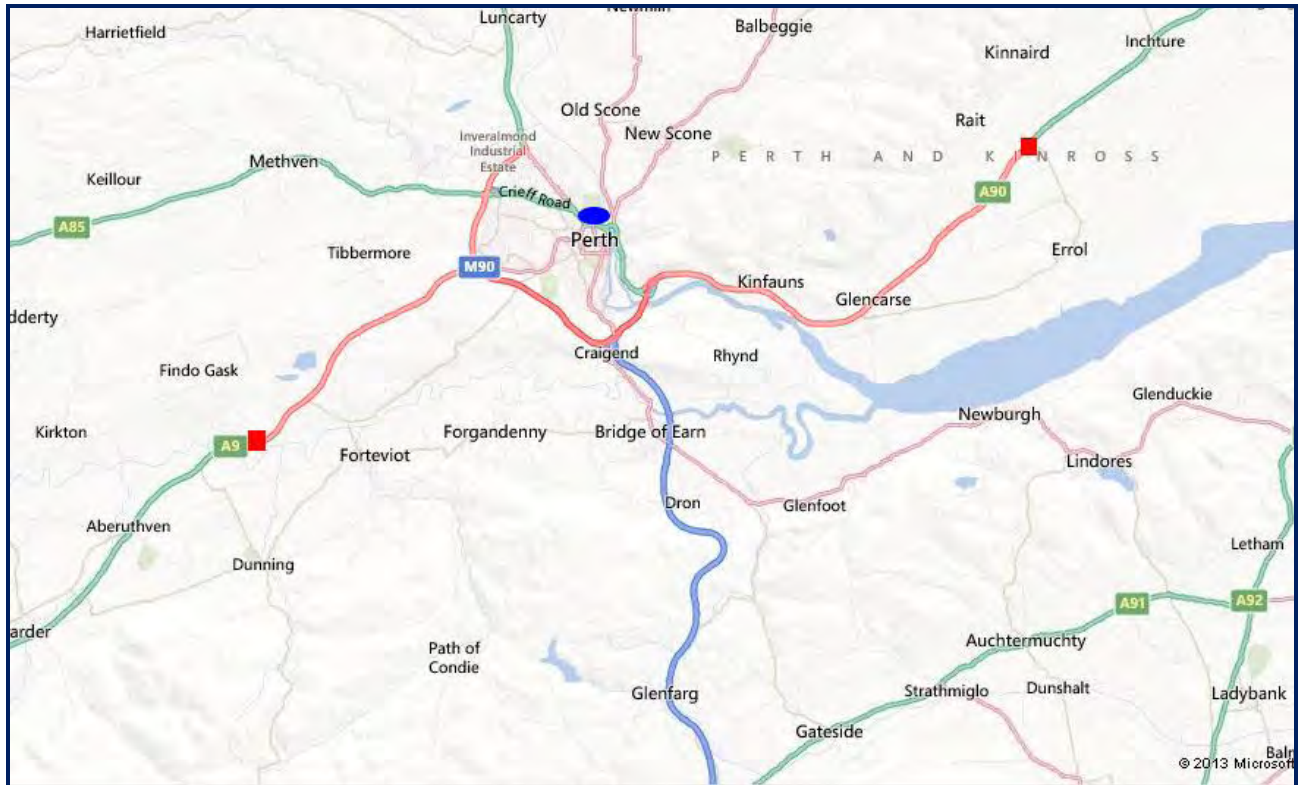




|                        |         |                             |         |
|------------------------|---------|-----------------------------|---------|
| <b>Depot:</b>          | Perth   | <b>Route:</b>               | A2      |
| <b>Route Length:</b>   | 70      | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 10 Km   | <b>Route Average Speed:</b> | 70      |
| <b>Depot to Route:</b> | 10 mins |                             |         |
| <b>Route to Depot:</b> | 10 Km   |                             |         |
| <b>Route to Depot:</b> | 10 mins |                             |         |



|                        |         |                             |         |
|------------------------|---------|-----------------------------|---------|
| <b>Depot:</b>          | Perth   | <b>Route:</b>               | A3      |
| <b>Route Length:</b>   | 68      | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 10 Km   | <b>Route Average Speed:</b> | 68      |
| <b>Depot to Route:</b> | 10 mins |                             |         |
| <b>Route to Depot:</b> | 10 Km   |                             |         |
| <b>Route to Depot:</b> | 10 mins |                             |         |

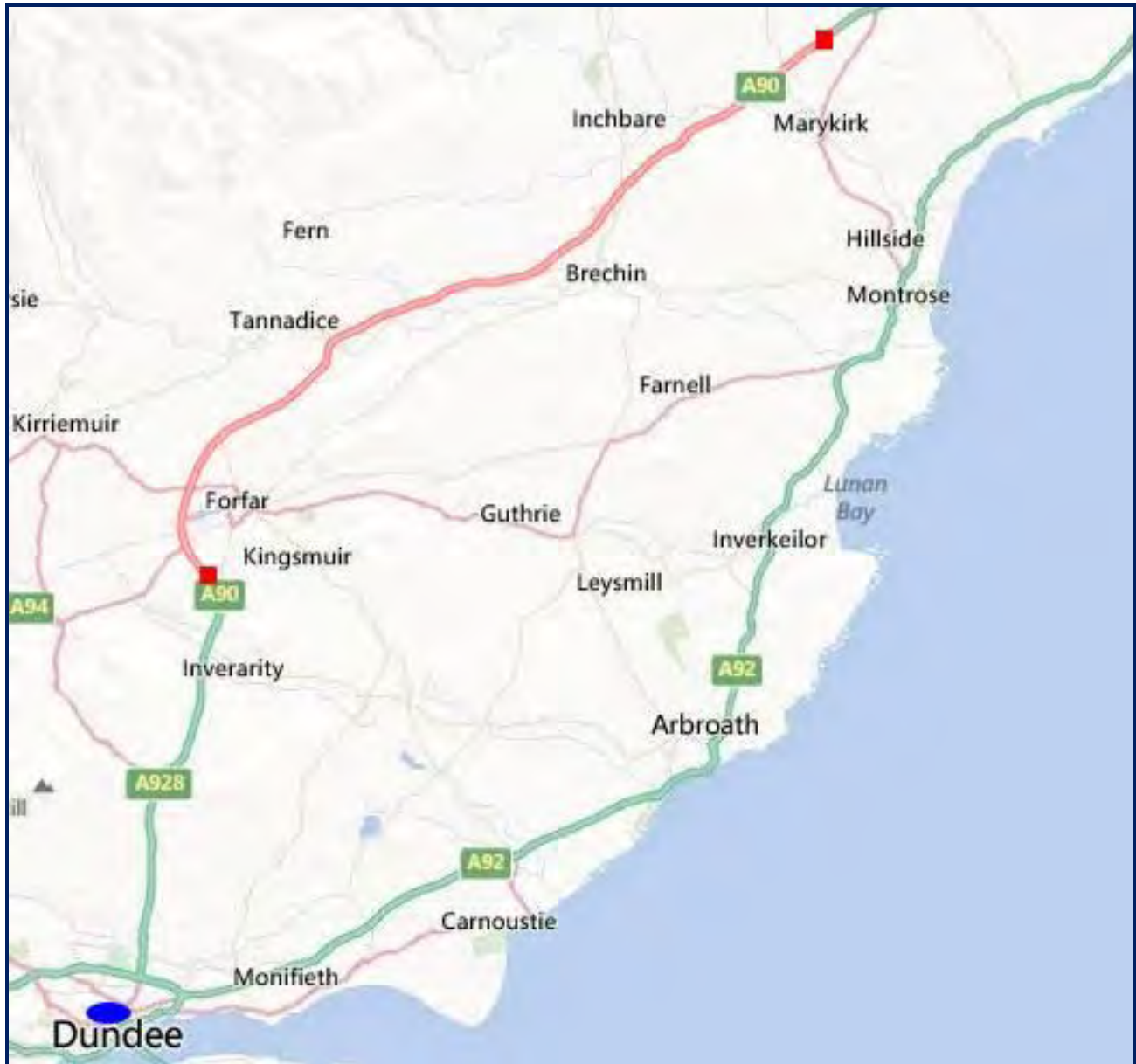




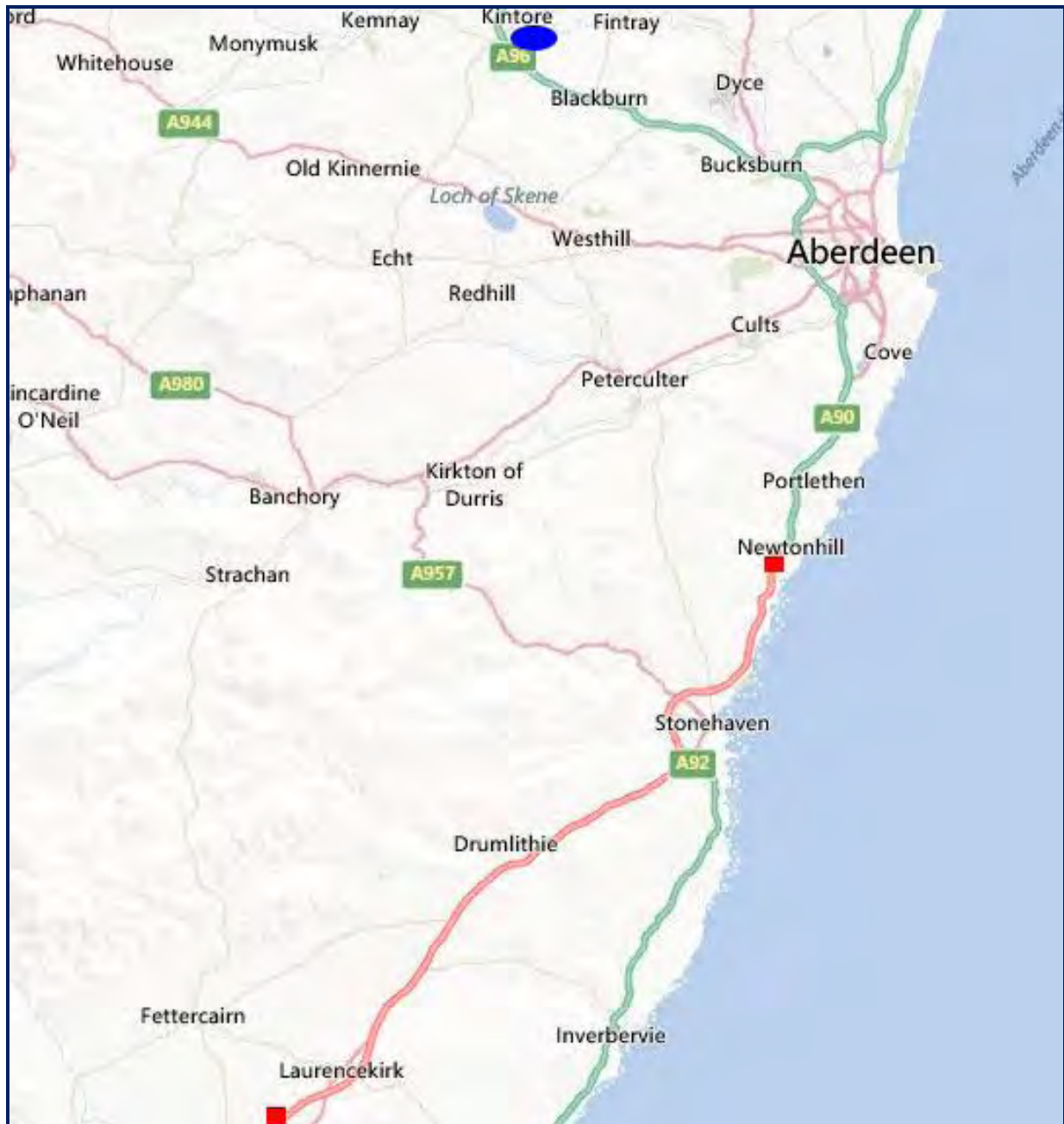
|                        |         |                             |         |
|------------------------|---------|-----------------------------|---------|
| <b>Depot:</b>          | Dundee  | <b>Route:</b>               | A4      |
| <b>Route Length:</b>   | 68      | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 12 Km   | <b>Route Average Speed:</b> | 68      |
| <b>Depot to Route:</b> | 12 mins |                             |         |
| <b>Route to Depot:</b> | 12 Km   |                             |         |
| <b>Route to Depot:</b> | 12 mins |                             |         |



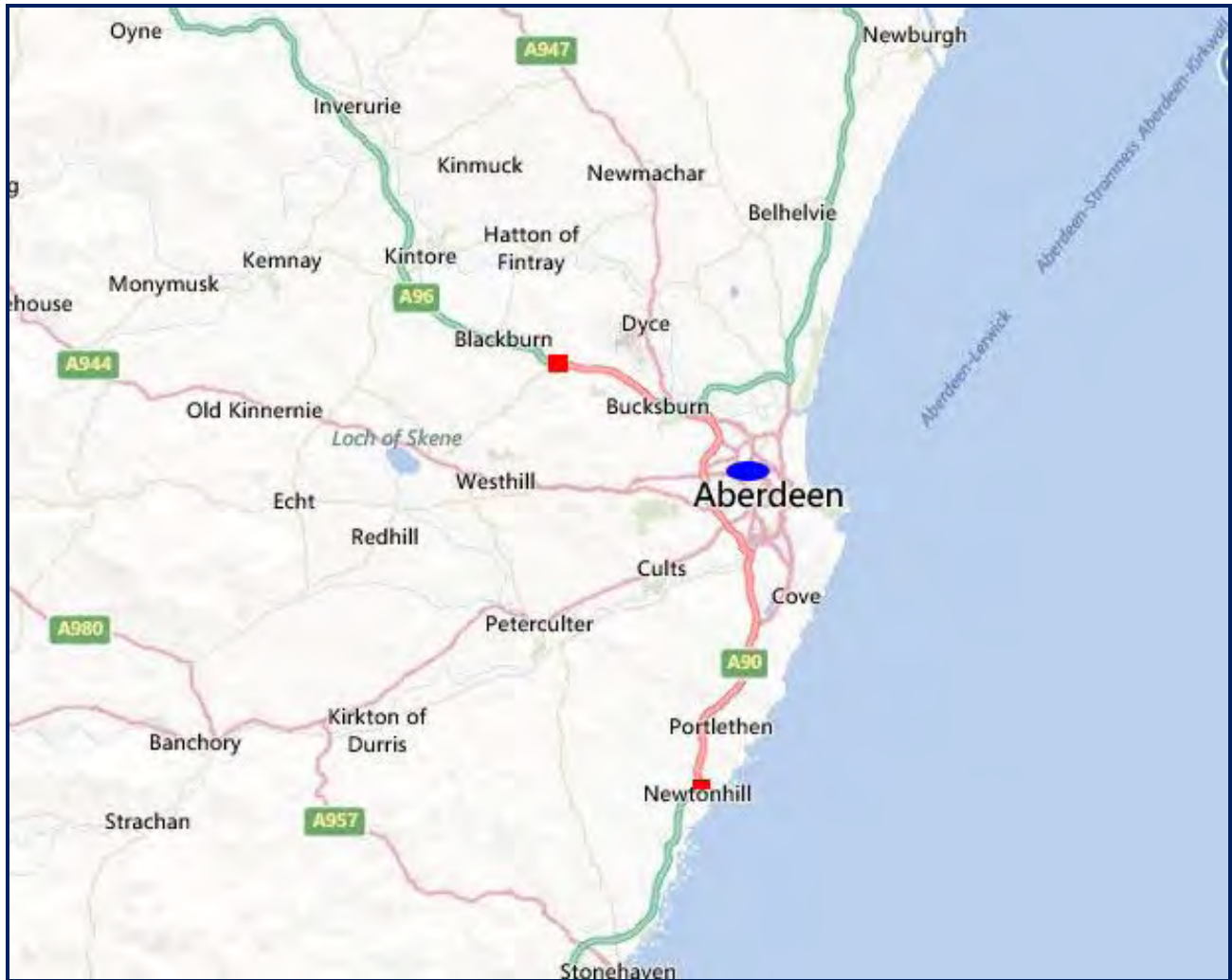
|                        |         |                             |         |
|------------------------|---------|-----------------------------|---------|
| <b>Depot:</b>          | Dundee  | <b>Route:</b>               | A5      |
| <b>Route Length:</b>   | 72      | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 25 Km   | <b>Route Average Speed:</b> | 72      |
| <b>Depot to Route:</b> | 30 mins |                             |         |
| <b>Route to Depot:</b> | 25 Km   |                             |         |
| <b>Route to Depot:</b> | 30 mins |                             |         |



|                        |         |                             |         |
|------------------------|---------|-----------------------------|---------|
| <b>Depot:</b>          | Edzell  | <b>Route:</b>               | A6      |
| <b>Route Length:</b>   | 72      | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 10 Km   | <b>Route Average Speed:</b> | 72      |
| <b>Depot to Route:</b> | 10 mins |                             |         |
| <b>Route to Depot:</b> | 10 Km   |                             |         |
| <b>Route to Depot:</b> | 10 mins |                             |         |

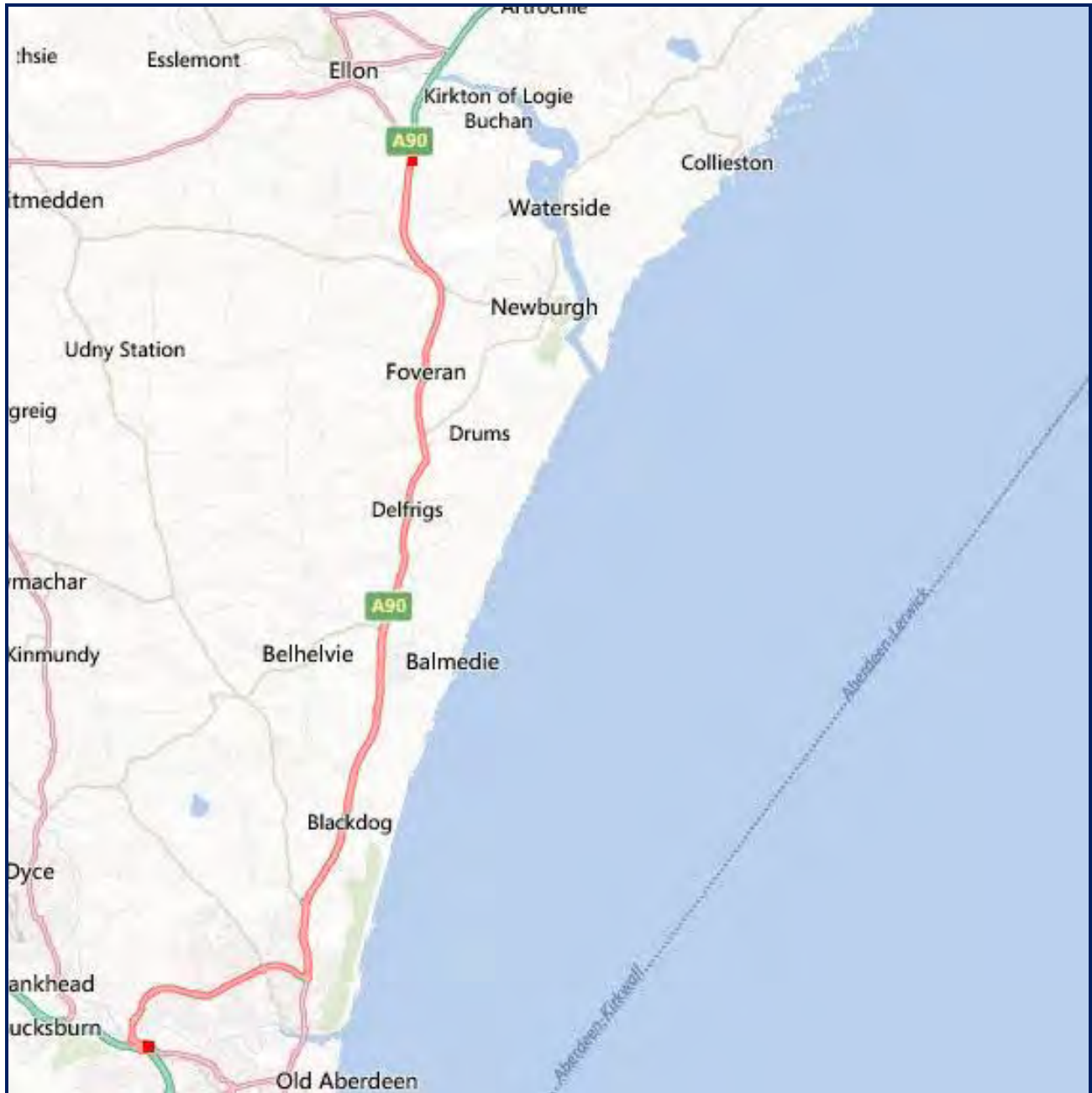


|                        |              |                             |         |
|------------------------|--------------|-----------------------------|---------|
| <b>Depot:</b>          | Stirlinghill | <b>Route:</b>               | A7      |
| <b>Route Length:</b>   | 57           | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 50 Km        | <b>Route Average Speed:</b> | 60      |
| <b>Depot to Route:</b> | 50 mins      |                             |         |
| <b>Route to Depot:</b> | 50 Km        |                             |         |
| <b>Route to Depot:</b> | 50 mins      |                             |         |

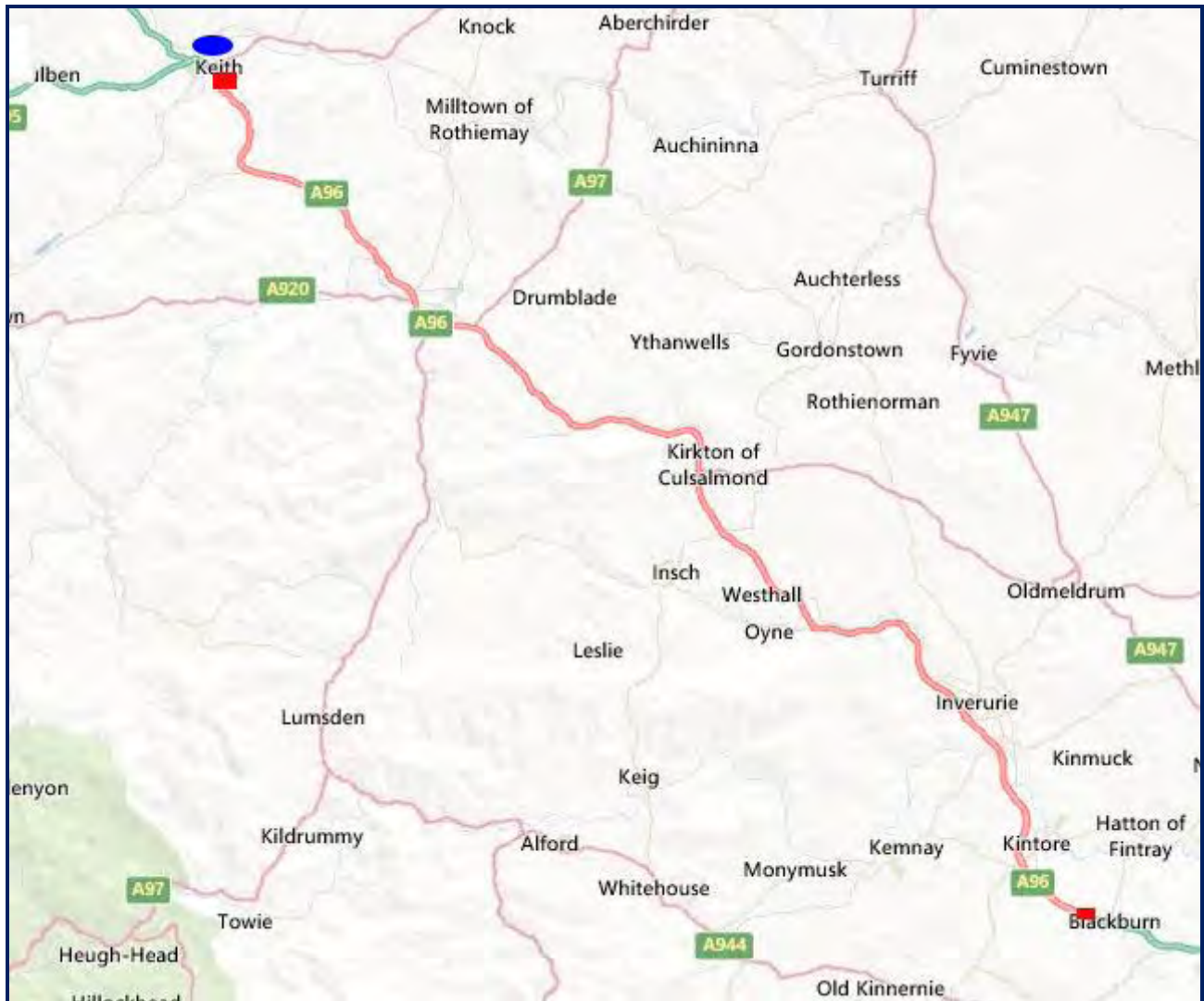




|                        |              |                             |         |
|------------------------|--------------|-----------------------------|---------|
| <b>Depot:</b>          | Stirlinghill | <b>Route:</b>               | A8      |
| <b>Route Length:</b>   | 49           | <b>Route Time:</b>          | 60 mins |
| <b>Depot to Route:</b> | 20 Km        | <b>Route Average Speed:</b> | 49      |
| <b>Depot to Route:</b> | 25 mins      |                             |         |
| <b>Route to Depot:</b> | 20 Km        |                             |         |
| <b>Route to Depot:</b> | 25 mins      |                             |         |



|                        |         |                             |          |
|------------------------|---------|-----------------------------|----------|
| <b>Depot:</b>          | Keith   | <b>Route:</b>               | B1       |
| <b>Route Length:</b>   | 72 Km   | <b>Route Time:</b>          | 86 mins  |
| <b>Depot to Route:</b> | 1 Km    | <b>Route Average Speed:</b> | 50 km/hr |
| <b>Depot to Route:</b> | 2 mins  |                             |          |
| <b>Route to Depot:</b> | 72 Km   |                             |          |
| <b>Route to Depot:</b> | 88 mins |                             |          |







|                        |           |                             |          |
|------------------------|-----------|-----------------------------|----------|
| <b>Depot:</b>          | Inverness | <b>Route:</b>               | B3       |
| <b>Route Length:</b>   | 85 Km     | <b>Route Time:</b>          | 102 mins |
| <b>Depot to Route:</b> | 3 Km      | <b>Route Average Speed:</b> | 50       |
| <b>Depot to Route:</b> | 5 mins    |                             |          |
| <b>Route to Depot:</b> | 90 Km     |                             |          |
| <b>Route to Depot:</b> | 108 mins  |                             |          |



## APPENDIX WSP 3

**Table 7.2/J/7 – Operational Salt Stock Levels**

| Operating Company          | Minimum stock level at start of season (tonnes) |
|----------------------------|---|
| BEAR Scotland – North East | 24,000  |

**Table 7.2.J/7 – Operational Salt Stock Levels**

| De-icing Material<br>(i.e. Dry salt/ABP) | Location     | Type<br>(barn/open) | Min (tonnes)<br>1st Oct |
|--|--------------|---------------------|-------------------------|
| Dry Salt                                 | Perth        | Barn                | 1800                    |
| Dry Salt                                 | Lochgelly    | Barn                | 1500                    |
| Dry Salt                                 | Dundee       | Barn                | 3000                    |
| Dry Salt                                 | Edzell       | Barn                | 600                     |
| Dry Salt                                 | Stirlinghill | Barn                | 600                     |
| Dry Salt                                 | Tullos       | Barn                | 1000                    |
| Dry Salt                                 | Keith        | Barn                | 4000                    |
| Dry Salt                                 | Inverness    | Barn                | 600                     |
| Dry Salt                                 | Errol        | Open                | 12000                   |
| Total                                    |              |                     | 25100                   |

| De-icing Material<br>(i.e. Dry salt/ABP) | Location     | Type<br>(barn/open) | Min (tonnes)<br>1st Oct |
|--|--------------|---------------------|-------------------------|
| Dry Salt for Brine                       | Perth        | Covered Storage     | 90                      |
| Dry Salt for Brine                       | Lochgelly    | Covered Storage     | 60                      |
| Dry Salt for Brine                       | Dundee       | Covered Storage     | 60                      |
| Dry Salt for Brine                       | Edzell       | Covered Storage     | 30                      |
| Dry Salt for Brine                       | Stirlinghill | Covered Storage     | 30                      |
| Dry Salt for Brine                       | Tullos       | Covered Storage     | 30                      |
| Dry Salt for Brine                       | Keith        | Covered Storage     | 60                      |
| Dry Salt for Brine                       | Inverness    | Covered Storage     | 30                      |
| Total                                    |              |                     | 390                     |

**Note – salt for brine will be stored within the same covered structures as the other salt.**

| De-icing Material<br>(i.e. Dry salt/ABP) | Location     | Type<br>(barn/open)          | Min (tonnes)<br>1st Oct |
|--|--------------|------------------------------|-------------------------|
| Magnesium Chloride                       | Perth        | Intermediate Bulk Containers | 6000                    |
| Magnesium Chloride                       | Lochgelly    | Intermediate Bulk Containers | 4000                    |
| Magnesium Chloride                       | Dundee       | Intermediate Bulk Containers | 6000                    |
| Magnesium Chloride                       | Edzell       | Intermediate Bulk Containers | 2000                    |
| Magnesium Chloride                       | Stirlinghill | Intermediate Bulk Containers | 2000                    |
| Magnesium Chloride                       | Tullos       | Intermediate Bulk Containers | 3000                    |
| Magnesium Chloride                       | Keith        | Intermediate Bulk Containers | 6000                    |
| Magnesium Chloride                       | Inverness    | Intermediate Bulk Containers | 2000                    |
| Total                                    |              |                              | 31000                   |

**NOTE:** Alternative de-icer will be replenished when the stock level has fallen to under 15k litres.

**Table 7.2/J/8 –Brine Production and Storage**

| Location     | Type<br>(saturator/storage<br>only) | Capacity<br>(L)          | Min (L) |
|--------------|-------------------------------------|--------------------------|---------|
| Perth        | Storage                             | 20,000                   | 15840   |
|              | Saturator                           | 2 x 6,800<br>litres/hour |         |
| Lochgelly    | Storage                             | 20,000                   | 10560   |
|              | Saturator                           | 2 x 6,800<br>litres/hour |         |
| Dundee       | Storage                             | 22,000                   | 15840   |
|              | Saturator                           | 2 x 6,800<br>litres/hour |         |
| Edzell       | Storage                             | 10,000                   | 6,849   |
|              | Saturator                           | 3,700 litres/hour        |         |
| Keith        | Storage                             | 10,000                   | 10560   |
|              | Saturator                           | 2 x 6,800<br>litres/hour |         |
| Inverness    | Storage                             | 10,000                   | 5280    |
|              | Saturator                           | 3,700 litres/hour        |         |
| Tullos       | Storage                             | 22000                    | 10560   |
|              | Saturator                           | 6,800 litres/hour        |         |
| Stirlinghill | Storage                             | 22000                    | 5280    |
|              | Saturator                           | 3,700 litres/hour        |         |

## APPENDIX WSP4

**Table 7.2.J.9 - Front line Winter Service Plant permanently available and located in the Unit for Winter Service for carriageways**

| Registration number | Depot location | Description             | Spreader Size    | Type    | Vehicle Type |
|---------------------|----------------|-------------------------|------------------|---------|--------------|
| SJ65 FVU            | Dundee         | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PJ64 DDA            | Aberdeen       | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DDN            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 PRV            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DDL            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DDK            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 PPY            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 PRV            | Dundee         | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| SJ65 FVO            | Dundee         | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PE64 BVJ            | Inverness      | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DCY            | Inverness      | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| SJ65 FVX            | Inverness      | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| SJ65 FVP            | Dundee         | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PJ64 DCX            | Keith          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DCV            | Keith          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| SJ65 FVV            | Keith          | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| SJ65 FVW            | Keith          | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PK64 PPZ            | Lochgelly      | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DDE            | Lochgelly      | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Giletta | Frontline    |
| PE64 BWL            | Lochgelly      | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Giletta | Frontline    |
| SJ65 FVR            | Lochgelly      | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PK64 PPX            | Perth          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PJ64 DDF            | Perth          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PK64 PRX            | Perth          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| PE64 BXZ            | Perth          | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| SJ65 FVS            | Perth          | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| SJ65 FVT            | Perth          | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| PJ64 DCU            | Stirlinghill   | Mercedes 32 T Dedicated | 12m <sup>3</sup> | Econ    | Frontline    |
| SJ65 FVY            | Stirlinghill   | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |
| SJ65 FVZ            | Stirlinghill   | Mercedes 18 T Dedicated | 6m <sup>3</sup>  | Econ    | Patrol       |



**Table 7.2.J.10 - Front line Winter Service Plant permanently available and located in the Unit for the Winter Service for footways footbridges and cycling facilities**

| Type of Winter Service Plant & registration number | Depot location | Vehicle capacity | Number of vehicles | Plant use* (i), (ii), (iii) |
|--|----------------|------------------|--------------------|-----------------------------|
| Footpath Tractor                                   | Lochgelly      | 500 Kg           | 1                  | (iii)                       |
| Footpath Tractor                                   | Dundee         | 500 Kg           | 1                  | (iii)                       |
| Footpath Tractor                                   | Kintore        | 500 Kg           | 2                  | (iii)                       |
| Footpath Tractor                                   | Stirlinghill   | 500 Kg           | 1                  | (iii)                       |
| Footpath Tractor                                   | Keith          | 500 Kg           | 2                  | (iii)                       |
| Footpath Tractor                                   | Inverness      | 500 Kg           | 1                  | (iii)                       |
| Footway snow blower                                | Keith          | 37 T/hr          | 1                  | (ii) and (iii)              |
| Footway snow blower                                | Kintore        | 37 T/hr          | 1                  | (ii) and (iii)              |

**Table 7.2.J.11 - Reserve Winter Service Plant permanently available and located in the Unit for Winter Service for carriageways footways footbridges and cycling facilities**

| Registration number | Depot location | Description          | Spreader Size   | Type | Vehicle Type |
|---------------------|----------------|----------------------|-----------------|------|--------------|
| SN57 FHV            | Aberdeen       | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FJD            | Dundee         | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FJA            | Dundee         | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FGU            | Dundee         | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FHY            | Inverness      | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FGZ            | Keith          | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FJC            | Keith          | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FHS            | Lochgelly      | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 AOU            | Lochgelly      | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |
| SN57 FHU            | Perth          | Volvo 26 T Dedicated | 9m <sup>3</sup> | Econ | Reserve      |

**Table 7.2.J.12 - Additional Winter Service Plant**

| Type of Winter Service Plant & registration number                 | Depot Location or Third Party Operator and Location | Number of Vehicles | Mobilisation Time in Hours |
|--|---|--------------------|----------------------------|
| Gully emptier – 9m <sup>3</sup> QCB spreader and plough (SV57 FGK) | Keith   | 1                  | 4                          |
| Gully emptier – 9m <sup>3</sup> QCB spreader and plough            | Perth   | 1                  | 4                          |
| IPV – Plough only (SN57 AOJ & SN57 AOK)                            | Lochgelly   | 2                  | 4                          |
| IPV – Plough only (SN57 ANP)                                       | Perth   | 1                  | 4                          |
| IPV – Plough only (SN57 ANX)                                       | Dundee  | 1                  | 4                          |
| Schmidt TS Snowblower (SV51 HXA)                                   | Keith   | 1                  | 4                          |
| Rolba 400 F Snowblower   | Keith   | 1                  | 4                          |
| Variable V plough  | Perth   | 1                  | 2                          |
| 10,000 litres De-mount liquid sprayer                              | Corporate Resource                                  | 1                  | 4                          |
| Tractors with ploughs  | Ian Currie, Keith                                   | 2                  | 4                          |
| Tractors with ploughs  | Ellon / Balmedie                                    | 1                  | 4                          |
| Tractors with ploughs  | G.R. Johnstone, Stonehaven                          | 1                  | 4                          |
| Raiko Ice-breaker  | Transport Scotland, Perth                           | 1                  | 2                          |

**Table 7.2.J.13 - Loading Winter Service Plant permanently available and located in the Unit at each loading point**

| Type of Winter Service Plant & registration number | Depot location | Vehicle capacity | Number of vehicles |
|--|----------------|------------------|--------------------|
| Loadall (long term hire)                           | Lochgelly      | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Perth          | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Dundee         | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Edzell         | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Tullos         | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Stirlinghill   | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Inverness      | 2 tonne          | 1                  |
| Loadall (long term hire)                           | Keith          | 2 tonne          | 1                  |

## APPENDIX WSP 5

**Table 7.2/J/14 – Compounds, Depots and Facilities**

| Compound, Depot or Facility Name | Owner        | Postal Address                                | Purpose                              | Access Arrangements | Contact Details | Facilities   |
|----------------------------------|--------------|---|--------------------------------------|---------------------|-----------------|--|
| Lochgelly                        | Purvis Group | Cartmore Industrial Estate, Lochgelly KY5 8LL | Office, Operational and Winter Depot | A92 24 hours        | 01592 784789    | Office, mess, welfare, materials store, salt store and weighbridge |

| Compound, Depot or Facility Name | Owner                      | Postal Address   | Purpose                                   | Access Arrangements | Contact Details | Facilities   |
|----------------------------------|----------------------------|--|---|---------------------|-----------------|--|
| Perth                            | Morris Leslie Ltd          | Inveralmond Road, Inveralmond Industrial Estate, PH1 3TW | Head Office, Operational and Winter Depot | A9 24 hours         | 01738 448600    | Office, mess, welfare, materials store, salt store and weighbridge |
| Dundee                           | Breedon Aggregates         | Cunmont Quarry, Kingennie, Newbigging, DD5 3PX           | Office, Operational and Winter Depot      | A92 24 hours        | 01382 370809    | Office, mess, welfare, materials store, salt store and weighbridge |
| Edzell                           | Breedon Aggregates         | Capo Quarry, Edzell, AB30 1RQ                            | Winter Depot                              | A90 24 hours        | 01674 840415    | Mess, welfare, materials store, salt store and weighbridge         |
| Kintore                          | Breedon Aggregates         | Toms Forest Quarry, Kintore, Aberdeenshire               | Office, Operational and Winter Depot      | A96 24 hours        | 01467 644213    | Office, mess, welfare and materials store.                         |
| Stirlinghill                     | Breedon Aggregates         | Stirlinghill Quarry Boddam Peterhead, AB42 3PB           | Office, Operational and Winter Depot      | A90 24 hours        | 01779 481645    | Office, mess, welfare, materials store, salt store and weighbridge |
| Inverness                        | Arc Estates Ltd            | Longman Drive, Inverness                                 | Office, Operational and Winter Depot      | A96 24 hours        | 03300 080520    | Office, mess, welfare, materials store, salt store and weighbridge |
| Keith                            | Limehillock Quarry Estates | Blackhillock Quarry, Keith, AB55 5PA                     | Office, Operational and Winter Depot      | A96/A95 24 hours    | 01542 886991    | Office, mess, welfare, materials store, salt store and weighbridge |
| Errol                            | Morris Leslie              | Morris Leslie, Errol airfield, Errol                     | Salt Store                                | A90 24 hours        | 01821 642940    | Salt Store   |

| Compound, Depot or Facility Name | Owner                 | Postal Address                  | Purpose                      | Access Arrangements | Contact Details | Facilities   |
|----------------------------------|-----------------------|---------------------------------|------------------------------|---------------------|-----------------|--|
| Tullos                           | Aberdeen City Council | West Tullos Ind Est<br>Aberdeen | Operational and Winter Depot | A90 24 hours        | 01224 241500    | Office, mess, welfare, materials store, salt store and weighbridge |

## ANNEX 7.2/K – Requirements for De-icing Material Spread Rates

The tables in this Annex 7.2/K set out the decision making process for winter service

**Table 7.2/K/1 – Decision Making Matrix for Winter Service**

| Decision Matrix            |  |                                   |  |
|----------------------------|--|-----------------------------------|--|
|                            | Predicted Road Conditions                              |                                   |  |
| Road Surface Temperature   | Wet  | Wet Patches                       | Dry  |
| May fall below 1°C         |  | Salt before frost<br>(see Note A) | No action likely,<br>monitor weather<br>(see Note A) |
| Expected to fall below 1°C | Salt before frost                                      | Salt before frost<br>(see Note B) |  |
|                            |  | Salt after rain stops             |  |
|                            | Salt before frost and after rain stops<br>(see Note C) |                                   |  |
|                            | Salt before frost                                      |                                   | Monitor weather conditions                           |
|                            | Expected snow  | Salt before snow                  |  |
| Freezing rain              | Salt before rain (see Note C)                          |                                   |  |
|                            | Salt during rain (see Note C)                          |                                   |  |
|                            | Salt after rain (see Note C)                           |                                   |  |

**Figure 8/1 – Decision Matrix**

The decision to undertake precautionary treatments may be adjusted to take account of residual salt or surface moisture.

**Note A:** Particular attention should be given the possibility of water running across carriageways. Such locations will be monitored and treated as required.

**Note B:** When a weather warning contains reference to expected hoarfrost close monitoring will be required, with particular attention given to timings of precautionary treatments as salt deposited on dry roads may be dispersed before it can become effective.

**Note C:** Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads, with continuous monitoring throughout the danger period.



**Table 7.2/K/2 – Spreading Rates for Precautionary Treatments Mix**

|          | Forecast weather condition  | Frost Susceptible/<br>surface water<br>run-off area<br>(g/m <sup>2</sup> ) | Road Surface<br>Wet<br>(g/m <sup>2</sup> ) |
|----------|---|--|--|
| <b>A</b> | RST higher than plus 1°C  | 0  | 0  |
| <b>B</b> | RST lower than or equal to plus 1°C but higher than minus 2°C                 | 10 to 20   | 10 to 20                                   |
| <b>C</b> | RST lower than or equal to minus 2°C but higher than minus 5°C                | 10 to 20   | 10 to 20                                   |
| <b>D</b> | RST lower than or equal to minus 5°C  | 20   | 20   |
| <b>E</b> | RST lower than or equal to plus 1°C but higher than minus 2°C following rain  | 20   | 30   |
| <b>F</b> | RST lower than or equal to minus 2°C but higher than minus 5°C following rain | 30   | 40   |
| <b>G</b> | RST lower than or equal to minus 5°C following rain                           | 40   | 40   |
| <b>H</b> | Hoar Frost  | 20   | 20   |
| <b>I</b> | Freezing Fog  | 10   | 20   |
| <b>J</b> | Freezing Rain   | 40<br>(See decision matrix)  | 40<br>(See decision matrix)                |
| <b>K</b> | Snow Accumulations up to 30mm   | 30   | 40   |
| <b>L</b> | Snow Accumulations over 30mm  | 40   | 40   |
| <b>M</b> | Hard Packed Snow/Ice  | See clearance matrix   | See clearance matrix                       |

**Note 1:** Spread rate for pre-wetted salt is the combined weight of dry rock salt and brine combined at 70:30 proportions by weight, with maximum brine concentration of 23% salt.

**Note 2:** When ice is formed or snow is lying dry salting is the preferred treatment unless the road is closed to traffic when pre-wetted salting may be used. Pre-wetted salting is the preferred treatment in advance of such conditions.

**Note 3:** Treatments will be carried out, whenever possible, after traffic has dispersed standing water. Successive half rate treatments (for both pre-wetted and dry salt operations) should be considered for lightly trafficked roads at lower ends of temperature bands indicated.

| Clearance Matrix                                    |                                  |                  |                  |
|---|----------------------------------|------------------|------------------|
| Minimum Salt Spread rates for Snow or Ice Clearance |                                  |                  |                  |
| Road Surface Condition                              | Treatment                        |                  |                  |
|   | Spreading (grammes/square metre) | Ploughing        | Blowing          |
|   | Salt                             |                  |                  |
| Ice Formed  | 20 to 40                         | No               | No               |
| Snow covering of less than 30mm                     | 20                               | Yes              | No               |
| Snow covering exceeds 30mm                          | 20 to 40                         | Yes              | No               |
| Snow accumulations due to prolonged snowfall        | 20 to 40                         | Yes (continuous) | Where applicable |
| Hard packed snow/ice less than 20mm thick           | 20 to 40 (successive treatments) | No               | No               |
| Hard packed snow/ice                                | salt/abrasive (successive)       | No               | No               |

**Table 7.2/K/3 – Spreading Rates for Snow or Ice Clearance Matrix**

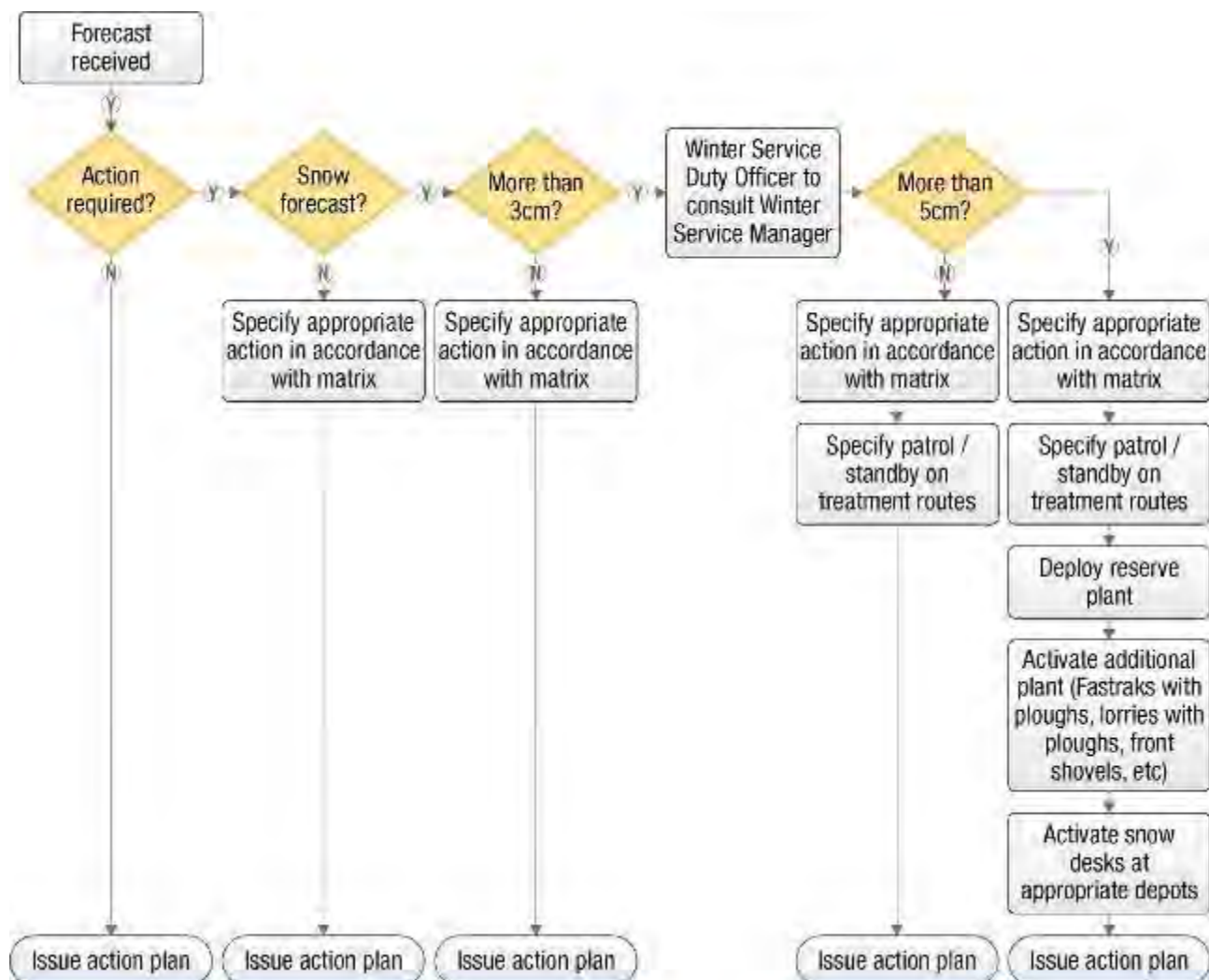
**Note 1:** Spread rate for pre-wetted salt is the combined weight of dry rock salt and brine combined at 70:30 proportions by weight, with maximum brine concentration of 23% salt.

**Note 2:** When ice is formed or snow is lying dry salting is the preferred treatment unless the road is closed to traffic when pre-wetted salting may be used. Pre-wetted salting is the preferred treatment in advance of such conditions.

**Note 3:** Treatments will be carried out, whenever possible, after traffic has dispersed standing water. Successive half rate treatments (for both pre-wetted and dry salt operations) should be considered for lightly trafficked roads at lower ends of temperature bands indicated

## ANNEX 7.2/K/4 – SNOW FORECAST RESOURCE DEPLOYMENT MATRIX -

The following domain specific snow event escalation matrix will be used. Consultation will still need to take into account the forecast confidence level, altitude and timing.



## ANNEX 7.2/L – Salt Stock Monitoring Report

|   |                        |
|---|------------------------|
| <b>Operating Company</b>  | <b>Reporting Month</b> |
| <b>Salt used during reporting period</b>  |                        |
|   |                        |
| <b>Actual salt stocks held at the end of the reporting period</b>   |                        |
|   |                        |
| <b>Salt orders place and deliveries received during the reporting period</b>  |                        |
|   |                        |
| <b>Salt orders expected during next period (include imports, dates, deliveries expected &amp; tonnage expected)</b>         |                        |
|   |                        |
| <b>Forecast usage during next period</b>  |                        |
|   |                        |
| <b>Any other items to report (such as reduced treatment networks, any notable arrangements with local authorities etc.)</b> |                        |
|   |                        |

## Appendix WSP 6 - Daily Winter Action Plan – Planned



BEAR SCOTLAND DAILY WINTER ACTION PLAN  
Contract: North East Unit & A92 DBFO  
Covering : 01 November 2014 14:00 till 2 November 2014 13:59

| Forecast Data |             |           |             |     |            |     |               |      |            |          |
|---------------|-------------|-----------|-------------|-----|------------|-----|---------------|------|------------|----------|
| Domain        | Min. RST °C | RST < 0°C | Heavy Frost | Ice | Heavy Rain | Fog | Freezing Rain | Snow | Snow Level | Drifting |
| 1             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 2             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 3             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 4             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 5             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 6             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 7             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 8             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 9             | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 10            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 11            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 12            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 13            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 14            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |
| 92            | 1           | -         | -           | -   | -          | -   | -             | -    | -          | -        |

| Action Plan         |        |         |  |                     |       |     |                      |       |     |
|---------------------|--------|---------|--|---------------------|-------|-----|----------------------|-------|-----|
| Depot               | Domain | Route   |  | First Action & Time |       |     | Second Action & Time |       |     |
|                     |        | No.     | Description  | Action              | Start | End | Action               | Start | End |
| Stirlinghill        | 1      | 20-1    | A90 Newburgh - Fraserburgh                                       | N/A                 |       |     |                      |       |     |
| Inverness           | 2      | 20-2    | A9 Raigmore Roundabout - Pochabers                               | N/A                 |       |     |                      |       |     |
| Kelth               | 3      | 20-3    | A96 Pochabers - Blackburn  | N/A                 |       |     |                      |       |     |
| Kelth               | 4      | 20-4    | A95 Kelth - A95 Grantish   | N/A                 |       |     |                      |       |     |
| Tulloch             | 5      | 20-5    | A90 Queens Rd. - Newburgh - A96 Handigan to Blackburn            | N/A                 |       |     |                      |       |     |
| Tulloch             | 6      | 20-6    | A90 Queens Rd. - Glasslawn                                       | N/A                 |       |     |                      |       |     |
| Dundee              | 7      | 20-7    | A90 Stracathro - Glasslawn                                       | N/A                 |       |     |                      |       |     |
| Dundee              | 8      | 20-8    | A90 Stracathro - Muirfauld                                       | N/A                 |       |     |                      |       |     |
| Dundee              | 9      | 20-9    | A90 Muirfauld - Inchture - Dundee Trunk Roads                    | N/A                 |       |     |                      |       |     |
| Perth               | 10     | 20-10   | A9 Inverlaimond - Loaninghead - M90 Craigend                     | N/A                 |       |     |                      |       |     |
| Perth               | 11     | 20-11   | A9 Loaninghead - Kier  | N/A                 |       |     |                      |       |     |
| Lochgelly           | 12     | 20-12   | M90 Craigend - A92 Chapel  | N/A                 |       |     |                      |       |     |
| Perth               | 13     | 20-13   | A90 Inchture - Perth - M90 Slips                                 | N/A                 |       |     |                      |       |     |
| Lochgelly           | 14     | 20-14   | A92 Tay Bridge - Lochgelly                                       | N/A                 |       |     |                      |       |     |
| Dundee              |        | DBFO1   | A92 Abroath (Elliot) - Claypotts                                 | N/A                 |       |     |                      |       |     |
| A92 DBFO Footways   |        | DBFOFW1 | Elliot to Claypotts  | N/A                 |       |     |                      |       |     |
| Aberdeen            |        | CAT1    | East Dock Street, Dundee + Auchmill Road, Aberdeen               | N/A                 |       |     |                      |       |     |
| Kelth               |        | CAT2    | All Other Urban Footways   | N/A                 |       |     |                      |       |     |
| Lochgelly           | 12     | NE-A1   | M90 Halbeath - Craigend  | N/A                 |       |     |                      |       |     |
| Perth               | 11     | NE-A2   | A9 Carnie Braes - Kier R/A                                       | N/A                 |       |     |                      |       |     |
| Perth               | 10     | NE-A3   | A9 Carnie Braes - Inverlaimond - Broxden - Barmill - Inchmichael | N/A                 |       |     |                      |       |     |
| Dundee              | 9      | NE-A4   | A90 Lochlands - Inchmichael                                      | N/A                 |       |     |                      |       |     |
| Dundee              | 8      | NE-A5   | A90 Lochlands - Drummagair                                       | N/A                 |       |     |                      |       |     |
| Edzell              | 7      | NE-A6   | A90 Drummagair - Newtonhill                                      | N/A                 |       |     |                      |       |     |
| Kinross             | 6      | NE-A7   | A96 Clnerty R/A - Haudagan R/A - Newtonhill                      | N/A                 |       |     |                      |       |     |
| Peterhead           | 5      | NE-A8   | A90 Elton R/A - Haudagan R/A                                     | N/A                 |       |     |                      |       |     |
| Kelth               | 3      | NE-B1   | A95 Kelth - Clnerty R/A  | N/A                 |       |     |                      |       |     |
| Kelth               | 4      | NE-B2   | A95 Kelth - Grantish   | N/A                 |       |     |                      |       |     |
| Inverness           | 2      | NE-B3   | A96 Inverness - Kelth  | N/A                 |       |     |                      |       |     |
| Additional Comments |        |         |  |                     |       |     |                      |       |     |

### KEY TO PLANNED ACTION

|                               |  |                              |
|-------------------------------|--|------------------------------|
| T1 - Pre-treatment 10gms/lq.m | T3 - Pre-treatment Ethylene Glycol             | R0 - Patrol                  |
| T2 - Pre-treatment 20gms/lq.m | T4P - Pre-treatment Part route, *+1,2,3,4 or 5 | T7 - Plough/Salt Whole Route |
| T3 - Pre-treatment 30gms/lq.m | S - Standby in Depot                           | T8 - Plough/Salt Part Route  |
| T4 - Pre-treatment 40gms/lq.m | NA - No Action                                 |                              |

Drafted By : Scott Paterson

Approved by :

for BEAR Scotland @

## Appendix WSP 7 Daily Winter Action – Implemented



Contract: North East Unit & A92 DBPO  
Covering : 01 November 2014 14:00 till 2 November 2014 13:59

| Action Plan  |        |         |   |                     |       |     |                      |       |     |
|--|--------|---------|---|---------------------|-------|-----|----------------------|-------|-----|
| Depot  | Domain | Route   |   | First Action & Time |       |     | Second Action & Time |       |     |
|  |        | No.     | Description   | Action              | Start | End | Action               | Start | End |
| Stringhill   | 1      | 20-1    | A90 Newburgh - Fraserburgh  | N/A                 |       |     |                      |       |     |
| Inverness  | 2      | 20-2    | A9 Raymore Roundabout - Pochabers                                 | N/A                 |       |     |                      |       |     |
| Kelch  | 3      | 20-3    | A96 Pochabers - Blackburn   | N/A                 |       |     |                      |       |     |
| Kelch  | 4      | 20-4    | A95 Kelch - A95 Grantah   | N/A                 |       |     |                      |       |     |
| Tulloch  | 5      | 20-5    | A90 Queens Rd. - Newburgh - A96 Handigan to Blackburn             | N/A                 |       |     |                      |       |     |
| Tulloch  | 6      | 20-6    | A90 Queens Rd. - Glasslaw   | N/A                 |       |     |                      |       |     |
| Dundee   | 7      | 20-7    | A90 Stracathro - Glasslaw   | N/A                 |       |     |                      |       |     |
| Dundee   | 8      | 20-8    | A90 Stracathro - Murryfauld                                       | N/A                 |       |     |                      |       |     |
| Dundee   | 9      | 20-9    | A90 Murryfauld - Inchture & Dundee Trunk Roads                    | N/A                 |       |     |                      |       |     |
| Perth  | 10     | 20-10   | A9 Inverlismond - Loaninghead - M90 Craigend                      | N/A                 |       |     |                      |       |     |
| Perth  | 11     | 20-11   | A9 Loaninghead - Ker  | N/A                 |       |     |                      |       |     |
| Lochgelly  | 12     | 20-12   | M90 Craigend - A92 Chapel   | N/A                 |       |     |                      |       |     |
| Perth  | 13     | 20-13   | A90 Inchture - Perth - M90 Slips                                  | N/A                 |       |     |                      |       |     |
| Lochgelly  | 14     | 20-14   | A92 Tay Bridge - Lochgelly  | N/A                 |       |     |                      |       |     |
| Dundee   |        | DBPO1   | A92 Abroath (Elliot) - Claypotts                                  | N/A                 |       |     |                      |       |     |
| A92 DBPO Footways  |        | DBPOFW1 | Elliot to Claypotts   | N/A                 |       |     |                      |       |     |
| Aberdeen   |        | CAT1    | East Dock Street, Dundee & Auchmill Road, Aberdeen                | N/A                 |       |     |                      |       |     |
| Kelch  |        | CAT2    | All Other Urban Footways  | N/A                 |       |     |                      |       |     |
| Lochgelly  | 12     | NE-A1   | M90 Halbeath - Craigend   | N/A                 |       |     |                      |       |     |
| Perth  | 11     | NE-A2   | A9 Carmie Braes - Kair R/A  | N/A                 |       |     |                      |       |     |
| Perth  | 10     | NE-A3   | A9 Carmie Braes - Inverlismond - Brouden - Barnhill - Inchmichael | N/A                 |       |     |                      |       |     |
| Dundee   | 9      | NE-A4   | A90 Lochlands - Inchmichael                                       | N/A                 |       |     |                      |       |     |
| Dundee   | 8      | NE-A5   | A90 Lochlands - Drumnagair  | N/A                 |       |     |                      |       |     |
| Edzell   | 7      | NE-A6   | A90 Drumnagair - Newtonhill                                       | N/A                 |       |     |                      |       |     |
| Kirkcaldy  | 6      | NE-A7   | A96 Clirerty R/A - Haudagair R/A - Newtonhill                     | N/A                 |       |     |                      |       |     |
| Peterhead  | 5      | NE-A8   | A90 Elton R/A - Haudagair R/A                                     | N/A                 |       |     |                      |       |     |
| Kelch  | 3      | NE-B1   | A96 Kelch - Clirerty R/A  | N/A                 |       |     |                      |       |     |
| Kelch  | 4      | NE-B2   | A95 Kelch - Grantah   | N/A                 |       |     |                      |       |     |
| Inverness  | 2      | NE-B3   | A96 Inverness - Kelch   | N/A                 |       |     |                      |       |     |
| Additional Comments  |        |         |   |                     |       |     |                      |       |     |
| <p><b>KEY TO PLANNED ACTION</b></p> <p>T1 - Pre-treatment 10gms/kg.m<br/>T2 - Pre-treatment 20gms/kg.m<br/>T3 - Pre-treatment 30gms/kg.m<br/>T4 - Pre-treatment 40gms/kg.m</p> <p>TE - Pre-treatment Ethylene Glycol<br/>T* - Pre-treatment Part route, * = 1,2,3,4 or 5<br/>S - Spraying in Street<br/>SA - No Action</p> <p>M0 - Patrol<br/>TF - Rough/Salt Whole Route<br/>TR - Rough/Salt Part Route</p> |        |         |   |                     |       |     |                      |       |     |

Compiled by :

Approved by : for BEARScotland Ltd



## Appendix WSP 8/1 Winter Drivers Record



### WINTER DRIVERS RECORD

**DEPOT:**  **ROUTE:**  **VEHICLE REG.:**

**Weight when loaded**  **Call Out Time (Unplanned action)**

**Time Left Depot**  **Note:**

**Start of Action** **Date**  **Time**

**End of Action** **Date**  **Time**

**Time returned to Depot**

**Weight on Return**

**Rate of Spread (gms/sq m)**

**Width of Spread (m)**

**Salt Grading:** **Fine**

| Action Taken                              | Planned | Reactive |
|---|---------|----------|
| T1: Treatment 10 gms/sq.m.                |         |          |
| T2: Treatment 20 gms/sq.m.                |         |          |
| T3: Treatment 30 gms/sq.m.                |         |          |
| T4: Treatment 40 gms/sq.m.                |         |          |
| TE: Treatment Ethylene Glycol             |         |          |
| TF - Plough/salt whole route as necessary |         |          |
| TP - Plough/salt part route as necessary  |         |          |
| T*P:                                      |         |          |
| Part from to                              |         |          |
| from to                                   |         |          |
| from to                                   |         |          |

Did Planned Action commence on time? Yes / No / Not applicable  
 Did Unplanned Action commence within 1 hour of call out? Yes / No / Not applicable  
 Was pre-treatment completed within 2 hours? Yes / No / Not applicable  
 If "No" to any of the above, give reasons/comment:

I confirm

**Signed (Driver):** **Name:** **Date:**

#### FOR SUPERVISORS USE ONLY

| Planned Action | Start | End | Unplanned Action | Called Out | Start | End |
|----------------|-------|-----|------------------|------------|-------|-----|
|                |       |     |                  |            |       |     |
|                |       |     |                  |            |       |     |


Supervisors Comments:

Document reason(s) for non-conformance, if applicable:

I have checked

**Signed (Supervisor):** **Name:** **Date:**

## WSP 8/2 - Example layout of form used by Cat A and Cat B drivers

|                     |   |   |
|---------------------|---|---|
| Document: Form 390  | Drivers Patrol Route A1<br>(Ex Lochgelly) |  |
| Issue: 1            |   |   |
| Related to: NE4G    |   |   |
| Page No. 160 of 202 |   |   |

- |                                    |                  |
|------------------------------------|------------------|
| 1. M90, Halbeath – Start of patrol | 2. M90, Glenfarg |
| 3. M90, Bridge of Earn             | 4. M90, Glenfarg |
| 5. M90, Halbeath                   |                  |

**Note:** Patrol Runs from M90 Halbeath to Craigend and the tables below show where the temperatures should be recorded.

Print Drivers Name- ..... Sign Drivers Name- .....

Start Weight ..... End Weight .....

Date: ..... Vehicle Reg .....

Patrol 1- start 02:00 Start Time..... End Time.....

| Location       | Time | RST | Air Temp | Road/ Weather Conditions | Comments |
|----------------|------|-----|----------|--------------------------|----------|
| Halbeath       |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Bridge of Earn |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Halbeath       |      |     |          |                          |          |

Patrol 2- start 04:00 Start Time..... End Time.....

| Location       | Time | RST | Air Temp | Road/ Weather Conditions | Comments |
|----------------|------|-----|----------|--------------------------|----------|
| Halbeath       |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Bridge of Earn |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Halbeath       |      |     |          |                          |          |

Patrol 3- start 06:00 Start Time..... End Time.....

| Location       | Time | RST | Air Temp | Road/ Weather Conditions | Comments |
|----------------|------|-----|----------|--------------------------|----------|
| Halbeath       |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Bridge of Earn |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Halbeath       |      |     |          |                          |          |

Patrol 4- start 08:00 Start Time..... End Time.....

| Location       | Time | RST | Air Temp | Road/ Weather Conditions | Comments |
|----------------|------|-----|----------|--------------------------|----------|
| Halbeath       |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Bridge of Earn |      |     |          |                          |          |
| Glenfarg       |      |     |          |                          |          |
| Halbeath       |      |     |          |                          |          |

Information must be returned to Control Room for every patrol.  
When not Patrolling wait at **Kinross Overbridge** unless otherwise instructed.

## WSP 8/3 – Patrol Actions – Control Room Records

### Patrol Actions for : 1 November 2013

Add/Edit Patrol Action

FW4 PA-1 PA-2 PA-3 PA-4 PA-5 PB-1 PB-2 PB-3 PB-4 PB-5 PB-6 PB-7 PB-8

| Time Of Call | Vehicle Air Temp. °C | Location | Information from RWIS (from nearest sensor) |                  |                  |                       |            | Assessed road condition | Assessed residual salt | Proposed action |                    |              |                         | Route salted prior to patrol |                 |
|--------------|----------------------|----------|---|------------------|------------------|-----------------------|------------|-------------------------|------------------------|-----------------|--------------------|--------------|-------------------------|------------------------------|-----------------|
|              |                      |          | Air Temp. °C                                | Surface Temp. °C | Wind Speed (mph) | Relative Humidity (%) | Road State |                         |                        | Action Code     | Spread Rate (g/m2) | No. of Lanes | Cum. gritted length (m) | Spread Rate (g/m2)           | Time of Salting |

Table 7.2.J.3 – Winter Service Patrol Report Record

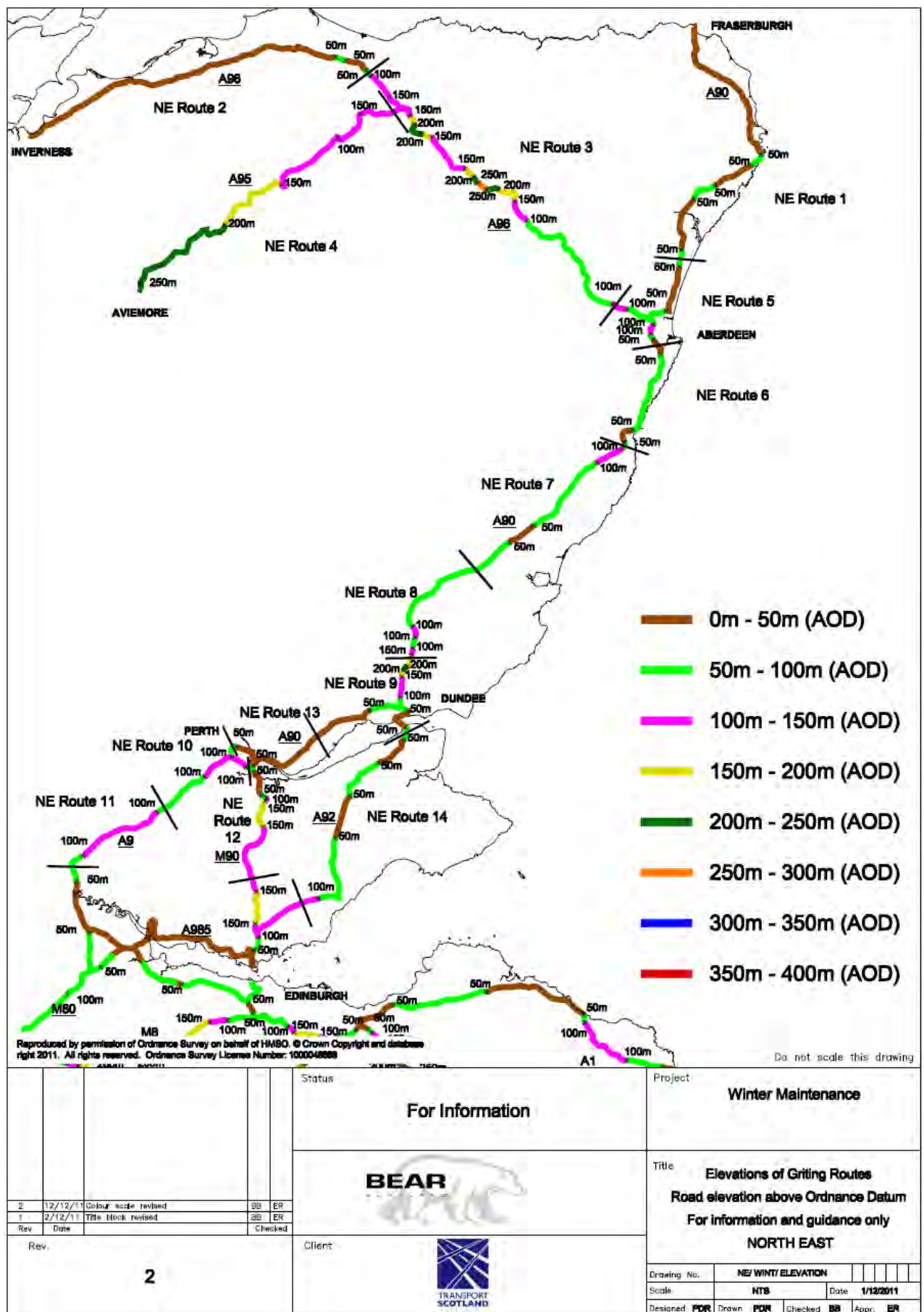
Patrol Route..... Date..... Information checked by.....

| Winter Service Patrol start and end time | Weather conditions for Winter Service Patrol route |                               | Assessed road condition (by driver) (X) |     |     |     | Assessed residual salt level (by driver) (X) |        |     | Action implemented (use symbols provided below)* |                |                                 |   |                      |                    | Route salted prior to patrol (X) |    |                 |
|--|--|-------------------------------|---|-----|-----|-----|--|--------|-----|--|----------------|---------------------------------|---|----------------------|--------------------|----------------------------------|----|-----------------|
|  | Air (°C)   | Road Surface temperature (°C) | Snow                                    | Icy | Wet | Dry | High   | Medium | Low | Action code                                      | Treatment Type | Spread rate (g/m <sup>2</sup> ) | Approximate location of salting or other action | Treatment Start Time | Treatment End Time | Yes                              | No | Time of salting |
|  |  |                               |   |     |     |     |  |        |     |  |                |                                 |   |                      |                    |                                  |    |                 |

\*Action symbols:

- |   |  |   |  |
|---|--|---|--|
| 1 | Spot treatment as instructed by the Winter Service Duty Officer. | 2 | Spot treatment as determined by driver.  |
| 3 | Route treatment as advised by the Winter Service Duty Officer.   | 4 | Route treatment as determined by driver.   |
| 5 | Attend to runoff or seepage on surface.                          | 6 | Remove obstruction (eg dead dog, fallen tree, and other obstructions.) from surface. |
| 7 | Pre-wetted Salt  | 8 | Dry Salt   |
| 9 | Potassium Acetate  |   |  |


## Appendix WSP9 – Route Elevations



## Appendix WSP 10 Winter Patrol Map



Patrol Route Map North East Unit

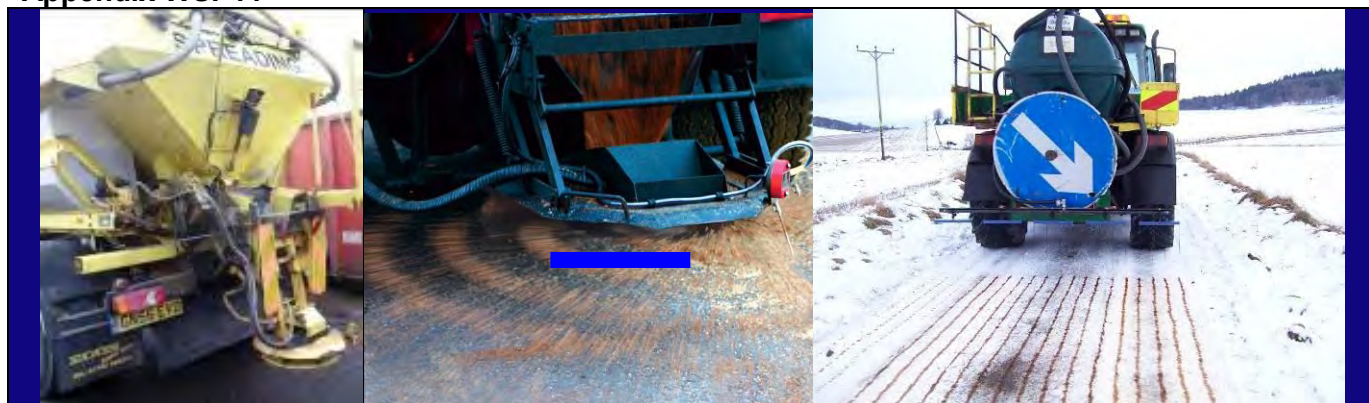
|    |   |
|----|---|
| A1 |  |
| A2 |  |
| A3 |  |
| A4 |  |
| A5 |  |
| A6 |  |
| A7 |  |
| A8 |  |
| B1 |  |
| B2 |  |
| B3 |  |



## Appendix WSP 11 Alternative De-Icer Method Statement

| Risk Assessment & Resources   |   |
|-------------------------------|---|
| <b>RA 007</b>                 | Winter Maintenance: winter maintenance  |
| <b>Resources For Activity</b> | Loading Shovel and Operative; Winter Maintenance Vehicle and Operative; Salt; Brine, Alternative De-Icer. |

### Appendix WSP11



### Work Sequence

1.

#### Introduction

This Method Statement is designed to provide a system of work that is both safe and makes every effort to minimise any negative impact on the environment, demonstrating Best Environmental Practice.

It is designed to be clearly understood by all parties involved in the activity and to ensure any deviations from this method are appropriately risk assessed and authorised before this method is applied.

2.

#### Significant Hazards

The main hazard/s associated with this system are follows

| Activity                     | Hazard                    | Controls  |
|------------------------------|---------------------------|---|
| Driving in inclement weather | Losing control of vehicle | Only trained competent Operatives to undertake this task obeying the speed limits and ground conditions. Do not deviate from travel plan. |
| Driving in inclement weather | Vehicle breakdown         | Ensure full vehicle defect check including wheel nut torque settings before setting off.  |



3.

### Work Applications

The Ecothaw and Magnesium Chloride due to its exothermic reaction that brings the temperature of the ice up to 5° where salt starts to be reactive.

This must be applied after the ice breakers initial treatment to stipple the surface of the ice to allow ponding to occur resulting the temperature of the ice being raised.

Once the Ecothaw and/or Magnesium Chloride is applied to the surface of the ice a further application of salt may be required.

A period of time may be required between each application. In turn this helps to break down the hard packed ice making it easier for the Ice Breaker to follow behind breaking up the ice for more efficient removal from the carriageway.

This may be followed through using a hard edged plough when the ice is beginning to break down. If this ice is particularly thick this treatment may need to be repeated.

The liquid treatment will be applied using a dribble bar mounted on a Fastrac or Gulley Motor, this must only be used, maintained and repaired by persons who are competent, trained, experienced and informed of the dangers.

Always refer to the COSHH Assessment for Ecothaw/Safecote and Magnesium Chloride or similar alternative de-icing products.

### General

Ensure safe systems of work are implemented taking account of prevailing conditions, such as weather, traffic, overhead cables or restrictions, existing activities and environment.

All operatives involved in this operation must wear appropriate personal protective equipment e.g. Safety Boots, Hard Hat, Safety Glasses, Reflective Long Sleeved Clothing, Gloves, etc. Additional clothing such as using several layers or thermal clothing appropriate to the temperatures and weather conditions should be considered before setting out.

Site Specific Risk Assessment must address road conditions, vehicle appropriateness, operator competence, work methods, site access, supervision, pollution risks, overhead cables (ice loading) and obstructions such as kerb edges, bollards and street furniture, etc.

Ensure personnel selected are capable, fit and experienced.

Ensure rollover protection (ROPS) and seat belts are fitted and that seat belts are worn.

Ensure thorough inspection of plant and report any defects immediately to Line Manager.

Only trained, competent and qualified personnel trained for the use of plant should operate the machinery.

Where lifting equipment is being used the lifting certification for the lifting apparatus is present and current. All slings / webbing straps should be inspected for coloured tags, they should match the colour displayed on the lifting equipment sign board in the depot. Return to depot store person to be re-inspected and re-tagged if the colour tag doesn't match the colour displayed on the board. DO NOT USE ANY THAT APPEAR UNSAFE. Hand them over to the depot Store Person. NEVER attempt to use a frayed or damaged sling.

4.

Where ratchets straps used should ensure they are inspected before each and every use. DO NOT USE ANY THAT APPEAR UNSAFE. Report them and use another. NEVER attempt to use a frayed or damaged ratchet strap.

Do not over tighten the strap or place it over any part of the equipment that could become damaged. Fix to dedicated anchor points on the vehicle or equipment.

Always ensure safe lifting.

### **Daily Maintenance**

Check Fasteners

Check the pins for wear

Check the hoses

Check the rubber elements

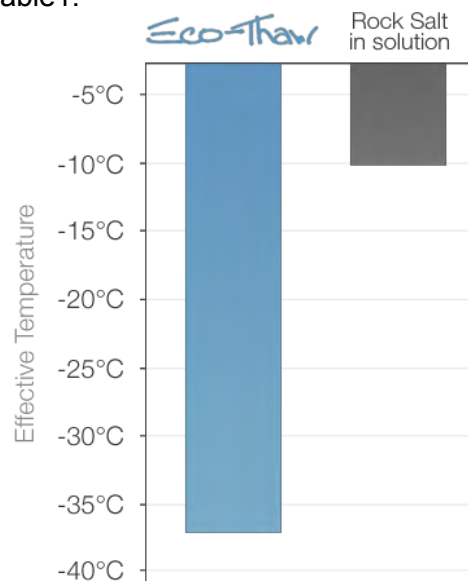
5. Check the dribble bar apertures are clear and not damaged

For Periodic Maintenance requirements refer to Operators Manual or contact Fleet Manager.

Alternative de-icers such as Ecothaw and Magnesium Chloride, etc will be used as spot treatments in the event of hard packed ice.

Ecothaw will operate in extremely low temperatures where traditional Rock Salt is ineffective. See Table 1 below.

Table1.



With the appropriate tanks and mixing methods this can be used as both a de-icer and as a brine substitute.

Each route will require 30% alternative de-icer per T2 treatment, Pre wetted treatment is 70% of brine and 30% alternative de-icer.

### **Treatment of Hard Packed Snow and Ice for Dribble Bar Application**

Where required to apply the alternative de-icer of choice through a 'dribble' bar system from a 3000 litre tank on the back of a Fastrac or Gulley Motor on a spot treatment or preselected area basis.

Using a Dribble Bar the alternative De-Icers can be applied accurately to the surfaces needing treatment without splashing or spraying on to other vehicles.

6. The de-icer will be used in conjunction with the Raiko icebreaker mounted on the Fastrac fitted with the spray equipment on a separate Fastrac or Gulley Motor.

The Fastrac with the Raiko icebreaker will travel directly in front of the de-icing Vehicle, this will break up the ice before the de-icing solution is applied.

The alternative De-icer will then be applied and a further treatment using the ice breaker will follow if required.

Finally if required salt will be applied before a plough is used without rubber pads to remove the ice.

This treatment may have to repeated before the ice is in a condition where it can be removed efficiently by the plough.

The icebreaker will continue to work during periods of replenishing the de-icer solution.

All broken ice will be removed from the carriageway by ploughing.

### **Precautionary Treatment with alternative De-Icer**

Consideration should be given when road surface temperatures are forecast to be below MINUS 7 °C to consider substituting the brine with a blend of brine and alternative de-icer in certain climatic conditions as determined in table 2.

Table 2

| 7. | Alternative De-Icer | Percentage Brine | Percentage Alternative De-Icer |
|----|---------------------|------------------|--------------------------------|
|    | Ecothaw             | 50%              | 50%                            |
|    | Magnesium Chloride  | 85%              | 15% (~300 litres)              |
|    | Safecote            | 95%              | 5%                             |

| 8. | <b><u>Environmental Aspects &amp; Impacts</u></b> |   |  |
|----|---|---|--|
|    | <b>Aspect</b>                                     | <b>Impact</b>   | <b>Control</b>   |
|    | <b>Noise</b>                                      | Engine noise in built up areas at night.                | Noise levels unlikely to exceed normal traffic noise and cannot be avoided                                       |
|    | <b>Dust</b>                                       | N/A   |  |
|    | <b>Vibration</b>                                  | N/A   |  |
|    | <b>Pollution</b>                                  | Fuel spill from vehicle.                                | Spill kits to be available on all work vehicles.   |
|    | <b>Materials</b>                                  | Salt  | Ensure the salt has been diluted to the correctly measured brine solution  |
|    | <b>Ecology, protected species and habitat</b>     | Alternative De-Icers cause less of an impact            | Follow the instructions as per method statement  |
|    | <b>Waste</b>                                      | Water for cleaning, cleaning agents and fuel from plant | Interceptor tanks used to catch all water run-off  |
|    | <b>Water</b>                                      | Spillage of fuel to water course                        | Spill kits to be carried on all vehicles and emergency response plans to be briefed and available to Operatives. |

## Appendix WSP 12 – Areas Requiring Special Attention Schedule

### AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

| Reference Number: ARSA/NE/A9/SCH1 – Cairnie Braes                      |  |
|--|--|
| Location   | A9 Cairnie Braes Findo Gask to Kinkell Bridge (see attached plan)  |
| Grid Reference   | (300130,717255) to (304892,721078)   |
| Problem  | Section of Dual Carriageway 2.5 miles in length with a gradient of approximately 10%   |
| Has this site experienced problems before or is it an identified risk? | Yes. The road has been closed at various times due to HGVs struggling to climb the steep incline, which has resulted in the vehicles losing traction & sliding across the carriageway blocking the road.   |
| Detailed Mitigation Measures   |  |
| Optional Mitigation Measures   | <p>[Details of primary mitigation measures]</p> <p>Additional 40g treatment on steep incline</p> <p>Consideration given to pre- treating carriageway (at inclines) with alternative de-icers</p> <p>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</p> <p>Fastrac deployed to site</p> <p>Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</p> <p>Barrier removal crew deployed to site to assess if removing barrier would be safe at both top &amp; bottom of Cairnie Brae. Liaise with Police Scotland re- traffic control if deemed safe to remove barrier &amp; turn traffic, to be done under Police Scotland control.</p> <p>Plans put in place to move resources from less affected parts of the Unit potentially Lochgelly and Dundee this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</p> <p>Additional plant and resource could potentially be obtained from our shareholders Breedon which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.</p> |
| When enacted   | <p>[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]</p> <p>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short</p>  |

|                                  |  |
|----------------------------------|--|
|                                  | <p>space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>  |
| Who enacts                       | <p>[Detail who triggers instigation (and on what basis) of the mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>  |
| Who will manage the response     | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p> <p>Duty Managers will liaise with site staff, forecaster and our central control room.</p> <p>Site staff will liaise with Winter Manager and Duty Manager.</p> |
| Are diversion routes to be used? | <p>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</p> <p>No, unlikely to be used as roads in vicinity likely to be in poorer condition than Trunk Road and unsuitable for HGV traffic.</p> <p>Diversion identified as M9/M90 if long term closure predicted</p>   |
| Deployment of resources          | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Perth if route blocked from Perth. Our Fastrac capability is based at Perth depot.</p> <p>frontline spreader/plough &amp; reserve vehicle plough (Perth)</p> <p>patrol spreader/plough (Perth)</p> <p>snowblower (Perth)</p> <p>Fastrac with plough(Perth)</p>  |



|  |  |
|--|--|
| <b>Use of VMS</b>  | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure and messages</p> <p>Use of the following VMS to relay messages of closure, conditions or delays (subject to availability)</p> <p>M9 North Approaching Junction 10</p> <p>M9 North Approaching Junction 7</p> <p>M80 North east of Junction 6 Old Inns</p> <p>A9 Approaching Broxden</p> <p>A9 Approaching Inveralmond</p> <p>M90 Approaching Craigend</p> |
| <b>Other measures put in place</b>                             | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</p> <p>Tayside Contracts, Perth &amp; Kinross Council Spreader based at Inveralmond Depot</p>   |
| <b>Assistance from additional Transport Scotland resources</b> | <p>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</p> <p>Assistance from Transport Scotland Communications to agree message for media</p>   |
| <b>Assistance from External Sources</b>                        | <p>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</p> <p>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</p> <p>If road is closed :</p> <p>Farmer with JCB to assist with snow clearance</p>  |

## AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

|   |   |
|---|---|
| <b>Reference Number: ARSA/NE/M90/SCH1 – Balmanno Hill</b> |   |
| <b>Location</b>   | <b>M90 Balmanno Hill</b>  |
| <b>Grid Reference</b>                                     | <b>(313979,711671) to (313635,717081)</b>   |
| <b>Problem</b>  | <b>Section of Motorway 2.5 miles in length with a gradient of approximately 10%</b> |

| <p>Has this site experienced problems before or is it an identified risk?</p> | <p>Yes. The road has been closed at various times due to HGVs struggling to climb the steep incline, which has resulted in the vehicles losing traction &amp; sliding across the carriageway blocking the road.</p>  |
|---|--|
| Detailed Mitigation Measures  |  |
| <p>Optional Mitigation Measures</p>   | <p>[Details of primary mitigation measures .]</p> <p>Additional 40g treatment on steep incline</p> <p>Consideration given to pre- treating carriageway (at inclines) with alternative de-icers</p> <p>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</p> <p>Fastrac deployed to site</p> <p>Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</p> <p>Barrier removal crew deployed to site to assess if removing barrier would be safe at both top &amp; bottom of Balmanno Hill. Liaise with Police Scotland re- traffic control if deemed safe to remove barrier &amp; turn traffic, to be done under Police Scotland control.</p> <p>Plans put in place to move resources from less affected parts of the Unit potentially Lochgelly or Dundee this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</p> <p>Additional plant and resource could potentially be obtained from our shareholders Breedon which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.</p> |
| <p>When enacted</p>   | <p>[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]</p> <p>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>   |
| <p>Who enacts</p>   | <p>[Detail who triggers instigation (and on what basis) of the</p>   |

|                                  |  |
|----------------------------------|--|
|                                  | <p>mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>  |
| Who will manage the response     | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p> <p>Duty Managers will liaise with site staff, forecaster and our central control room.</p> <p>Site staff will liaise with Winter Manager and Duty Manager.</p> |
| Are diversion routes to be used? | <p>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</p> <p>No, unlikely to be used as roads in vicinity likely to be in poorer condition than Trunk Road and unsuitable for HGV traffic.</p> <p>Diversion identified as A9/M9 if long term closure predicted</p>  |
| Deployment of resources          | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Perth if route blocked from Perth. Our Fastrac capability is based at Perth depot.</p> <p>frontline spreader/plough &amp; reserve vehicle plough (Perth)</p> <p>patrol spreader/plough (Perth)</p> <p>snowblower (Perth)</p> <p>Fastrac with plough(Perth)</p>  |
| Use of VMS                       | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure and messages</p> <p>Use of the following VMS to relay messages of closure,</p>  |

|   |   |
|---|---|
|   | <p>conditions or delays (subject to availability)</p> <p>M90 Halbeath Northbound</p> <p>A9 Approaching Broxden</p> <p>A9 Approaching Inveralmond</p> <p>M90 Approaching Craigend</p>  |
| Other measures put in place                             | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</p> <p>Tayside Contracts, Perth &amp; Kinross Council Spreader based at Inveralmond Depot</p>  |
| Assistance from additional Transport Scotland resources | <p>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</p> <p>Assistance from Transport Scotland Communications to agree message for media</p>  |
| Assistance from External Sources                        | <p>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</p> <p>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</p> <p>If road is closed :</p> <p>Farmer with JCB to assist with snow clearance</p> |

## AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

|  |   |
|--|---|
| Reference Number: ARSA/NE/A96/SCH1 – Glens of Foudland                 |   |
| Location   | A96 Glens of Foudland   |
| Grid Reference   | (358330,835191) to (363780,834530)  |
| Problem  | Section of Single Carriageway road approx 2 miles in length with history of snow issues due to high altitude          |
| Has this site experienced problems before or is it an identified risk? | Yes. The road has been closed at various times due to snow drifting over road due to lack of shelter & high altitude. |
| Detailed Mitigation Measures   |   |
| Optional Mitigation  | <p>[Details of primary mitigation measures]</p> <p>Consideration to be given to increasing the spread rate to</p>     |

|                                     |   |
|-------------------------------------|---|
| <b>Measures</b>                     | <p>30 or 40 g/m<sup>2</sup>.</p> <p>Consideration given to pre- treating carriageway with alternative de-icers</p> <p>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</p> <p>Fastrac deployed to site. Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</p> <p>Plans put in place to move resources from less affected parts of the Unit potentially Inverness, Aberdeen or Stirlinghill this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</p> <p>Additional plant and resource could potentially be obtained from our shareholders Breedon (Elgin) which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.</p> |
| <b>When enacted</b>                 | <p>[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]</p> <p>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>  |
| <b>Who enacts</b>                   | <p>[Detail who triggers instigation (and on what basis) of the mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>   |
| <b>Who will manage the response</b> | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p>   |

|  |   |
|--|---|
|  | <p><b>Duty Managers will liaise with site staff, forecaster and our central control room.</b></p> <p><b>Site staff will liaise with Winter Manager and Duty Manager.</b></p>  |
| <b>Are diversion routes to be used?</b>                        | <p><b>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</b></p> <p><b>No, unlikely to be used as roads in vicinity likely to be in poorer condition than Trunk Road and unsuitable for HGV traffic.</b></p> |
| <b>Deployment of resources</b>                                 | <p><b>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</b></p> <p><b>Frontline Resource and Reserve Resource from Aberdeen, Stirlinghill or Edzell if route blocked from Keith.</b></p>  |
| <b>Use of VMS</b>  | <p><b>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</b></p> <p><b>Liaise with Traffic Scotland regarding closure, messages and</b></p> <p><b>Use of the VMS to relay messages of closure, conditions or delays (subject to availability)</b></p>                          |
| <b>Other measures put in place</b>                             | <p><b>[Detail any further mitigation measures not mentioned above]</b></p> <p><b>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</b></p> <p><b>Moray Council, Aberdeenshire and Aberdeen City Councils.</b></p>   |
| <b>Assistance from additional Transport Scotland resources</b> | <p><b>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</b></p> <p><b>Assistance from Transport Scotland Communications to agree message for media</b></p>  |
| <b>Assistance from External Sources</b>                        | <p><b>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</b></p> <p><b>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery</b></p>                       |



contract.

If road is closed :

Agricultural contractors with Fas-Tracs & ploughs to be deployed.

Farmer with JCB to assist with snow clearance

## AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

Reference Number: ARSA/NE/A95/SCH1 – Ballindalloch

Location A95 Ballindalloch

Grid Reference (318509,837224) to (319276,838315)

Problem Section of Single Carriageway road approx 1 mile in length with history of snow issues due to high altitude

Has this site experienced problems before or is it an identified risk? Yes. The road has been closed at various times due to snow on the steep incline & high altitude.

### Detailed Mitigation Measures

Optional Mitigation Measures

[Details of primary mitigation measures]

Consideration to be given to increasing the spread rate to 30 or 40 g/m<sup>2</sup>.

Consideration given to pre- treating carriageway with alternative de-icers

Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists

Fastrac deployed to site

Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus

Plans put in place to move resources from less affected parts of the Unit potentially Inverness, Aberdeen or Stirlinghill this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.

Additional plant and resource could potentially be obtained from our shareholders Breedon (Elgin) which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.

When enacted

[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]

The measures detailed above will be in place prior to the

|                                  |  |
|----------------------------------|--|
|                                  | <p>event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>  |
| Who enacts                       | <p>[Detail who triggers instigation (and on what basis) of the mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>  |
| Who will manage the response     | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p> <p>Duty Managers will liaise with site staff, forecaster and our central control room.</p> <p>Site staff will liaise with Winter Manager and Duty Manager.</p> |
| Are diversion routes to be used? | <p>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</p> <p>No, unlikely to be used as roads in vicinity likely to be in poorer condition than Trunk Road and unsuitable for HGV traffic.</p>  |
| Deployment of resources          | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Inverness, Aberdeen, or Stirlinghill if route blocked from Keith.</p>   |
| Use of VMS                       | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure, messages and</p> <p>Use of the VMS to relay messages of closure, conditions or delays (subject to availability)</p>  |
| Other measures put in place      | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from</p>  |

|   |   |
|---|---|
|   | <p><b>Councils and other Operating Companies</b></p> <p><b>Moray Council, Aberdeenshire and Highland Councils.</b></p>  |
| <p><b>Assistance from additional Transport Scotland resources</b></p> | <p><b>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</b></p> <p><b>Assistance from Transport Scotland Communications to agree message for media</b></p>  |
| <p><b>Assistance from External Sources</b></p>                        | <p><b>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</b></p> <p><b>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</b></p> <p><b>If road is closed :</b></p> <p><b>Agricultural contractors with Fas-Tracs &amp; ploughs to be deployed.</b></p> <p><b>Farmer with JCB to assist with snow clearance</b></p> |

## AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

|  |   |
|--|---|
| <p><b>Reference Number: ARSA/NE/A95/SCH2 – Cromdale – A9 Junction</b></p>            |   |
| <p><b>Location</b></p>   | <p><b>A95 Cromdale – A9 Junction</b></p>  |
| <p><b>Grid Reference</b></p>   | <p><b>(307500,828560) to (289989,815299)</b></p>  |
| <p><b>Problem</b></p>  | <p><b>Section of Single Carriageway road approx 12 miles in length with history of snow issues due to high altitude</b></p>   |
| <p><b>Has this site experienced problems before or is it an identified risk?</b></p> | <p><b>Yes. The road has been closed at various times due to snow at high altitude.</b></p>  |
| <p><b>Detailed Mitigation Measures</b></p>   |   |
| <p><b>Optional Mitigation Measures</b></p>   | <p><b>[Details of primary mitigation measures]</b></p> <p><b>Consideration to be given to increasing the spread rate to 30 or 40 g/m<sup>2</sup>.</b></p> <p><b>Consideration given to pre- treating carriageway with alternative de-icers</b></p> <p><b>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</b></p> <p><b>Fastrac deployed to site</b></p> |

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|   | <p><b>Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</b></p> <p><b>Plans put in place to move resources from less affected parts of the Unit potentially Inverness, Aberdeen or Stirlinghill this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</b></p> <p><b>Additional plant and resource could potentially be obtained from our shareholders Breedon (Elgin) which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.</b></p>   |
| <b>When enacted</b>                     | <p><b>[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]</b></p> <p><b>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</b></p> <p><b>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</b></p>  |
| <b>Who enacts</b>                       | <p><b>[Detail who triggers instigation (and on what basis) of the mitigation measures]</b></p> <p><b>Winter Manager</b></p> <p><b>Based on the 24 hour and 2 – 5 Day forecast.</b></p>   |
| <b>Who will manage the response</b>     | <p><b>[Detail who will manage the response &amp; how this will be carried out]</b></p> <p><b>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</b></p> <p><b>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</b></p> <p><b>Senior staff will liaise with the Police Scotland and Transport Scotland.</b></p> <p><b>Duty Managers will liaise with site staff, forecaster and our central control room.</b></p> <p><b>Site staff will liaise with Winter Manager and Duty Manager.</b></p> |
| <b>Are diversion routes to be used?</b> | <p><b>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</b></p> <p><b>No, unlikely to be used as roads in vicinity likely to be in</b></p>   |

|   |  |
|---|--|
|   | poorer condition than Trunk Road and unsuitable for HGV traffic.   |
| Deployment of resources                                 | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Inverness, Aberdeen, or Stirlinghill if route blocked from Keith.</p>   |
| Use of VMS  | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure, messages and</p> <p>Use of the VMS to relay messages of closure, conditions or delays (subject to availability)</p>  |
| Other measures put in place                             | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</p> <p>Moray Council, Aberdeenshire and Highland Councils.</p>  |
| Assistance from additional Transport Scotland resources | <p>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</p> <p>Assistance from Transport Scotland Communications to agree message for media</p>   |
| Assistance from External Sources                        | <p>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</p> <p>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</p> <p>If road is closed :</p> <p>Agricultural contractors with Fas-Tracs &amp; ploughs to be deployed.</p> <p>Farmer with JCB to assist with snow clearance</p> |

## AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

|   |   |
|---|---|
| Reference Number: ARSA/NE/A90/SCH1 – Temple of Fiddes |   |
| Location  | A90 Temple Fiddes   |
| Grid Reference  | (380838,781143) to (384171,782889)  |
| Problem   | Section of Dual Carriageway 2 miles in length very little shelter from elements |

| <p>Has this site experienced problems before or is it an identified risk?</p> | <p>Yes. The road has been closed at various times due to drifting snow.</p>  |
|---|--|
| Detailed Mitigation Measures  |  |
| <p>Optional Mitigation Measures</p>   | <p>[Details of primary mitigation measures]</p> <p>Consideration to be given to increasing the spread rate to 30 or 40 g/m<sup>2</sup>.</p> <p>Consideration given to pre- treating carriageway with alternative de-icers</p> <p>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</p> <p>Fastrac deployed to site</p> <p>Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</p> <p>Plans put in place to move resources from less affected parts of the Unit potentially Aberdeen, Dundee or Keith this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</p> <p>Additional plant and resource could potentially be obtained from our shareholders Breedon which would include lorries with ploughs manned with operatives deployed to the area dependent upon severity of conditions.</p> |
| <p>When enacted</p>   | <p>[Details of when the mitigation measures will be put in place i.e. prior to the event/during the event]</p> <p>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>   |
| <p>Who enacts</p>   | <p>[Detail who triggers instigation (and on what basis) of the mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>  |
| <p>Who will manage the response</p>   | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating</p>  |



|   |  |
|---|--|
|   | <p><b>Company Representative and Winter Manager.</b></p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p> <p>Duty Managers will liaise with site staff, forecaster and our central control room.</p> <p>Site staff will liaise with Winter Manager and Duty Manager.</p> |
| <b>Are diversion routes to be used?</b> | <p>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</p> <p>Yes, A92 coastal route.</p>  |
| <b>Deployment of resources</b>          | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Dundee and Aberdeen if route blocked. Our Fastrac capability is based at Perth depot.</p> <p>frontline spreader/plough &amp; reserve vehicle plough (Dundee)</p> <p>patrol spreader/plough (Dundee)</p> <p>snowblower (Perth)</p> <p>Fastrac with plough(Perth)</p>   |
| <b>Use of VMS</b>                       | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure and messages</p> <p>Use of the following VMS to relay messages of closure, conditions or delays (subject to availability)</p>   |
| <b>Other measures put in place</b>      | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</p> <p>Aberdeen City &amp; Aberdeenshire Councils.</p>  |

|   |   |
|---|---|
| Assistance from additional Transport Scotland resources | <p>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</p> <p>Assistance from Transport Scotland Communications to agree message for media</p>  |
| Assistance from External Sources                        | <p>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</p> <p>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</p> <p>If road is closed :</p> <p>Farmer with JCB to assist with snow clearance</p> |

### AREAS REQUIRING SPECIAL ATTENTION SCHEDULE

|  |  |
|--|--|
| Reference Number: ARSA/NE/A96/SCH1 – Tyrebagger Hill                   |  |
| Location   | A96 Tyrebagger Hill  |
| Grid Reference   | (300130,717255) to (304892,721078)   |
| Problem  | Section of Dual Carriageway 2.5 miles in length with a gradient of approximately 10%   |
| Has this site experienced problems before or is it an identified risk? | Yes. The road has been closed at various times due to high volumes of traffic at peak periods and HGVs struggling to climb the steep incline, which has resulted in the vehicles losing traction & sliding across the carriageway blocking the road.   |
| Detailed Mitigation Measures   |  |
| Optional Mitigation Measures   | <p>[Details of primary mitigation measures .]</p> <p>Additional 40g treatment on steep incline</p> <p>Consideration given to pre- treating carriageway (at inclines) with alternative de-icers</p> <p>Patrolling of 7.5t tippers with salt for salting under the wheels of struggling motorists</p> <p>Fastrac deployed to site</p> <p>Deployment of vehicles with extra welfare equipment if vehicles become stuck at locus</p> <p>Plans put in place to move resources from less affected parts of the Unit potentially Keith, Stirlinghill or Edzell this could include frontline, reserve or additional spreaders with operatives to assist with snow clearance.</p> |
| When enacted   | [Details of when the mitigation measures will be put in place  |

|                                  |  |
|----------------------------------|--|
|                                  | <p>i.e. prior to the event/during the event]</p> <p>The measures detailed above will be in place prior to the event based on a forecast of significant snow fall in a short space of with a high degree of forecaster confidence.</p> <p>In cases of low or medium forecaster confidence dialogue will be opened with TS regarding extent of mitigation measures</p>   |
| Who enacts                       | <p>[Detail who triggers instigation (and on what basis) of the mitigation measures]</p> <p>Winter Manager</p> <p>Based on the 24 hour and 2 – 5 Day forecast.</p>  |
| Who will manage the response     | <p>[Detail who will manage the response &amp; how this will be carried out]</p> <p>Strategic deployment and decision making – Operating Company Representative and Winter Manager.</p> <p>This will be carried out in the control room and based on information from our forecaster i.e. Radar and Weather updates. Site information will be fed back through cameras, site supervisors and operative.</p> <p>Senior staff will liaise with the Police Scotland and Transport Scotland.</p> <p>Duty Managers will liaise with site staff, forecaster and our central control room.</p> <p>Site staff will liaise with Winter Manager and Duty Manager.</p> |
| Are diversion routes to be used? | <p>[If diversion routes are utilised, detail what they are and what measures are in place to ensure they remain serviceable during the severe weather event]</p> <p>No, unlikely to be used as roads in vicinity likely to be in poorer condition than Trunk Road and unsuitable for HGV traffic.</p>  |
| Deployment of resources          | <p>[Detail of what resources will be deployed and where from, where they will be deployed to &amp; when]</p> <p>Frontline Resource and Reserve Resource from Aberdeen and Keith if route blocked from Aberdeen. Our Fastrac capability is based at Perth depot.</p> <p>frontline spreader/plough &amp; reserve vehicle plough (Aberdeen)</p> <p>patrol spreader/plough (Aberdeen)</p> <p>snowblower (Keith)</p>  |

|  |   |
|--|---|
|  | <b>Fastrac with plough(Keith)</b>   |
| <b>Use of VMS</b>  | <p>[If VMS is to be used confirm the arrangements and agreements, consultation with TSNCC]</p> <p>Liaise with Traffic Scotland regarding closure and messages</p> <p>Use of the following VMS to relay messages of closure, conditions or delays (subject to availability)</p> <p>A96 West Approaching Aberdeen</p> <p>A90 North Approaching Aberdeen</p> <p>A90 South Approaching Aberdeen</p> |
| <b>Other measures put in place</b>                             | <p>[Detail any further mitigation measures not mentioned above]</p> <p>Consideration would be given to asking for mutual aid from Councils and other Operating Companies</p> <p>Aberdeen City Council Spreader based at Tullos Depot</p>  |
| <b>Assistance from additional Transport Scotland resources</b> | <p>[Details of what additional resources are required, has consultation been carried out and agreements in place, what is process for calling in these resources]]</p> <p>Assistance from Transport Scotland Communications to agree message for media</p>  |
| <b>Assistance from External Sources</b>                        | <p>[Details of assistance required from such entities as TRISS, Police Scotland, TSNCC, Local Authorities, Recovery Vehicles, Sub-contractors, Farmers etc]</p> <p>Liaison with Police Scotland to potentially mobilise HGV recovery vehicles through existing HGV recovery contract.</p> <p>If road is closed :</p> <p>Farmer with JCB to assist with snow clearance</p>                       |

## WSP 13 Footway Treatments and Maps

### ANNEX 7.2/E – Footways, Footbridges and Category A, B, C and D Footways, Footbridges and Cycling Facilities

Table 7.2.E.1 – Footways, Footbridges and Cycle Facilities Categories A, B, C and D – Response Times and Clearance Requirements for Ice

| Categories | Requirements   |
|------------|--|
| A and B    | Apply de-icing treatment before 08.00 hours each morning to any ice which has formed.  |
| C          | Clear all ice by 17.00 hours on the same day the ice formed excluding Saturdays and Sundays when the area shall be cleared by 17.00 hours on the Monday immediately following.                           |
| A, B and C | Following clearance of ice or if ice has melted naturally during the day, spread anti-icing materials to prevent ice formation on the cleared surfaces in accordance with paragraph 3.1.17 of this Part. |
| D          | These footways, footbridges and cycleways shall receive treatment when required by the Director.   |

Table 7.2.E.2 Footways, Footbridges and Cycle Facilities Categories A, B, C and D – Response Times and Clearance Requirements for Snow or Ice Occurring Together

| Categories | Requirements   |  |                               |   |
|------------|--|--|-------------------------------|---|
|            | General  | Between 06.00 and 18.00 hours  | Between 08.00 and 17.00 hours | Treatments out with daytime hours         |
| A and B    | Between the hours of 06.00 and 18.00, commence snow clearing as soon as practicable to prevent compaction by traffic. Ploughing should be continuous thereafter to prevent a build up of snow. | Clear all snow within 2 hours of snow ceasing to fall. On wide Routes, 1.2 metre minimum width shall be cleared initially. |                               | Clear snow when required by the Director. |

| Categories | Requirements   |  |  |   |
|------------|--|--|--|---|
| C          | Between the hours of 08.00 and 17.00, commence snow clearing as soon as practicable to prevent compaction by traffic. Ploughing should be continuous thereafter to prevent a build up of snow. |  | Clear all snow by 17.00 hours on the day the snow first fell excluding Saturdays and Sundays when the area shall be cleared on the Monday immediately following.<br><br>On wide Routes, 1.2 metre minimum width shall be cleared initially.  | Clear snow when required by the Director. |
| A,B and C  |  | Following clearance of snow, spread anti-icing materials to prevent ice formation on cleared surfaces in accordance with paragraph 3.1.17 of this Part.<br><br>Note brine shall not be used as the anti-icing agent where compacted snow or ice lenses remain on the surface of the Route. | Following clearance of snow, spread anti-icing materials to prevent ice formation on cleared surfaces in accordance with paragraph 3.1.17 of this Part.<br><br>Note brine shall not be used as the anti-icing agent where compacted snow or ice lenses remain on the surface of the Route. |   |
| D          | These footways, footbridges and cycleways shall receive treatment when required by the Director.   |  |  |   |



**Table 7.2.E.3– Category A, B, and C Footways, Footbridges and Cycle Facilities within the Unit**

| Location Number | Route        | Location    | Name of street/side of street to be treated  | Details of Footway                   |                              | Route Centreline Length (m) |            |            |
|-----------------|--------------|-------------|--|--------------------------------------|------------------------------|-----------------------------|------------|------------|
|                 |              |             |  | Start                                | Finish                       | Category A                  | Category B | Category C |
| 1               | A90          | Aberdeen    | The Parkway/ Northern Side   | Scotstown Rd                         | Ellon Rd                     |                             | 570        |            |
|                 |              |             | The Parkway/ Southern Side   | Lochside Rd                          | Scotstown Rd                 |                             | 200        |            |
|                 |              |             | Stonehaven Rd-South<br>Anderson Dr-<br>Anderson Dr-North<br>Anderson Dr-A90/<br>Both Sides | Calmgorm Rd                          | Muglemoss Rd                 |                             |            | 7570       |
| 2               | A90          | Crimond     | Logie Avenue<br>East/ Both Sides   | Crimond House (12430/56/1940)        | Anvil Cottage (12430/68/390) |                             |            | 500        |
| 3               | A90          | Dundee      | Forfar Rd/ Both Sides  | Kings Rd                             | Jack Martin Way              |                             |            | 1550       |
| 4               | A90          | Fraserburgh | Cross St –<br>Maconochie Rd/ Both Sides  | High St                              | Boothby Rd                   |                             | 1710       |            |
| 5               | A92          | Dundee      | East Dock St/ Both Sides   | Trades Ln                            | East/Whale Ln                | 200                         |            |            |
| 6               | A92/<br>A972 | Dundee      | East Dock St-Broughty Ferry Rd-<br>Greendykes Rd-<br>Kingsway East/ Both Sides             | East Marketgate                      | Forfar Rd                    |                             |            | 4770       |
| 7               | A92          | Glenrothes  | A92/ Both Sides  | Bridge south of B9130 (14855/05/550) | 14865/05/460                 |                             |            | 1100       |

| Location Number | Route | Location      | Name of street/side of street to be treated | Details of Footway                        |                                  | Route Centreline Length (m) |            |            |
|-----------------|-------|---------------|---|---|----------------------------------|-----------------------------|------------|------------|
|                 |       |               |   | Start                                     | Finish                           | Category A                  | Category B | Category C |
| 8               | A92   | Freuchie      | A92/ Both Sides                             | Shiels Ave                                | Filling Station                  |                             |            | 580        |
| 9               | A95   | Aberlour      | High St/ Both Sides                         | Dowan's Hotel (10950/25/2550)             | West Lodge (10950/30/1540)       |                             | 1760       |            |
| 10              | A95   | Graigellachie | A95- Victoria St/ Both Sides                | Bridge east of A941 on A95 (10960/05/145) | Spey Rd (10960/05/460)           |                             |            | 330        |
| 11              | A95   | Gromdale      | A95/ Both Sides                             | Gromdale Hall (10940/50/00)               | The Old Inn (10940/50/810)       |                             |            | 810        |
| 12              | A96   | Aberdeen      | Auchmill Rd/ Both Sides                     | Old Meldrum Rd                            | Cairnfield Pl                    | 435                         |            |            |
|                 |       |               | Auchmill Rd/ Both Sides                     | Greenburn Rd                              | Old Meldrum Rd                   |                             |            | 1740       |
|                 |       |               | Auchmill Rd/ Both Sides                     | Cairnfield Pl                             | Intersection with A90            |                             |            | 1200       |
| 13              | A96   | Keith         | Moss St/ Both Sides                         | Church Rd                                 | 17668/00/00                      |                             | 745        |            |
|                 |       |               | Church Rd- Regent St/ Both Sides            | Moss St                                   | Westend Cottage (17670/46/420)   |                             |            | 1300       |
|                 |       |               | A96/ Southern Side                          | B9015                                     | Tigh Geal (12670/00/1080)        |                             |            | 630        |
|                 |       |               | Lennox Cres/ East Side                      | Intersection between A96 and A98          | 17675/91/100                     |                             |            | 100        |
|                 |       |               | Lennox Cres/ West Side                      | Intersection between A96 and A98          | Burnside Cottage (17675/70/2040) |                             |            | 445        |

| Location Number | Route | Location | Name of street/side of street to be treated                 | Details of Footway             |                                  | Route Centreline Length (m) |            |            |
|-----------------|-------|----------|---|--------------------------------|----------------------------------|-----------------------------|------------|------------|
|                 |       |          |   | Start                          | Finish                           | Category A                  | Category B | Category C |
| 14              | A96   | Elgin    | East Rd/ Northern Side                                      | Newmill Rd                     | Reiket Ln                        |                             | 1300       |            |
|                 |       |          | South College St- Alexandra Rd-High St- West Rd/ Both Sides | Pansport Rd                    | Eight Acres Hotel (12625/00/580) |                             |            | 3100       |
| 15              | A96   | Nairn    | King St/ Both Sides   | Viewfield Dv                   | St Ninians Rd                    |                             | 285        |            |
|                 |       |          | St Ninian St- Bridge St- Forres Rd/ Both Sides              | King St                        | A939                             |                             | 700        |            |
|                 |       |          | Invermess Rd- Academy St-King St/ Both Sides                | Tradespark Rd                  | Viewfield Dv                     |                             |            | 1575       |
| 16              | A96   | Alves    | Main Road/ Northern Side                                    | Filling Station (12625/46/100) | 12625/37/750)                    |                             |            | 1220       |

## Category D Footways

| Road Name | Section Code | Item Type | Start Metres | End Metres | Easting | Northing | Rmms Xsp                                       |
|-----------|--------------|-----------|--------------|------------|---------|----------|--|
| A9        | 10403/05     | FOOTWAY   | 0            | 111        | 277691  | 699273   | 2 - Left Footway                               |
| A9        | 10403/05     | FOOTWAY   | 142          | 148        | 277822  | 699287   | 2 - Left Footway                               |
| A9        | 10403/15     | FOOTWAY   | 0            | 123        | 277121  | 700440   | 2 - Left Footway                               |
| A9        | 10408/11     | FOOTWAY   | 0            | 219        | 278465  | 702760   | 2 - Left Footway                               |
| A9        | 10408/12     | FOOTWAY   | 0            | 213        | 278308  | 702591   | 2 - Left Footway                               |
| A9        | 10411/05     | FOOTWAY   | 0            | 3509       | 281248  | 705242   | 2 - Left Footway                               |
| A9        | 10411/06     | FOOTWAY   | 0            | 143        | 281172  | 705137   | 2 - Left Footway                               |
| A9        | 10413/00     | FOOTWAY   | 0            | 248        | 281409  | 705401   | 2 - Left Footway                               |
| A9        | 10413/50     | FOOTWAY   | 0            | 16         | 281262  | 705225   | 2 - Left Footway                               |
| A9        | 10413/50     | FOOTWAY   | 37           | 165        | 281288  | 705249   | 2 - Left Footway                               |
| A9        | 10413/50     | FOOTWAY   | 3242         | 3260       | 283589  | 707069   | 2 - Left Footway                               |
| A9        | 10415/06     | FOOTWAY   | 0            | 132        | 283615  | 707067   | 2 - Left Footway                               |
| A9        | 10415/60     | FOOTWAY   | 0            | 43         | 288404  | 708544   | 2 - Left Footway                               |
| A9        | 10415/60     | FOOTWAY   | 475          | 550        | 287968  | 708557   | 2 - Left Footway                               |
| A9        | 10415/61     | FOOTWAY   | 0            | 52         | 287893  | 708534   | 2 - Left Footway                               |
| A9        | 10415/61     | FOOTWAY   | 53           | 101        | 287943  | 708533   | 2 - Left Footway                               |
| A9        | 10418/06     | FOOTWAY   | 0            | 1083       | 292115  | 709750   | 2 - Left Footway                               |
| A9        | 10418/06     | FOOTWAY   | 1714         | 1730       | 290661  | 709155   | 2 - Left Footway                               |
| A9        | 10418/07     | FOOTWAY   | 0            | 99         | 289434  | 708533   | Y - Other                                      |
| A9        | 10421/15     | FOOTWAY   | 0            | 492        | 292994  | 711302   | 2 - Left Footway                               |
| A9        | 10421/15     | FOOTWAY   | 0            | 33         | 293015  | 711320   | 9 - Right Footway                              |
| A9        | 10421/30     | FOOTWAY   | 0            | 1336       | 292614  | 710148   | 2 - Left Footway                               |
| A9        | 10422/05     | FOOTWAY   | 0            | 2          | 295648  | 712708   | 3 - Left Verge                                 |
| A9        | 10422/05     | FOOTWAY   | 706          | 714        | 295060  | 712437   | 2 - Left Footway                               |
| A9        | 10424/05     | FOOTWAY   | 0            | 12         | 296629  | 713577   | 2 - Left Footway                               |
| A9        | 10424/05     | FOOTWAY   | 1410         | 1415       | 295666  | 712715   | 2 - Left Footway                               |
| A9        | 10424/50     | FOOTWAY   | 0            | 25         | 295638  | 712730   | 2 - Left Footway                               |
| A9        | 10424/50     | FOOTWAY   | 1429         | 1432       | 296635  | 713577   | 2 - Left Footway                               |
| A9        | 10425/07     | FOOTWAY   | 4            | 125        | 300569  | 717626   | 2 - Left Footway                               |
| A9        | 10425/07     | FOOTWAY   | 495          | 629        | 300215  | 717337   | 2 - Left Footway                               |
| A9        | 10425/08     | FOOTWAY   | 0            | 99         | 300056  | 717143   | 2 - Left Footway                               |
| A9        | 10425/08     | FOOTWAY   | 99           | 100        | 300126  | 717201   | 2 - Left Footway                               |
| A9        | 10425/08     | FOOTWAY   | 626          | 764        | 300478  | 717532   | 2 - Left Footway                               |
| A9        | 10425/92     | FOOTWAY   | 0            | 2087       | 308207  | 722784   | 2 - Left Footway                               |
| A9        | 10425/92     | FOOTWAY   | 3845         | 3923       | 305075  | 721173   | 2 - Left Footway                               |
| A9        | 10425/95     | FOOTWAY   | 0            | 90         | 308296  | 722822   | 2 - Left Footway                               |
| A9        | 10425/95     | FOOTWAY   | 45           | 4          | 308337  | 722810   | 2 - Left Footway                               |
| A9        | 10428/05     | FOOTWAY   | 0            | 18         | 308228  | 722818   | 2 - Left Footway                               |
| A9        | 10428/05     | FOOTWAY   | 1            | 691        | 308151  | 723780   | Y - Other                                      |
| A9        | 10428/06     | FOOTWAY   | 0            | 19         | 308310  | 722822   | 2 - Left Footway                               |
| A9        | 10430/05     | FOOTWAY   | 0            | 18         | 308585  | 724873   | 1 - Left Outside Verge (including side slopes) |
| A9        | 10430/12     | FOOTWAY   | 0            | 27         | 308953  | 724915   | 9 - Right Footway                              |
| A9        | 10430/15     | FOOTWAY   | 0            | 18         | 309653  | 726147   | 2 - Left Footway                               |

|     |          |         |      |      |        |          |   |
|-----|----------|---------|------|------|--------|----------|---|
| A9  | 10430/15 | FOOTWAY | 519  | 729  | 309286 | 725843   | 2 - Left Footway                                |
| A9  | 10430/15 | FOOTWAY | 866  | 895  | 309023 | 725665   | 2 - Left Footway                                |
| A9  | 10430/16 | FOOTWAY | 0    | 456  | 308790 | 725385   | 2 - Left Footway                                |
| A9  | 10430/16 | FOOTWAY | 1270 | 1271 | 309693 | 726118   | 2 - Left Footway                                |
| A9  | 10430/80 | FOOTWAY | 0    | 136  | 309734 | 726115   | 2 - Left Footway                                |
| A95 | 10920/10 | FOOTWAY | 0    | 68   | 300046 | 824584   | 9 - Right Footway                               |
| A95 | 10920/10 | FOOTWAY | 0    | 71   | 300058 | 824653   | 2 - Left Footway                                |
| A95 | 10925/15 | FOOTWAY | 0    | 699  | 302751 | 826657   | 9 - Right Footway                               |
| A95 | 10925/15 | FOOTWAY | 0    | 20   | 303367 | 826880   | 2 - Left Footway                                |
| A95 | 10925/15 | FOOTWAY | 258  | 277  | 303138 | 826818   | 2 - Left Footway                                |
| A95 | 10930/05 | FOOTWAY | 0    | 4    | 303394 | 826895   | 2 - Left Footway                                |
| A95 | 10930/15 | FOOTWAY | 0    | 686  | 303372 | 826864   | 9 - Right Footway                               |
| A95 | 10930/15 | FOOTWAY | 0    | 9    | 303387 | 826861   | 2 - Left Footway                                |
| A95 | 10945/45 | FOOTWAY | 0    | 2    | 315362 | 835045   | 8 - Right Verge                                 |
| A95 | 10945/45 | FOOTWAY | 1    | 18   | 315361 | 835044   | 2 - Left Footway                                |
| A95 | 10945/45 | FOOTWAY | 3    | 18   | 315359 | 835043   | 9 - Right Footway                               |
| A95 | 10945/45 | FOOTWAY | 1851 | 1966 | 313862 | 834254   | 2 - Left Footway                                |
| A95 | 10945/45 | FOOTWAY | 1883 | 1947 | 313834 | 834245   | 9 - Right Footway                               |
| A95 | 10950/10 | FOOTWAY | 0    | 218  | 318365 | 835758   | 2 - Left Footway                                |
| A95 | 10950/10 | FOOTWAY | 45   | 133  | 318349 | 835799   | 9 - Right Footway                               |
| A95 | 10950/15 | FOOTWAY | 0    | 30   | 319484 | 838465   | 2 - Left Footway                                |
| A95 | 10950/20 | FOOTWAY | 0    | 132  | 319786 | 838569   | 2 - Left Footway                                |
| A95 | 10950/20 | FOOTWAY | 296  | 332  | 319527 | 838486   | 2 - Left Footway                                |
| A95 | 10950/27 | FOOTWAY | 0    | 530  | 325825 | 842257   | 2 - Left Footway                                |
| A95 | 10950/27 | FOOTWAY | 74   | 553  | 325777 | 842209   | 9 - Right Footway                               |
| A95 | 10950/27 | FOOTWAY | 271  | 219  | 325682 | 842054   | 9 - Right Footway                               |
| A95 | 10955/05 | FOOTWAY | 0    | 10   | 328622 | 845066   | 9 - Right Footway                               |
| A95 | 10955/05 | FOOTWAY | 0    | 249  | 328623 | 845067   | 9 - Right Footway                               |
| A95 | 10960/25 | FOOTWAY | 0    | 182  | 337318 | 849853   | 2 - Left Footway                                |
| M90 | 12005/11 | FOOTWAY | 0    | 917  | 312773 | 721177   | 2 - Left Footway                                |
| M90 | 12005/27 | FOOTWAY | 0    | 15   | 312241 | 720562   | 0 - Right Outside Verge (including side slopes) |
| M90 | 12005/27 | FOOTWAY | 15   | 72   | 312230 | 720554   | 9 - Right Footway                               |
| M90 | 12005/27 | FOOTWAY | 18   | 72   | 312224 | 720564   | 2 - Left Footway                                |
| A90 | 12105/03 | FOOTWAY | 0    | 25   | 313121 | 722102   | 2 - Left Footway                                |
| A90 | 12105/03 | FOOTWAY | 173  | 4    | 312989 | 722011   | 2 - Left Footway                                |
| A90 | 12105/03 | FOOTWAY | 230  | 9    | 312981 | 721943   | 9 - Right Footway                               |
| A90 | 12105/03 | FOOTWAY | 260  | 222  | 313358 | 722076   | 2 - Left Footway                                |
| A90 | 12105/10 | FOOTWAY | 0    | 184  | 314760 | 722411   | 2 - Left Footway                                |
| A90 | 12105/10 | FOOTWAY | 1819 | 1959 | 316371 | 721980   | 2 - Left Footway                                |
| A90 | 12105/10 | FOOTWAY | 4341 | 4422 | 318468 | 720973   | 2 - Left Footway                                |
| A90 | 12105/11 | FOOTWAY | 0    | 2353 | 319021 | 721034   | 2 - Left Footway                                |
| A90 | 12105/11 | FOOTWAY | 3087 | 4670 | 316342 | 721944   | 2 - Left Footway                                |
| A90 | 12105/11 | FOOTWAY | 4825 | 4991 | 314805 | 722363   | 2 - Left Footway                                |
| A90 | 12105/13 | FOOTWAY | 0    | 0    | 316860 | 721672.6 | 2 - Left Footway                                |
| A90 | 12105/15 | FOOTWAY | 0    | 135  | 316701 | 721738.3 | 2 - Left Footway                                |
| A90 | 12135/05 | FOOTWAY | 0    | 3769 | 327194 | 728155   | 2 - Left Footway                                |
| A90 | 12135/05 | FOOTWAY | 0    | 28   | 324657 | 726409   | 9 - Right Footway                               |

|     |          |         |      |      |        |        |   |
|-----|----------|---------|------|------|--------|--------|---|
| A90 | 12135/06 | FOOTWAY | 0    | 120  | 324619 | 726323 | 2 - Left Footway                                |
| A90 | 12135/06 | FOOTWAY | 768  | 995  | 325167 | 726766 | 2 - Left Footway                                |
| A90 | 12135/06 | FOOTWAY | 2461 | 2553 | 326451 | 727637 | 3 - Left Verge                                  |
| A90 | 12135/10 | FOOTWAY | 0    | 236  | 324202 | 726035 | 2 - Left Footway                                |
| A90 | 12140/05 | FOOTWAY | 0    | 310  | 329488 | 729882 | 2 - Left Footway                                |
| A90 | 12140/06 | FOOTWAY | 0    | 2211 | 329800 | 729942 | 2 - Left Footway                                |
| A90 | 12140/91 | FOOTWAY | 0    | 56   | 330582 | 729998 | 2 - Left Footway                                |
| A90 | 12145/07 | FOOTWAY | 0    | 2130 | 331910 | 730295 | 2 - Left Footway                                |
| A90 | 12145/07 | FOOTWAY | 2976 | 2975 | 334596 | 730768 | 2 - Left Footway                                |
| A90 | 12145/08 | FOOTWAY | 0    | 171  | 334615 | 730762 | 2 - Left Footway                                |
| A90 | 12145/08 | FOOTWAY | 797  | 3251 | 333939 | 730484 | 2 - Left Footway                                |
| A90 | 12145/08 | FOOTWAY | 3340 | 4060 | 331603 | 730215 | 2 - Left Footway                                |
| A90 | 12145/10 | FOOTWAY | 0    | 98   | 330600 | 730131 | 2 - Left Footway                                |
| A90 | 12145/11 | FOOTWAY | 0    | 14   | 330620 | 730006 | 2 - Left Footway                                |
| A90 | 12145/90 | FOOTWAY | 0    | 104  | 334275 | 730470 | 2 - Left Footway                                |
| A90 | 12145/94 | FOOTWAY | 0    | 246  | 334498 | 730671 | 2 - Left Footway                                |
| A90 | 12150/06 | FOOTWAY | 0    | 1291 | 335384 | 731739 | 2 - Left Footway                                |
| A90 | 12150/35 | FOOTWAY | 0    | 15   | 335414 | 731787 | 2 - Left Footway                                |
| A90 | 12150/40 | FOOTWAY | 0    | 39   | 335424 | 731794 | 2 - Left Footway                                |
| A90 | 12150/40 | FOOTWAY | 396  | 496  | 335752 | 731951 | 2 - Left Footway                                |
| A90 | 12150/40 | FOOTWAY | 1307 | 1538 | 336547 | 732212 | 2 - Left Footway                                |
| A90 | 12150/70 | FOOTWAY | 0    | 80   | 337398 | 732693 | 2 - Left Footway                                |
| A90 | 12150/93 | FOOTWAY | 0    | 98   | 337337 | 732610 | 2 - Left Footway                                |
| A90 | 12150/93 | FOOTWAY | 1    | 61   | 337338 | 732611 | 9 - Right Footway                               |
| A90 | 12150/93 | FOOTWAY | 112  | 92   | 337415 | 732677 | 0 - Right Outside Verge (including side slopes) |
| A90 | 12150/93 | FOOTWAY | 118  | 0    | 337414 | 732687 | 2 - Left Footway                                |
| A90 | 12155/08 | FOOTWAY | 0    | 5    | 337417 | 732607 | 2 - Left Footway                                |
| A90 | 12155/18 | FOOTWAY | 0    | 7    | 337352 | 732592 | 2 - Left Footway                                |
| A90 | 12155/34 | FOOTWAY | 0    | 26   | 338476 | 732759 | 2 - Left Footway                                |
| A90 | 12155/50 | FOOTWAY | 0    | 16   | 338394 | 732722 | 2 - Left Footway                                |
| A90 | 12155/72 | FOOTWAY | 0    | 8    | 338531 | 732640 | 2 - Left Footway                                |
| A90 | 12160/00 | FOOTWAY | 0    | 165  | 338736 | 732789 | 2 - Left Footway                                |
| A90 | 12160/21 | FOOTWAY | 0    | 0    | 338535 | 732668 | 2 - Left Footway                                |
| A90 | 12160/21 | FOOTWAY | 0    | 5    | 338532 | 732652 | 2 - Left Footway                                |
| A90 | 12160/43 | FOOTWAY | 0    | 148  | 338431 | 732622 | 2 - Left Footway                                |
| A90 | 12160/44 | FOOTWAY | 0    | 228  | 338885 | 732826 | 2 - Left Footway                                |
| A90 | 12160/63 | FOOTWAY | 0    | 305  | 339139 | 732843 | 2 - Left Footway                                |
| A90 | 12170/00 | FOOTWAY | 0    | 871  | 339221 | 732866 | 2 - Left Footway                                |
| A90 | 12170/15 | FOOTWAY | 0    | 860  | 339232 | 732837 | 2 - Left Footway                                |
| A90 | 12170/15 | FOOTWAY | 18   | 57   | 339248 | 732830 | Y - Other                                       |
| A90 | 12170/15 | FOOTWAY | 64   | 781  | 339291 | 732829 | 1 - Left Outside Verge (including side slopes)  |
| A90 | 12170/30 | FOOTWAY | 0    | 10   | 340012 | 732752 | 2 - Left Footway                                |
| A90 | 12170/42 | FOOTWAY | 0    | 75   | 340059 | 732766 | 2 - Left Footway                                |
| A90 | 12170/50 | FOOTWAY | 0    | 1326 | 341224 | 732442 | 2 - Left Footway                                |
| A90 | 12215/07 | FOOTWAY | 0    | 129  | 341402 | 732464 | 2 - Left Footway                                |
| A90 | 12215/07 | FOOTWAY | 412  | 660  | 341483 | 732833 | 2 - Left Footway                                |
| A90 | 12215/12 | FOOTWAY | 23   | 94   | 341563 | 733083 | 2 - Left Footway                                |



|     |          |         |      |      |        |        |  |
|-----|----------|---------|------|------|--------|--------|--|
| A90 | 12215/12 | FOOTWAY | 144  | 577  | 341538 | 732975 | 2 - Left Footway                               |
| A90 | 12215/55 | FOOTWAY | 0    | 565  | 341539 | 733144 | 2 - Left Footway                               |
| A90 | 12215/60 | FOOTWAY | 0    | 321  | 341588 | 733664 | 2 - Left Footway                               |
| A90 | 12215/60 | FOOTWAY | 406  | 585  | 341568 | 733292 | 2 - Left Footway                               |
| A90 | 12215/92 | FOOTWAY | 0    | 9    | 341555 | 733689 | 2 - Left Footway                               |
| A90 | 12215/92 | FOOTWAY | 17   | 8    | 341560 | 733673 | 2 - Left Footway                               |
| A90 | 12220/10 | FOOTWAY | 0    | 348  | 341595 | 734005 | 2 - Left Footway                               |
| A90 | 12220/11 | FOOTWAY | 0    | 343  | 341589 | 733690 | 2 - Left Footway                               |
| A90 | 12220/15 | FOOTWAY | 2750 | 2756 | 341611 | 734025 | 2 - Left Footway                               |
| A90 | 12220/25 | FOOTWAY | 0    | 1809 | 341933 | 736519 | 2 - Left Footway                               |
| A90 | 12220/25 | FOOTWAY | 3061 | 3203 | 342013 | 739317 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 0    | 73   | 342058 | 739344 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 1424 | 1645 | 341972 | 738043 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 1762 | 1900 | 342029 | 737732 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 2211 | 2288 | 341998 | 737322 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 2496 | 2541 | 341996 | 737061 | 2 - Left Footway                               |
| A90 | 12220/26 | FOOTWAY | 2801 | 2993 | 341977 | 736783 | 2 - Left Footway                               |
| A90 | 12225/07 | FOOTWAY | 0    | 83   | 343065 | 740834 | 2 - Left Footway                               |
| A90 | 12225/08 | FOOTWAY | 0    | 72   | 343124 | 740853 | 3 - Left Verge                                 |
| A90 | 12225/22 | FOOTWAY | 0    | 83   | 343877 | 742931 | 2 - Left Footway                               |
| A90 | 12225/23 | FOOTWAY | 0    | 104  | 343953 | 742987 | 3 - Left Verge                                 |
| A90 | 12225/23 | FOOTWAY | 1385 | 1426 | 343550 | 741786 | 3 - Left Verge                                 |
| A90 | 12225/73 | FOOTWAY | 0    | 43   | 344453 | 745891 | 2 - Left Footway                               |
| A90 | 12225/74 | FOOTWAY | 0    | 61   | 344734 | 746494 | 2 - Left Footway                               |
| A90 | 12225/74 | FOOTWAY | 691  | 740  | 344492 | 745910 | 2 - Left Footway                               |
| A90 | 12225/85 | FOOTWAY | 0    | 364  | 344789 | 747047 | 3 - Left Verge                                 |
| A90 | 12225/86 | FOOTWAY | 0    | 972  | 344781 | 747382 | 2 - Left Footway                               |
| A90 | 12233/05 | FOOTWAY | 0    | 27   | 343576 | 751386 | 2 - Left Footway                               |
| A90 | 12237/06 | FOOTWAY | 0    | 38   | 343753 | 751785 | 2 - Left Footway                               |
| A90 | 12240/08 | FOOTWAY | 0    | 178  | 347519 | 754996 | 2 - Left Footway                               |
| A90 | 12240/08 | FOOTWAY | 1162 | 1318 | 346573 | 754506 | 2 - Left Footway                               |
| A90 | 12240/08 | FOOTWAY | 1162 | 1319 | 346573 | 754505 | Y - Other                                      |
| A90 | 12240/18 | FOOTWAY | 0    | 180  | 347397 | 754955 | 2 - Left Footway                               |
| A90 | 12240/19 | FOOTWAY | 0    | 98   | 348779 | 756119 | 1 - Left Outside Verge (including side slopes) |
| A90 | 12240/19 | FOOTWAY | 235  | 266  | 348615 | 755979 | 2 - Left Footway                               |
| A90 | 12240/33 | FOOTWAY | 0    | 559  | 349167 | 757037 | 2 - Left Footway                               |
| A90 | 12240/33 | FOOTWAY | 605  | 658  | 349550 | 757439 | 3 - Left Verge                                 |
| A90 | 12240/34 | FOOTWAY | 0    | 390  | 349575 | 757416 | 2 - Left Footway                               |
| A90 | 12240/34 | FOOTWAY | 593  | 742  | 349197 | 757024 | 2 - Left Footway                               |
| A90 | 12240/53 | FOOTWAY | 0    | 65   | 352431 | 758664 | 2 - Left Footway                               |
| A90 | 12240/54 | FOOTWAY | 0    | 49   | 352467 | 758640 | 2 - Left Footway                               |
| A90 | 12240/71 | FOOTWAY | 0    | 14   | 354499 | 759386 | 3 - Left Verge                                 |
| A90 | 12240/71 | FOOTWAY | 183  | 249  | 354338 | 759338 | 2 - Left Footway                               |
| A90 | 12250/70 | FOOTWAY | 0    | 7    | 363079 | 764935 | 2 - Left Footway                               |
| A90 | 12270/04 | FOOTWAY | 0    | 135  | 366211 | 767058 | 2 - Left Footway                               |
| A90 | 12270/04 | FOOTWAY | 1262 | 1356 | 365314 | 766329 | 2 - Left Footway                               |
| A90 | 12270/04 | FOOTWAY | 1490 | 1557 | 365147 | 766202 | 2 - Left Footway                               |

|     |          |         |      |      |        |        |                   |
|-----|----------|---------|------|------|--------|--------|-------------------|
| A90 | 12270/91 | FOOTWAY | 0    | 72   | 367132 | 767802 | 2 - Left Footway  |
| A90 | 12270/91 | FOOTWAY | 0    | 72   | 365076 | 766173 | 2 - Left Footway  |
| A90 | 12270/91 | FOOTWAY | 214  | 428  | 365227 | 766299 | 2 - Left Footway  |
| A90 | 12270/91 | FOOTWAY | 1283 | 1481 | 365989 | 766915 | 2 - Left Footway  |
| A90 | 12270/91 | FOOTWAY | 3975 | 4009 | 370083 | 769933 | 2 - Left Footway  |
| A90 | 12270/92 | FOOTWAY | 0    | 66   | 367928 | 768392 | 2 - Left Footway  |
| A90 | 12270/92 | FOOTWAY | 1079 | 1187 | 367159 | 767771 | 2 - Left Footway  |
| A90 | 12272/06 | FOOTWAY | 0    | 6    | 372047 | 770923 | 2 - Left Footway  |
| A90 | 12276/12 | FOOTWAY | 0    | 286  | 375108 | 775679 | 2 - Left Footway  |
| A90 | 12276/71 | FOOTWAY | 0    | 22   | 379572 | 780132 | 2 - Left Footway  |
| A90 | 12347/37 | FOOTWAY | 0    | 47   | 387328 | 787244 | 2 - Left Footway  |
| A90 | 12347/37 | FOOTWAY | 762  | 856  | 386630 | 787208 | 2 - Left Footway  |
| A90 | 12357/14 | FOOTWAY | 0    | 3665 | 389954 | 792428 | 2 - Left Footway  |
| A90 | 12357/28 | FOOTWAY | 0    | 30   | 389933 | 792503 | 2 - Left Footway  |
| A90 | 12357/32 | FOOTWAY | 0    | 1222 | 390481 | 793420 | 2 - Left Footway  |
| A90 | 12357/37 | FOOTWAY | 0    | 51   | 390377 | 793358 | 2 - Left Footway  |
| A90 | 12357/37 | FOOTWAY | 1671 | 1736 | 390858 | 794809 | 2 - Left Footway  |
| A90 | 12357/55 | FOOTWAY | 0    | 568  | 391831 | 797230 | 2 - Left Footway  |
| A90 | 12357/55 | FOOTWAY | 695  | 4424 | 391330 | 796836 | 2 - Left Footway  |
| A90 | 12359/50 | FOOTWAY | 0    | 799  | 393015 | 801750 | 2 - Left Footway  |
| A90 | 12387/15 | FOOTWAY | 0    | 96   | 397472 | 830328 | 2 - Left Footway  |
| A90 | 12390/02 | FOOTWAY | 0    | 3    | 397829 | 830775 | 8 - Right Verge   |
| A90 | 12405/22 | FOOTWAY | 0    | 60   | 405415 | 836907 | 2 - Left Footway  |
| A90 | 12405/22 | FOOTWAY | 0    | 69   | 405397 | 836876 | 9 - Right Footway |
| A90 | 12405/55 | FOOTWAY | 0    | 780  | 405999 | 837269 | 9 - Right Footway |
| A90 | 12405/55 | FOOTWAY | 0    | 89   | 406797 | 837340 | 2 - Left Footway  |
| A90 | 12405/55 | FOOTWAY | 781  | 780  | 406715 | 837318 | 2 - Left Footway  |
| A90 | 12405/73 | FOOTWAY | 0    | 120  | 410492 | 839379 | 2 - Left Footway  |
| A90 | 12410/00 | FOOTWAY | 0    | 38   | 411043 | 839722 | 9 - Right Footway |
| A90 | 12410/00 | FOOTWAY | 0    | 305  | 412782 | 842207 | 2 - Left Footway  |
| A90 | 12410/00 | FOOTWAY | 425  | 586  | 412880 | 841830 | 2 - Left Footway  |
| A90 | 12410/00 | FOOTWAY | 1131 | 1167 | 412769 | 841171 | 2 - Left Footway  |
| A90 | 12410/00 | FOOTWAY | 3264 | 3337 | 412806 | 842133 | 9 - Right Footway |
| A90 | 12410/00 | FOOTWAY | 3542 | 3974 | 410873 | 839587 | 2 - Left Footway  |
| A90 | 12410/66 | FOOTWAY | 0    | 2130 | 412768 | 842256 | 9 - Right Footway |
| A90 | 12410/66 | FOOTWAY | 0    | 12   | 411921 | 844021 | 2 - Left Footway  |
| A90 | 12410/66 | FOOTWAY | 612  | 2125 | 412004 | 843466 | 2 - Left Footway  |
| A90 | 12410/95 | FOOTWAY | 0    | 13   | 411967 | 844040 | 2 - Left Footway  |
| A90 | 12410/95 | FOOTWAY | 55   | 68   | 411918 | 844021 | 2 - Left Footway  |
| A90 | 12421/05 | FOOTWAY | 0    | 375  | 411108 | 848001 | 9 - Right Footway |
| A90 | 12421/05 | FOOTWAY | 0    | 25   | 410574 | 846786 | 9 - Right Footway |
| A90 | 12421/05 | FOOTWAY | 1457 | 1423 | 411094 | 848014 | 2 - Left Footway  |
| A90 | 12430/29 | FOOTWAY | 0    | 392  | 409760 | 852205 | 2 - Left Footway  |
| A90 | 12430/29 | FOOTWAY | 0    | 212  | 409949 | 851922 | 9 - Right Footway |
| A90 | 12430/85 | FOOTWAY | 0    | 83   | 401293 | 859064 | 2 - Left Footway  |
| A90 | 12430/85 | FOOTWAY | 0    | 56   | 402326 | 858414 | 9 - Right Footway |
| A90 | 12430/85 | FOOTWAY | 366  | 1329 | 402083 | 858645 | 9 - Right Footway |

|     |          |         |      |      |        |         |                                     |
|-----|----------|---------|------|------|--------|---------|-------------------------------------|
| A90 | 12435/36 | FOOTWAY | 0    | 1305 | 399632 | 864165  | 9 - Right Footway                   |
| A90 | 12435/36 | FOOTWAY | 0    | 1300 | 399786 | 865347  | 2 - Left Footway                    |
| A90 | 12435/90 | FOOTWAY | 0    | 6    | 399785 | 865353  | 2 - Left Footway                    |
| A96 | 12607/75 | FOOTWAY | 0    | 462  | 327949 | 860943  | 9 - Right Footway                   |
| A96 | 12612/05 | FOOTWAY | 0    | 601  | 326309 | 861364  | 9 - Right Footway                   |
| A96 | 12612/35 | FOOTWAY | 602  | 819  | 325782 | 861523  | 9 - Right Footway                   |
| A96 | 12612/35 | FOOTWAY | 800  | 751  | 325604 | 861561  | 2 - Left Footway                    |
| A96 | 12612/43 | FOOTWAY | 0    | 157  | 324256 | 862132  | 2 - Left Footway                    |
| A96 | 12612/43 | FOOTWAY | 0    | 95   | 324401 | 862083  | 9 - Right Footway                   |
| A96 | 12612/43 | FOOTWAY | 0    | 15   | 323902 | 862326  | 9 - Right Footway                   |
| A96 | 12625/00 | FOOTWAY | 457  | 484  | 320202 | 862685  | 2 - Left Footway                    |
| A96 | 12625/00 | FOOTWAY | 3725 | 4005 | 316835 | 863099  | 9 - Right Footway                   |
| A96 | 12625/77 | FOOTWAY | 0    | 12   | 306409 | 859896  | 9 - Right Footway                   |
| A96 | 12625/88 | FOOTWAY | 0    | 33   | 306409 | 859870  | 2 - Left Footway                    |
| A96 | 12625/88 | FOOTWAY | 0    | 19   | 306364 | 859880  | 2 - Left Footway                    |
| A96 | 12625/88 | FOOTWAY | 0    | 0    | 306354 | 859883  | 2 - Left Footway                    |
| A96 | 12625/88 | FOOTWAY | 2    | 6    | 306357 | 859883  | 9 - Right Footway                   |
| A96 | 12625/92 | FOOTWAY | 1362 | 26   | 305145 | 859570  | 2 - Left Footway                    |
| A96 | 12632/20 | FOOTWAY | 0    | 24   | 304406 | 859598  | 9 - Right Footway                   |
| A96 | 12632/20 | FOOTWAY | 0    | 55   | 304723 | 859572  | 2 - Left Footway                    |
| A96 | 12632/40 | FOOTWAY | 0    | 235  | 303248 | 859038  | 3 - Left Verge                      |
| A96 | 12632/50 | FOOTWAY | 0    | 0    | 622675 | 5527598 | 2 - Left Footway                    |
| A96 | 12632/60 | FOOTWAY | 0    | 251  | 302726 | 858710  | 9 - Right Footway                   |
| A96 | 12632/60 | FOOTWAY | 0    | 29   | 302728 | 858708  | 2 - Left Footway                    |
| A96 | 12632/90 | FOOTWAY | 0    | 36   | 302715 | 858666  | 2 - Left Footway                    |
| A96 | 12632/90 | FOOTWAY | 43   | 8    | 302708 | 858706  | 2 - Left Footway                    |
| A96 | 12640/05 | FOOTWAY | 0    | 236  | 302512 | 858598  | 9 - Right Footway                   |
| A96 | 12640/05 | FOOTWAY | 0    | 670  | 301105 | 858113  | 2 - Left Footway                    |
| A96 | 12640/05 | FOOTWAY | 375  | 1722 | 302177 | 858518  | 9 - Right Footway                   |
| A96 | 12640/05 | FOOTWAY | 1624 | 1852 | 302515 | 858587  | 2 - Left Footway                    |
| A96 | 12640/25 | FOOTWAY | 0    | 1334 | 300955 | 858157  | 9 - Right Footway                   |
| A96 | 12640/25 | FOOTWAY | 1537 | 1545 | 299720 | 857481  | 9 - Right Footway                   |
| A96 | 12640/25 | FOOTWAY | 2442 | 2536 | 298856 | 857382  | 9 - Right Footway                   |
| A96 | 12640/58 | FOOTWAY | 0    | 296  | 297856 | 857181  | 2 - Left Footway                    |
| A96 | 12640/58 | FOOTWAY | 0    | 63   | 298769 | 857338  | 9 - Right Footway                   |
| A96 | 12640/58 | FOOTWAY | 830  | 1072 | 298026 | 857176  | 9 - Right Footway                   |
| A96 | 12640/58 | FOOTWAY | 918  | 1073 | 298694 | 857272  | 2 - Left Footway                    |
| A96 | 12640/80 | FOOTWAY | 0    | 178  | 297787 | 857182  | 9 - Right Footway                   |
| A96 | 12668/07 | FOOTWAY | 0    | 38   | 292582 | 855467  | 2 - Left Footway                    |
| A96 | 12668/07 | FOOTWAY | 0    | 50   | 294846 | 856128  | 7 - Lane 4 (right lane on motorway) |
| A96 | 12668/07 | FOOTWAY | 2536 | 2548 | 292618 | 855468  | 9 - Right Footway                   |
| A96 | 12675/60 | FOOTWAY | 0    | 59   | 281241 | 852968  | 2 - Left Footway                    |
| A96 | 12675/60 | FOOTWAY | 0    | 77   | 281931 | 853424  | 9 - Right Footway                   |
| A96 | 12675/60 | FOOTWAY | 772  | 861  | 281329 | 853053  | 9 - Right Footway                   |
| A96 | 12675/80 | FOOTWAY | 0    | 89   | 281146 | 852906  | 2 - Left Footway                    |
| A96 | 12675/80 | FOOTWAY | 0    | 41   | 280255 | 852364  | 9 - Right Footway                   |

|     |          |         |      |      |        |        |                                     |
|-----|----------|---------|------|------|--------|--------|-------------------------------------|
| A96 | 12680/10 | FOOTWAY | 0    | 95   | 280220 | 852340 | 9 - Right Footway                   |
| A96 | 12680/10 | FOOTWAY | 3020 | 3039 | 277491 | 850799 | 2 - Left Footway                    |
| A96 | 12680/10 | FOOTWAY | 3020 | 3038 | 275128 | 849178 | 2 - Left Footway                    |
| A96 | 12680/10 | FOOTWAY | 3020 | 3191 | 277390 | 850752 | 9 - Right Footway                   |
| A96 | 12680/10 | FOOTWAY | 3020 | 3024 | 277447 | 850816 | 2 - Left Footway                    |
| A96 | 12680/60 | FOOTWAY | 737  | 1022 | 276716 | 850210 | 9 - Right Footway                   |
| A96 | 12680/60 | FOOTWAY | 1529 | 1626 | 276174 | 849729 | 9 - Right Footway                   |
| A96 | 12680/60 | FOOTWAY | 1539 | 1694 | 276535 | 849940 | 2 - Left Footway                    |
| A96 | 12680/60 | FOOTWAY | 2780 | 2816 | 275132 | 849208 | 9 - Right Footway                   |
| A96 | 12680/60 | FOOTWAY | 2814 | 2847 | 277408 | 850746 | 2 - Left Footway                    |
| A96 | 12680/60 | FOOTWAY | 3202 | 3215 | 277491 | 850822 | 9 - Right Footway                   |
| A96 | 12685/10 | FOOTWAY | 0    | 649  | 270166 | 846229 | 9 - Right Footway                   |
| A96 | 12685/10 | FOOTWAY | 0    | 701  | 269657 | 845918 | 2 - Left Footway                    |
| A96 | 12685/10 | FOOTWAY | 0    | 50   | 269645 | 845935 | 9 - Right Footway                   |
| A96 | 12685/10 | FOOTWAY | 0    | 1023 | 270980 | 847006 | 9 - Right Footway                   |
| A96 | 12685/85 | FOOTWAY | 0    | 807  | 269443 | 845823 | 2 - Left Footway                    |
| A96 | 12685/85 | FOOTWAY | 0    | 29   | 269449 | 845827 | 2 - Left Footway                    |
| A96 | 12685/85 | FOOTWAY | 0    | 182  | 269496 | 845857 | 9 - Right Footway                   |
| A96 | 12685/85 | FOOTWAY | 0    | 33   | 269494 | 845846 | 2 - Left Footway                    |
| A96 | 12685/85 | FOOTWAY | 8    | 2    | 269454 | 845820 | 2 - Left Footway                    |
| A96 | 12685/85 | FOOTWAY | 64   | 29   | 269496 | 845864 | 2 - Left Footway                    |
| A96 | 12685/92 | FOOTWAY | 0    | 86   | 268713 | 845672 | 2 - Left Footway                    |
| A96 | 12685/92 | FOOTWAY | 0    | 9    | 268722 | 845672 | 7 - Lane 4 (right lane on motorway) |
| A92 | 14802/05 | FOOTWAY | 0    | 63   | 313158 | 688481 | 2 - Left Footway                    |
| A92 | 14802/05 | FOOTWAY | 1    | 63   | 313157 | 688480 | 9 - Right Footway                   |
| A92 | 14802/05 | FOOTWAY | 98   | 143  | 313069 | 688462 | 2 - Left Footway                    |
| A92 | 14802/05 | FOOTWAY | 164  | 150  | 313038 | 688573 | 2 - Left Footway                    |
| A92 | 14802/05 | FOOTWAY | 165  | 149  | 313038 | 688573 | 9 - Right Footway                   |
| A92 | 14802/55 | FOOTWAY | 0    | 57   | 313416 | 688671 | 2 - Left Footway                    |
| A92 | 14802/55 | FOOTWAY | 370  | 399  | 313711 | 688840 | 2 - Left Footway                    |
| A92 | 14802/56 | FOOTWAY | 0    | 13   | 313724 | 688793 | 2 - Left Footway                    |
| A92 | 14802/56 | FOOTWAY | 355  | 405  | 313432 | 688647 | 2 - Left Footway                    |
| A92 | 14802/92 | FOOTWAY | 0    | 49   | 313752 | 688769 | 2 - Left Footway                    |
| A92 | 14802/92 | FOOTWAY | 80   | 97   | 313739 | 688843 | Y - Other                           |
| A92 | 14802/92 | FOOTWAY | 90   | 180  | 313733 | 688850 | 2 - Left Footway                    |
| A92 | 14802/92 | FOOTWAY | 168  | 178  | 313842 | 688895 | 9 - Right Footway                   |
| A92 | 14802/92 | FOOTWAY | 171  | 3    | 313894 | 688837 | 2 - Left Footway                    |
| A92 | 14804/55 | FOOTWAY | 0    | 127  | 313723 | 688844 | 2 - Left Footway                    |
| A92 | 14804/55 | FOOTWAY | 130  | 136  | 313818 | 688916 | 2 - Left Footway                    |
| A92 | 14804/56 | FOOTWAY | 0    | 14   | 313903 | 688846 | 2 - Left Footway                    |
| A92 | 14806/08 | FOOTWAY | 0    | 15   | 316963 | 690935 | 2 - Left Footway                    |
| A92 | 14806/08 | FOOTWAY | 0    | 15   | 316963 | 690935 | 9 - Right Footway                   |
| A92 | 14806/93 | FOOTWAY | 0    | 21   | 319918 | 693003 | 2 - Left Footway                    |
| A92 | 14806/93 | FOOTWAY | 1    | 22   | 319917 | 693004 | 9 - Right Footway                   |
| A92 | 14806/98 | FOOTWAY | 0    | 9    | 319945 | 692890 | 2 - Left Footway                    |
| A92 | 14808/31 | FOOTWAY | 0    | 25   | 320984 | 693242 | 2 - Left Footway                    |
| A92 | 14808/51 | FOOTWAY | 0    | 194  | 322638 | 693925 | 2 - Left Footway                    |

|     |          |         |      |      |        |        |                   |
|-----|----------|---------|------|------|--------|--------|-------------------|
| A92 | 14808/52 | FOOTWAY | 0    | 192  | 322483 | 693847 | 2 - Left Footway  |
| A92 | 14808/95 | FOOTWAY | 0    | 12   | 324846 | 694641 | 2 - Left Footway  |
| A92 | 14808/96 | FOOTWAY | 0    | 18   | 324889 | 694536 | 2 - Left Footway  |
| A92 | 14810/32 | FOOTWAY | 0    | 73   | 326339 | 695095 | 2 - Left Footway  |
| A92 | 14810/33 | FOOTWAY | 0    | 78   | 326405 | 695077 | 2 - Left Footway  |
| A92 | 14810/54 | FOOTWAY | 0    | 4    | 329190 | 695252 | 2 - Left Footway  |
| A92 | 14810/54 | FOOTWAY | 7    | 6    | 329195 | 695257 | 2 - Left Footway  |
| A92 | 14810/55 | FOOTWAY | 0    | 10   | 329216 | 695213 | 2 - Left Footway  |
| A92 | 14830/00 | FOOTWAY | 0    | 85   | 329207 | 695219 | 2 - Left Footway  |
| A92 | 14830/50 | FOOTWAY | 0    | 41   | 329448 | 697785 | 2 - Left Footway  |
| A92 | 14830/50 | FOOTWAY | 511  | 562  | 329489 | 697319 | 2 - Left Footway  |
| A92 | 14830/51 | FOOTWAY | 0    | 64   | 329485 | 697281 | 2 - Left Footway  |
| A92 | 14830/51 | FOOTWAY | 515  | 561  | 329467 | 697753 | 2 - Left Footway  |
| A92 | 14830/86 | FOOTWAY | 0    | 69   | 328811 | 699298 | 2 - Left Footway  |
| A92 | 14830/87 | FOOTWAY | 0    | 68   | 328928 | 699360 | 2 - Left Footway  |
| A92 | 14845/03 | FOOTWAY | 0    | 1    | 328788 | 699297 | 2 - Left Footway  |
| A92 | 14845/10 | FOOTWAY | 0    | 56   | 328744 | 699459 | 2 - Left Footway  |
| A92 | 14845/11 | FOOTWAY | 0    | 89   | 328860 | 699457 | 2 - Left Footway  |
| A92 | 14865/37 | FOOTWAY | 0    | 22   | 328481 | 703020 | 2 - Left Footway  |
| A92 | 14865/72 | FOOTWAY | 0    | 31   | 328510 | 703750 | 9 - Right Footway |
| A92 | 14875/06 | FOOTWAY | 0    | 763  | 328731 | 706532 | 2 - Left Footway  |
| A92 | 14875/45 | FOOTWAY | 0    | 50   | 329798 | 710089 | 9 - Right Footway |
| A92 | 14880/05 | FOOTWAY | 0    | 629  | 331099 | 714128 | 2 - Left Footway  |
| A92 | 14880/28 | FOOTWAY | 0    | 48   | 331132 | 714178 | 2 - Left Footway  |
| A92 | 14880/28 | FOOTWAY | 0    | 796  | 331122 | 714147 | 9 - Right Footway |
| A92 | 14885/46 | FOOTWAY | 0    | 95   | 336565 | 720982 | 9 - Right Footway |
| A92 | 14885/53 | FOOTWAY | 0    | 60   | 337954 | 721795 | 9 - Right Footway |
| A92 | 14885/53 | FOOTWAY | 8    | 45   | 337958 | 721787 | 2 - Left Footway  |
| A92 | 14885/90 | FOOTWAY | 0    | 3    | 341142 | 724200 | 2 - Left Footway  |
| A92 | 14885/90 | FOOTWAY | 4    | 40   | 341145 | 724197 | 9 - Right Footway |
| A92 | 14895/05 | FOOTWAY | 0    | 27   | 342575 | 726711 | 2 - Left Footway  |
| A92 | 14895/05 | FOOTWAY | 47   | 7    | 342537 | 726732 | 2 - Left Footway  |
| A92 | 14895/05 | FOOTWAY | 63   | 59   | 342518 | 726721 | 2 - Left Footway  |
| A92 | 14895/10 | FOOTWAY | 0    | 21   | 342538 | 726885 | 2 - Left Footway  |
| A92 | 14895/10 | FOOTWAY | 153  | 161  | 342536 | 726743 | 2 - Left Footway  |
| A92 | 14895/11 | FOOTWAY | 0    | 19   | 342574 | 726714 | 2 - Left Footway  |
| A92 | 14895/11 | FOOTWAY | 223  | 232  | 342560 | 726918 | 2 - Left Footway  |
| M90 | 15526/12 | FOOTWAY | 0    | 39   | 312707 | 698599 | 2 - Left Footway  |
| M90 | 15526/56 | FOOTWAY | 0    | 51   | 311810 | 701150 | 2 - Left Footway  |
| M90 | 15526/56 | FOOTWAY | 2905 | 2946 | 312713 | 698650 | 2 - Left Footway  |
| M90 | 15526/94 | FOOTWAY | 0    | 17   | 311083 | 702630 | 2 - Left Footway  |
| M90 | 15527/21 | FOOTWAY | 0    | 15   | 310929 | 702750 | 2 - Left Footway  |
| M90 | 15527/60 | FOOTWAY | 15   | 6    | 311046 | 702771 | 2 - Left Footway  |
| M90 | 15527/60 | FOOTWAY | 17   | 6    | 311045 | 702773 | 9 - Right Footway |
| M90 | 15528/16 | FOOTWAY | 0    | 30   | 311139 | 704529 | 2 - Left Footway  |
| M90 | 15528/16 | FOOTWAY | 1    | 30   | 311140 | 704530 | 9 - Right Footway |
| M90 | 15530/96 | FOOTWAY | 0    | 37   | 313703 | 717557 | 2 - Left Footway  |



|     |          |         |      |      |        |        |                   |
|-----|----------|---------|------|------|--------|--------|-------------------|
| M90 | 15530/98 | FOOTWAY | 0    | 176  | 313730 | 717573 | 2 - Left Footway  |
| M90 | 15535/49 | FOOTWAY | 0    | 139  | 313749 | 718416 | 2 - Left Footway  |
| M90 | 15535/88 | FOOTWAY | 0    | 110  | 312260 | 720820 | 2 - Left Footway  |
| M90 | 15535/88 | FOOTWAY | 0    | 124  | 312260 | 720820 | 9 - Right Footway |
| M90 | 15535/89 | FOOTWAY | 0    | 92   | 312185 | 720524 | 2 - Left Footway  |
| M90 | 15535/89 | FOOTWAY | 4    | 92   | 312188 | 720521 | 9 - Right Footway |
| M90 | 15540/05 | FOOTWAY | 0    | 114  | 312091 | 720553 | 2 - Left Footway  |
| M90 | 15540/11 | FOOTWAY | 0    | 51   | 309465 | 722229 | 2 - Left Footway  |
| M90 | 15540/51 | FOOTWAY | 0    | 54   | 309448 | 722273 | 2 - Left Footway  |
| M90 | 16005/00 | FOOTWAY | 0    | 103  | 314112 | 706379 | 9 - Right Footway |
| M90 | 16005/00 | FOOTWAY | 14   | 115  | 314123 | 706387 | 2 - Left Footway  |
| M90 | 16005/00 | FOOTWAY | 321  | 378  | 314406 | 706343 | 2 - Left Footway  |
| M90 | 16005/44 | FOOTWAY | 0    | 366  | 314814 | 706603 | 2 - Left Footway  |
| A96 | 17614/30 | FOOTWAY | 0    | 65   | 387976 | 810667 | 2 - Left Footway  |
| A96 | 17614/30 | FOOTWAY | 47   | 24   | 387994 | 810706 | 2 - Left Footway  |
| A96 | 17614/40 | FOOTWAY | 0    | 120  | 387929 | 810693 | 2 - Left Footway  |
| A96 | 17614/40 | FOOTWAY | 1648 | 1779 | 386514 | 811222 | 2 - Left Footway  |
| A96 | 17614/41 | FOOTWAY | 0    | 216  | 386511 | 811245 | 2 - Left Footway  |
| A96 | 17614/41 | FOOTWAY | 1194 | 1356 | 387573 | 810981 | 2 - Left Footway  |
| A96 | 17618/05 | FOOTWAY | 0    | 6    | 383135 | 812297 | 9 - Right Footway |
| A96 | 17618/05 | FOOTWAY | 51   | 16   | 383090 | 812282 | 2 - Left Footway  |
| A96 | 17618/05 | FOOTWAY | 71   | 64   | 383098 | 812242 | 2 - Left Footway  |
| A96 | 17618/20 | FOOTWAY | 0    | 25   | 383082 | 812252 | 2 - Left Footway  |
| A96 | 17618/20 | FOOTWAY | 331  | 425  | 382786 | 812320 | 2 - Left Footway  |
| A96 | 17618/21 | FOOTWAY | 0    | 25   | 383070 | 812288 | 2 - Left Footway  |
| A96 | 17618/50 | FOOTWAY | 0    | 5    | 381630 | 812641 | 9 - Right Footway |
| A96 | 17618/70 | FOOTWAY | 0    | 53   | 379405 | 813875 | 2 - Left Footway  |
| A96 | 17618/90 | FOOTWAY | 0    | 4    | 379100 | 814239 | 9 - Right Footway |
| A96 | 17618/90 | FOOTWAY | 41   | 19   | 379070 | 814263 | 2 - Left Footway  |
| A96 | 17618/90 | FOOTWAY | 61   | 53   | 379044 | 814228 | 2 - Left Footway  |
| A96 | 17622/10 | FOOTWAY | 0    | 25   | 379043 | 814246 | 2 - Left Footway  |
| A96 | 17622/31 | FOOTWAY | 0    | 3    | 378535 | 815240 | 9 - Right Footway |
| A96 | 17622/31 | FOOTWAY | 1    | 3    | 378536 | 815238 | 2 - Left Footway  |
| A96 | 17622/50 | FOOTWAY | 0    | 48   | 378392 | 815937 | 2 - Left Footway  |
| A96 | 17623/10 | FOOTWAY | 0    | 5    | 378700 | 816957 | 2 - Left Footway  |
| A96 | 17623/10 | FOOTWAY | 0    | 5    | 378700 | 816957 | 8 - Right Verge   |
| A96 | 17623/11 | FOOTWAY | 0    | 15   | 378785 | 816952 | 2 - Left Footway  |
| A96 | 17623/11 | FOOTWAY | 10   | 12   | 378789 | 816961 | 9 - Right Footway |
| A96 | 17623/20 | FOOTWAY | 0    | 45   | 378729 | 816961 | 2 - Left Footway  |
| A96 | 17623/21 | FOOTWAY | 0    | 132  | 378398 | 817824 | 2 - Left Footway  |
| A96 | 17623/90 | FOOTWAY | 0    | 1145 | 378480 | 817689 | 2 - Left Footway  |
| A96 | 17623/91 | FOOTWAY | 0    | 109  | 377899 | 818529 | 2 - Left Footway  |
| A96 | 17623/91 | FOOTWAY | 828  | 941  | 378333 | 817906 | 2 - Left Footway  |
| A96 | 17625/50 | FOOTWAY | 0    | 38   | 377847 | 818536 | 2 - Left Footway  |
| A96 | 17625/50 | FOOTWAY | 0    | 4    | 377846 | 818536 | 9 - Right Footway |
| A96 | 17625/50 | FOOTWAY | 8    | 4    | 377853 | 818530 | 2 - Left Footway  |
| A96 | 17625/70 | FOOTWAY | 0    | 87   | 377679 | 819247 | 2 - Left Footway  |






|     |          |         |      |      |        |        |                   |
|-----|----------|---------|------|------|--------|--------|-------------------|
| A96 | 17625/75 | FOOTWAY | 0    | 851  | 377705 | 819357 | 2 - Left Footway  |
| A96 | 17625/90 | FOOTWAY | 0    | 7    | 377716 | 819722 | 2 - Left Footway  |
| A96 | 17632/05 | FOOTWAY | 0    | 182  | 377169 | 820556 | 2 - Left Footway  |
| A96 | 17632/05 | FOOTWAY | 0    | 181  | 377295 | 820445 | 9 - Right Footway |
| A96 | 17632/90 | FOOTWAY | 0    | 27   | 376091 | 821628 | 9 - Right Footway |
| A96 | 17632/90 | FOOTWAY | 0    | 24   | 376056 | 821656 | 2 - Left Footway  |
| A96 | 17635/05 | FOOTWAY | 0    | 7    | 374019 | 823923 | 9 - Right Footway |
| A96 | 17635/33 | FOOTWAY | 0    | 55   | 372268 | 825680 | 2 - Left Footway  |
| A96 | 17635/33 | FOOTWAY | 0    | 142  | 372296 | 825708 | 9 - Right Footway |
| A96 | 17635/33 | FOOTWAY | 3203 | 3263 | 369361 | 825680 | 9 - Right Footway |
| A96 | 17635/50 | FOOTWAY | 0    | 343  | 367125 | 828202 | 9 - Right Footway |
| A96 | 17640/60 | FOOTWAY | 0    | 184  | 357404 | 835981 | Y - Other         |
| A96 | 17640/60 | FOOTWAY | 0    | 108  | 357463 | 835824 | Y - Other         |
| A96 | 17644/00 | FOOTWAY | 0    | 212  | 354106 | 839166 | 9 - Right Footway |
| A96 | 17649/00 | FOOTWAY | 0    | 304  | 353463 | 839258 | 9 - Right Footway |
| A96 | 17649/53 | FOOTWAY | 0    | 25   | 353039 | 839256 | 9 - Right Footway |
| A96 | 17649/53 | FOOTWAY | 0    | 32   | 353008 | 839256 | 2 - Left Footway  |
| A96 | 17649/53 | FOOTWAY | 34   | 9    | 353007 | 839252 | 2 - Left Footway  |
| A96 | 17654/14 | FOOTWAY | 0    | 37   | 352366 | 839309 | 9 - Right Footway |
| A96 | 17658/04 | FOOTWAY | 0    | 3    | 351556 | 840750 | 9 - Right Footway |
| A96 | 17658/04 | FOOTWAY | 0    | 50   | 351520 | 840781 | 3 - Left Verge    |
| A96 | 17658/04 | FOOTWAY | 9    | 47   | 351560 | 840742 | 9 - Right Footway |
| A96 | 17658/60 | FOOTWAY | 0    | 49   | 347243 | 845270 | 9 - Right Footway |
| A96 | 17658/60 | FOOTWAY | 0    | 85   | 346941 | 845435 | 2 - Left Footway  |
| A96 | 17658/60 | FOOTWAY | 372  | 381  | 346951 | 845448 | 9 - Right Footway |
| A96 | 17658/60 | FOOTWAY | 377  | 421  | 347237 | 845256 | 2 - Left Footway  |
| A96 | 17658/73 | FOOTWAY | 0    | 36   | 346946 | 845451 | 9 - Right Footway |
| A96 | 17658/73 | FOOTWAY | 0    | 145  | 345960 | 845849 | 2 - Left Footway  |
| A96 | 17658/73 | FOOTWAY | 944  | 1018 | 346155 | 845804 | 9 - Right Footway |
| A96 | 17661/00 | FOOTWAY | 0    | 133  | 343795 | 849286 | 9 - Right Footway |
| A96 | 17675/00 | FOOTWAY | 0    | 20   | 341822 | 851076 | 9 - Right Footway |
| A96 | 17675/20 | FOOTWAY | 0    | 10   | 340171 | 852351 | 9 - Right Footway |
| A96 | 17675/20 | FOOTWAY | 6    | 8    | 340164 | 852349 | 2 - Left Footway  |
| A96 | 17675/20 | FOOTWAY | 1120 | 1127 | 339574 | 853186 | 9 - Right Footway |
| A96 | 17675/20 | FOOTWAY | 1131 | 1117 | 339561 | 853190 | 2 - Left Footway  |
| A96 | 17675/60 | FOOTWAY | 1980 | 1998 | 335051 | 858179 | 2 - Left Footway  |

### **WSP 13 (contiunued) - Footway Treatments (Maps)**

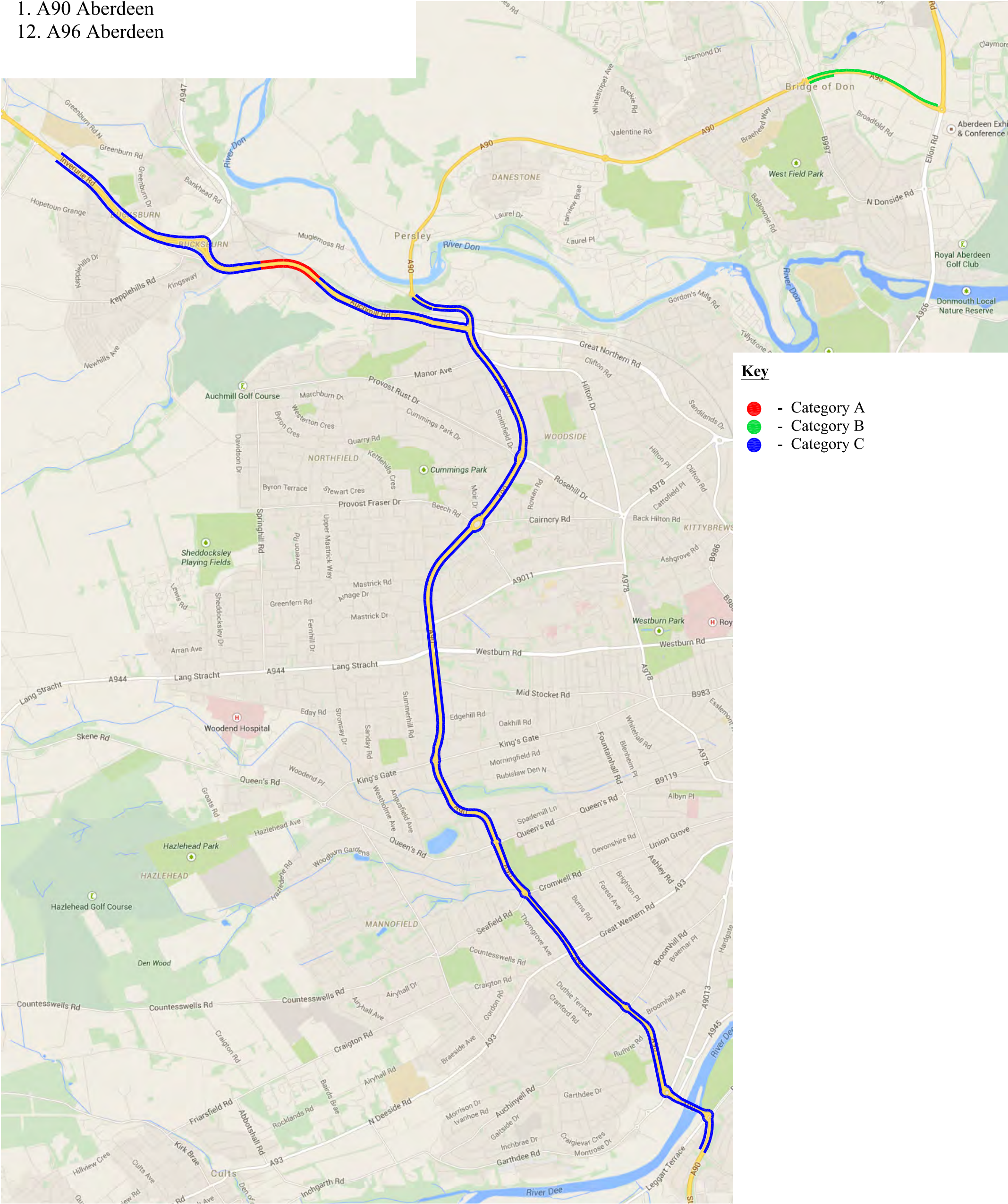
- 1 & 12 - A90 & A96 Aberdeen
- 2 - A90 Crimond
- 3, 5 & 6 - A90, A92 & A972 Dundee
- 4 – A90 Fraserburgh
- 7 – A92 Glenrothes
- 8 – A92 Freuchie
- 9 – A95 Aberlour
- 10 – A95 Craigellachie
- 11 – A95 Cromdale
- 13 – A96 Keith
- 14 – A96 Elgin
- 15 – A96 Nairn
- 16 – A96 Alves

#### **Key**

-  - Category A
-  - Category B
-  - Category C

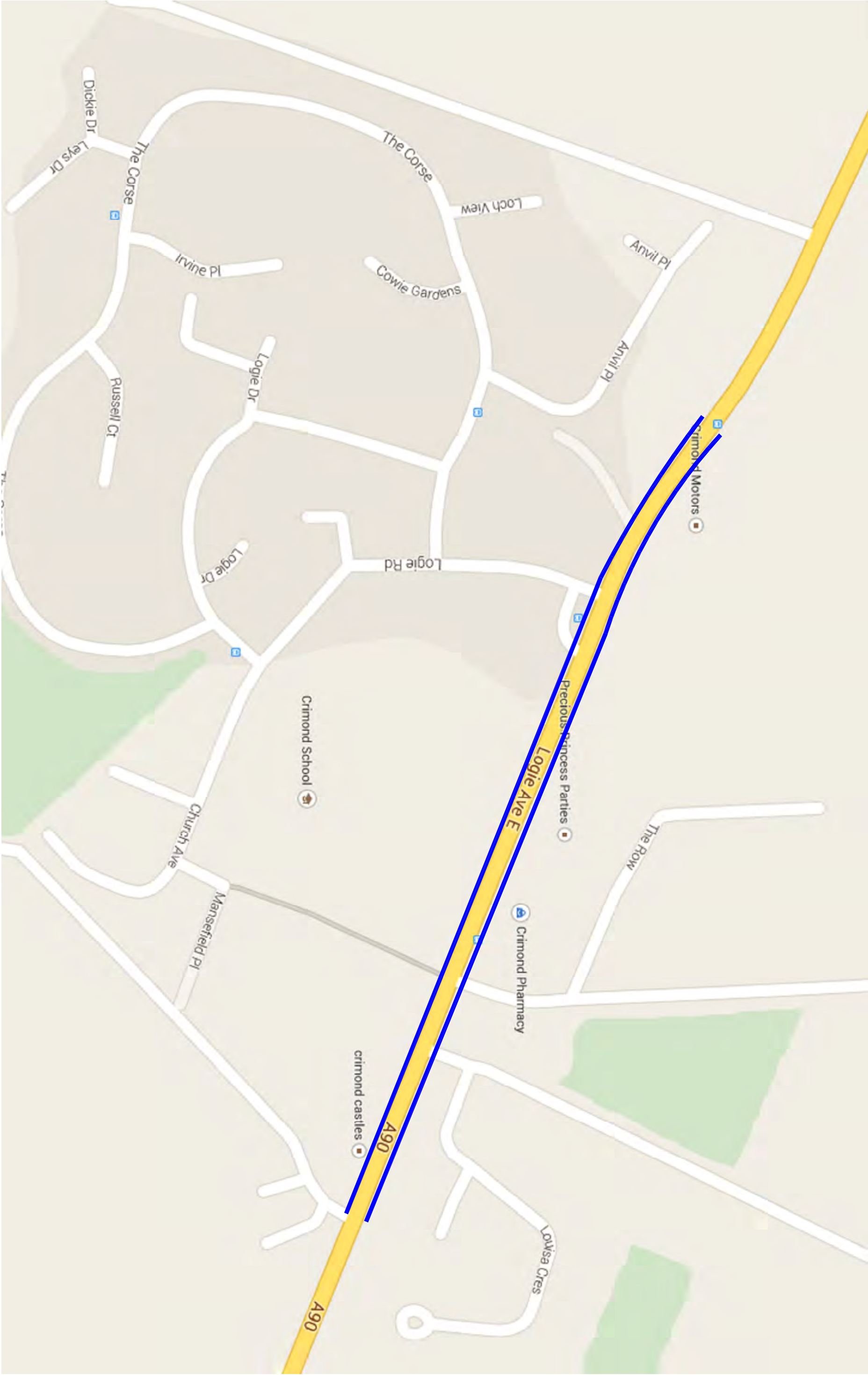


1. A90 Aberdeen
12. A96 Aberdeen

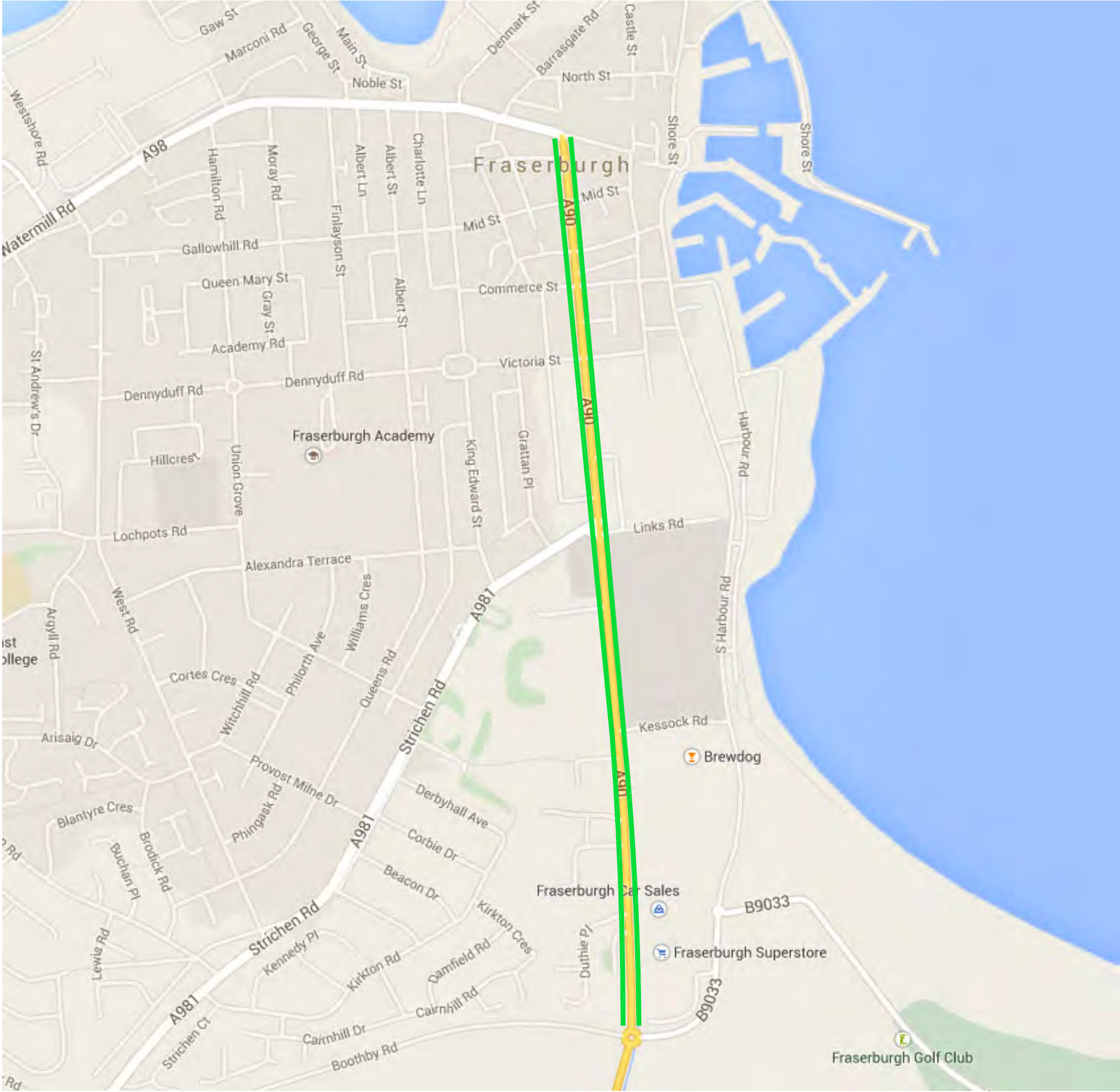




2. A90 Crimond

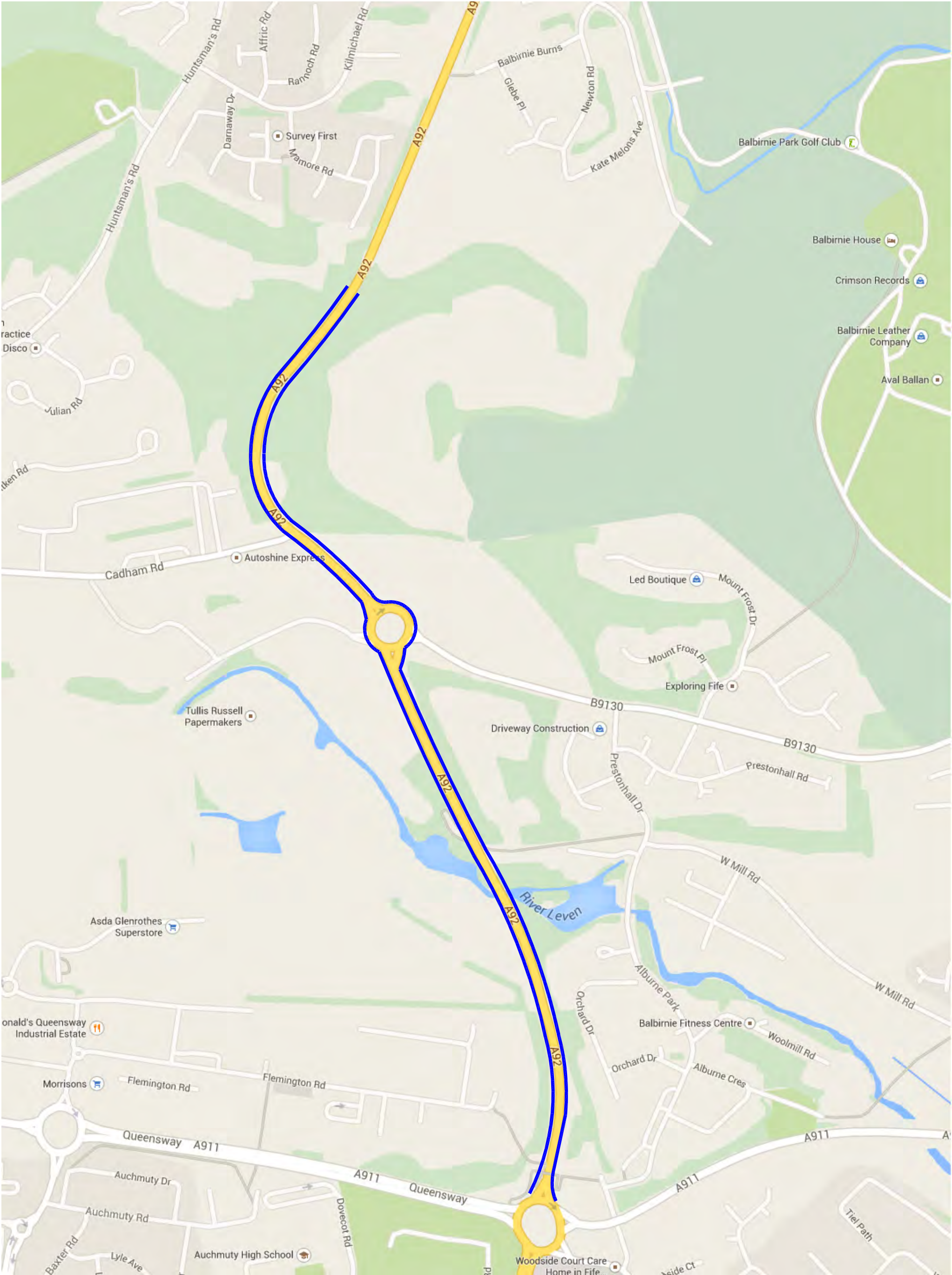


4. A90 Fraserburgh



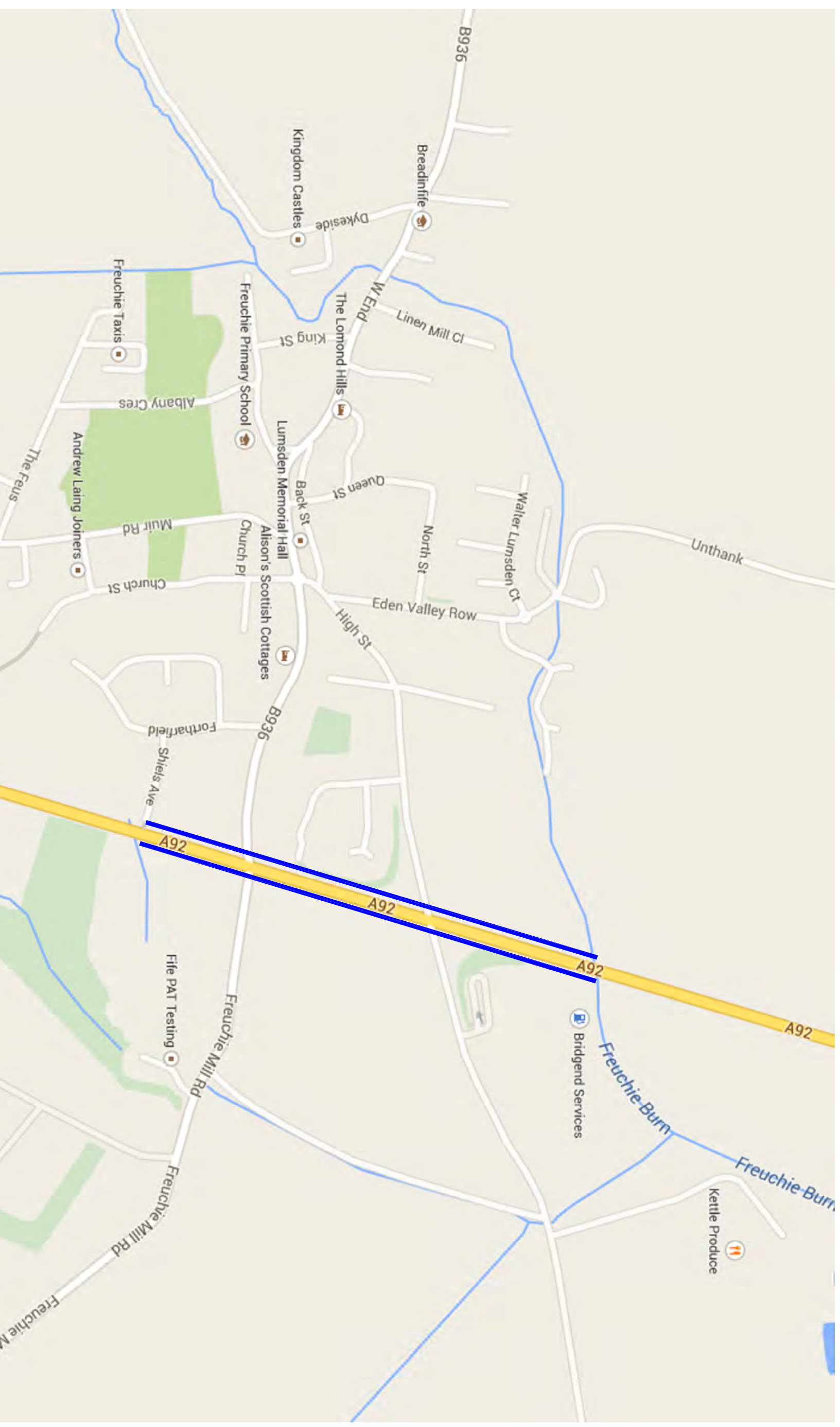


7. A92 Glenrothes

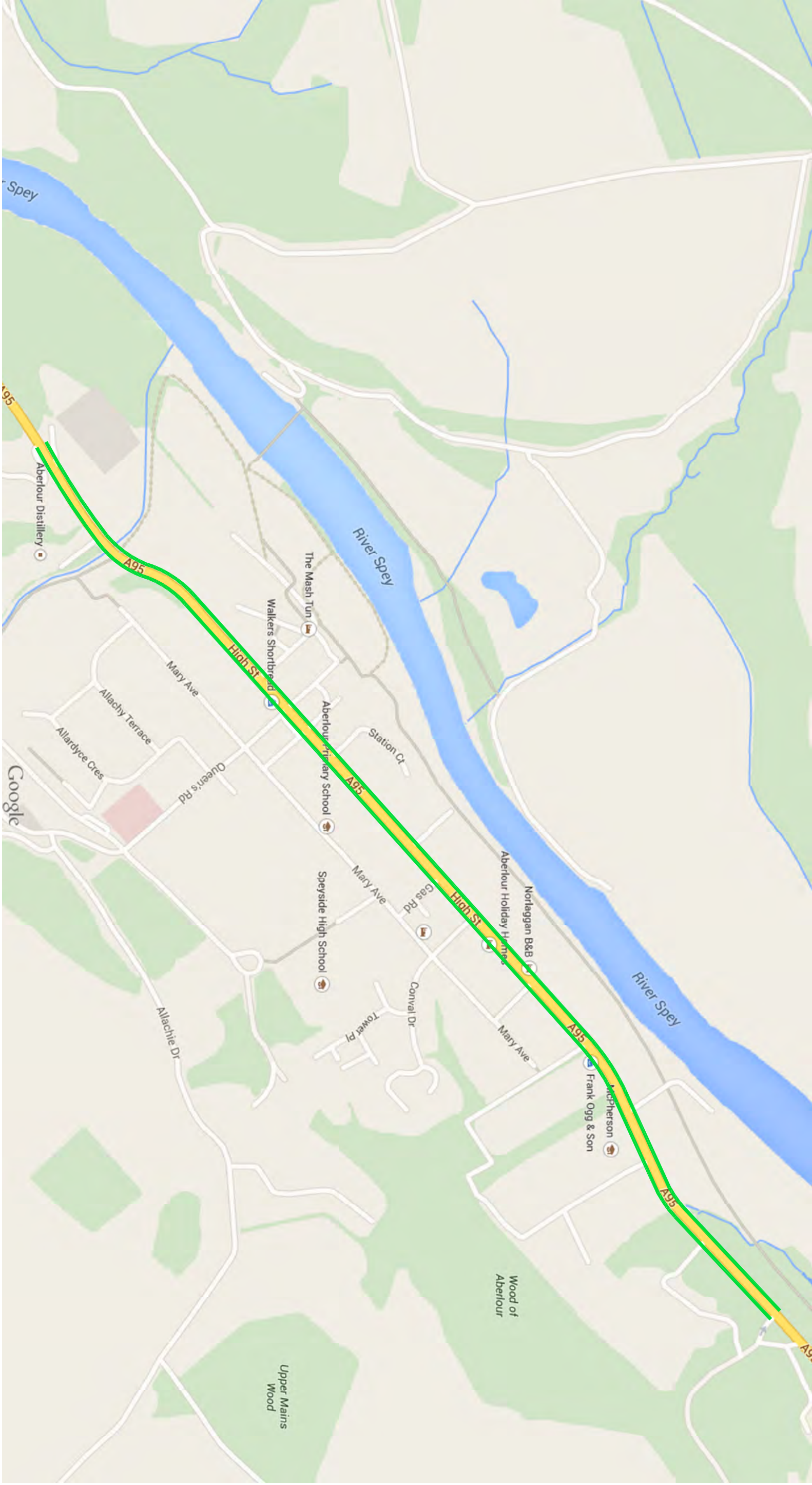




## 8. A92 Freuchie



9. A95 Aberlour

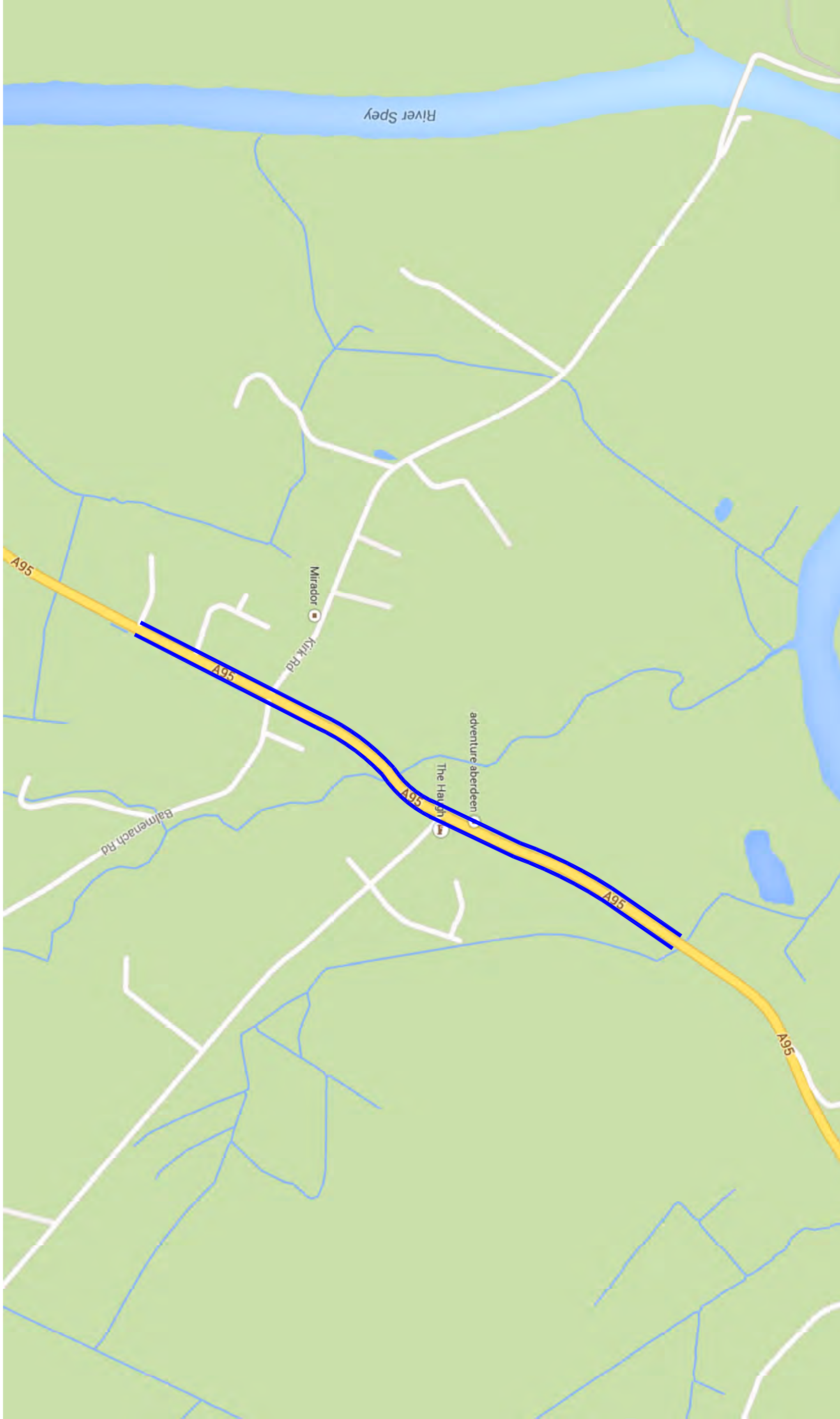




10. A95 Craigellachie

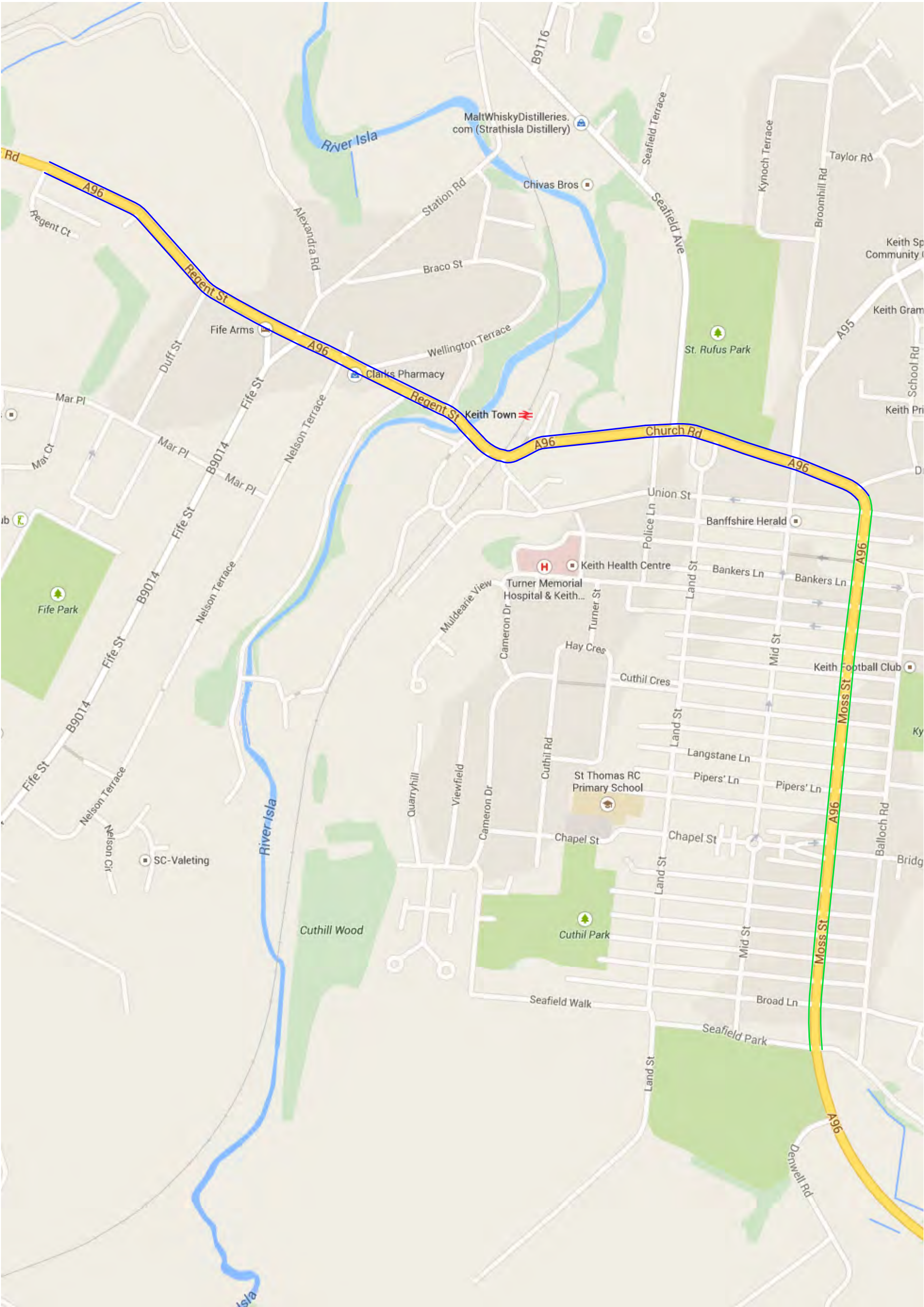


11. A95 Aberlour



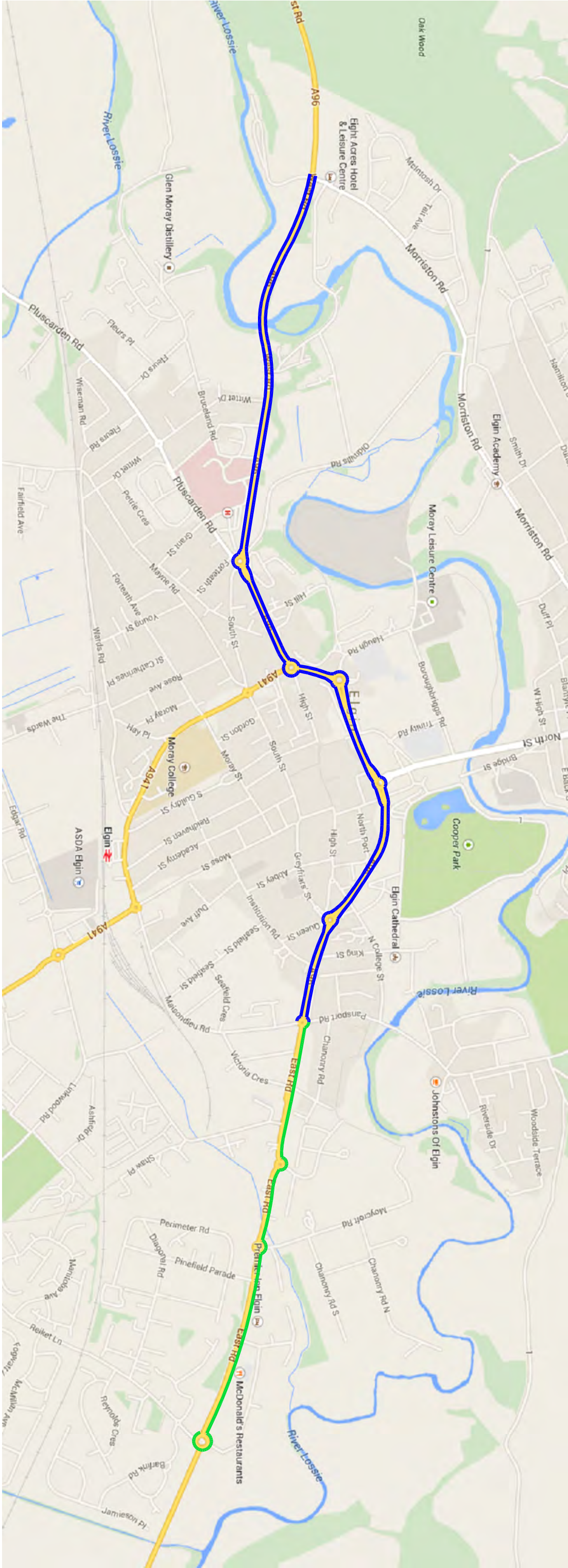


13. A96 Keith



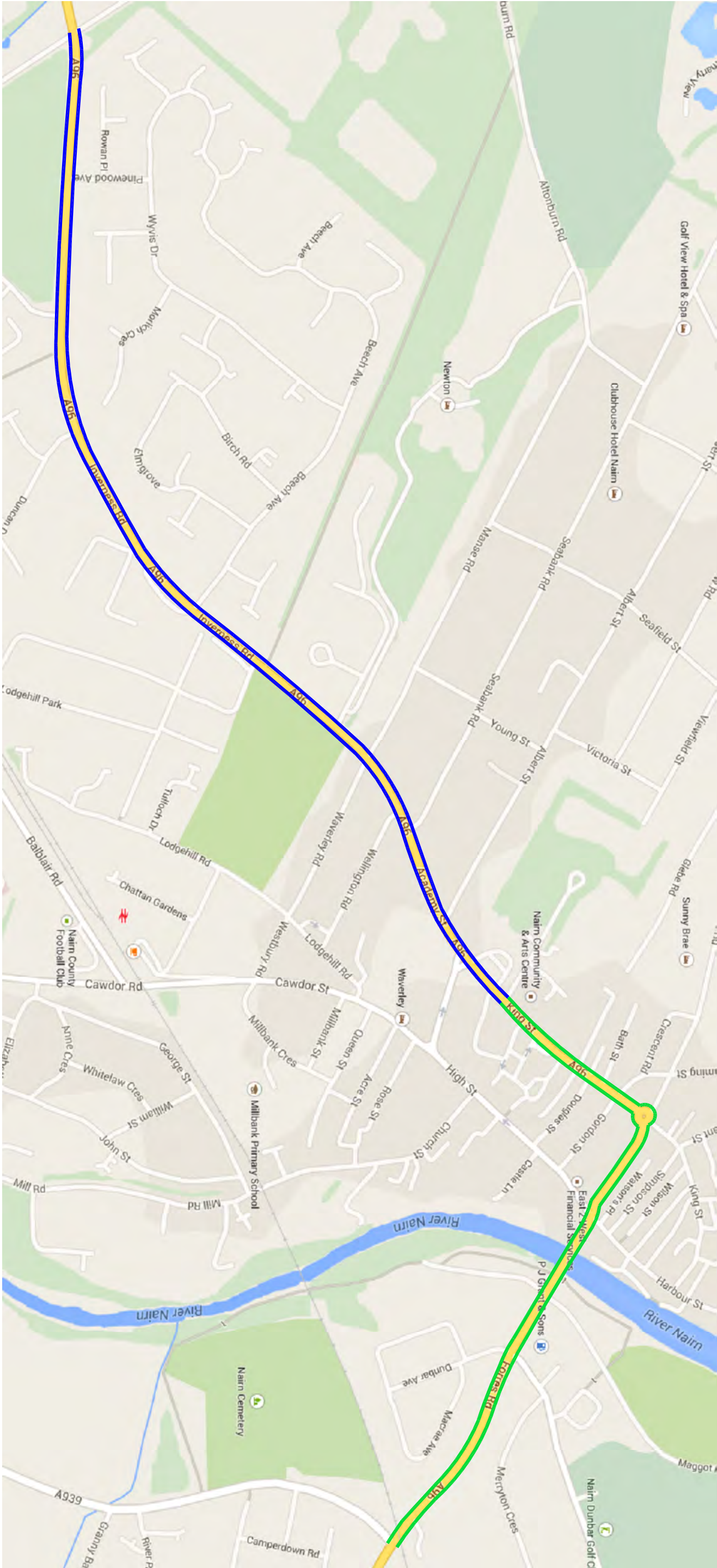


14. A96 Elgin





15. A96 Nairn



16. A96 Alves

