

South West Unit Network Management Contract Winter Service Plan 2021 / 2022

Revision History

This plan shall be reviewed at a minimum of 12 monthly intervals and updated as appropriate. The reviews, including no changes, are noted in the following table.

Revision	Date	Amendment	Content Owner	Authorised By
01	May 20	Initial Document	Redacted	Redacted
02	Jul 20	Layout changes and comments from TS and PAG	Redacted	Redacted
03	Sept 20	Final changes following comments from TS and PAG	Redacted	Redacted
04	Oct 20	M74 Route changes	Redacted	Redacted
05	Jul 21	Update for 2021 – 2022 Season	Redacted	Redacted
06	Sept 21	Update to Ayr Routes	Redacted	Redacted
07	Sept 21	Update following comments	Redacted	Redacted
08	Oct 21	Minor changes following comments	Redacted	Redacted

Winter Service Plan

Register of Controlled Copies



Ref	Name of Holder	Designation	Organisation
Main Electronic Copy			
1	Redacted	Operating Company Representative	Amey
2	Redacted	Severe Weather Manager	Amey
3	Redacted	Operations Manager	Amey
4	Redacted	Operations Manager - North	Amey
5	Redacted	Operations Manager – South	Amey
6	Redacted	Control Room Manager	Amey
7	Redacted	Control Room	Amey
8	Redacted	Network Impacts Manager	Transport Scotland
9	Redacted	PAG	PAG
Additional Electronic Copies			
10	Redacted	Winter Manager	Autolink, M6JV
11	Redacted	Winter Manager	Amey - M8/M74/M73 DBFO
12	Redacted	Winter Manager	Connect Road Operators
13	Redacted	Winter Manager	BEAR – M80 DBFO
14	Redacted	Winter Manager	BEAR – North West Unit
15	Redacted	Severe Weather Manager	BEAR – South East Unit
16	Redacted	Control Room Manager	Traffic Scotland
17	Redacted	Head of Roads and Infrastructure	Dumfries & Galloway Council
18	Redacted	Head of Roads	Ayrshire Roads Alliance
19	Redacted	Chief Executive	North Ayrshire Council
20	Redacted	Chief Executive	East Renfrewshire Council
21	Redacted	Chief Executive	Renfrewshire Council
22	Redacted	Chief Executive	Inverclyde Council
23	Redacted	Chief Executive	South Lanarkshire Council
24	Redacted	Chief Executive	Glasgow City Council
25	Redacted	Chief Executive	West Dunbartonshire Council
26	Redacted	Control Room – Helen Street	Police Scotland
27	Redacted	West Area HQ	Scottish Fire and Rescue Service
28	Redacted	West Area Control Centre	Scottish Ambulance Service
29	Redacted	Network Rail HQ	Network Rail
30	Redacted		

Introduction and Policy

The Network consists of the motorway network in the South West of Scotland including the M8, M77, M80 and the M74. It also includes the A8, A78, A77, A76, A75, A701, A737, A82, A898, A726 and A725 Trunk Roads.

Winter Service Operations shall allow the safe movement of all road users throughout the Network and minimise disruption to users arising from adverse winter weather (ice and snow). The incidence and severity of winter conditions vary throughout the season and from year to year and hence the deployed resource requirements fluctuate accordingly.

Amey will deliver a level of Winter Service to deal with the winter conditions normally associated with Central and South West Scotland, with the facility to provide additional resources as required to deal effectively with all winter weather conditions which can be expected to arise. The requirements of Amey are provided in Schedule 2 Appendix 6.

Amey shall provide sufficient resources to ensure that all measures are taken to keep the roads within the contract open to its users at all times and shall prevent snow or ice from remaining on Network in accordance with the requirements of Schedule 2 Appendix 6.

Amey has previous experience of successfully managing both Trunk Road and Local Authority Winter Service Operations within the UK, including over 12 years in South West Trunk Roads, the South East Trunk Roads in the 2nd and 4th Generation Contracts, The Forth Bridges Unit and for North Lanarkshire Council. This valuable experience has assisted in shaping this strategy, which details how the The Directors' Winter Service requirements will be achieved.

This Winter Service Plan is of key strategic importance to the successful operation of the Project and its importance will be reflected in the Plan's ownership by our Severe Weather Manager. While our Operating Company Representative has the overall responsibility for the successful delivery of the Plan. He will be assisted in all respects by the Severe Weather Manager being available to support as required by the prevailing or predicted conditions.

1. Management Arrangements

1.1. Severe Weather Manager (SWM)

1.1.1. Name

Redacted will have the delegated responsibility for all aspects of winter service provision.

1.1.2. Qualifications

Redacted is an experienced member of our team who has attended training courses in road meteorology and is a member of the Northern User Group for Vaisala. He is conversant with The Code of Practice for Winter Service and has a good working knowledge and understanding of both Winter Service fleet and ice prediction technology. He has also completed the IHE Winter Decision Makers Course and is the UK representative on the PIARC Winter Committee.

1.1.3. Experience

The SWM has the relevant experience required to fulfil the duties of this post and ensure compliance with the requirements of the Project. He has done Winter Service decision making since 2005 and has done the Winter Manager role since 2008.

1.1.4. Responsibilities

The SWM has delegated and overall responsibility for the provision of the winter service and ensuring compliance with the Project for the following activities:

- Ice prediction and weather forecasting service, including sensor calibration
- Collection and management of weather data
- Winter service decision making
- Plant and communications
- De-icing material stock levels and storage
- Staff and Operative training and rosters
- Inspection and maintenance of winter hardware
- Maintaining records
- Liaison with third parties
- Implementing additional resources where required Communicating with Transport Scotland during severe events
- Preparing reports and participating in weekly conference calls with Transport Scotland
- Reporting salt stock levels, as required
- Achieving contractual response times
- Identification and provision of Mutual Aid subject to approval from the Director

The SWM is the owner of the Winter Service Plan (WSP), being responsible for revisions to this plan at least once annually and whenever considered necessary during the Winter Service Season. The SWM is responsible for submitting the WSP to The Directors for written consent no later than 31 July each year.

The SWM is also responsible for the preparation and submission of the Winter Service Annual Report prior to 31 May each year and will attend the subsequent Winter Service annual review meeting with The Directors within 15 days of submission.

1.2. Winter Service Duty Officers

1.2.1. Names

Redacted will undertake the role of Winter Service Duty Officer on a rota basis, being responsible for daily decision making on planned actions. In addition Redacted will shadow the main WSDO though the season having just completed the IHE Winter Decision Course. In addition Redacted will complete the IHE Winter Decision Makers course in October and then join the rota with shadowing.

1.2.2. Qualifications

All WSDO's will have undertaken suitable training in relation to winter service decision making and weather forecast interpretation, including subjects such as road meteorology and winter service computer systems and software. All WSDO's will attend the IHE Winter Decision Makers Course during the contract term and additional staff will be trained to become WSDO's.

1.2.3. Experience

WSDO's will each have minimum 4 years' previous experience or IHE Winter Service training ensuring competent and consistent winter service decision making and the use of both weather forecast information and the computerised road weather information system. They will also be supported by several trained Duty Operation Managers who will be available 24/7 for any assistance. Our OCCR staff will also have the Meteorological Training and will be able to monitor the weather in the control room screens.

1.2.4. Responsibilities

The WSDO is authorised by Amey and is responsible for taking decisions, issuing instructions and implementing and directing the Winter Service at all times. If the WSDO is uncertain of conditions and what action to take he should discuss with the Severe Weather Manager. During the winter months of October to May inclusive, a WSDO will be based in the Operation Control Room when RST's are forecast to below or equal to +3 degrees Celsius. Additionally we can also remotely access the Computerised Road Weather Information System (RWIS) and if required our Winter Control Room can be established and transferred seamlessly to a new location (Bargeddie Office) should the need arise due to failure or extra assistance is needed. This also allows more experienced managers to assist from any location should the need arise. The WSDO shall be in the control room whenever Winter Service Operations are planned, constantly monitoring weather and road conditions via the RWIS, Weather Radar and information fed back from the drivers on site. The WSDO shall also receive information from and communicate instructions to patrol drivers on a regular basis. At changes in shift, the outgoing and incoming WSDO will handover and exchange information including:

- 24 hour action plan
- current weather and road conditions including trends
- updates from the Expert Weather Forecasting Service (Met Desk)

The WSDO will be supported by the SWM. The criteria which will determine this support will include guidance and decision making support during:

- marginal conditions
- periods when low confidence forecasts are issued

- severe weather conditions such as prolonged snow, high winds or freezing rain.

In prolonged periods of severe conditions, the SWM will instruct additional resources to be deployed within the Control Room to deal with the increased monitoring requirement and higher level of ingoing and outgoing communications.

Duty WSDO's will operate on a roster basis. This ensures that two WSDO's are rostered for every week throughout the Winter Service Season. The WSDO will maintain and update winter records including:

- Planned and actual:
 - Treatment records
 - Response times
 - Commencement times
 - Route times
 - Spread rates
- Observations and actions taken by the Winter Service Patrols
- Output from Constructional Plant on-board data capture devices
- Constructional Plant down time and software faults
- Constructional Plant deployment records (including Global Positioning System records) and driver/operator logs
- Logs of telephone, electronic mail and two-way communication calls
- RWIS records
- Weather forecasts and actual weather experienced
- Complaints by members of the public and road users
- Accidents resulting from winter conditions
- Road closures due to winter conditions

During the Winter Service Period, the WSDO shall produce Daily Action Plans on planned treatments for the following twenty four (24) hour period and actual treatments for the previous twenty four (24) hour period for each precautionary treatment Route and each Winter Service Patrol Route.

These reports shall be recorded in an electronic format and shall include as a minimum;

- (a) summary forecast and actual weather data,
- (b) planned and actual treatment,
- (c) planned and actual commencement times,
- (d) completion times, amount of de-icing material spread and the cumulative amount spread by weight including percentage target weight achieved for the Route during the relevant Winter Service Period,
- (e) plough usage,
- (f) number of resilience days (capability) of each depot based on two treatments per Route per day at forty (40) grams per square metre for pre wetted salt and three (3) treatments per Route per day at 0.0156 litres per square metre for potassium acetate,
- (g) the weather forecast accuracy, and
- (h) any other relevant information.

1.3. Monitoring Arrangements

1.3.1. Monitoring arrangements during normal working hours

During normal working hours the WSDO will be responsible for monitoring weather forecasts and actual weather conditions throughout the period. If RST's are forecast to

Winter Service Plan



be below or equal to +3 this will be done from the Operational Control Room. They will be assisted by the Control Room staff, who will have Meteorological training and there will be an experienced Duty Operations Manager available 24/7. The OCCR will have the Vaisala Navigator system showing on a big screen in the Control Room at all times during the Winter Period and alarms set so if any alarm thresholds are met they will be notified. These alarms will be acknowledged within the Vaisala Manager System to allow an audit trail to be kept. In addition if any further action is required this should be noted in the Dairy within Vaisala Manager.

1.3.2. Monitoring arrangements out with normal working hours

Outside of normal working hours the WSDO will remain responsible for monitoring weather forecasts and actual weather conditions.

1.4. Personnel Resources

1.4.1. Names of staff and labour resources

Winter Service Manager: Redacted

Winter Service Duty Officers: Redacted. In addition Redacted will shadow the main WSDO.

Duty Operations Managers: Redacted

Operatives:

Name	Depot	Qualification
See rota in link below	Polmadie	City and Guilds
See rota in link below	Paisley	City and Guilds
See rota in link below	Ayr	City and Guilds
See rota in link below	Stranraer	City and Guilds
See rota in link below	Castle Douglas	City and Guilds
See rota in link below	Dumfries	City and Guilds

Additionally, every driver will have a basic knowledge of each precautionary treatment route and will be capable of undertaking treatment on that route if necessary.

In the event of severe weather being forecast in the 5 day advance forecast, additional operatives will be put on standby or shift to ensure adequate resources are available to deal with snow conditions. These will be fully trained drivers who are not rostered for that period.

1.4.2. During the winter period detailed rosters will be prepared detailing all staff referred to this Winter Service Plan. On a weekly basis during the winter period a specific Roster detailing personnel, contact details and specific duty details will be

Winter Service Plan



issued to all key staff. This will be distributed electronically and updated on a shared server area each week to ensure key details are constantly kept up to date. Below are examples of rosters for Staff and Operatives. Below is a link to the Shared server where the rotas are stored:

[NMC - South West Unit - Shared Records - Rotas - All Documents \(sharepoint.com\)](#)

1.5. Call out arrangements

1.5.1. Call out arrangements during normal working hours

During the working day (Monday to Friday 08:00 to 17:00) the WSDO will liaise with each of the Depots directly to arrange any treatments required.

1.5.2. Call out arrangements outside normal working hours

When a decision to carry out treatments falls outside normal working hours the WSDO will call the DOM who will mobilise the drivers.

1.5.3. Contact arrangements during normal working hours

The WSDO will contact each Depot by mobile telephone to instigate action during normal working hours. In addition texts and emails will be sent via Vaisala Manager to confirm any actions.

1.5.4. Contact arrangements out with normal working hours

The WSDO will contact the DOM by mobile telephone to instigate action. In addition, there will be a list of direct mobile telephone contact numbers for rostered drivers which will be available to the WSDO if required. Vaisala Manager will also be updated to reflect the unplanned operation.

1.5.5. Mobilisation times

To ensure that the requirement to mobilise and commence unplanned treatment on any given route is within the one hour period, a shift system will operate which will include a day shift and night shift during snow and prolonged colder conditions. Where the 5 day forecast indicates that severe weather is anticipated, operatives will be put onto a 24/7 shift system ensuring there is always someone available for each route. In addition, we will always err on the side of caution during marginal conditions to ensure callouts are limited and the majority of treatments are planned.

1.6. Communications Equipment

1.6.1. All Winter Service vehicles will be fitted with "hands free push to talk over cellular" communications equipment and an integrated satellite tracking and data recording system. All drivers will be trained in the effective use of the system. Any faults in the system of communication will be reported immediately to the WSDO for his action. We will have maintenance support through service level agreements with our Internal Fleet Service and relevant manufacturers to repair or replace communications equipment. The

Winter Service Plan



following means of communication will be available throughout the winter period:

- Telecommunications – landline and mobile phones
- Push to Talk over cellular
- Airwave
- API web-based GPS tracking showing vehicle location
- Email with a dedicated winter email address
- Microsoft Teams
- Websites and social media utilising both Traffic Scotland and Amey SW specific
- Variable Message signs – via Traffic Scotland
- Hidden Message signs

1.6.2. Winter Service Patrol vehicles shall use an encrypted digital radio communications system, "Airwave". Amey will utilise this equipment as a dedicated communication system between Winter Service Patrol drivers, the Traffic Scotland Control Centre, the Winter Service Duty Officer and the Police. All Winter Service Patrols will also have a hands free push to talk system.

1.7. Training for Managers and Other Staff

1.7.1. Details of previous training

The proposed Severe Weather Manager, WSDO's and DOM's will have attended training courses covering basic road meteorology and the interpretation of weather forecasts prior to inclusion on the rota and this training will be refreshed when required. All operatives performing Front Line and Reserve Winter Service operations will hold an appropriate Class C LGV driving license and be trained and experienced in Winter Service operations.

1.7.2. Details of proposed training

The Severe Weather Manager, WSDO's, DOM's and CRO's will attend and be certified on refresher courses provided by The Met Desk and Vaisala every couple of years. An annual pre-winter internal briefing session will also be held in September.

All operatives performing Front Line and Reserve Winter Service Operations will be trained and assessed to meet the requirements of the Winter Service City & Guilds Qualification or hold an SVQ in Winter Service. Our SWM will ensure operative familiarisation with the Winter Service routes and plant prior to 1st October each year, recording this in our Management System. In addition Prior to 1 October in each Annual Period, the Operating Company shall;

- (a) ensure the Contract Personnel who operate Winter Service Plant will drive the whole length of each precautionary treatment Route in the Winter Service Plant to be used for the precautionary treatment of such Route at speeds not exceeding those required for such precautionary treatment,
- (b) fit and remove the plough to all Winter Service Plant so equipped,
- (c) take any other measures necessary, and
- (d) keep Records of the Contract Personnel who performed these preparations for Winter Service Operations,

in order to ensure that the Operating Company's Contract Personnel are familiar with the Route and Winter Service Plant to be used.

Records of these will include as a minimum details of;

- (a) time taken from depot to start of treatment Route,
- (b) time taken to travel the Route,
- (c) time taken to travel the treated Route,
- (d) Route efficiency,
- (e) time taken to fit the plough,
- (f) any problems encountered and actions taken to resolve them,
- (g) proposed longer term solutions to prevent recurrence of such problems, and
- (h) any other relevant information,

shall be held electronically by the Operating Company and in accordance with the documented procedures in the Operating Company's Management System.

2. Weather Forecasting

2.1. Purpose

The purpose is to provide accurate information for interpretation by our WSDO's enabling them to plan the Winter Service operations for the following 36 hour period. WSDOs also have 24/7 access to the Met Desk Forecaster for advice or updated information, providing a proactive approach to winter service. Consent will be sought for the appointment of Expert Weather forecaster and the RWIS provided.

2.2. Methodology

Amey will obtain the expert weather forecasting service (EWFS) from the Met Desk who will utilise information from the existing road sensor network, to give detailed forecasts for each route, using information from Scottish Weather Radar and thermal mapping to inform on existing and anticipated conditions. Weather forecasts will be issued for each of the 27 frontline routes and be provided from 1 October to 15 May (inclusive), and will be delivered every day by 1300hrs via the web-based Road Weather Information System (RWIS), providing:

2 – 5 day forecast

A general area forecast per day, for the 4 days following the day of issue of the 36hr forecast information. This will be Domain based utilising areas with similar geography and prevailing conditions.

36 Hour Forecast

Route specific forecasts, giving a general summary of the weather anticipated from 12:00 midday to 12:00 midday the following day. The main features of the forecasts are:-

Readiness colour -

- Green No snow or ice expected
- Amber Risk of snow and/or ice
- Red Snow, ice or drifting snow is expected

Hazards – This section gives detail on the weather conditions such as ice, hoar frost, snow (cms), fog, wind and rain, which give rise to the "readiness colour".

Temperatures – Minimum road surface temperature and time at or below freezing.

Severe Weather Warnings

This service is provided throughout the year through the Met Office Warning System with further Unit Specific forecast provided by the Met Desk. The early warning weather alert provides information regarding heavy snow, high winds and / or heavy rainfall.

24/7 Consultancy Service

This facility is used if there are any doubts about the forecasts or when conditions change significantly. Confirmation of updates will be made by telephone to the WSDO if

the forecast has changed significantly. The Forecaster will also be available to the WSDO to discuss any matters of concern or to clarify low confidence forecasts.

The consent of the The Directors, in writing, will be sought prior to appointing the Expert Weather Forecaster and the Computerised Road Weather Information System provider.

2.3. Weather Forecasting Service

2.3.1. Climatic domains

Given the extent of the Network we will use Domain forecasting for the 2 to 5 day forecast. This will consist of 4 Climatic Domains listed below and shown in Fig 1:

Domain Number	Location
1	Central
2	East
3	West
4	South

2.3.2. Weather radar

The WSDO will have access to a web-based Weather Radar facility provided by the Met Desk, 24 hours a day, seven days a week, throughout the year. The Radar will help to improve the accuracy of assessing the timing, nature and intensity of precipitation, wind and in particular snowfall.

2.3.3. Weather Stations, forecast sites and camera sites

Stations located on or close to the Network will be polled on a regular frequency of 10 minutes throughout the year and will include images which will be transmitted to Traffic Scotland using an Open Protocol System. All data will be collected by the Vaisala Manager System, available online and monitored by the WSDO. In addition, Weather forecast sensors have added functionality to allow the Met Desk to model the temperature characteristics of the road pavement and can be accessed directly by the Met Desk to assist in producing road-specific weather forecasts. All weather stations will be maintained in line with Sch 6: CI 6.2.2, S5 CI 1472AR & CI 6122AR. A list of stations can be found below:

Road Number	Location
A82	Alexandria Bypass (Dual Camera)
A898	Erskine Bridge
M8	Kinning Park

Winter Service Plan



M8	Riddrie
M74	Rutherglen
A725	Crossbaskets
M8	Bishopton (Erskine) (Dual Camera)
A8	Port Glasgow (Dual Camera)
A78	Gourock (Dual Camera)
A78	Ardrossan
A737	Highfield (Dual Camera)
A737	Howwood
M77	Newton Mearns
A77	Kilmarnock
A77	Dutch House (Dual Camera)
A77	Cumnock
M74	Millbank (Dual Camera)
A75	Collin (Dual Camera)
A701	Southerly Ridge (Dual Camera)
A76	Closeburn (Single Camera)
A76	Kirkconnel
A75	Crocketford (Dual Camera)
A75	Knockbrex
A75	Drumflower (Dual Camera)
A77	Glen App
A77	Turnberry
A77	Crossragual (Dual Camera)
M74	Canderside
A75	Gretna (Dual Camera)
A78	Sharphill (Dual Camera)

Winter Service Plan



M8	St James Interchange
A76	Blackwood Farm (Dual Camera)

2.3.4. Thermal mapping

Thermal maps comprise digitised thermal fingerprints graphically representing variations in road surface temperatures along a route. By combining thermal map and forecast data, route maps can be produced indicating forecast minimum road surface temperatures along each route. Digitised thermal mapping provides another useful tool for staff to supplement forecast data and local knowledge thereby aiding the decision making process regarding Winter Service action. The maps can also be used to select suitable locations for additional outstations. For effective use of thermal mapping, the digital map coverage of the Network must be maintained in a complete and up to date state. Where considered appropriate, recommendations on updating of thermal mapping will be made to the The Directors. **This mapping has not been updated since the 2G Contract and therefore is not utilised.**

During the Winter Service Period, the Operating Company shall monitor and interpret;

- (a) weather forecasts,
- (b) Trunk Road conditions,
- (c) data from mobile road sensors,
- (d) the Computerised Road Weather Information System,
- (e) weather station and Traffic Scotland closed circuit television cameras, and
- (f) Media coverage (Including social media) of weather related articles in connection with the Unit

to ensure that the Winter Service Duty Officers receive and monitor climatic and road information to assist in the decision making process and in taking appropriate actions.

2.3.5. Location plans

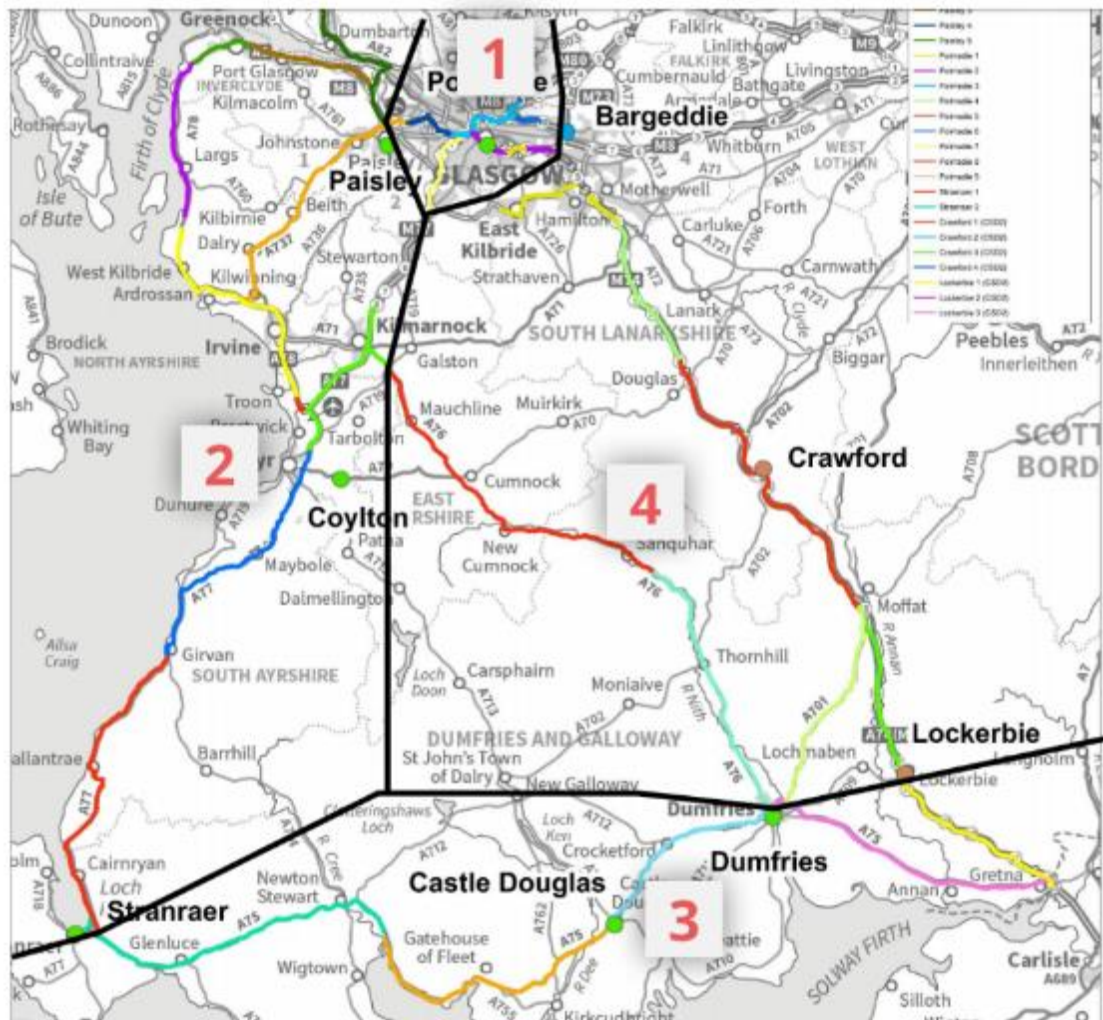


Fig 1. Proposed Climatic Domain.



2.4. Computer Systems

The computerised road weather information system (RWIS) will be provided by Vaisala. It will obtain, interpret and display the following, in a manner that predicts trends in weather and road conditions:

- Road sensor data (forecast & actual)
- Thermal maps
- Weather data from the Met Desk
- Weather Camera images
- Frontline Winter Service Plant sensor data (air, RST and spread rates)
- An automatic alarm system has been incorporated, which can be modified and set for different parameters including but not limited to when a road sensor falls to +1 degree centigrade, a road hazard is present, or a wind speed is reached. This alarm will be monitored by both the WSDO and the Operational Control Room.

In the unlikely event that the RWIS fails for any reason then the WSDO will contact the 24 hour RWIS helpdesk for assistance, until the system is restored.

In the event of power failure in the Control Room, non-electrical means of heat and light will be utilised pending the switching on of mobile generators. In addition, the system can be monitored from any location through a laptop and the Control Room or WSDO will contact the SWM to activate the remote monitoring.

In the event of communications failure, mobile phones will be used to maintain contact with vehicle drivers, police, Vaisala and the Met Desk.

3. Monitoring Arrangements for Vulnerable Locations

Vulnerable locations are known locations on the Network where:

Significant gradients exist (Fig 4/1), frost is prone to occur (Fig 4/2) and water run-off is liable to happen (Fig 4/3)

Amey will review these areas throughout the winter period, but as a minimum annually or immediately following a critical incident that involves a road closure. Where required Amey will seek consent from the Director to add or remove areas. All staff involved in Winter Service will be instructed to pay particular attention to the below areas. Any problems identified will be reported back and added to the communications log. Any run off areas will be looked at and bids submitted to investigate to see if a drainage scheme could alleviate any problems.

Road Number	Location	Review Summer 2012
M77	Southbound from junction 3 to junction 4	To be joined with Southbound slip to M77 from M8
M8 / M77	Southbound slip to M77 from M8	See above
M74	Southbound from junction 10 to junction 12	Risk still present
A737	Risk Brae, from Howwood to Roadhead roundabout	To be removed subject to monitoring
A75	The Glen to the west of Dumfries	Risk still present
A75	Glen Luce Bypass	Risk still present
A76	Skerrington roundabout to Templeton Roundabout	Risk still present
A76	New Cumnock to Rigg Far	Risk still present

4/1 – Significant Gradient Areas

Road Number	Location	Review Summer 2021
A78	Papermill at Irvine, between Meadowhead and Newhouse Interchange	Risk still present
A898/ M898	Erskine Bridge and southbound slip to M8 eastbound	Risk still present
M8	Junction 30 – 31 westbound	Risk still present

4/2 - Frost Susceptible Areas

Road Number	Location	Review Summer 2021
A701	North of St Annes Bridge	To be reviewed through season been no issues
A78	Auchmead road, Greenock	Closed on DMRP – to be monitored in 2021 season for removal
A78	Skelmorlie to Largs at Knock Castle	On vulnerable flood strategy for a scheme
A78	Barrs Cottage, Inverkip Road, Greenock	Closed on DMRP – to be monitored in 2021 season for removal
A78	Newhouse Interchange to Eglinton	Issue still present and be reviewed
A78	Branchton speed camera, westbound	To be reviewed through season been no issues
A78	Westbound off-slip to power station	To be reviewed through season been no issues
A78	Car wash at Inverkip Roundabout, eastbound	To be reviewed through season been no issues
A737	Roadhead Roundabout to Clerksbridge toll	Closed on DMRP – review 2021 season for removal
A737	Dalry Rd, Kilwinning	To be reviewed through season been no issues
A82	Stoneyhill Roundabout	Design of drainage works ongoing
A82	Dunglass Roundabout to Erskine Bridge	Investigation and design ongoing
A77	Above and below Bellfield Interchange	On vulnerable flood strategy for a scheme
A77	South of Ballantrae at the Watertanks	Geographical layout – ongoing issue to monitor
A77	Crossraguel to Dalqhat farm	Works carried out in 4G contract. Monitor in 2021 season for removal
A77	North of Stena Ferry Terminal	On vulnerable flood strategy for a scheme
A75	East of Barlae	On vulnerable flood strategy for a scheme
A76	North of Kirkconnel	Risk in extreme rain. Continue to monitor
A76	Kirkconnel south Gateway (adjacent to railway)	To be reviewed through season been no issues
A76	500m north of Drumlanrig Castle junction	New area – to be monitored through 2021 season
A76	Drumlanrig to Enterkinfoot, north of retaining walls	New area – deforestation on adjacent land. Has been passed to the estate – to Monitor 2021
A898	Northbound on slip from A82 Northbound	Investigation and design ongoing
M8	Eastbound entry to Charing Cross Underpass	On vulnerable flood strategy for a scheme
M8	Charing Cross Underpass (icicle formation from soffit)	Works carried out in 4G – to monitor in 2021 season

4/3 – Water Runoff Areas

Each area must be monitored effectively. For both frost susceptible and known surface water run off locations, the ability to monitor and receive up-to-date road surface temperatures and states is critical. The Patrols will be fitted with MD30 Mobile Condition Weather Stations which will give live feed into the Vaisala Navigator system. This will allow these areas to be monitored with increased information live to the WSDO. In addition the information will be transmitted to the Traffic Scotland Control Centre under an Open Protocol.

In addition to the Winter Service Patrols detailed in Section 5 of this document, the WSDO has the authority to instruct the mobilisation of any front-line winter constructional plant to patrol any part of the Network at any time. This action may be necessary to enable the WSDO to receive accurate real time visual information such as road surface state observations, surface water run-off and precipitation type/intensity. This information combined with data within the RWIS and Weather Radar allows the WSDO to monitor affected areas along with other areas on the Network and to make appropriate treatment planning decisions.

Vulnerable Locations Schedule

Reference Number: VL/SW/01–A75 Glen Luce	
Location	A75 Glen Luce Bypass
Grid Reference	221147, 557495 to 229339, 561155
Problem	6 mile length of carriageway with a mixture of severe bends and steep gradients
Has this site experienced problems before or is it an identified risk?	HGV's lost traction and became stranded during winter 2010/11, closing the A75 for short periods
Detailed Mitigation Measures	
	Significant Snow fall
Optional Mitigation Primary Measure	Application of 40g of Salt Treatment Application of Alternative De-icer or Brine Solution A reserve vehicle will be dedicated to the area when snow is forecast A tractor will be deployed to the area when significant snow is forecast
When enacted	The reserve vehicle will be enacted when there are over 2cm of snow accumulations forecast and the vehicle will be on site 1hr prior to this. The tractor deployment will be when over 5cm of snow is forecast over a 24hr period.
Who enacts	Winter Service Duty Officer / Severe Weather manager
Who will manage the response	Winter Service Duty Officer supported by Depot Duty Supervisor
Are diversion routes to be used?	Diversion route would be on local authority routes and would be dependent on the condition at that time.
Deployment of resources	1 Plough/Spreader 1 Reserve spreader 1 Tractor with plough and spreader
Use of VMS	Notification of the Closure will be made using VMS at the following locations (subject to availability): A75 westbound at Collin A701 southbound at Dumfries A75 Eastbound at Castle Kennedy
Other measures put in place	This road is on a CAT B patrol route and if required this vehicle can be utilised to patrol this particular section of the road as identified above.
Assistance from OC resources	The use of additional plant would be examined, as a reactionary measure, to assist in the clearance of snow.
Assistance from additional Transport Scotland resources	Assistance from Transport Scotland Communications to put message out to media.
Assistance from External Sources	Assistance from Police to close road to allow snow removal. Tractor and plough

Reference Number: VL/SW/02 and VL/SW/03 –A76 Auchinleck to Kirkconnel	
Location	A76 from Skerrington roundabout at Auchinleck to A76 Guildhall bridge Kirkconnel
Grid Reference	(254554, 621530) to (272141, 612320)
Problem	23 Km length of carriageway with a mixture of severe bends and steep gradients
Has this site experienced problems before or is it an identified risk?	HGV's lost traction and became stranded during winter 2010/11, closing the A76 for short periods
Detailed Mitigation Measures	
	Significant Snow fall
Optional Mitigation Primary Measure	<p>Application of 40g of Salt Treatment</p> <p>Application of Alternative De-icer or Brine Solution</p> <p>A reserve vehicle will be dedicated to the area when over 2cm of snow accumulations are forecast</p> <p>2 tractors will be deployed to the area when over 5cm of snow is forecast</p>
When enacted	The reserve vehicle will be enacted when there are over 2cm of snow accumulations forecast and the vehicle will be on site 1hr prior to this. The tractor deployment will be when over 5cm of snow is forecast over a 24hr period.
Who enacts	Winter Service Duty Officer / Severe Weather Manager
Who will manage the response	Winter Service Duty Officer supported by Depot Duty Supervisor
Are diversion routes to be used?	<p>A localised diversion is not considered viable as alternative route is over higher ground and unsuitable for HGV's.</p> <p>A76 traffic would require to be diverted on M74 at Gretna and advised to use M74 to Glasgow and then M77 south, as required.</p>
Deployment of resources	<p>1 Plough/Spreader</p> <p>1 Reserve vehicle</p> <p>2 tractors</p>
Use of VMS	<p>Notification of the Closure will be made using VMS at the following locations (subject to availability):</p> <p>M77 southbound 1/2 mile north of Junction 5 Maidenhill</p> <p>M6 / M74 northbound, 1 mile south of Gretna</p>
Other measures put in place	This road is on a CATB patrol route and if required this vehicle can be utilised to patrol this particular section of the route as identified above.
Assistance from OC resources	The use of additional plant from Ayr depot, would be examined, as a reactionary measure, to assist in the clearance of snow.
Assistance from additional Transport Scotland resources	Assistance from Transport Scotland Communications to put message out to media.
Assistance from External Sources	<p>Assistance from Police to close road to allow snow removal.</p> <p>Tractor and plough</p>

Reference Number: VL/SW/05 – A75 Glen	
Location	A75 The Glen to west of Dumfries
Grid Reference	294337, 575325 to 290289, 574815
Problem	2.6 mile length of carriageway with a mixture of severe bends and steep
Has this site experienced problems before or is it an identified risk?	HGV's lost traction and became stranded during winter 2010/11, closing the A75 for short periods
Detailed Mitigation Measures	
Significant Snow fall	
Optional Mitigation Primary Measure	Application of 40g of Salt Treatment Application of Alternative De-icer or Brine Solution A reserve vehicle will be dedicated to the area when snow accumulations are forecast to be over 2cm A tractor will be deployed to the area when significant snow is forecast, over 5cm
When enacted	The reserve vehicle will be enacted when there are over 2cm of snow accumulations forecast and the vehicle will be on site 1hr prior to this. The tractor deployment will be when over 5cm of snow is forecast over a 24hr period.
Who enacts	Winter Service Duty Officer / Severe Weather Manager
Who will manage the response	Winter Service Duty Officer supported by Depot Duty Supervisor
Are diversion routes to be used?	Diversion route would be on local authority routes and would be dependent on their condition.
Deployment of resources	1 Plough/Spreader 1 Reserve vehicle 1 Tractor
Use of VMS	Notification of the Closure will be made using VMS at the following locations (subject to availability): A75 westbound at Collin A701 southbound at Dumfries A75 Eastbound at Newton Stewart
Other measures put in place	This road is on a CAT B patrol route and if required this vehicle can be utilised to patrol this particular section of the route as identified above.
Assistance from OC resources	The use of additional plant would be examined, as a reactionary measure, to assist in the clearance of snow.
Assistance from additional Transport Scotland resources	Assistance from Transport Scotland Communications to put message out to media.
Assistance from External Sources	Assistance from Police to close road to allow snow removal. Tractor and plough

Reference Number: VL/SW/06 and VL/SW/07 – M8 SB slip to M77 to M77 J4	
Location	Start of the M77 where it meets the M8 to Junction 4
Grid Reference	256273, 664129 to 252809, 5657305
Problem	5.4 mile length of carriageway with a gradient
Has this site experienced problems before or is it an identified risk?	HGV's lost traction and became stranded
Detailed Mitigation Measures	
	Significant Snow fall
Optional Mitigation Primary Measure	Application of 40g of Salt Treatment Application of Alternative De-icer or Brine Solution A reserve vehicle will be dedicated to the area when snow accumulations are forecast over 2cm A fastrak will be deployed to the area when significant snow is forecast
When enacted	The reserve vehicle will be enacted when there are over 2cm of snow accumulations forecast and the vehicle will be on site 1hr prior to this. The tractor deployment will be when over 5cm of snow is forecast over a 24hr period.
Who enacts	Winter Service Duty Officer / Severe Weather Manager
Who will manage the response	Winter Service Duty Officer supported by Depot Duty Supervisor
Are diversion routes to be used?	Diversion route would be on local authority routes and would be dependent on their condition.
Deployment of resources	1 Plough/Spreader 1 Reserve vehicle 1 Tractor
Use of VMS	Notification of the Closure will be made using VMS at the following locations (subject to availability): M77S 1/2 mile S J1 Dumbreck M77S 1/4 mile S J2 Barrhead Rd
Other measures put in place	This road is on a CAT A patrol route and if required this vehicle can be utilised to patrol this particular section of the route as identified above.
Assistance from OC resources	The use of additional plant would be examined, as a reactionary measure, to assist in the clearance of snow.
Assistance from additional Transport Scotland resources	Assistance from Transport Scotland Communications to put message out to media.
Assistance from External Sources	Assistance from Police to close road to allow snow removal. Tractor and plough

Reference Number: VL/SW/08 – M74 SB J10 to J12	
Location	M74 J10 Lesmahagow to J12 Uddington
Grid Reference	281222, 641104 to 285882, 632581
Problem	6 mile length of carriageway with a gradient
Has this site experienced problems before or is it an identified risk?	HGV's lost traction and became stranded
Detailed Mitigation Measures	
	Significant Snow fall
Optional Mitigation Primary Measure	Application of 40g of Salt Treatment Application of Alternative De-icer or Brine Solution A reserve vehicle will be dedicated to the area when snow accumulations are forecast over 2cm
When enacted	The reserve vehicle will be enacted when there are over 2cm of snow accumulations forecast and the vehicle will be on site 1hr prior to this.
Who enacts	Winter Service Duty Officer / Severe Weather Manager
Who will manage the response	Winter Service Duty Officer supported by Depot Duty Supervisor
Are diversion routes to be used?	Diversion route would be on local authority routes and would be dependent on their condition.
Deployment of resources	1 Plough/Spreader 1 Reserve vehicle
Use of VMS	Notification of the Closure will be made using VMS at the following locations (subject to availability): M74N S of J8 Canderside
Other measures put in place	This road is on a CAT A patrol route and if required this vehicle can be utilised to patrol this particular section of the route as identified above.
Assistance from OC resources	The use of additional plant would be examined, as a reactionary measure, to assist in the clearance of snow.
Assistance from additional Transport Scotland resources	Assistance from Transport Scotland Communications to put message out to media.
Assistance from External Sources	Assistance from Police to close road to allow snow removal. Tractor and plough

4. Decision Making

4.1. Role of the Severe Weather Manager

The role of the SWM is strategic and has ultimate responsibility for the provision of the Winter Service. The Winter Service Duty Officer is delegated the responsibility of producing the daily Winter Service action plan in conjunction with the treatment matrices shown in Appendix A. The WSDO then informs the SWM of their proposal to get approval. The proposal on the rates of spread of de-icing material, the time of commencement of the routes and the routes to be covered will be made by the WSDO before 14:00 hours. The Severe Weather Manager will be available at all times to enable the WSDO to seek advice regarding any aspect of the Winter Service.

Full use will be made of the Met Desk and RWIS to determine the optimum time to commence precautionary treatments, to ensure that these are completed within two hours of commencement and in advance of sub-zero road surface temperatures.

4.2. Role of the Winter Service Duty Officer

The WSDO will have at his disposal robust procedures, detailed weather forecast information, actual road condition information including information from mobile surface temperature sensors and a communication system to the Winter Service Patrols and operations teams across the Network.

Following receipt of the daily Winter Service action plan, the WSDO will contact all Depots and DOM's informing each of the decision and timing of any treatment in the forthcoming 24hr period. The DOM's will then ensure the plan is enacted in each Depot. The WSDO will also upload the Daily Action Plan to the CMS before 15:00 each day.

All decisions will be based on the matrices below:

Table 6.11.1 – Decision Matrix for Winter Service

	Predicted Road Conditions		
Road Surface Temperature	Wet	Wet Patches	Dry
May fall below 1°C	Salt before frost	Salt before frost (See note A)	No action likely, monitor weather (See note A)
Expected to fall below 1°C		Salt before frost (see note B)	
	Salt after rain stops		
	Salt before frost and after rain stops (see note C)		
	Salt before frost		Monitor weather conditions
Expected snow	Salt before snow		
Freezing Rain	Salt before rainfall (see note C)		
	Salt during rainfall (see note C)		
	Salt after rainfall (see note C)		

Notes:

(a) Particular attention should be given to any possibility of water running across carriageways and such locations should be monitored and treated as required.

(b) When a weather forecast contains reference to expected hoarfrost considerable deposits of frost are likely to occur and close monitoring will be required. Particular attention should be given to the timing of precautionary treatments due to the possibility that salt deposited on a dry road may be dispersed before it can become effective.

(c) Under these circumstances rain will freeze on contact with running surfaces and full pre-treatment should be provided even on dry roads. This is a most serious condition and should be monitored closely and continuously throughout the danger period.

Table 6.11.2 – Treatment Matrix Spread Rates for Precautionary Treatments

Item	Forecast weather condition	Dry or damp road (grammes/square metre)	Road Surface Wet / Frost Susceptible / Surface Water Run-off Area (grammes/square metre)
1	RST higher than plus 1°C	0	0
2	RST lower than or equal to plus 1°C but higher than minus 2°C	10	20
3	RST lower than or equal to minus 2°C but higher than minus 5°C	15	30
4	RST lower than or equal to minus 5°C (or see TS alternative de-icer guidance)	30	40
5	Freezing Fog	Add 5 to Item 1 to 4 as applicable	Add 10 to Item 1 to 3 as applicable; otherwise as per item 4.
6	Freezing Rain	40	40
7	Snow Accumulations of any depth	40	40

Table 6.11.3 – Precautionary Treatment Potassium Acetate Spreading Rates

Conditions forecast	Spread Rate (litres/square metre)
Road surface temperature lower than or equal to plus 1°C but higher than minus 2°C	0.0156
Road surface temperature lower than or equal to minus 2°C but higher than minus 5°C	0.0312
Frost and road surface temperature lower than	a minimum of 0.0312 which should be increased with manufacturer's recommendations
-5°C	
Snow	
Freezing conditions after rain	

Table 6.11.4 – Snow or Ice Clearance Salt Spreading Rates

Road Surface Condition	Spreading Salt (grammes/square metre)	Ploughing	Blowing	Alternative De-Icer	Ice Breaker
Ice Formed	40	No	No	Where Applicable	No
Snow covering of less than 30mm	40	Yes	No	No	No
Snow covering exceeds 30mm	40	Yes	No	No	No
Snow accumulations due to prolonged snowfall	40	Yes (continuous)	Where applicable	No	No
Hard packed snow/ice less than 20mm thick	40 (successive treatments)	No	No	No	Where applicable
Hard packed snow/ice	salt/abrasive (successive)	No	No	Yes	Yes

Table 6.12.1 Snow Clearance

Condition Criteria	Category A Patrol Routes		Non Category A Patrol Routes	
	Dual Carriageways & Motorways		Dual Carriageways	Dual Wide Single 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	3 hours	3 hours	3 hours	3 hours

Table 6.12.2 Road Surface Wetness

Definition	Description	Water film thickness (for when using WFT instrumentation)
Dry Road	A road that shows no signs of water or dampness at the surface but may be just detectably darker. It may have moisture contained in pores below the surface that is not 'pumped' to the surface by traffic.	0 to 0.03mm (=0-30 g/m ²)
Damp Road	A road which is clearly dark but traffic does not generate any spray. This would be typical of a well-drained road when there has been no rainfall after 6 hours before the treatment time.	0.03 to 0.05mm (=30-50 g/m ²)
Wet Road	A road on which traffic produces fine spray but not small water droplets. This would be typical of a well-drained road when there has been rainfall up to 3 hours before the treatment time.	0.05 to 0.1mm (=50-100 g/m ²)
Very Wet Road and Flowing Water on Road*	A road on which traffic produces droplets of water in the air to visibly flowing water on the surface	Greater than 0.1mm (=>100 g/m ²)

4.2.1. Winter Service Patrol Mobilisation.

Amey will carry out Winter Service Patrols from 1 November to 30 April inclusive on those sections of Trunk Roads identified in Schedule 2, table 6.6.1 of the Project and further detailed in Appendix B of this plan

The requirement for Winter Service Patrols is initially determined by the Winter Service Duty Officer on receipt of the Met Desk daily forecast and after this has been analysed and enacted where the forecast minimum road surface temperature is equal to or less than +3°C, for the route associated with the Patrol Routes listed in Section 8 of this Plan. The WSDO will in addition instruct Winter Service Patrols on the daily action plan. All Patrols will operate out with the time specified when forecasts indicates snow and ice conditions causing an increased risk of delays and disruption to road users.

On occasions the forecast may initially predict road surface temperatures to be above +3°C, but a subsequent forecast update may predict road surface temperatures to drop to or below +3°C. Where such an update is received by the WSDO, Winter Service Patrols will be mobilised by the WSDO.

4.2.2. Proposals for Precautionary and Additional De-icing Treatments when Low Confidence Forecasts shall be issued for Variable Road and Weather Conditions

The minimum requirements for de-icing material spread rates for precautionary treatment shall be as provided in Tables 1, 2 and 3 of Appendix A.

When low confidence weather forecasts are issued by the Met Desk, and during marginal conditions, the WSDO's will monitor conditions using the RWIS. Amey's decision making process accounts for low confidence forecasts received and the WSDO will follow this process when considering the original and updated forecasts.

During marginal conditions the WSDO will always take a conservative approach. It is essential that during these periods the WSDO receives reports and information from the Winter Service Patrols. The WSDO shall instruct patrols to monitor conditions and, if necessary, initiate immediate precautionary treatments in accordance with the proposed de-icing material spread rates detailed in Table 2 of Appendix A.

Any high-risk areas will be monitored closely by the Winter Patrols and all decisions to grit will take these areas into account and decide treatment based on the worst locations. This will allow roads to remain as safe as possible on marginal nights. Patrol; drivers will call the WSDO during his patrol to report the conditions of the high-risk areas.

4.2.3. Proposals for Monitoring the Effectiveness of De-icing Materials

Following any precautionary treatment, the WSDO will continue to monitor the weather forecasts and the actual weather conditions including but not limited to reports from Winter Service Patrols, road condition information from the patrols and data from the RWIS. This information will be used to assess the effectiveness of the treatment and to instruct further treatment when considered necessary; in consideration of forecast conditions.

This is particularly important in situations where precipitation is forecast or has occurred resulting in a potential dilution of the amount of salt present and inherent reduction in the effectiveness of the treatment.

The presence and concentration of salt solution can be detected by Forecast and Road Sensors and displayed within the RWIS as 'Actual Freezing Temperature'. Actual Freezing Temperature is the theoretical Road Surface Temperature at which ice will form and the salt solution will cease to be effective. The detection of residual salt through the RWIS, however, depends upon the salt being in solution.

Where there is any doubt as to the ongoing effectiveness of any treatment undertaken, due to either dilution of salt from precipitation, or uncertainty of residual salt levels, the WSDO will err on the side of caution and will instruct further action to be undertaken. All patrols will also have MD30 mobile stations which will assist the WSDO in monitoring of actual road conditions along the patrol routes.

In extreme conditions when sodium chloride becomes less effective, Amey will use alternative de-icing materials, either pure or blended, in accordance with the table below:

Temperature (Road Surface Temperature)	Conventional Treatment Salt / Sodium Chloride Brine	Alternative Treatment Salt / Alternative Pre-Wetter*
RST down to -7oC	Standard treatment	Reduced spread rate possible
RST between -7oC and down to -10oC	Increased spread rate	Reduced spread rate possible
RST between -10oC and down to -12oC	Not effective	Standard treatment
RST below -12oC	Not effective	Increased spread rate
*Alternative Pre-Wetter;- Mag Chloride Brine – Structures only Sodium Chloride Brine / ABP blend (Safecote) Sodium Chloride Brine / ABP / Mag or Calcium Chloride Brine blend		

4.2.4. Road Closure Operational Procedures

Any decision to close a road will be taken by the Police.

The Severe Weather Manager, the The Directors and Traffic Scotland Control Centre 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 Network due to winter weather conditions.

The Police will notify the other Emergency Services of any road closures and in liaison with Traffic Scotland will arrange for the provision of advance warning signs and/or activate variable message signs or arrange media coverage where appropriate.

The WSDO will also notify the local Roads Authorities of any relevant road closures.

The WSDO will do hourly notifications to Traffic Scotland Control Room giving an update on ongoing works and an estimated re-opening time.

The WSDO shall immediately inform Traffic Scotland Control Centre and the The Directors of the reopening of the road.

Winter Service Plan

Amey will open snow and ice message signs (shown in section 19) prior to 1st October each year or as necessary before this date to provide information to the road user regarding weather and road conditions.

If in exceptionally severe conditions, such as blizzards resulting in reduced visibility and deep drifting snow; the Severe Weather Manager decides that it is unsafe for operational personnel to clear snow or ice, operations will be suspended until conditions improve. Such instances are likely to be extremely rare and the Severe Weather Manager will liaise with the police, the Director, the expert weather forecaster and Traffic Scotland prior to making such a decision.

4.2.5. Proposals for Dealing with Vulnerable Locations

These areas are listed in section 3 and will have dedicated plant during any severe weather.

4.2.6. Proposals for Using Alternative De-icers in Extreme Temperatures

The use of alternative de-icers will be considered in periods of extreme cold and on Vulnerable Locations when large volumes of snow are forecast. Before using these the SWM will consult with Transport Scotland and agree areas where these will be used. Amey will hold a minimum stock of 50,000 litres and when stock reaches 30,000 litres Amey will re-stock to full capacity within 7 days.

5. Liaison

5.1. Liaison and Communication with:

i. The Directors

Effective liaison with The Directors prior to, during and after the winter service season is essential to the successful delivery of the service. The Directors will be consulted during the preparation, approval and review of the Winter Service Plan on an annual basis.

The Directors and PAG will have the capability of remotely accessing electronic winter service records in real time.

Amey will continually review the need for snow fences and shelter belts on the Network and, where it considers that such provisions are necessary; will notify The Directors in writing.

Prior to the commencement of the Winter Service Period, The Directors will receive one controlled electronic copy of the Winter Service Plan.

ii. Police

In preparing the Winter Service Plan, Amey will consult with all relevant Police Authorities. The Police shall receive, from Amey, one controlled electronic copy of the Winter Service Plan. All relevant Police Authorities will be notified, by the WSDO, of all proposed treatments and patrols once known, but not normally later than 14:00 each day.

Amey will liaise closely with the Police to monitor adverse winter weather and travelling conditions. During periods of Severe Weather, the Severe Weather Manager and WSDO will work closely with the Police who may supply information to the media regarding travelling conditions on the Network.

Any decision to close a road will always be taken by the Police. Amey will liaise with the Police regarding road closures as detailed in Section 5.2.4 of this document.

iii. Traffic Scotland Operator

Amey will, prior to the commencement of each winter service season, issue the Traffic Scotland Operator one controlled electronic copy of the Winter Service Plan.

During the Winter Service Period, the Operating Company shall report the known effect of adverse weather and travelling conditions to the Traffic Scotland Operator

Traffic Scotland will be notified by the WSDO of all planned treatments and patrols by 14:00 each day. In addition, should messages be required to be displayed on electronic warning systems and variable message signs, Traffic Scotland Control Centre will be notified by the WSDO.

During periods of severe weather the WSDO will undertake regular

reviews, at no less than hourly intervals, of the information published within the severe weather bulletin board, and update this information via the Traffic Scotland Roadwork's diary terminal:

(i) if he is aware of any change in the situation at any location logged on the bulletin board and

(ii) if he is aware of any other locations where severe weather is affecting driving conditions or traffic movements on the Trunk Road network.

iv. Adjacent Road and Highway Authorities

In preparing the Winter Service Plan, Amey will consult with all adjacent Local Roads Authorities. They will receive, from Amey, one controlled electronic copy of the Winter Service Plan. Adjacent Local Roads Authorities will be notified by the WSDO of all planned treatments and patrols by 14:00 each day.

Amey will liaise closely with all adjacent Local Roads Authorities to monitor adverse winter weather and travelling conditions

A consistent level of service at boundary interfaces with adjacent Trunk Road Operating Companies is essential to allow the safe movement of road users and to minimise delays and disruption caused by snow and ice conditions.

During the annual preparation and review of the Winter Service Plan, Amey will consult with adjacent Trunk Road Operating Companies. They shall receive one controlled paper copy and one controlled electronic copy of the Winter Service Plan. The WSDO will notify adjacent Trunk Road Operating Companies of all proposed treatments and patrols once known, but not normally later than 14:00 each day.

During periods of severe weather, the WSDO will liaise and update the adjacent Trunk Road Operating Companies regarding the current status of the prevailing weather conditions and Amey's winter service operations.

Amey will provide resources to assist with Transport Scotland Snow Plans on the M80, M74 and M77. The link below will take you to the snow plans:

[NMC - South West Unit - Shared Records - Transport Scotland Snow Plans - All Documents \(sharepoint.com\)](#)

v. Network Rail

As there are no railway level crossings, but Amey will continue to liaise with Network Rail when appropriate and take caution when clearing snow adjacent to railway lines.

vi. Other Operational Partners

We will ensure we communicate with all parties who have an input to the Winter Service. Our SWM will work with our Media and Communications Officer (MCO) to develop our Communication Plan which will be vital for the effective management of Winter Services. The WSP will include contact details for relevant stakeholders and communication arrangements, including those for notification of events such as road closures. In

addition we will include Winter as a section in the liaison meetings and for all consultation we will request signed consultation forms from all parties.

Our MCO will work with our SWM and Press Transport Scotland (PTS) to develop an annual Winter Service publicity leaflet if required. In collaboration with PTS and other Operating Companies, we will undertake an annual winter service media relations and communications programme, promoting our winter-readiness and safe driving messages.

Each day the WSDO will use Social media to update the public of any treatments planned or completed on the Network. During any severe weather period or incident the WSDO will notify the SWM and MCO who will deal with all Social Media notification to allow the WSDO to concentrate on ensuring the roads are free flowing.

Consultation certificates for all parties can be found in the below link

[NMC - South West Unit - Shared Records - Consultation Certificates - All Documents \(sharepoint.com\)](#)

6. Mutual Aid Arrangements

6.1. Mutual aid

Mutual aid will only be executed by agreement from Transport Scotland. A list of contacts for adjacent Operating Companies and Local Authorities will be held by the SWM to allow offers of mutual aid to be made, subject to the availability of resources. This aid may take the form of providing salt stocks or operated winter service plant. Whenever such a request is received, we will endeavour to make this aid available at the earliest opportunity, without compromising the level of service being provided on the Network.

6.1.1.

When Transport Scotland enacts the Snow Plans for the M77, M80 and M74 Amey will liaise closely with the relevant partners and all agreed resources will be deployed to ensure the Snow Plans are fully operational. The link below is a direct access to the Snow Plans

To be updated once OC's are changed

7. Winter Service Patrols

From 1st November to 30th April inclusive, when the forecast minimum road surface temperature for the Network is less than or equal to 3°C, the WSDO will instruct the relevant Winter Service Patrols covering the routes detailed in Schedule 2 Table 6.6.1. All Winter Service Patrol vehicles will have cameras fitted in accordance with Schedule 5 Specification & Drawings, 179AR Dash Cams.

Winter Service Patrols will:

- Patrol all carriageways of Trunk Roads, excluding slip roads, identified in Schedule 2 Table 6.6.1.
- Report on road conditions encountered to, and take instruction on treatments from, the Winter Service Duty Officer
- Provide an immediate response when instructed to carry out treatments or other de-icing Operations by the Winter Service Duty Officer
- Deal with any situation on the Winter Service Patrol route requiring immediate attention
- Pay particular attention to Vulnerable Locations
- Undertake short stops for minor maintenance such as clearing grips and removing debris, and
- Provide daily reports.

Category A Winter Service Patrols shall operate from 02:00 to 10:00 at two hourly intervals as described in Schedule 2 The routes will be designed such that each Winter Service Patrol alternates between a one hour patrol and a one hour standby on each route. All patrol routes shall be completed within one hour of commencement covering both directions and allow for a break.

The routes for dual carriageways and motorways shall be further designed so that the patrol vehicle, when working, is able to attend any location on its route within 30 minutes of receiving a call from the Winter Service Duty Officer.

Operating periods for Winter Service Patrols shall be between 02:00hrs and 04:00hrs, 04:00hrs and 06:00hrs, 06:00hrs and 08:00hrs and 08:00hrs and 10:00hrs.

Category B Winter Service Patrols shall operate from 00:00hrs to 09:00hrs at three hourly intervals covering both directions and allow for a break.. Operating periods for Category B Winter Service Patrols shall be between 00:00hrs and 03:00hrs, 03:00hrs and 06:00hrs and 06:00hrs and 09:00hrs.

All patrols shall operate out with the specified times when forecasts indicate an increased risk of delays and disruption or snow is forecast on the routes.

A list of all Patrols and their category are listed below:

Route	Category
M74 from J 1 (Kingston) to J 12 (Millbank)	A
M77 from M8 (Plantation) to Malletsheugh	A
M8 from Junction 10 to A8 Langbank Roundabout	A
M898 and A898 Erskine Bridge	A
M898 /A82from Erskine Bridge to Stoneymollan Roundabout	A
M80 from M8 (Provan) to J 2 (Robroyston)	A

A8 from Greenock to Langbank Roundabout	A
A725/A726 Whistleberry Toll Roundabout to junction with West Mains Road Roundabout	A
A77 from Meiklewood at junction with B7038 to Stranraer at junction with A75	A
A77 between Girvan and Whitletts Roundabout	A
A78 from Dutch House Roundabout to Pennyburn Roundabout	A
A78 from Pennyburn Roundabout to Greenock Junction with A8	B
A76 Kilmaronock from junction with A77 to Dumfries at junction with A75	B
A75 Stranraer to Gretna at junction with A74(M)	B
A701 Dumfries to A74(M) Junction 15	B
A737 from M8 (St James Interchange) to Kilwinning at junction with A738	A

7.1. Winter Service Plant and Reporting

7.1.1. Winter Plant for Patrols will be:

- fully loaded with de-icing material to provide an immediate response to carry out precautionary treatments or other de-icing Operations for carriageways
- Equipped with on board data logging equipment to record actions taken by Winter Service Patrols,
- Be fitted with MD30 road condition sensors
- Will not be used to undertake precautionary treatments
- For every 3 patrol vehicles we will have 1 reserve vehicle
- Dash Cams in line with Schedule 5 Specification

Winter Service Plan



Patrol routes are as follows:

Name	Category (A/B)	Route	Depot	Route Description	Depot to Route (Km)	Time to Route (mins)	Patrol Length (Km)	Average Speed (Km/hr)	Route Time	Route to Depot
Patrol 1	A	M80 Jct 3 to M8 Jct 27 Arklestone	Polmadie P1	Depot to M8 jct 24 to jct 29 and return to M8 jct 13 to M80 jct 3 and return to M8 jct 13 and M8 w/b to jct 24	5	10	51	60	50 mins	12
Patrol 2	A	M74 Jct 3 to M77 Jct 3 Newton Mearns	Polmadie P2	Depot to M74 w/b jct 3 to M8 jct 22 to M77 jct 5 and return to M8 jct 22 to M74 jct 3	12	15	44	60	45 mins	12
Patrol 3	A	A725 East Kilbride to M74 jct 8	Polmadie P3	Depot to A725 River clyde bridge to A725 Whirlies to A726 (macdonalds roundabout) to A725 Raith to M74 jct 8 and return to M74 jct 5	16	20	50	60	50 mins	17
Patrol 4	A	M74 jct 8 to M74 jct 12	Polmadie P4	Depot to M74 jct 8 to jct 12 and turn at jct 13 and return to M74 jct 8	27	30	61	70	53 mins	28
Patrol 5	A	A737 Johnstone to Kilwinning	Paisley P2	Depot to A737 Johnstone interchange A737 Johnstone interchange to A737 Howgate Kilwinning to A738 Pennyburn roundabout to A737 Howgate to A737 Johnstone Interchange	6	10	59	60	1 hr	6
Patrol 6	A	A82 Balloch to A737 Johnstone	Paisley P3	Depot to M8 jct 30 w/b off slip to A898 Erskine Bridge to A82 Stoneymollan roundabout to A898 Erskine Bridge to M8 jct 29 to A737 to A737 Brookfield Interchange to M8 w/b to M898 to A898 Erskine Bridge	6	10	57	70	50 min	6
Patrol 7	A	A8 Greenock to Jct 27 Arklestone	Paisley P4	Depot to M8 jct 30 e/b to A8 Woodhall roundabout then return M8 e/b to jct 27 (Arklestone) then return to M8 w/b at end of jct 30 e/b on slip.	6	10	40	60	43 mins	6
Patrol 8	A	A77 Meiklewood to A77 Dutchhouse roundabout and A78 to Pennyburn	Ayr P2	Depot to A77 Dutchhouse roundabout to A77 Meiklewood to A77 Dutchhouse to A78 Pennyburn roundabout to A78 Dutchhouse roundabout	13	20	72	75	60 mins	13
Patrol 9	A	A77 Dutchhouse roundabout to	Ayr P3	Depot to A77 Dutchhouse roundabout to A719 jct Turnberry to Dutchhouse roundabout Ayr.	13	20	64	64	1.0 hrs	13

Winter Service Plan



		A719 jct Turnberry								
Patrol 10	A	A719 turnberry to A77 Ballantrae	Stranraer P1	Depot to a77 Ballantrae to Shallochpark roundabout to Henrietta St to Turnberry A719 jct to Dalrymple St Girvan to Shallochpark roundabout to Ballantrae	29	35	64	64	60 mins	29
Patrol 11	A	A77 Ballantrae to A75 Stranraer	Stranraer P2	Depot to A77 / A75 jct at Stair dr to A77 Ballantrae to A77 / A75 jct	1.5	5	55	60	55	1.5
Patrol 12	B	A78 Pennyburn to A8 Greenock	Paisley P1	Depot to A8 Woodhall roundabout to A8 Bullring Greenock to A78 Bankfoot roundabout to A78 Largs to A78 Pennyburn roundabout and return to A8 Bullring and then A8 Woodhall roundabout	17	25	109	50	2.2 hr	17
Patrol 13	B	A76 Bellfield to Dumfries	Ayr P1	Depot to A76 Dettingen roundabout A76 dettingen to A76 Bellfield roundabout A76 Bellfield to A75 roundabout on Dumfries bypass A75 Dumfries to A76 / A70 Dettingen roundabout	14	20	179	60	3 hr	14
Patrol 14	B	A75 B794 jct to A701 Moffat to Gretna	Dumfries P1	Depot to A75 A780 roundabout A75 to B794 jct at east of Castle Douglas to A75 /A701 roundabout to A701 to M74 and then return via A701 to A75 Dumfries bypass A75 Dumfries bypass to A780 roundabout A780 roundabout to A75 / M74 at Gretna U-Turn and return A75 to A780 roundabout Return to A701 / A75 roundabout	0.5	2	182	64	2.8 hr	0.5
Patrol 15	B	A75 Stranraer to B794 jct Castle Douglas	Castle Douglas P1	Depot to A75 B794 jct east of Castle Douglas A75 B794 jct east of Castle Douglas to A77 A75 Stair Drive Stranraer and return to A75 B794 jct east of Castle Douglas	6	10	184	64	2.8 hrs	6



7.1.2. Winter Service Patrol Report

Winter Service Patrols will report on road conditions encountered to, and receive instructions from, the WSDO. Winter Service Patrols will provide daily reports to the WSDO using a Patrol Report Record Form below

Table 6.1.1 - Winter Service Patrol Record

Winter Service Patrol start and end time	Weather conditions for Winter		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/m²)	Approximate location of salting or other action	Start Time	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 (e.g. dead dog, fallen tree, and other obstructions.) from surface.
- 7 Pre-wetted Salt
- 8 Dry Salt
- 9 Potassium Acetate

8.Treatment Routes

8.1.1.

- i. Precautionary treatment routes, including sections shared with Adjacent Road Authority

The precautionary treatment routes listed below have been separated into distinct categories:

Carriageway precautionary treatments for 20g/m² and 40g/m²

Sections of footways, footbridges and cycleways.

Table 6.1.2 and 6.1.3 - Precautionary Treatment Routes determined by the Operating Company (20 and 40 gram routes) - Carriageway Route

Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)		De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Route Tonnage at 40 g/sq m pre-wet (tonne)	Treatment Type
1	Polmadie	A725 Whistleberry to EastKilbride and M74 to jct 7	15	15	105		38	53	103	22	34.2	6.3	Ayr	4.8	9.6	Pre-wet
2	Polmadie	M74 jct 3A (DBFO boundary) to Junction 1	9.3	15	92.5		43.9	53	105	3.6	41.7	7.2	Ayr	6.3	12.6	Pre-wet
3	Polmadie	M8 jct 12 to M8 jct 26 and M80 to jct 2 with M74 Jct 1	18.7	25	66.5		39	36	110	11.5	40.3	6.8	Paisley	5.3	10.6	Pre-wet
4	Polmadie	M74 jct 7 to M74 jct 10	16.7	15	73		25	33	65	17	30.2	8.7	Ayr	4.3	8.6	Pre-wet
5	Polmadie	M74 Jct 8 to M74 Jct 12	16.7	15	104		21	60	89	16.5	16.6	8.8	Ayr	3.8	7.6	Pre-wet
6	Polmadie	M8 jct 10 to J19 and M80	14.9	20	92.3		52.5	50	110	16.6	42.4	7.1	Paisley	7.5	15.0	Pre-wet
7	Polmadie	M8 Secondary e/b and M77 Junction 1 to Jct 5	7	10	77.7		43.9	47	99	9.6	46.6	8.7	Ayr	7.6	15.2	Pre-wet
8	Polmadie	M74 J9 - J12	21.8	19	111		24	28	90	29	20.9	10	Ayr	4.8	9.6	Pre-wet
9	Paisley	Erskine, Kingston, White Cart viaduct and St James Interchange	9.8	10	81.8		6.8	45	110	13.3	6.6	10	Polmadie			Potassium Acetate spray
10	Paisley	M8 J29 to Jct 30 and A82 to Stoneymollen	12	20	68.4		50	53	77	12.5	53.8	6.9	Polmadie	6.9	13.8	Pre-wet

11	Paisley	M8 Jct 29 to Jct 22 and A737 to Kilwinning	10.6	14	74		55	43	104	12.9	56.4	7.1	Ayr	7.8	15.6	Pre-wet
Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)		De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Route Tonnage at 40 g/sq m pre-wet (tonne)	Treatment Type
12	Paisley	M8 Jct 30 to A8 Greenock and A82 slip roads	13	20	86		48.6	51	101	12.4	43.6	7	Polmadie	6.8	13.6	Pre-wet
13	Paisley	A737 slips and M8 J29 - J24	11	15	88.7		33.5	51	105	9.7	30.6	6.7	Polmadie	4.5	9.0	Pre-wet
14	Paisley	A78 Carlsdyke Greenock to Bankfoot roundabout	16.7	20	60.9		38.9	38	97	21.6	39.2	7	Polmadie	5.4	10.8	Pre-wet
15	Ayr	A76 Mauchline Crossroads roundabout – Sanquar Industrial Estate	21.2	30	70.3		45.2	37	95	21.1	45.4	7	Dumfries	6.3	12.6	Pre-wet
16	Ayr	A77 Ayr Depot to Dutchhouse - Girvan	0	0	79.3		53.4	31	110	9.9	70.1	7	Stranraer	7.5	15.0	Pre-wet
17	Ayr	A77 Ayr - Kilmarnock and A76 to Cross roads roundabout, A78 Dutchhouse to Meadowhead	6	10	103.3		59	53	90	6	37.1	7	Dumfries	8.3	16.6	Pre-wet
18	Ayr	A78 Meadowhead - Hunterston	14.8	20	85.9		49.4	47	110	19.4	41.1	8	Paisley	7.9	15.8	Pre-wet

Winter Service Plan



20	Ayr	A78 Hunterston ore terminal roundabout to Bankfoot r/about	48.7	55	46.5		23.8	47	60	54.4	15.9	7	Paisley	3.3	6.6	Pre-wet
Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)		De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Route Tonnage at 40 g/sq m pre-wet (tonne)	Treatment Type
21	Dumfries	Dumfries A701 roundabout to Beattock	3.6	7	38.6		32.2	51	45	33.6	42.5	7	Polmadie	4.5	9.0	Pre-wet
22	Dumfries	A75 Glasgow Rd roundabout to Gretna	6.3	10	63.3		50	38	99	1.9	69.9	7.5	Polmadie	7.5	15.0	Pre-wet
23	Dumfries	A76 Glasgow Rd roundabout - Mennock	6.3	10	50.7		44.3	52	58	40.3	45.5	7.5	Ayr	6.6	13.2	Pre-wet
24	Castle Douglas	A75 Creetown East - Hightae roundabout, start of Castle douglas bypass	38.3	50	37.7		33.7	54	42	3.5	42.4	8	Stranraer	5.4	10.8	Pre-wet
25	Castle Douglas	A75 Hightae roundabout, start of Castle douglas bypass - Glasgow Rd roundabout	3.5	10	47.4		41.6	50	57	21.2	57.7	8	Dumfries	6.7	13.4	Pre-wet
26	Stranraer	A77 Stranraer - Girvan	1.4	5	62.4		55.9	43	87	48	50.0	7	Ayr	7.8	15.6	Pre-wet
27	Stranraer	A75 Stranraer - Creetown East	1.4	5	60.2		50.6	36	100	49.4	45.6	8	Castle Douglas	8.1	16.2	Pre-wet

Table 6.1.2a and 6.1.3a - Precautionary Treatment Routes determined by the Operating Company (20 and 40 gram routes) - Carriageway Route with 50% staff impact from Covid / driver shortages

Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)	De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Vehicle Capacity Required	Treatment Type
Rev Rt 1 (1 & 2)	Polmadie	A725 Whistleberry to EastKilbride & M74 J7 Slip and M74 jct 3A (DBFO boundary) to Junction 1	15	15	197.5	81.9	53	220	3.6	N/A	7	Ayr	11.5	9m3	Pre-wet
Rev Rt 2 (3 & 6)	Polmadie	M8 jct 12 to M8 jct 26 and M80 and M74 J1	18.7	22	150	91.5	50	180	10	N/A	8	Paisley	12.8	12m3	Pre-wet
Rev Rt 3 (4 & 7)	Polmadie	M74 J6 to J8 & M8 Secondary e/b and M77 Junction 1 to Jct 5	16.7	15	177	68.9	50	210	17	N/A	8.8	Ayr	12.1	9m3	Pre-wet
Rev Rt 4 (5 & 8)	Polmadie	M74 J8 - J12	7	10	188.7	45	50	226	20	N/A	9	Paisley	8.1	9m3	Pre-wet
Rev Rt 5 (9 & 10)	Paisley	Erskine, Kingston, White Cart viaduct and St James Interchange and M8 J29 to Jct 30 and A82	13	15	150.2	56.8	50	180	12	N/A	8.5	Polmadie	6.9 and 1,062 litres of Acetate	12m3 Combi	Pre-wet and Spray

Winter Service Plan



Rev Rt 6 (11 & 13)	Paisley	M8 Jct 29 to Jct 22 and A737 to Kilwinning	10.6	14	162.7	94	50	209	9.7	N/A	7	Polmadie	12.3	9m3	Pre-wet
Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)	De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Vehicle Capacity Required	Treatment Type
Rev Rt 7 (12 & 14)		M8 Jct 30 to A8 Greenock and A82 slip roads and A78 Carlsdyke Greenock to Bankfoot roundabout	13	20	106	87.5	45	141	15	N/A	7	Polmadie	12.2	9m3	Pre-wet
Rev Rt 8 (15 & 17)	Ayr	M77 Ayr to Kilmarnock and A76 Kilmarnock to Menzies	12.3	18	130	92.8	45	173	9.8	N/A	7	Paisley	13	12m3	Pre-wet
Rev Rt 9 (16)	Ayr	A77 Ayr (Bankfield Roundabout)- Girvan and Ayr Bypass and A78	9	12	127.6	108.1	40	190	9.2	N/A	7	Paisley	15.2	12m3	Pre-wet
Rev Rt 10 (18 & 20)	Ayr	A78 Hunterston ore terminal roundabout to Bankfoot r/about and A78 slips and from Warrix Interchange - Hunterston	14.8	20	115.2	73.2	45	153	19.4	N/A	7.5	Paisley	11.2	9m3	Pre-wet
Rev Rt 11 (21 & 22)	Dumfries	Dumfries A701 roundabout to Beattock and A75 Glasgow Rd roundabout to Gretna	3.6	7	101.9	82.2	45	136	1.9	N/A	7.5	Castle Douglas	12	9m3	Pre-wet



Rev Rt 12 (23)	Dumfries	A76 Glasgow Rd roundabout - Mennock	6.3	10	50.7	44.3	52	58	40.3	45.5	7.5	Ayr	6.6	6m3	Pre-wet
Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)	De- icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Vehicles Capacity Required	Treatment Type
Rev Rt 13 (24 & 25)	Castle Douglas	A75 Glasgow Road roundabout, Dunfries to Creetown East	21	20	85.1	75.3	45	114	3.5	N/A	8	Dumfries	12.1	9m3	Pre-wet
Rev Rt 14 (26 & 27)	Stranraer	A77 Girvan to Stranraer and A75 Stranraer to Creetown East	1.4	5	122.6	106.5	40	184	49.4	N/A	7.5	Castle Douglas	15.9	12m3	Pre-wet

Winter Service Plan



Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Total Route Length (km)	De-icing Length (km)	Average Speed (kph)	Route Time (mins)	Route to Depot (km)	Route Efficiency	Average Width of Route (m)	Alternative Access	Route Tonnage at 20 g/sq m (tonne)	Route Tonnage at 40 g/sq m pre-wet (tonne)	Treatment Type
1	Polmadie	East Kilbride Footways	22.1	30	21.7	11.7	14	90	10	21.7	2	Ayr	468.0		Brine spray
2	Ayr	Minishant, Maybole and Kirkoswald	14	18	23	10	12	112	26.4	15.1	2	Stranraer	400.0		Brine spray
3	Ayr	Girvan	38.6	40	8.3	8.3	6	90	38.7	9.7	2	Stranraer	332.0		Brine spray
4	Ayr	Fairlie, Seamill, Kilwinning, Beith	44.1	50	50.6	15	28	109	45.8	10.1	2	Erskine	600.0		Brine spray
5	Ayr	Mauchline, New Cumnock, Kirkcubright	15.7	20	44.2	9.8	24	109	38.2	10.1	2	Dumfries	392.0		Brine spray
6	Stranraer	Lendalfoot, Ballantrae	39.4	45	11.9	3.4	11	68	30	4.2	2	Ayr	136.0		Brine spray
7	Stranraer	Cairnryan, A75 Stranraer	10	15	14.1	4.5	15	55	1.5	17.6	2	Ayr	180.0		Brine spray
8	Paisley	Port Glasgow, Greenock	19.3	35	21	21	11	110	14.9	38.0	2	Polmadie	840.0		Brine spray
9	Paisley	Dumbarton	6.2	35	8.8	8.8	7	80	7.1	39.8	2	Polmadie	352.0		Brine spray
10	Paisley	Wemyss Bay, Skelmorlie, Largs	32.3	45	17.8	12.3	10	106	44.2	13.0	2	Ayr	492.0		Brine spray

Winter Service Plan

11	Dumfries	Sanquhar, Carronbridge, Thornhill, Closeburn, Lincluden	44.7	50	46.95	7.65	24	118	7.5	7.7	2	Ayr	306.0		Brine spray
12	Dumfries	Springholm, Crocketford, Locharbriggs	25.1	35	29.7	9.1	18	100	6.6	14.8	2	Ayr	364.0		Brine spray

Footway Routes

All precautionary treatment routes have been designed to enable completion of treatment routes, including contiguous laybys but excluding remote laybys, within two hours of commencement of the treatment. Precautionary treatment routes will mobilise, commence and complete before snow and ice conditions are forecast to occur. Immediate responses for unplanned treatments will mobilise and commence within one hour of the WSDO's instruction.

The Erskine Bridge Complex, Kingston Bridge Complex, White Cart Viaduct, St James Interchange, A725 footbridge at Kingsway, A726 footbridge at Queensway and A77 hansom bridge footway will be treated with Potassium Acetate.

De-icing vehicles and drivers will be assigned to specific routes to promote route ownership and knowledge, but all drivers will have a basic knowledge of every precautionary treatment route and will be capable of undertaking any such route if necessary.

Precautionary treatment spread rates, specified by the WSDO on the daily action plan, will be in accordance with the decision matrix tables in section 4.

Additional care will be taken at roadworks, where in addition to areas currently being trafficked, all other areas, including contraflows, likely to be opened to traffic are treated. Traffic management equipment, including cones and cylinders, may disrupt distribution of salt, and liaison with engineering staff responsible for roadwork sites is essential if complete and robust treatment is to be ensured. Where more extensive traffic management measures prevent adequate precautionary treatment application, separate treatment will be carried out in advance of the carriageway being re-opened to traffic.

No Winter Constructional Plant will be driven above the legal speed limit at any time or at a speed greater than 40mph during precautionary treatment operations on de-restricted dual carriageways or motorways. On single carriageway roads de-icing material will be spread across the full width of the road in a single pass with the Winter Constructional Plant travelling at a speed no greater than 30mph.

- ii. Contingency plans for alternative access to precautionary treatment routes where normal access is prevented due to weather related or other incidents.

Amey have put in place arrangements and resources which will ensure that carriageway precautionary treatments will be provided for sections of the Network where normal access is prevented due to weather or other related incidents.

These contingency arrangements provide resources for precautionary treatments using an alternative access. Front Line Winter Constructional Plant will carry out treatment from an alternative access, should, for whatever reason, precautionary treatment not be able to be carried out from source Depot. This may include using a diversion route to get to the start of the route or a gritter from another Depot carrying out the treatment.

iii. Locations of De-icing Material Loading and Mixing Points.

De-icing materials will be stored in Polmadie, Paisley, Ayr, Wayside (Dumfries), Castle Douglas, Stranraer and Stonehouse (Larkhall). All of which will be the loading points for the Project.

iv. Cycling Facilities in Urban Areas.

Details of the precautionary treatment footway categories for footways and cycling facilities are included in Appendix 8 of this Winter Service Plan. These categories have been reviewed and routes developed to ensure compliance with contractual obligations.

8.1.2. Location of Cycling Facilities in Urban Areas

The table below shows locations

9.Snow and Ice Clearance

9.1.Snow Clearing

9.1.1. Arrangements and Resources for Managing Snowfall

Amey will, so far as is reasonably practicable, ensure sufficient resources are available to prevent snow or ice from remaining on the Network and put into place specific arrangements to ensure that these resources will be mobilised. When the Met Desk forecasts snow on any route frontline and reserve plant will be mobilised to be on route 1 hour prior to the snow arriving.

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

All Front Line, Reserve and Additional Winter Constructional Plant, apart from snow blowers, will be equipped with snow ploughs to effectively clear ice and snow. Non-salting vehicles fitted with ploughs, will also be mobilised to aid echelon ploughing on dual carriageways and motorways. All ploughs will be lowered to fully contact carriageway without damage to surface equipment on surface or the blade by utilisation of a hydraulic float. A list of ploughing routes can be found in Appendix D Annex 4. Snow or ice shall be cleared by the in a manner that prevents it from landing on adjacent or underlying paved surfaces.

Conditions and de-icing spread rates for snow and ice clearance of carriageways are detailed in the treatment matrix. There will also be a stock of alternative de-icers which can be used instead of or mixed with Brine that will allow more extreme temperatures to be treated.

The clearance procedure for dual carriageways and motorways will be echelon ploughing (2 or more vehicles moving in the same direction, one behind each other on different lanes). Ploughing techniques to be adopted are shown in Figure 11/1 below. In addition

there will be 4 Snow Blowers available solely for usage on the Unit. These snow blowers will as a minimum comply with Schedule 2 Section 6.5.14. We will have frontline plant capable of fitting and operating the Ice Breakers. When machine snow clearance is not suitable (including clearance around carriageway obstructions) hand snow clearance and salting shall be carried out.

Ploughing Techniques
<p>2 Lane Dual Carriageway Roads without Hardshoulders: The method of clearance, on both carriageways, should be:</p> <ul style="list-style-type: none"> (a) plough the left hand lane to the verge; (b) plough the right hand lane to the central reservation
<p>2 Lane Dual Carriageway Roads with Hardshoulders: The method of clearance, on both carriageways, should be:</p> <ul style="list-style-type: none"> (a) plough the left hand lane to the Hardshoulder; (b) plough the right hand lane to the central reservation.; (c) plough the Hardshoulder to the verge
<p>3 Lane Dual Carriageway Roads without Hardshoulders: The method of clearance, on both carriageways, shall be:</p> <ul style="list-style-type: none"> (a) plough the centre lane to the left hand lane; (b) plough the left hand lane to the verge; (c) plough the right hand lane to the central reservation
<p>3 Lane Dual Carriageway Roads with Hardshoulders: The method of clearance, on both carriageways, shall be :</p> <ul style="list-style-type: none"> (a) plough the centre lane to the left hand lane; (b) plough the left hand lane to the Hardshoulder; (c) plough the right hand lane to the central reservation; (d) plough the Hardshoulder to the verge

Figure 11/1: Ploughing Techniques

Winter Service Plan



The ploughing routes are below in table 6.1.4:

Route	Depot	Description	Depot to Route (km)	Time to Route (mins)	Average Speed (km/hr)	Route time (mins)	Route to Depot (km)	Alternative Access	Average Width Route
C1	Ayr	Plough S/B c/way - A76 Bellfield to Crossroads - Plough overtaking lane S/B from Rbt - Plough S/B lane to Sanquhar S/B - U Turn - Plough A76 N/B to Garleffan Rbt, New Cumnock - Plough overtaking lane from Garleffan Rbt - Plough N/B lane to Skerrington Rbt - Circle Rbt - Plough S/B to Garleffan Rbt - Plough S/B lane from Garleffan Rbt to Crossroads Rbt - Circle Rbt - Plough S/B lane to Crosshands Rbt - U turn - Plough N/B from Crossroads to Bellfield Rbt	12	15	38	2h 38 min	12	Dumfries	8.3
C2	Ayr	Ayr depot, turn left, echelon plough A77 N/b to Dutch House, U turn, echelon plough A77 S/B, Dutch House to Whitletts rdbt. U turn, echelon plough A77 N/b to Sandyford rdbt. U turn, echelon plough A77 S/B from Whitletts rdbt to Holmston to Bankfield. Route vehicle to continue on route to Girvan; Patrol vehicle to plough A77 N/b Bankfield to Whitletts (times two passes). If necessary; Patrol vehicle to reload at depot and travel to Turnberry climbing lane to assist Route vehicle. Route vehicle to plough A77 S/B to Girvan; U turn at Shallochmill rdbt, then plough A77 N/b to Bankfield.	1	5	38	2hr 38 min	8	Stranraer	7.8
C3	Ayr	Start route A77 Dutch House N/b. Echelon plough A77 N/b to Connect boundary at Meiklewood. U turn; echelon plough A77 S/B	5	8			5		

Winter Service Plan



		Meiklewood to Dutch House. Route vehicle to travel A77 N/b and clear slip roads in turn; U turn at Meiklewood; clear A77 S/B slip roads in turn. Patrol vehicle available to clear laybys, bus stops then assist other routes as required.			37	1hr 49 min		Polmadie / Paisley	7.5
C4	Ayr	Start route A77 Dutch House. Echelon plough A78 N/b to Montfode; U turn, echelon plough A78 S/B to Dutch House. Route vehicle to travel to Montfode, plough A78 N/b to Hunterston rdbt; U turn, plough A78 S/B to Montfode. Reserve vehicle to travel A78 N/b and clear slip roads, laybys and bus stops in turn; also 3 lane section; U-turn Pennyburn rdbt; travel A78 S/B; clear slip roads, laybys and bus stops in turn and also 3 lane section.	5	8	40	2hr 20 min	38	Polmadie / Paisley	8.8
S1	Stranraer	Start A75 at A751 jct. Plough A75 e/b from A751 junction to East end of Cairntop to Barlae, U turn and return A75 w/b to A751. Route vehicle to travel A751 n/b, A77 S/B, A75 e/b, Patrol vehicle to travel A75 w/b, A77 n/b, A751 S/B. Both vehicles to travel to A77 Innermessan, plough n/b to Shallochpark rdbt, echelon plough wide sections and overtaking lanes as encountered. Plough A77 S/B Shallochpark rdbt to Innermessan, echelon plough wide sections and overtaking lanes as encountered.	3	5	37	4hr 30 min	6	Ayr, Castle Douglas	8.6
CD1	Castle Douglas	Start route A75 W/b from B794 Haugh of Urr jct. Echelon plough Ramhill climbing lane. Both vehicles to plough A75 W/b; echelon plough wide sections and overtaking lanes as encountered; to start Cairntop - Barlae dual c/way; U turn. Plough A75 E/b Barlae to Castle Douglas, echelon plough wide sections and	6	7	40	3hrs	2	Stranraer, Dumfries	8.3

Winter Service Plan



		overtaking lanes as encountered. Reserve vehicle to clear laybys and bus stops.							
CD2	Castle Douglas	Plough E/B c/way - A75 E/B Castle Douglas to The Glen - Plough O/S lane The Glen - Plough E/B from The Glen to Glasgow Rd Rbt - Circle Glasgow Rd Rbt - Plough A75 W/B to the Glen - Plough O/S lane The Glen - Turn Shawhead Jct - Plough N/S lane The Glen - Circle Cargenbridge Rbt - Plough A75 West to the Glen - Plough N/S lane The Glen - Plough A75 The Glen to Castle Douglas	0.25	1 min	37	2h 03 min	0.25	Dumfries, Stranraer,	7.3
D1	Dumfries	Plough A701 S/B from Beattock east rdbt to Dalscone rdbt. Reload at Wayside depot, plough A75 e/b; lane 2 to c/r at Gretna dual, U turn at slip road, plough A75 w/b; lane 2 to c/r - U turn where possible; plough A75 e/b; lane 1 of Gretna dual to verge, U turn at slip road, plough A75 w/b; lane 1 to verge. Plough A75 w/b to west end Collin bypass.	34	45	38	3hr : 14min		Polmadie	8.3
D2	Dumfries	Plough A75 E/B c/way from Annan Road rdbt - Lane 2 to c/r, East end Collin Bypass. U turn, Lane 2 to c/r, Collin Bypass w/b, A75 w/b to A75 Cuckoo Bridge. Plough A76 n/b to Dalpeddar o/t lane, plough lane 2, U turn B797 jct, plough lane 2 S/B, u turn at Glenairlie jct, plough lane 1 n/b to Crawick Ind Est. Plough S/B from Crawick Ind Est to A75 Cuckoo Bridge, inc all roundabouts. Plough lane 2 to c/r, Cuckoo Bridge to Macdonalds n/b and S/B; plough A75 e/b Cuckoo Bridge to Dalscone rdbt. Travel to Wayside depot; reload. Plough A701 northbound from Dalscone rdbt to Beattock east rdbt.	0.5	1	37	4hr 22 min	34	Ayr, Castle Douglas,	7.3

Winter Service Plan



E1	Paisley.	Start A8 Woodhall rdbt; echelon plough A8 w/b to Bullring. Plough A78 S/B to Hunterston rdbt. Echelon plough IBM dual c/way section. Route vehicle to clear main c/way S/B; Patrol vehicle to clear bus stops and laybys. U turn Hunterston rdbt; Route vehicle to clear main c/way N/b; Patrol vehicle to clear bus stops and laybys. Echelon plough IBM dual c/way section. Echelon plough A8 E/b Bullring to Woodhall.	9	12	35	2hr 19 min	9	Ayr	8.5
E2	Paisley.	Start A737 Elliston, echelon plough Lanes 1 & 2 A737 N/b to M8, continue on M8 E/b, Lane 1 & HS; take M74, Polmadie depot - reload; M74 W/b, join M8; M8 W/b to Jct 29; take A737; echelon plough Lanes 1 & 2 A737 S/B. Route vehicle to continue on A737, TM plough to clear laybys, bus stops. Both vehicles to meet to echelon plough A738 to Pennyburn rdbt. U turn; echelon plough A738 N/b - Pennyburn rdbt to Whitehirst Park. Continue to clear A737 N/b to Elliston. Route vehicle to clear main c/way, TM plough to clear laybys and bus stops.	15	20	35	2hr 51 min	15	Ayr	8
E3	Paisley.	Echelon plough route slip roads M898, A898, A82, A737 and M8 jct 24 - 30 slips.	2	5	30	2hr 43 min	12	Polmadie	8.5
E4	Paisley.	Start M8 Jct 30 W/b off slip, echelon plough slip and M898, A898 over Erskine Bridge; continue on A82 N/b to Stoneymollan rdbt; U turn; echelon plough A82 S/B to Erskine Bridge (catch Renton slip roads). Echelon plough M898 to Jct 30 W/b on slip; travel to M8 Jct 31, echelon plough W/b off and on slips; U turn at Langbank; travel to M8 Jct 31, echelon plough E/b off and on slips; travel to Jct 30 E/b off slip; echelon plough; U turn at Spectacles rdbt; travel to Jct 30 E/b on slip - echelon plough.	13	15	37	2hr 14 min	13	Polmadie	8.2

Winter Service Plan



		Route vehicle (as necessary) to treat White Cart Viaduct E/b, U turn at Jct 27, treat White Cart Viaduct W/b, treat St James W/b; U turn A737 Linwood junction; treat St James E/b. Patrol vehicle to clear Hard Shoulders, M8 jct 29 - jct 31.							
E5	Paisley.	Start M8 Jct 29 W/b; echelon plough Lane 1 & 2 to HS, M8 W/b through Jct 31 and on to Woodhall rdbt; U turn Woodhall rdbt; echelon plough A8 E/b to M8, echelon plough Lane 1 & 2 to HS M8 E/b Jct 31 to Jct 29. Travel M8 to M77 Jct 2 S/B off slip. Echelon plough M77 slip roads as per route.	13	20	36	2hr 03 min	10	Polmadie	8.5
P1	Polmadie.	Echelon plough route, start Kingston Bridge complex; M8 Jct 20 - 28 E/b and W/b; M77 Jct 1 - 5 N/b and S/B, M74 jct 1 - 2. Patrol vehicle to clear Hard Shoulders M77 Jct 1 - 5 N/b and S/B.	12	15	37	2hr 15 min	10	Polmadie	8.5
P2	Polmadie.	Phase 1 - Link with T2 vehicles to clear M74 Jct 1 - Jct 3 S/B; Lanes 1 - 3 and HS to HS. Phase 2 - T1 vehicles continue to clear Lanes 1, 2 and HS, Jct 6 - 12 S/B; travel to Jct 13, U turn, echelon plough M74 N/b Jct 12 - Jct 6 Lanes 1, 2 and HS. Phase 3 - link with T2 vehicles to clear M74 N/b, Jct 3 - Jct 1, Lanes 1 - 3 and HS to HS.	18	20	42	2hr 47min	18	Polmadie	9
P3	Polmadie.	Phase 1 - Link with T1 vehicles to clear M74 Jct 1 - Jct 3 S/B; Lanes 1 - 3 and HS to HS. Phase 2 - T2 vehicles continue on M74 slips as per T2 route. Clear Jct 10 S/B, then Jct 11 S/B, U turn, Jct 11 N/b. Phase 3 - link with T1 vehicles to clear M74 N/b, Jct 3 - Jct 1, Lanes 1 - 3 and HS to HS.	18	20	45	2hr 47min	18	Polmadie	9

Winter Service Plan



P4	Polmadie.	Echelon plough jct 1 - 3 M74 slip roads, A725 / A726 main c/way Whistleberry - East Mains rdbt; N/b and S/B.	10	12	40	2hr 15 min	20	Polmadie	7.5
P5	Polmadie.	Phase 1 - Echelon plough M8 E/b Jct 19 to Jct 10, Lanes 1 and 2 to HS. U turn A752 jct, echelon plough M8 W/b Jct 10 to Jct 19, Lanes 1 and 2 to HS. U turn at Jct 19; Phase 2 - Both vehicles to travel, jct 19 - jct 15 E/b on slip, echelon plough slip lanes to HS and continue on lane gains to jct 13 and take M80; echelon plough M80 N/b lanes 1 & 2 to HS, u turn at Jct3; echelon plough M80 S/B lanes 1 & 2 to HS; merge M8, echelon plough M8 lanes 1 & 2 to HS, echelon plough Jct 15 W/b off slips. Travel to jct 19 E/b on slip. Phase 3 - Route vehicle to clear Lane 3 to C/R; Reserve vehicle to clear HS; jct 19 - jct 8 E/b. U turn A752 jct. Route vehicle to clear Lane 3 to C/R; Reserve vehicle to clear HS; jct 8 - jct 19 W/b.	16	20	40	2hr 13 min	2	Polmadie	8.25
P6	Polmadie.	Start M74 jct 4;. Phase 1 - echelon plough slip roads on M74 Extension; jct 3 to jct 1 W/b and E/b.	7	10	35	2hr 3 min	16	Polmadie	8.4
P7	Polmadie.	Echelon plough M8 jct 10 - 18 and M80 jct 1 - 2 slip roads. Phase 2 - Route vehicle to clear M80 HS N/b and S/B	10	12	30	2hr 16 min	10	Polmadie	8.25

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, 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 on footway sections 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. In the event of moderate or heavy snow and snow showers (as defined by the Met Office) the Operating Company shall deploy all Front Line, reserve and additional Winter Service Plant on affected Routes for the purposes of Winter Service Operations including snow clearance

Ploughing routes will mirror the precautionary treatment routes as closely as possible and this activity will be carried out utilising the Echelon Ploughing technique on dual carriageways and motorways.

Where drifting snow is forecasted Amey will liaise with the Met Desk to get specifics of this and risk areas. These have generally been at venerable locations which have additional resources but if it is forecasted outside one of these areas an additional gritter or tractor will be deployed to this area.

9.1.2. Road Closure Procedure including use of Snow Gates

There are currently no snow gates on the South West Unit, but the provision of these will be kept under constant review and, if deemed necessary, recommendations will be made to Transport Scotland. Road closure procedures will also be kept under constant review.

The Police will issue instructions to Amey to assist in road closures. When the Police, in consultation with the WSDO, consider that weather conditions have made a road unsafe to vehicular traffic, arrangements will be made with the Police to close the road.

Having decided on the need to close a road, the Police will issue instructions to close the road. This decision will normally be relayed by the Police to the WSDO using a dedicated contact number. Amey will liaise, and co-operate, with the Police to man each end of the closure, if applicable, until a search of the section of road affected has been undertaken to ensure that no vehicles or pedestrians are trapped within the lengths of closure.

When a road is required to be closed, the WSDO will immediately notify the Traffic Scotland Control Centre by telephone. A written report will be submitted to the The Directors within 12 hours (or if outside of normal working hours then the morning of the next working day) of the Police instructing road closure.

The Police will normally notify the other Emergency Services of any road closures and will arrange for the provision of advance warning signs and/or will activate fixed or variable message signs where appropriate. The WSDO will also notify the adjoining Local Authorities and Operating Companies of any relevant closures.

Once it has been ascertained that no-one has been trapped within the closure length, the closure will be secured and all Amey personnel withdrawn except those involved in the clearance of snow.

When it is considered safe, the Police will request Amey to re-open the road. The WSDO will immediately inform Traffic Scotland and the The Directors of the reopening of the road.

9.1.3. 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 Network is clear of snow and ice. Reserve and Additional Winter Constructional Plant will be used, as necessary, to supplement Front Line Winter Constructional Plant in snow conditions. The WSDO will liaise with The Directors Multi Agency Response Team (MART) throughout this period ensuring the provision of a coordinated response.

When planning and carrying out snow clearance, Amey 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.

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 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, or
- when the traffic is insufficient to disperse the snow,

Amey will lift, remove and dispose of snow and ice and/or utilise the ice breaker or snow blowers, with the snow being directed onto adjacent land (where Amey 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.

We recognise that additional resources will be required for echelon ploughing in snow conditions. Winter Service operations will accord the highest priority and additional operatives will be rostered to crew additional shifts. Ploughing routes mirror our precautionary treatment routes where possible are shown in Appendix D.

9.1.4. Snow and ice clearance in accordance with Schedule 2 Scope, Appendix 6

De-icing material spread rates will be carried out in line with treatment rates in Appendix A.

9.1.5. Arrangements for Safe Clearance of Snow and Ice from Wide Single Carriageways.

When clearing wide single carriageway roads, particularly those having more than two lanes, snow clearance operations must avoid the build-up of snow in the centre of the road. The detail of the ploughing strategy to be adopted is shown in Figure 10/1.

9.1.6. Treatment strategy for bridge service roads, footways (including those on bridge decks), footpaths and cycling facilities including location of salt bins

Bridge service roads have been included within the routes and will be treated with Potassium Acetate to the full width. Potassium Acetate will comply with the AMS 1435D: Liquid Runway De-Icing / Anti Icing Product.

All Footways, footbridges and cycle facilities shall be cleared of all snow within 2 hours of snow ceasing to fall. On wide routes, 1.2m minimum width should be cleared initially to allow safe passage but following this the full width will be cleared. After clearance of snow a treatment a minimum of 20ml/m² spread rate shall be applied to all footway areas.

A list of Salt bins and self-help heaps is located in section 15.

For reactive snow and ice clearance of all categories of footways, footbridges and cycleways the following spread rates will apply:

During snow clearance 20g/m²

Following clearance of ice and snow 20ml/m²

9.2. Plans showing the location of the footways, footbridges and cycling facilities in Categories A, B, C and D.

Winter Service Plan

Below is a list and designated category of each footway, footbridge or cycle facility within the Network area and a precautionary treatment should be carried out before 06:00 each morning when temperatures are forecast to below or equal to +1 degree.

Winter Service Plan



Location Number	Route	Location	Details of Footway		Route Centreline Length (m)
			Start	Finish	Category A
1	A725	East Kilbride	Start of 50mph	A726 Junction	3100
2	A726	East Kilbride	A725 Junction	B761 Junction	3000
3	A737	Beith	Within 30mph in Beith		400
4	A737	Kilwinning	Within 30mph in Kilwinning		6000
5	A75	Stranraer	A77 Junction	Commerce Road Junction	1300
6	A75	Springholm	Within 30mph in Springholm		1300
7	A75	Crocketford	Within 30mph in Crocketford		550
8	A76	Mauchline	Start of 30mph Limit	Hillhead Road	4200
9	A76	New Cumnock	Start of 30mph Limit	Loch View	4900
10	A76	Sanquhar	Within 30mph in Sanquhar		1250
11	A76	Kirkconnel	Within 30mph in Kirkconnel		1080

Winter Service Plan

12	A76	Dumfries	A75 Junction	Newbridge Farm	1500
13	A76	Closeburn	Shawsholm Road	End of 40mph	500
14	A76	Thornhill	Within 30mph in Thornhill		700
15	A76	Carronbridge	Within 30mph in Carronbridge		760
16	A77	Symington	Hansel Village		100
17	A77	Girvan	Shallochpark Roundabout	Bridgemill Roundabout	2750
18	A77	Maybole	Within 30mph in Maybole		2100
19	A77	Ballantrae	Within 30mph in Ballantrae		210
20	A77	Lendalfoot	Within 30mph in Lendalfoot		2160
21	A77	Kirkoswald	Within 30mph in Kirkoswald		1040
22	A77	Minishant	Within 30mph in Minishant		1580
23	A77	Cairnryan	Start of Cairnryan north end	30mph signs south end	1900
24	A78	Greenock	Flatterton Road Junction	Bullring Roundabout	5000
25	A78	Wemyss Bay	From 40mph at north end	Skelmorlie	2000
26	A78	Largs	From 40mph at north end	To 30mph at south end	5000
27	A78	Fairlie	Within 30mph in Fairlie		2180
28	A78	Seamill	From B7047 junction	30mph	2200

Winter Service Plan



29	A78	Skelmorlie	From 30mph at south end	Wemyss Bay	2300
30	A701	Heathhall	A75 Roundabout	Catherinefield Road Junction	3000
31	A8	Port Glasgow/Greenock	Newark Roundabout	Bullring Roundabout	5500
32	A82	Dumbarton	Barloan Toll Roundabout	Dunglass Roundabout	4350

Categories	Requirements		
A	Apply de-icing treatment before 06.00 hours each morning.		
Categories	General	Between 06.00 and 19.00 hours	Treatments out with daytime hours
A	Between the hours of 06.00 and 19.00, 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.

10. Freezing rain / Rain falling on extremely cold surfaces

10.1. Advance Planning

Freezing rain will be dealt with in line with the best practice information as it is recognised that prediction and treatment of freezing rain is problematic.

10.1.1. Advanced planning for freezing rain/rain falling on extremely cold

- I. Prior to the commencement of the winter season, agreement should be reached with the local police authorities and, where applicable, the Regional Control Centres (RCCs) on procedures for dealing with occurrences of freezing rain and any incidents that may occur during or following such conditions. When a forecast shows freezing rain is forecast the SWM will liaise with Transport Scotland, Police Scotland and all other operational partners and discuss the impact of the freezing rain and what actions are planned to try combat these impacts.
- II. 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. These will be reviewed in line with the individual forecast from the Met Desk.

10.2. Operational Arrangements

- I. Freezing rain should be treated like snow and therefore 40g treatments should be carried out in advance of the arrival of freezing rain and then all routes effected should be patrolled throughout the risk period. 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. Once the front has passed the vehicles will make a further pass of their routes to ensure they are fully treated and clear of any hazards.
- II. Use of weather radar will be key to monitoring the freezing rain along with feedback from the spreader drivers who will be out on the effected routes. Once the WSDO sees no further rain on the radar and temperatures rising above zero again they will instruct the spreaders to do a final pass of the areas to confirm cessation and that routes have no issues present. In addition a call should be made to the Met Desk to confirm no more freezing rain is accepted.

10.3. Hazard Mitigation

- I. 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

Winter Service Plan

measures might be required. Press officer should be contacted in order that the local media can be advised as necessary. Other considerations will need to be made on a local basis considering local circumstances. 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:



- II. Where available, use of variable mandatory speed limits should be considered. 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. This will require arrangements and protocols to be established with Police Scotland as part of the advance planning procedures.

11. De-Icing Materials

Details

Salt used for de-icing will be 6.3mm grading particle size and comply with the following:

- I. 6.3mm grading particle size to BS 3247: 2011 + A1: 2016 Specification for Salt for Spreading on Highways for Winter Service and treated with an anti-caking agent
- II. Salt will be stored in fully enclosed barns and they will be maintained to ensure the following:

Salt is stored in dry conditions, such that moisture content does not exceed 4%.
No sheer faces left on stockpiles.
Salt stockpiles do not become contaminated.
Salt stockpiles or adjacent operations do not affect the environment.
- III. Moisture content at existing salt stocks will be measured at monthly intervals throughout each Winter Period. 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/m² and in addition salt stocks should be turned over and mixed to try reduce the moisture level.

Within 10 days of new salt deliveries, salt will be tested in accordance with BS 3247: 2011 + A1: 2016 at a UKAS accredited laboratory and results recorded to ascertain:

- Moisture content (1 test per 500 tonnes)
- Particle size distribution (1 test per 500 tonnes)

Winter Service Plan

Chloride content (1 test per 1500 tonnes)

Soluble sulphate compounds (1 test per 1500 tonnes)

Salt stocks shall be tested by the Operating Company for salt moisture content at monthly intervals throughout each Winter Service Period and the results shall be recorded. As a minimum, the salt should be tested at the base of the stockpile. All salt storage shall be in line with 6.13.1 Specification for Salt Storage Facility.

- IV. Amey has developed a long standing agreement with national de-icing material suppliers Cleveland potash, Salt Union Ltd and Salt Sales Co.
- V. We will use to import should supplies in the UK become low or limited
- VI. A list of stock can be found below
- VII. Our salt will be supplied by Cleveland Potash and Salt Sales. We have an agreement for an automatic restocking to ensure that adequate quantities of salt are always available locally is in place. Each Depot will submit daily usage records to the SWM who will monitor stock levels throughout the season
- VIII. Amey will use an independent specialist surveyor to carry out a computerised survey and calculate quantities of all de-icing materials no later than
 - a) 7 days before start of WS Period and
 - b) 5 days before 7 Dec.
 Amey will provide The Director with report 1 Day after receipt.

Brine will be produced using automated brine production equipment to a concentration of 23% dissolved NaCL and be 30% of total spread weight giving 70% salt and 30%. In addition they shall have an alarm facility when brine is outside tolerances and be capable of being accessed remotely by Amey, the Director and the Performance Audit Group. Where air temp forecast < -15°C brine diluted 5% -10% water to prevent recrystallisation. When the brine within the storage facilities is depleted this shall be replenished within two hours. All brine production facilities will be fitted with digital read outs to measure the salt concentration of the brine automatically. Daily checks shall be carried out using a saturation meter and the results will be stored electronically. The water supply to saturator units shall be protected from freezing to allow production to continue through all weather conditions.

Alternative De-Icing Material. These includes Magnesium Chloride and Safecote or Ecothaw. A list of alternative materials we have in stock can be found below.

Location	Material Type	Stock
Polmadie	Magnesium Chloride	10,000
Polmadie	ABP	5,000
Paisley	Magnesium Chloride	10,000
Paisley	ABP	5,000
Ayr	Magnesium Chloride	10,000
Dumfries	Magnesium Chloride	10,000

Details of de-icing materials stocks are provided below and take account of the minimum stock levels to be maintained as required by the Project. If stock levels are below 90% by 21 Dec Amey will restock to 100% of highest annual actual usage of salt/de-icer since CSD.

Winter Service Plan

Operational Salt Stock Levels

Operating Company	Minimum Salt Stock Level at Start of Season (tonnes)
South West Unit	25,000

De-icing Material (i.e. Dry salt / ABP)	Location	Type (barn/open)	Min (tonnes) 1st Oct	Minimum Level (tonnes)
Dry Salt White Salt	Polmadie	Barn	10,000 salt 250 white salt	1,000 15
Dry Salt White Salt Potassium Acetate	Paisley	Barn Tank	4,000 salt 250 white salt 100,000	700 15 25,000
Dry Salt White Salt	Ayr	Barn	4,000 salt 120 White Salt	800 20
Dry Salt White Salt	Wayside Dumfries	Barn	650 salt 35 White Salt	375 5
Dry Salt White Salt	Castle Douglas	Barn	700 salt 60 White Salt	245 5
Dry Salt White Salt	Stranraer	Barn	750 salt 45 White Salt	320 5
Dry Salt	George IV Docks	Barn	5000 salt	N/A
Total			25,000	

Brine Production and Storage

Location	Type (Saturator / Storage Only)	Capacity (L)	Min (L)
Polmadie	Saturator and storage	20,000 saturator and 45,000 storage	65,000
Paisley	Saturator and storage	20,000 saturator + 25,000 storage	45,000
Ayr	Saturator and storage	20,000 saturator + 35,000 storage	55,000
Dumfries	Saturator and storage	20,000 + 5,000	25,000
Castle Douglas	Saturator and storage	20,000	16,000
Stranraer	Saturator and storage	10,000 + 15,000	25,000
Crawford (CSD 2)	Saturator and storage	10,000 + 15,000	25,000
Lockerbie (CSD 2)	Saturator and storage	10,000 + 15,000	25,000

12. Strategic Salt Stocks

The Director intends to maintain a stock of Strategic Salt to enable the provision of Mutual Aid. Subject to an Order, Amey shall supply and or transfer Strategic Salt when instructed by the Director and when undertaking this requirement shall:

- (a) Obtain prices from three (3) or more salt suppliers and or haulage companies,
- (b) Arrange for the transfer of Strategic Salt from one location to another,
- (c) Retain all records including the procurement of the supply and or transfer of Strategic Salt and upload this information into APMS no later than ten (10) Working Days after the delivery of Strategic Salt, and
- (d) Prepare and send invoices, on behalf of the The Directors, to the Operational Partners who have received Strategic Salt so the The Directors can recover the cost of the Strategic Salt from the Operational Partners.

13. Winter Service Plant

13.1.1. All Winter Service Plant shall be fitted with on-board electronic data loggers in accordance with the requirements of Schedule 5 Specification & Drawings, 2803 AR Winter Service Vehicle Data Logging & Transmitting Equipment. **In the event of an on-board electronic data logger malfunction, Amey shall prepare a similar written Record within twelve hours of the malfunction occurring.** In addition all Winter Service Plant will be fitted with a snowplough and have a minimum of two additional headlamps fitted to allow forward visibility when the plough is fitted. All Front Line Winter Service Plant shall be permanently available throughout the winter season and may only be named on the South West Unit. Front Line Winter Constructional Plant will undertake Winter Service Patrols, 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. All front line plant will be fitted with brine saddle tanks to allow the use of pre-wetted salt to a 70/30 ratio.

Any unplanned treatments required immediately will be classed as "call-outs" and response times will be within an hour in line with Schedule 6.

When Winter Service Plant is changed for any reason Amey will inform The Director and this will include when a piece of winter plant is given a new "spreader name"

In the event of a breakdown on any of the Front Line Winter Service Plant;

- (a) Amey shall provide details of the cause, time and location of the breakdown and any other relevant information; this shall be recorded using Vaisala Manager no later than one hour of the breakdown actually occurring,

Winter Service Plan

- (b) Amey shall, if possible, return the vehicle to the nearest depot in order to minimise blockages and further disruption on the Unit, and
- (c) Amey shall make immediate arrangements for reserve Winter Service Plant to be made available in order to comply with the requirements of this Section 6 Network Operations – Winter Service.

Winter Service Plan



13.1.2. Below is a list of frontline and reserve Winter Service Plant available on the Unit.

Frontline fleet

Type of Winter Service Plant & registration number #	Depot location	Vehicle capacity	Number of vehicles	Plant use* (i), (ii), (iii)
32 tonne 6x4 dedicated spreader PN71FRR	Polmadie	12m3	1	(i) & (iii)
32 tonne Gritter / Tipper HY21FSO	Polmadie	12m3	1	(i) & (iii)
32 tonne Gritter / Gully Tanker HY21FSE	Polmadie	12m3	1	(i) & (iii)
32t dedicated PN71FSV	Polmadie	12m3	1	(i) & (iii)
32t dedicated PN71FRU	Polmadie	12m3	1	(i) & (iii)
32t dedicated PN71FSE	Polmadie	12m3	1	(i) & (iii)
32t dedicated PN71FSJ	Polmadie	12m3	1	(i) & (iii)
32t dedicated PN71FSF	Polmadie	12m3	1	(i) & (iii)
32 tonne combi / sprayer PN71FRZ	Paisley	12m3	1	(i) & (iii)
Hook Loader HY21FSD	Paisley	12m3	1	(i) & (iii)
32t dedicated PN71FSO	Paisley	12m3	1	(i) & (iii)
32t dedicated PN71FSC	Paisley	12m3	1	(i) & (iii)
32t dedicated PN71FRX	Paisley	12m3	1	(i) & (iii)
32 tonne combi PN71FSD	Paisley	12m3	1	(i) & (iii)
32t dedicated PJ70DND	Ayr	12m3	1	(i) & (iii)
32t dedicated PJ70DNF	Ayr	12m3	1	(i) & (iii)

Winter Service Plan



				(i) & (iii)
Hook Loader HY21FSL	Ayr	12m3	1	
Hook Loader HY21FSN	Ayr	12m3	1	(i) & (iii)
32t dedicated PN71FRP	Ayr	12m3	1	(i) & (iii)
32t dedicated PJ70DNE	Dumfries	12m3	1	(i) & (iii)
32t dedicated PJ70DMZ	Dumfries	12m3	1	(i) & (iii)
Hook Loader HY21FSX	Dumfries	12m3	1	(i) & (iii)
Hook Loader HY21FSV	Castle Douglas	12m3	1	(i) & (iii)
32t dedicated PN71FSK	Castle Douglas	12m3	1	(i) & (iii)
32t dedicated PN71FSG	Stranraer	12m3	1	(i) & (iii)
26Ton pre wet PN70CJV	Polmadie	9m3	1	(ii)
26Ton pre wet PN70CKC	Polmadie	9m3	1	(ii)
26Ton pre wet PN70CJX	Polmadie	9m3	1	(ii)
26Ton pre wet PN70CJY	Polmadie	9m3	1	(ii)
26Ton pre wet PN70EOH	Paisley	9m3	1	(ii)
26Ton pre wet PN70EOJ	Paisley	9m3	1	(ii)
26Ton pre wet PJ70DJF	Paisley	9m3	1	(ii)
26Ton pre wet PN70CKA	Paisley	9m3	1	(ii)
26Ton pre wet PK70EOL	Ayr	9m3	1	(ii)
26Ton pre wet PN70CJZ	Ayr	9m3	1	(ii)
26Ton pre wet PK70EOM	Ayr	9m3	1	(ii)
26Ton pre wet PN71FSU	Dumfries	9m3	1	(ii)
26Ton pre wet PK70EPL	Castle Douglas	9m3	1	(ii)
26Ton pre wet PJ70DJO	Stranraer	9m3	1	(ii)
26Ton pre wet PK70EPJ	Stranraer	9m3	1	(ii)

Hako spreader	Polmadie	500 litres	1	(i)
Hako spreader	Ayr	500 litres	1	(i)
Hako spreader	Ayr	500 litres	1	(i)
Hako spreader	Ayr	500 litres	1	(i)
Hako spreader	Ayr	500 litres	1	(i)
Hako spreader	Stranraer	500 litres	1	(i)
Hako spreader	Stranraer	500 litres	1	(i)
Hako spreader	Paisley	500 litres	1	(i)
Hako spreader	Paisley	500 litres	1	(i)
Hako spreader	Paisley	500 litres	1	(i)
Hako spreader WX70GYD	Dumfries	500 litres	1	(i)
Hako spreader	Dumfries	500 litres	1	(i)
Hako spreader	Dumfries	200 litres	1	(i)

Key:

- (i) Precautionary treatments and clearance of snow or ice with a depth up to 100 millimetres
- (ii) Winter Service Patrols
- (iii) Other arrangements to comply with the requirements of this Part.

Reserve Fleet:

Type of Winter Service Plant & registration number	Depot location	Vehicle capacity	Number of vehicles	Plant use* (i), (ii)
26Ton pre wet PJ70DJU	Polmadie	9m3	1	(i), (ii)
18Ton pre wet PN71FSS	Polmadie	12m3	1	(i), (ii)
Hook Loader HY21FSC	Polmadie	12m3	1	(i), (ii)
TIPPER GRAB HY71DZH	Polmadie	9m3	1	(i), (ii)
TIPPE GRAB DY71DZL	Paisley	12m3	1	(i), (ii)

Winter Service Plan

26Ton pre wet PJ70DJV	Paisley	9m3	1	(i), (ii)
TIPPER GRAB DY71DZK	Paisley	9m3	1	(i), (ii)
18Ton pre wet PN71FSV	Ayr	6m3	1	(i), (ii)
Hook Loader HY21FSK	Ayr	12m3	1	(i), (ii)
TIPPER GRAB HY71DZJ	Ayr	9m3	1	(i), (ii)
32t dedicated PN71FSA	Ayr	12m3	1	(i) & (iii)
18Ton pre wet PN71FSP	Dumfries	6m3	1	(i), (ii)
Hook Loader HY21FSP	Castle Douglas	12m3	1	(i), (ii)
TIPPER GRAB HY71DZG	Castle Douglas	9m3	1	(i), (ii)
Hook Loader HY21FSU	Stranraer	12m3	1	(i), (ii)
TIPPER GRAB HY71DZF	Stranraer	9m3	1	(i), (ii)
Hako	Polmadie	500 litres	1	(i)
Hako	Ayr	500 litres	1	(i)
Hako	Wayside Dumfries	500 litres	1	(i)
Hako	Stranraer	500 litres	1	(i)

II. Below is a list of additional Winter Service Plant available through strategic partners and mobilisation times:

Type of Winter Service Plant & registration number	Depot location or third party operator and location	Number of vehicles	Mobilisation time in hours
JCB fastrac	Grant Richie	4	2
Fendt Tractor	Grant Richie	4	2
32 tonne plus plough	Wm Hamilton	2	2
32 tonne plus plough	Wm Hamilton	2	4

III. Below is a list of loading Winter Service Plant available on the Unit.

Type of Winter Service Plant & registration number	Depot location	Vehicle capacity	Number of vehicles

Winter Service Plan

JCB Telescopic Loader (or similar)	Polmadie	1.5 cu m	1
JCB Telescopic Loader (or similar)	Paisley	1.5 cu m	1
JCB Telescopic Loader (or similar)	Ayr	1.5 cu m	1
JCB Telescopic Loader (or similar)	Dumfries	1.5 cu m	1
JCB Telescopic Loader (or similar)	Castle Douglas	1.5 cu m	1
JCB Telescopic Loader (or similar)	Stranraer	1.5 cu m	1
JCB Telescopic Loader (or similar)	Stonehouse	1.5 cu m	1

13.2. Calibration of Winter Service Plant

13.2.1.1. All Winter Service Plant will be calibrated in September and January of each Annual Period and carried out and certified by an independent company. All equipment for spreading de-icing material shall be calibrated;

- (a) in accordance with the requirements of BS 1622:1989 Specification for Spreaders for Winter Service, or
- (b) where BS 1622:1989 Specification for Spreaders for Winter Service 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 for his consent, and
- (c) in accordance with the requirements of the specific material being used.

September calibration and testing shall comply with the requirements of tests 'A' and 'B' and January calibration and testing shall comply with the requirements of test 'B', all of BS 1622:1989 Specification for Spreaders for Winter Service. 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.

13.2.2. All calibrations will be carried out by an independent party and records will be stored on Amey's Management System with access for Transport Scotland and PAG.

14. Compounds, Depots and Facilities

14.1. Below is a list the facilities based on the Unit

Compound, Depot or Facility Name	Owner	Postal Address	Purpose	Access Arrangements	Contract Details	Facilities
Polmadie Office	Transport Scotland	150 Polmadie Rd, Glasgow G5 0HD	Main Office	Unlimited	S Lees Transport Scotland Buchanan House Glasgow	Main Office and Operational Depot
Paisley Depot	Wm Hamilton	33-35 McFarlane St, Paisley PA3 1SA	Primary Depot	Unlimited	Wm Hamilton Dovecote Farm Stonehouse	Operational Depot and Offices
Ayr Depot	JST	Highfield Business Park, Ayr, KA6 5HQ	Primary Depot	Unlimited	J Scott JST KA6 5HQ	Operational Depot and Offices
Wayside Depot	Dumfries and Galloway Council	Annan Road, Dumfries DG1 3JX	Primary Depot	Unlimited	M Fawkes 109-115 English St, Dumfries DG1 2DD	Operational Depot and Offices

Winter Service Plan

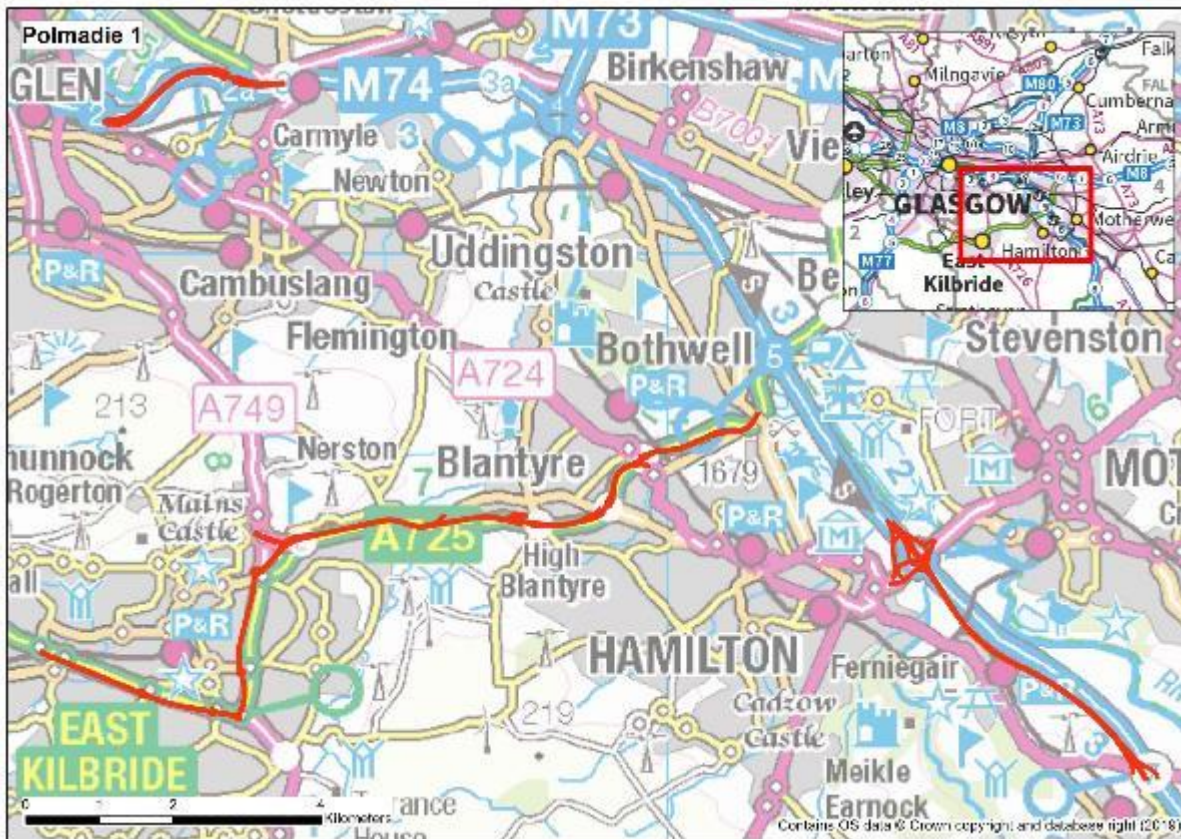
Castle Douglas Depot	Dumfries and Galloway Council	Abercrombie Rd, Castle Douglas DG7 1LH	Primary Depot	Unlimited	M Fawkes 109-115 English St, Dumfries DG1 2DD	Operational Depot
Stranraer Depot	Dumfries and Galloway Council	Commerce Rd, Stranraer DG9 7DD	Primary Depot	Unlimited	M Fawkes 109-115 English St, Dumfries DG1 2DD	Operational Depot and Offices

15. Maps, Drawings and Geographical Information

15.1. Maps

- I. Precautionary treatment routes for carriageways, including on/off slips and depots

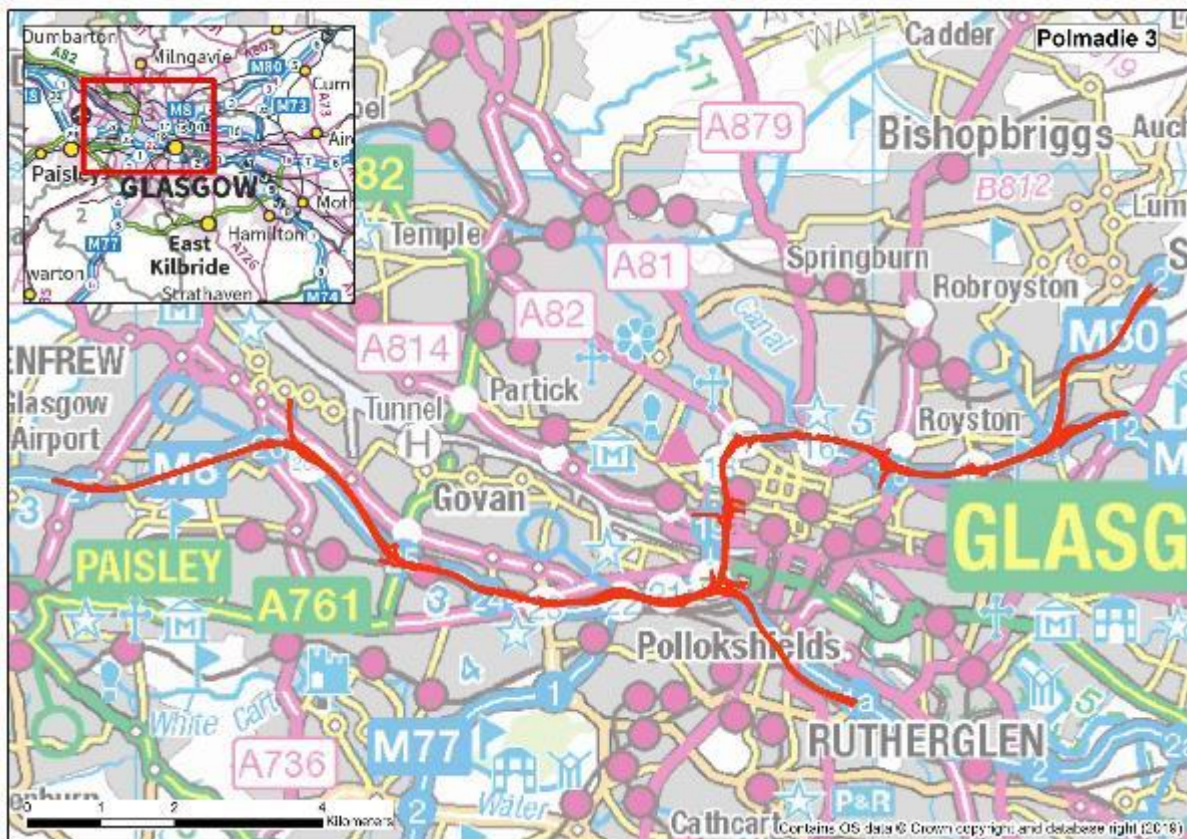
Route 1



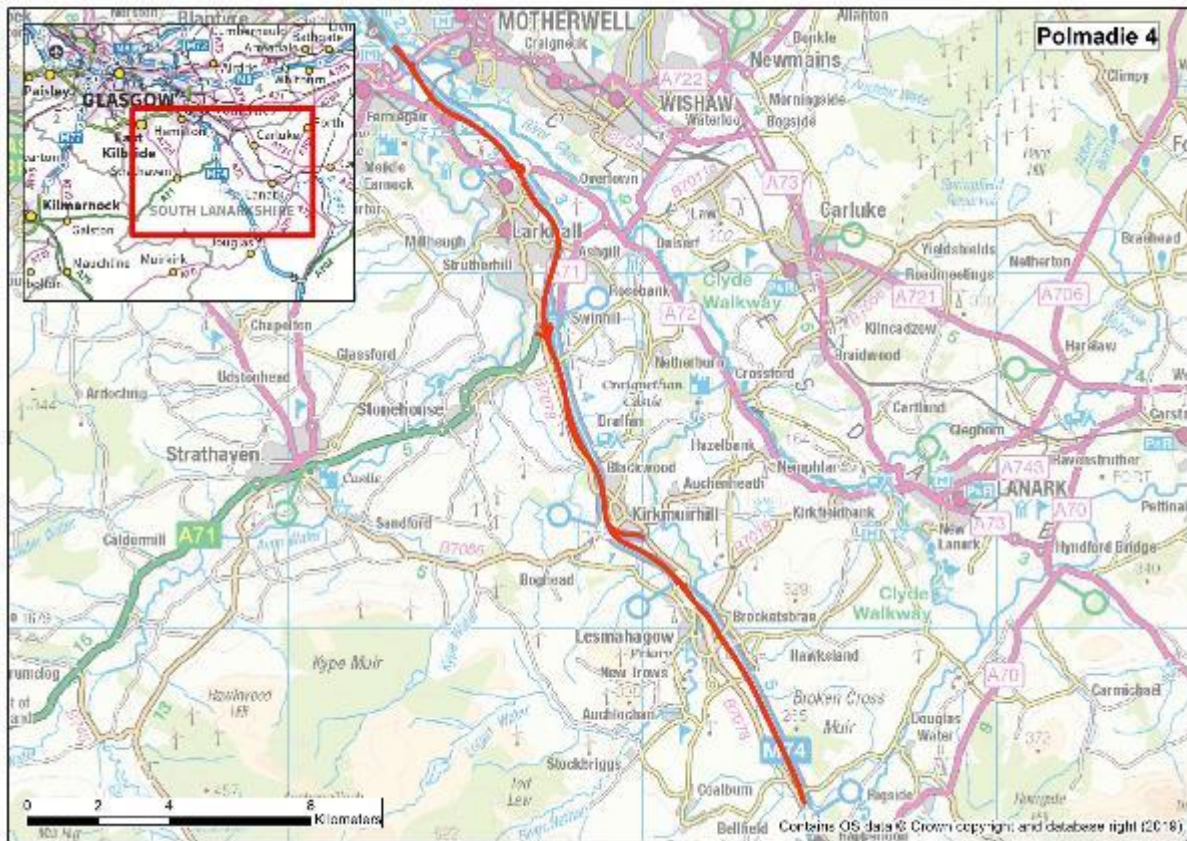
Route 2



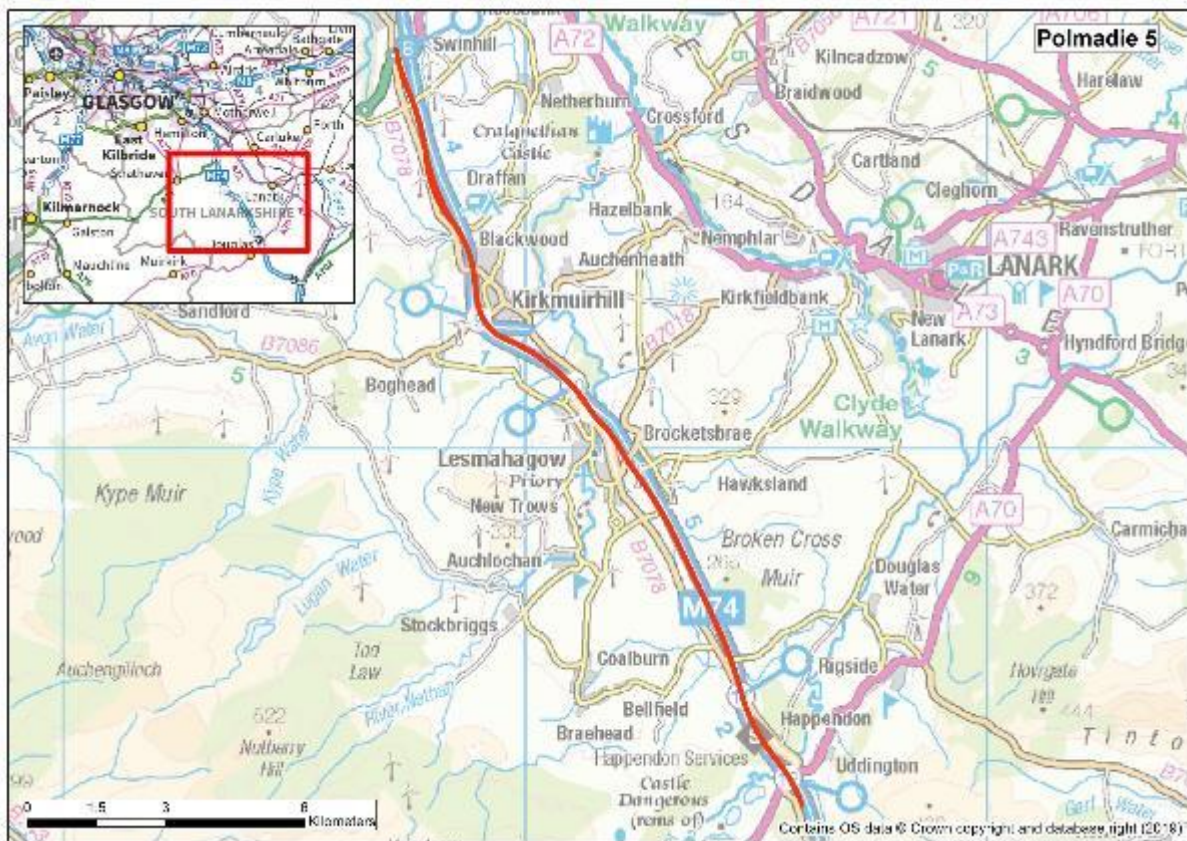
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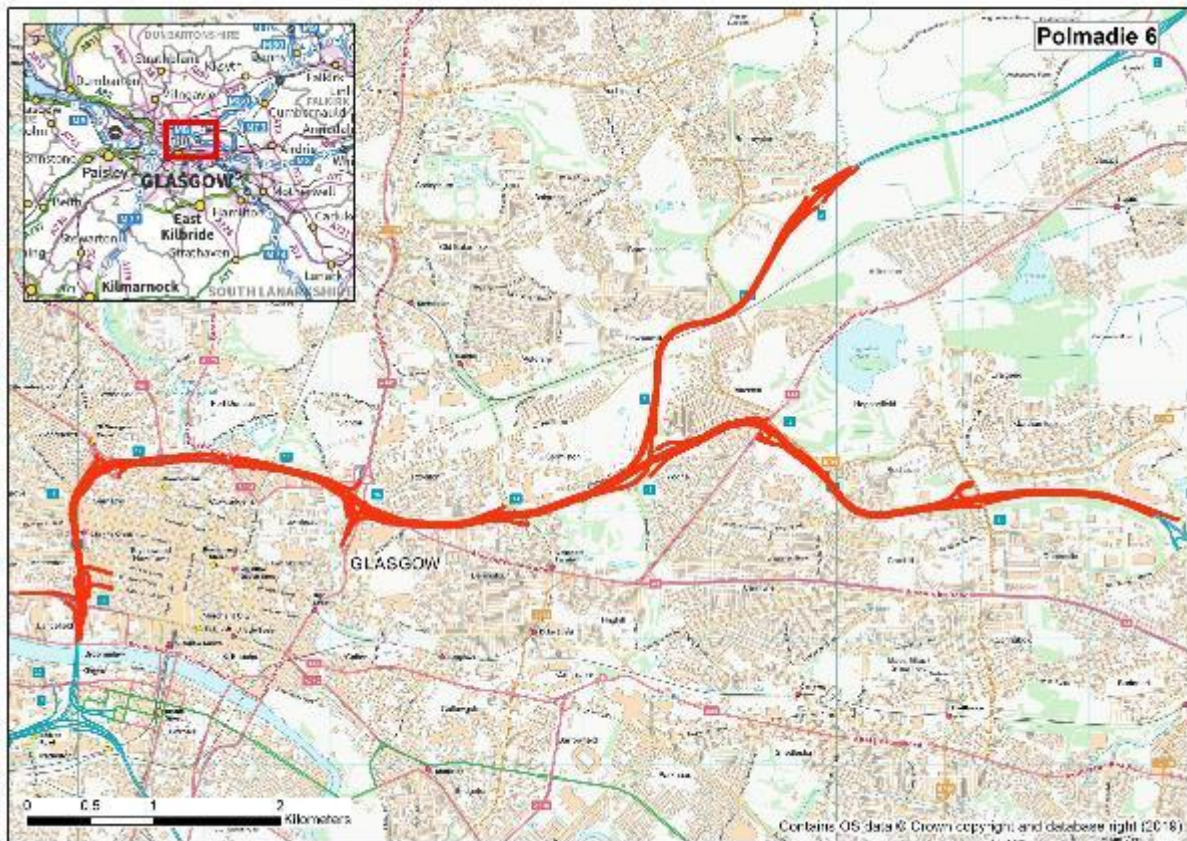
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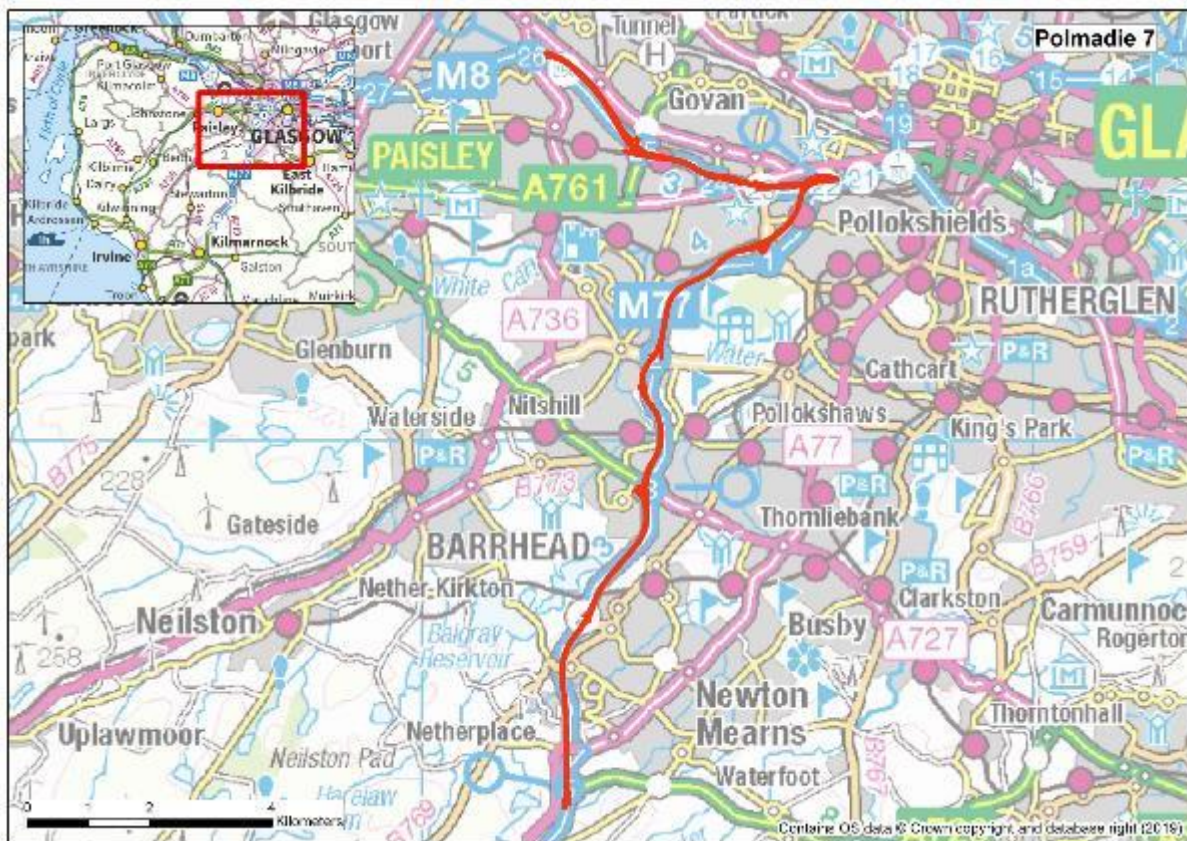
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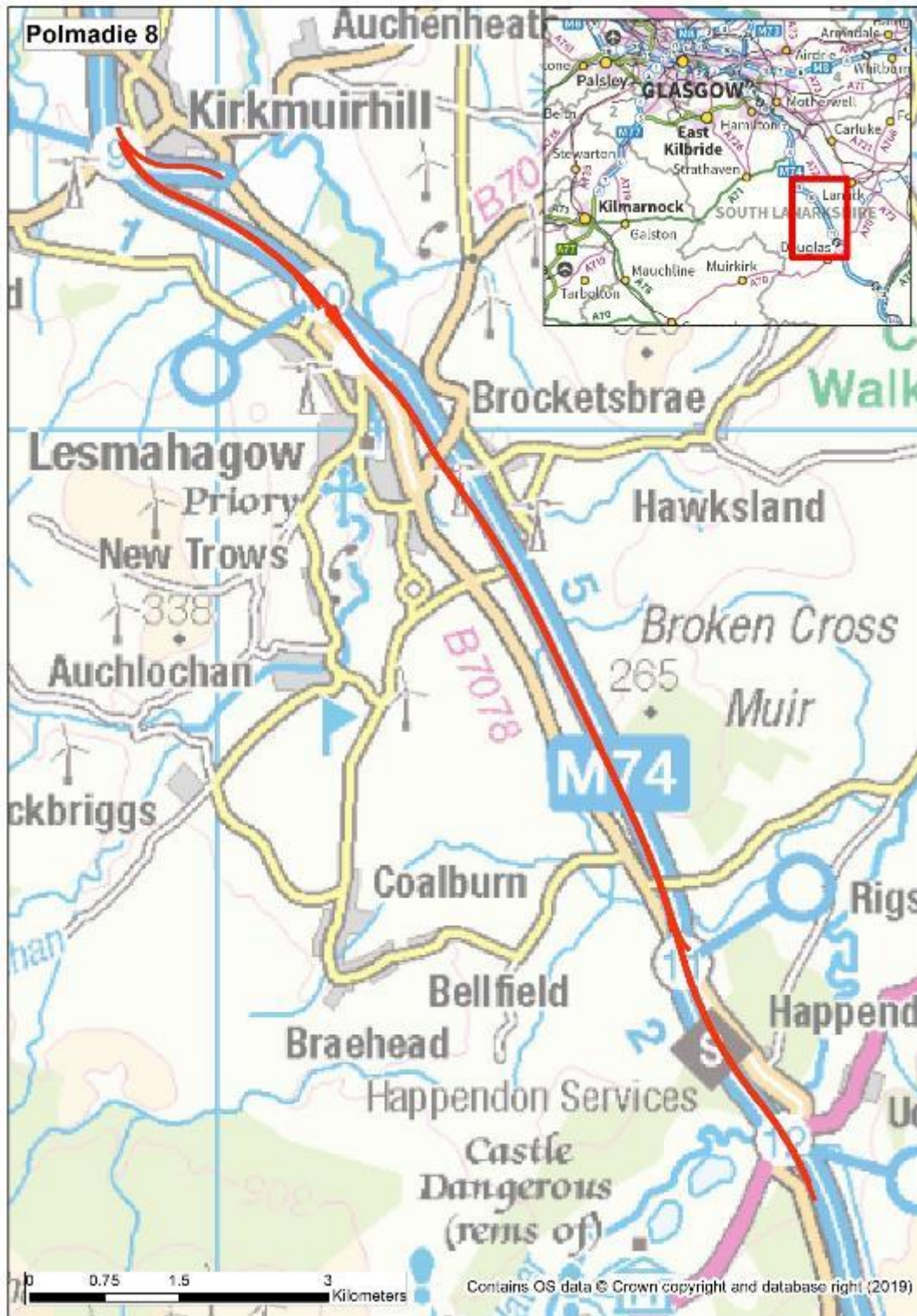
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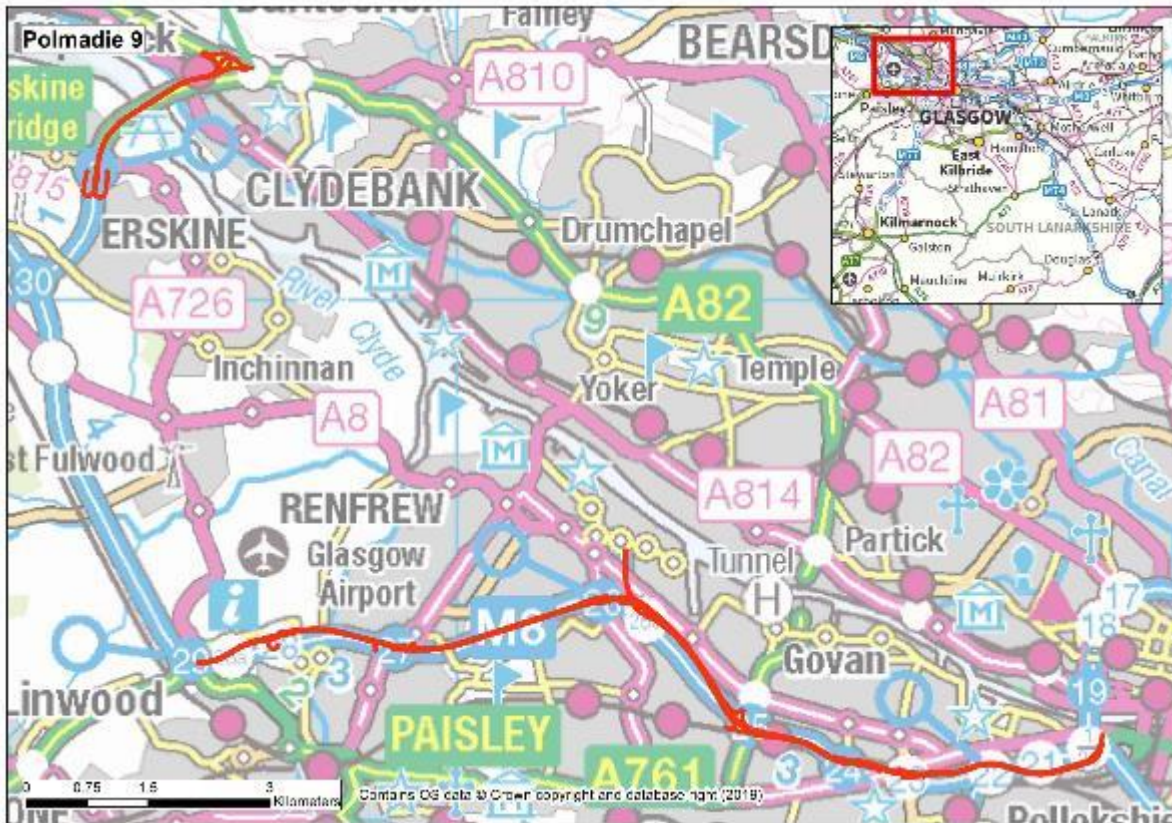
Route 7



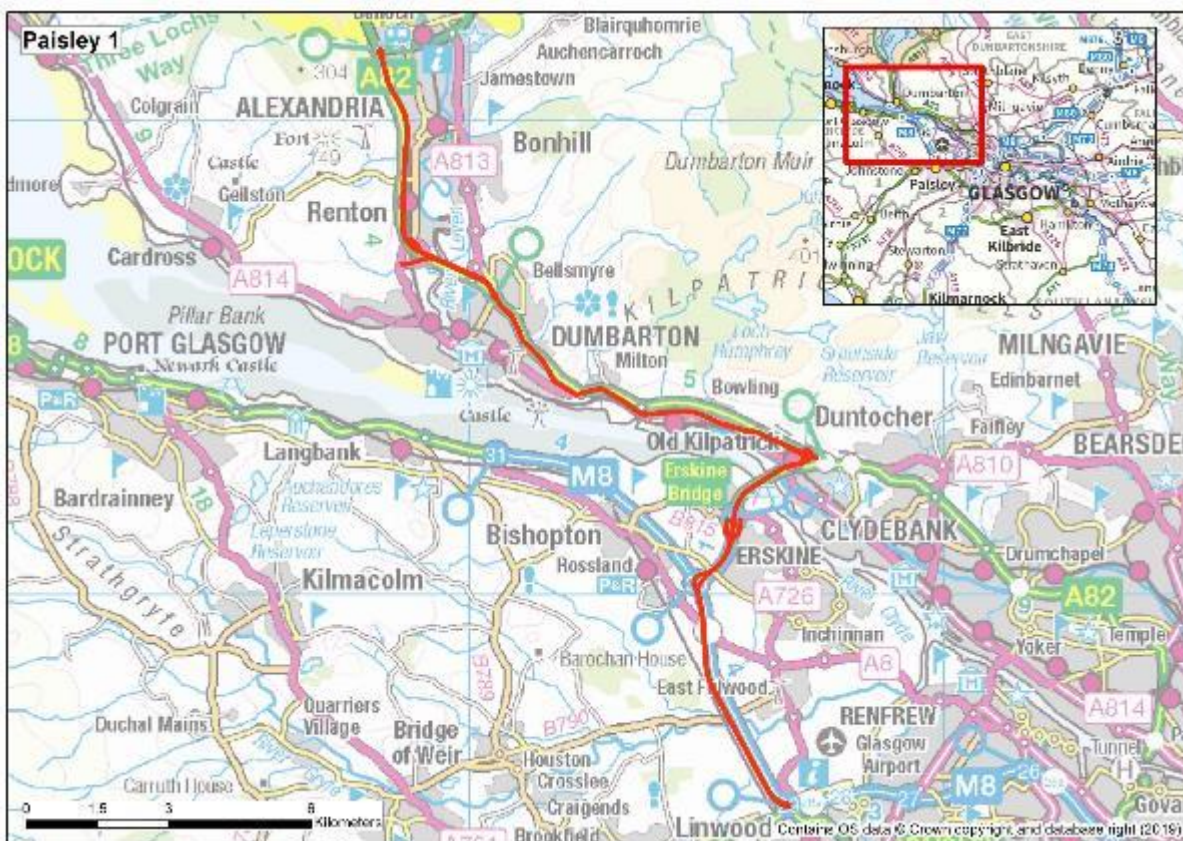
Route 8



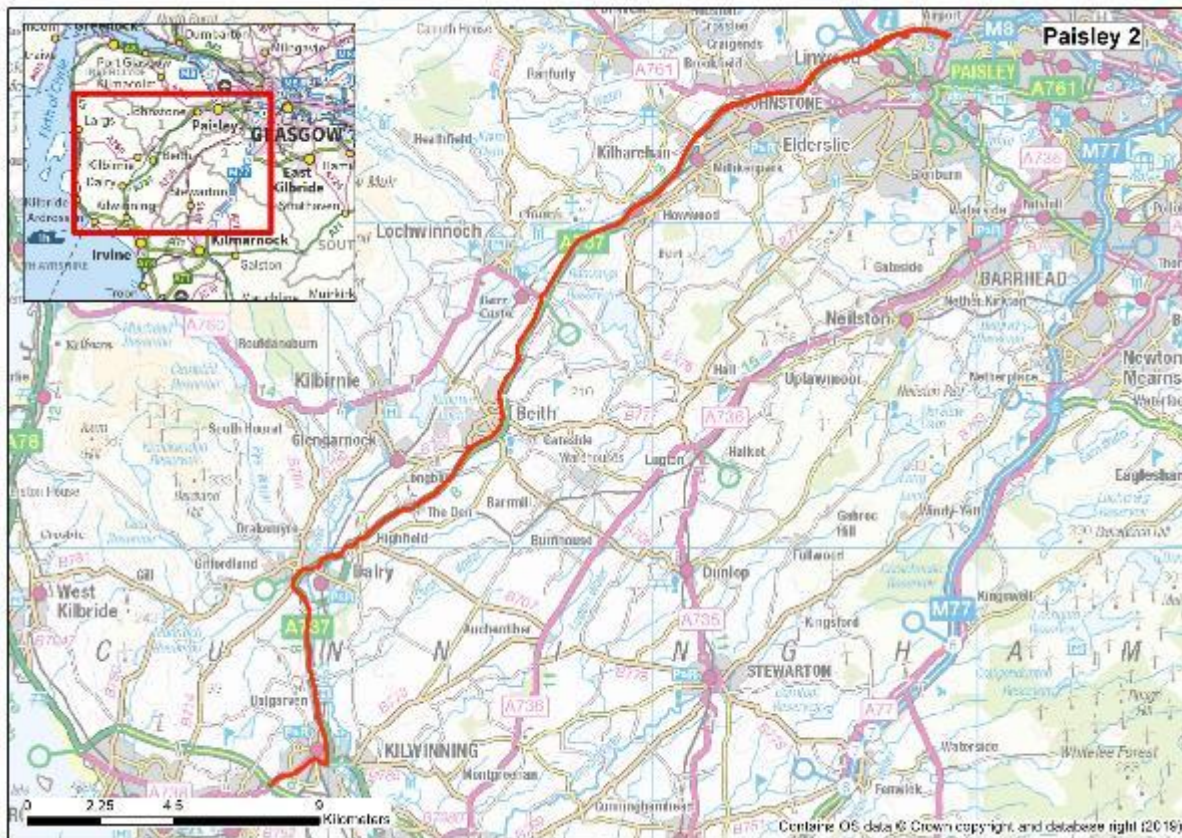
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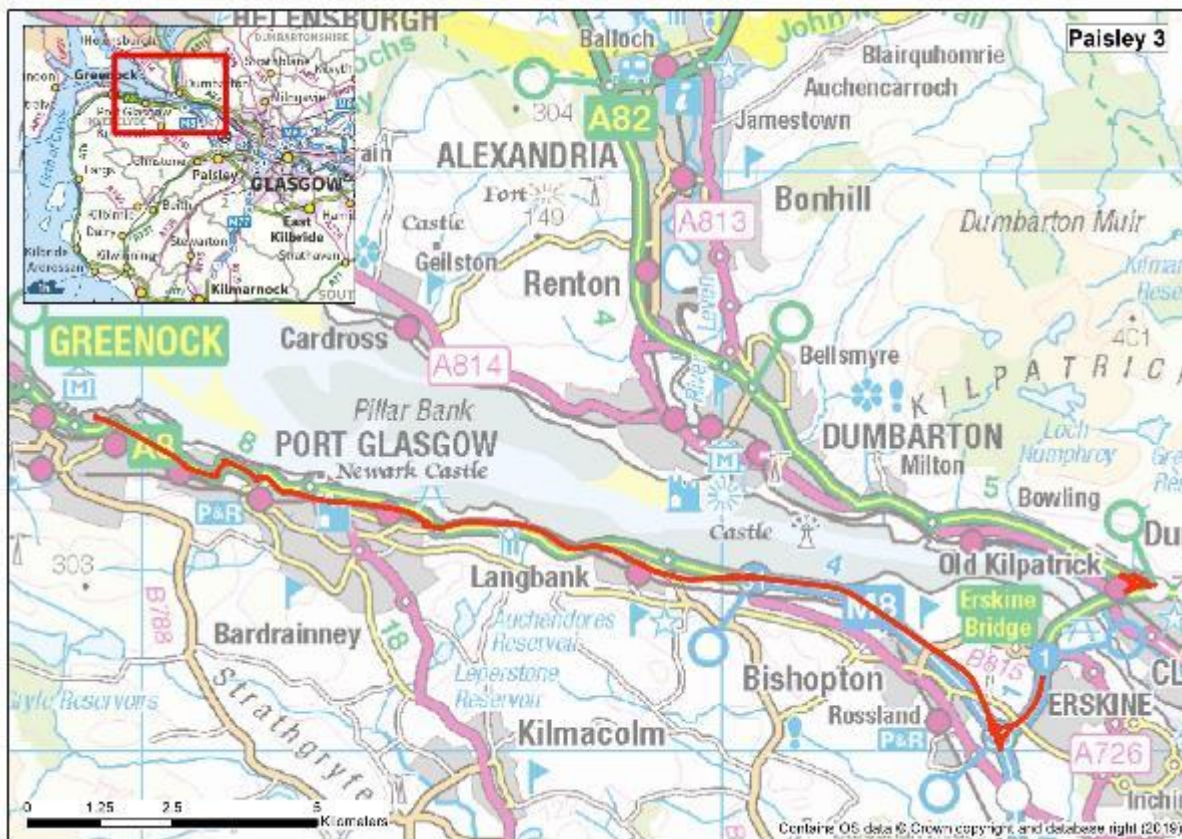
Route 10



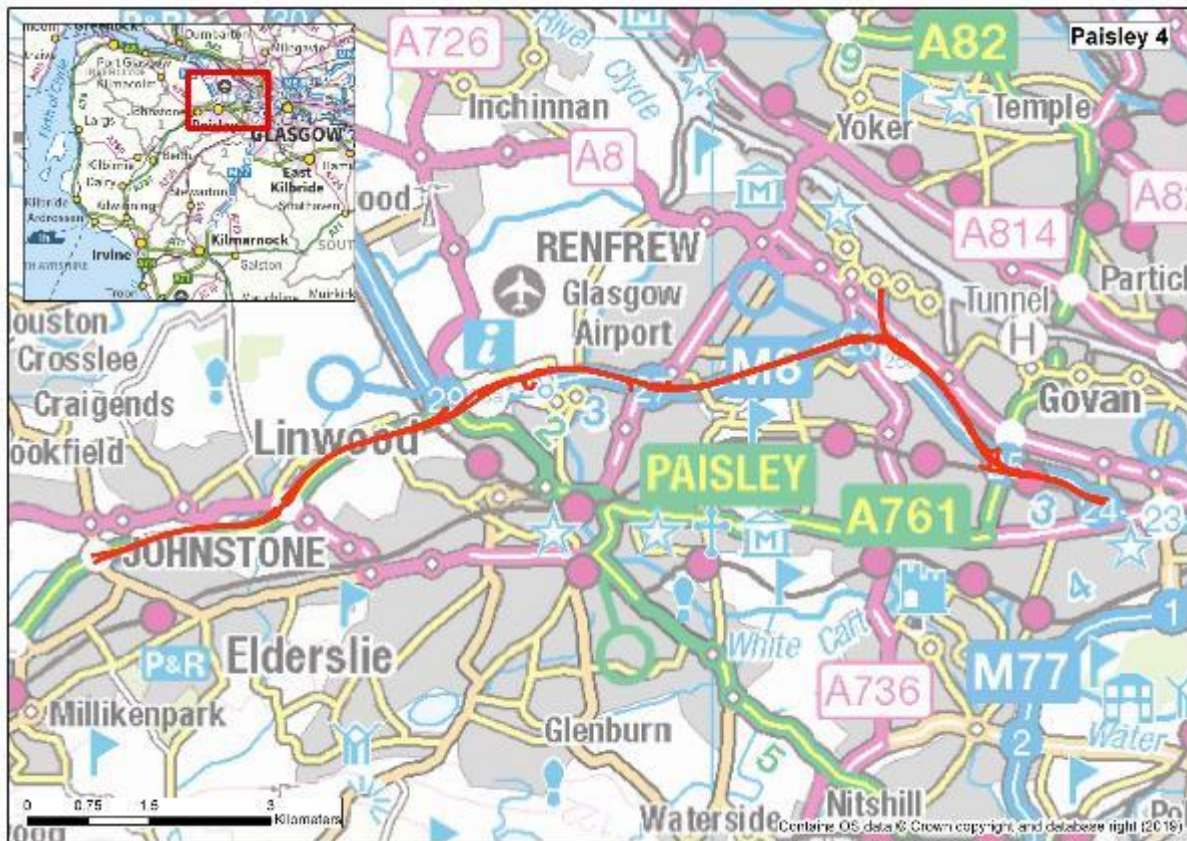
Route 11



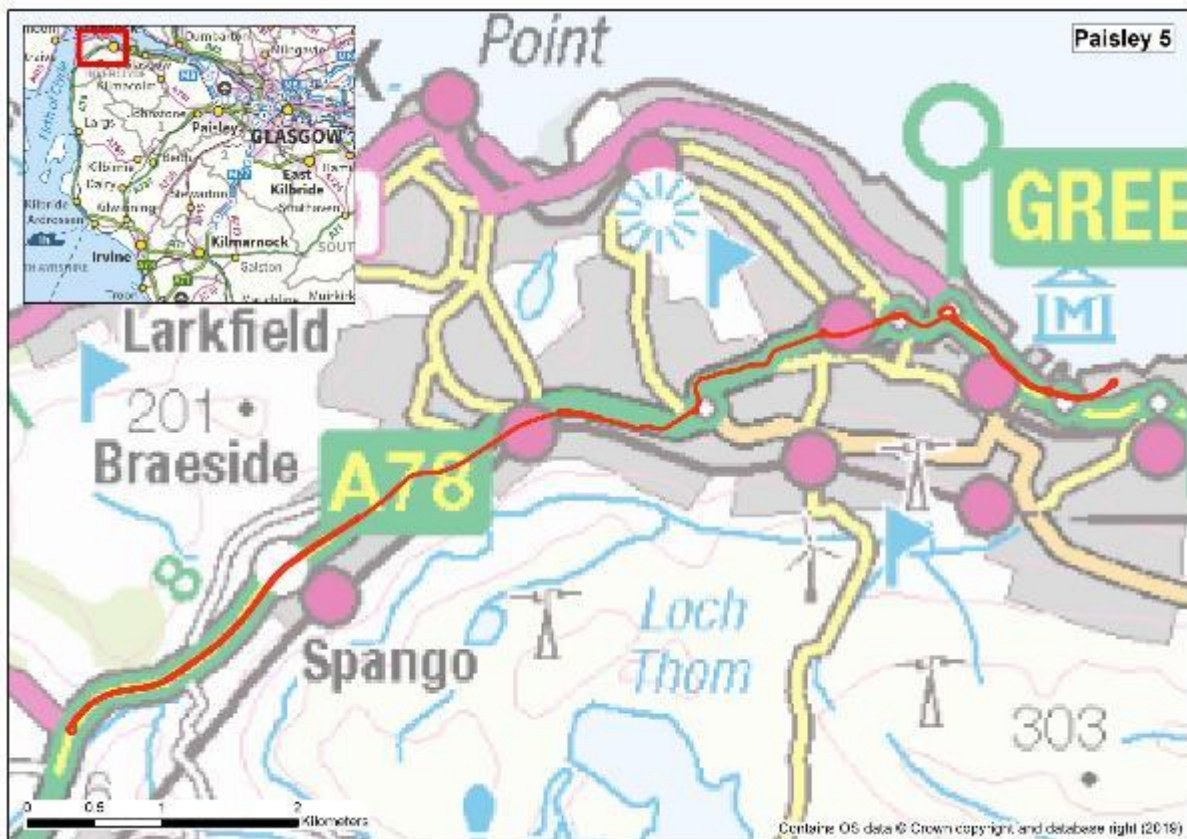
Route 12



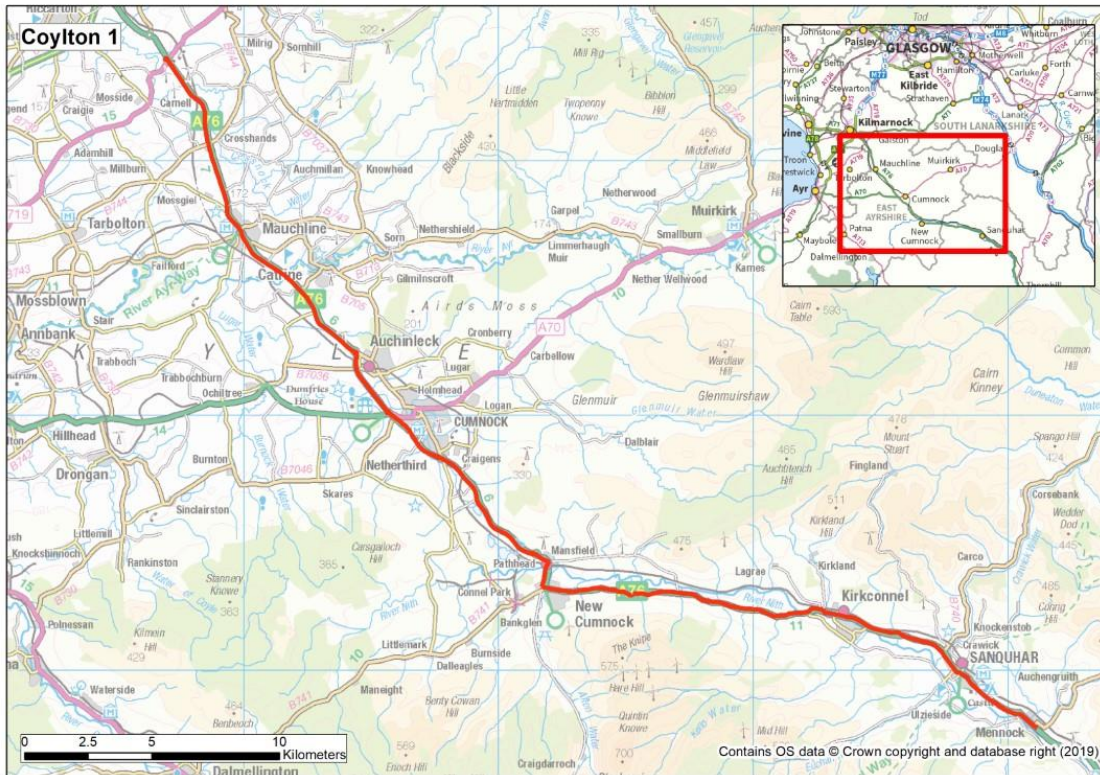
Route 13



Route 14



Route 15



Winter Service Plan



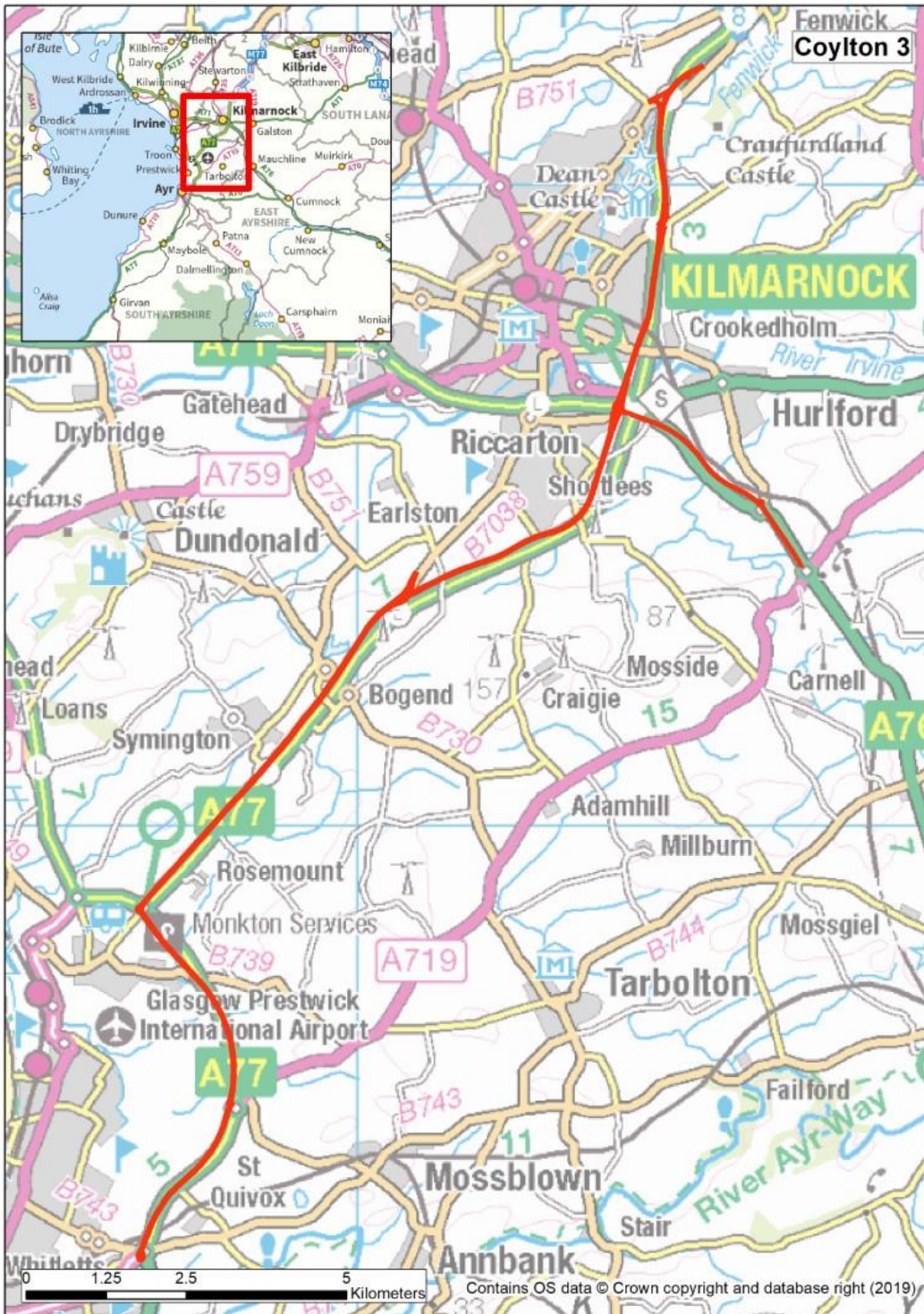
Route 16



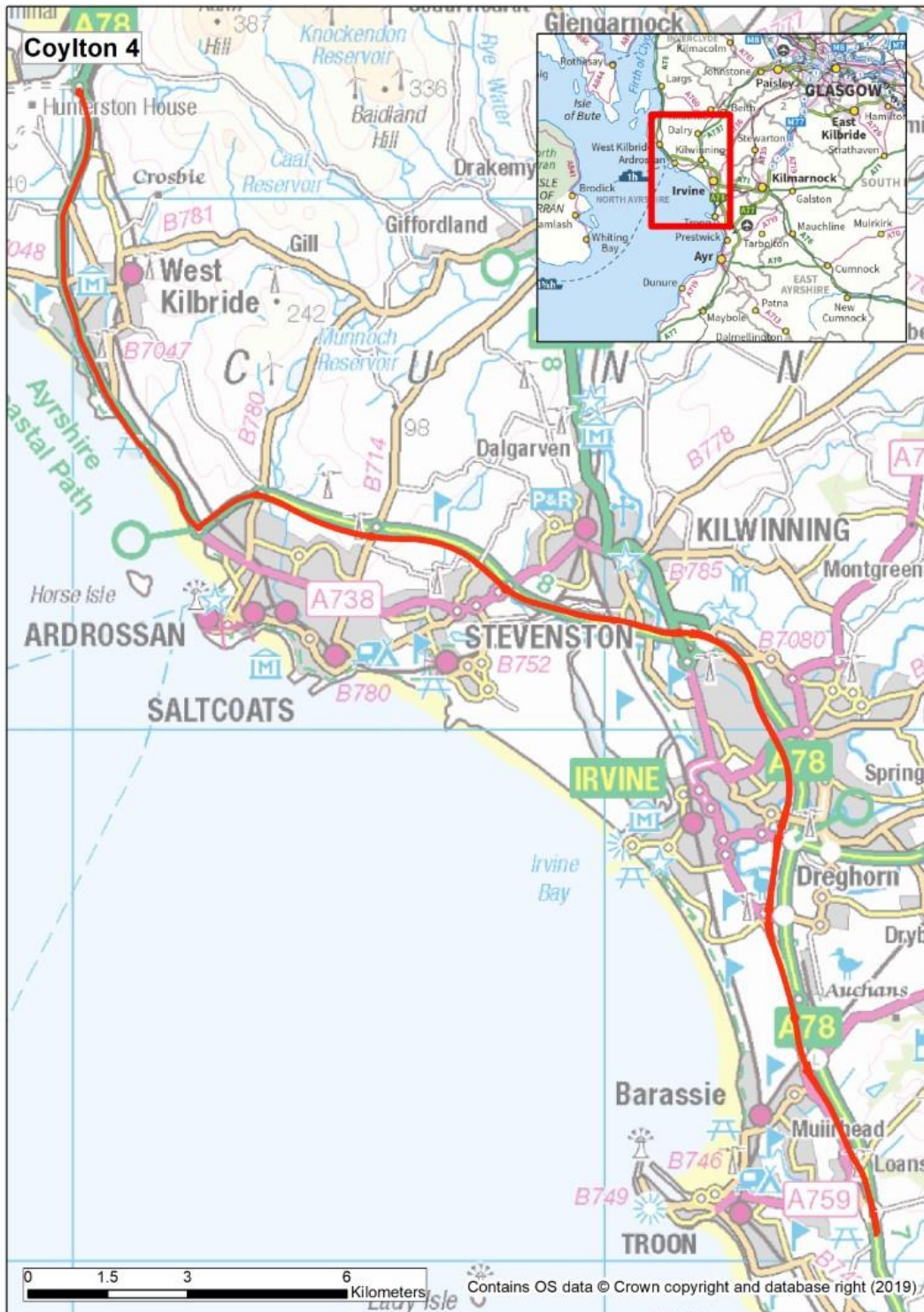
Winter Service Plan

Route 17 – map being updated





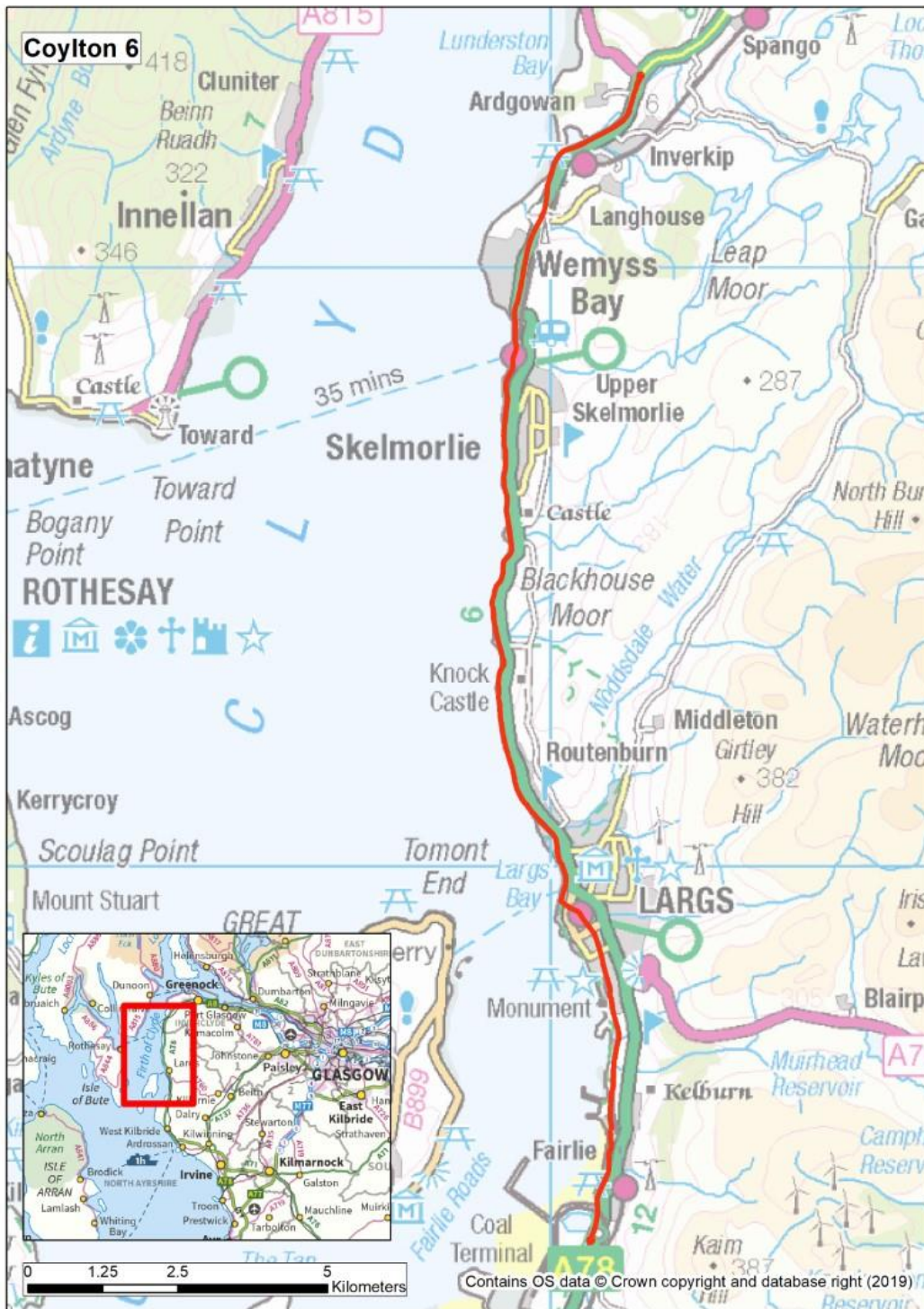
Route 18



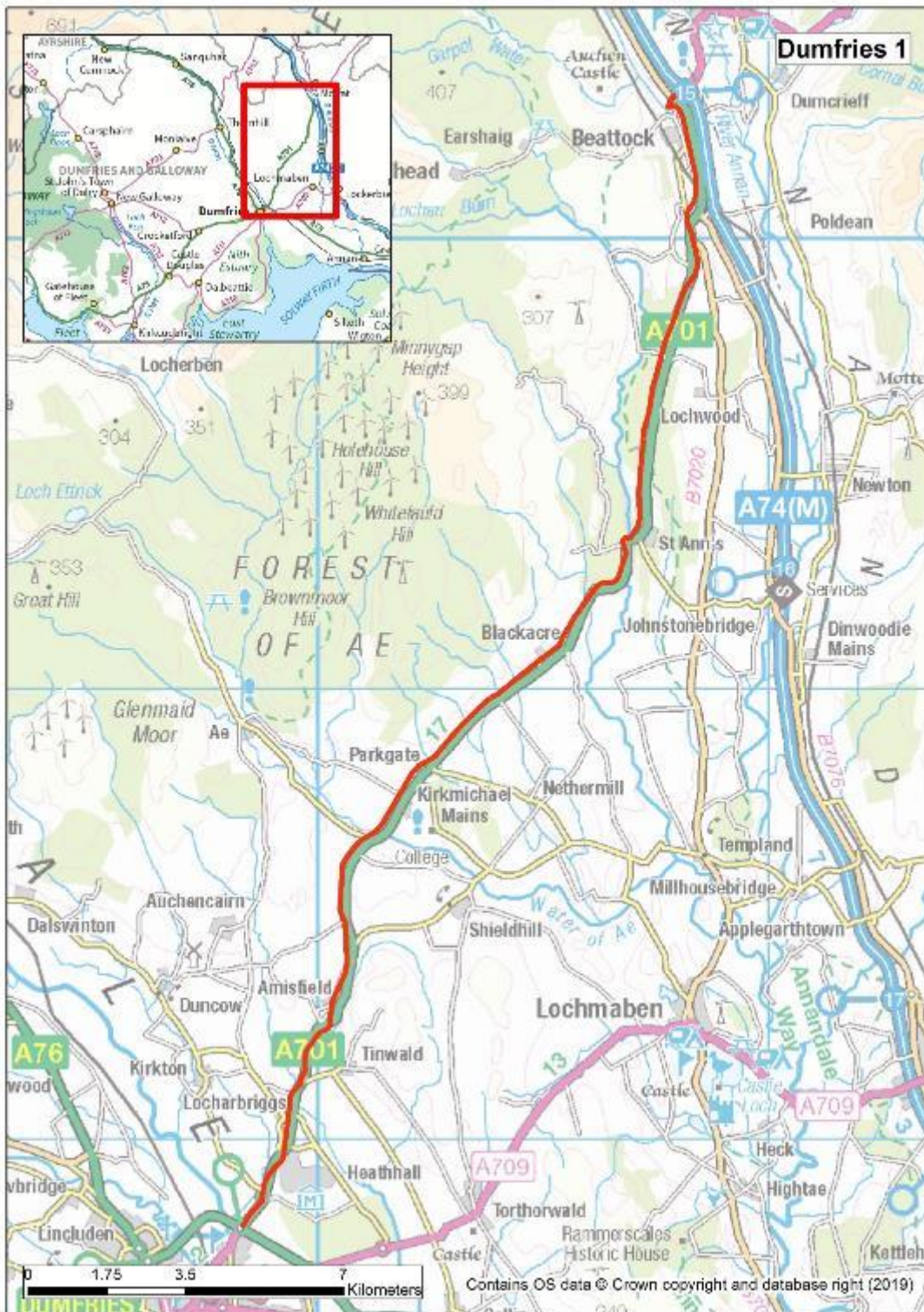
Winter Service Plan

Route 20

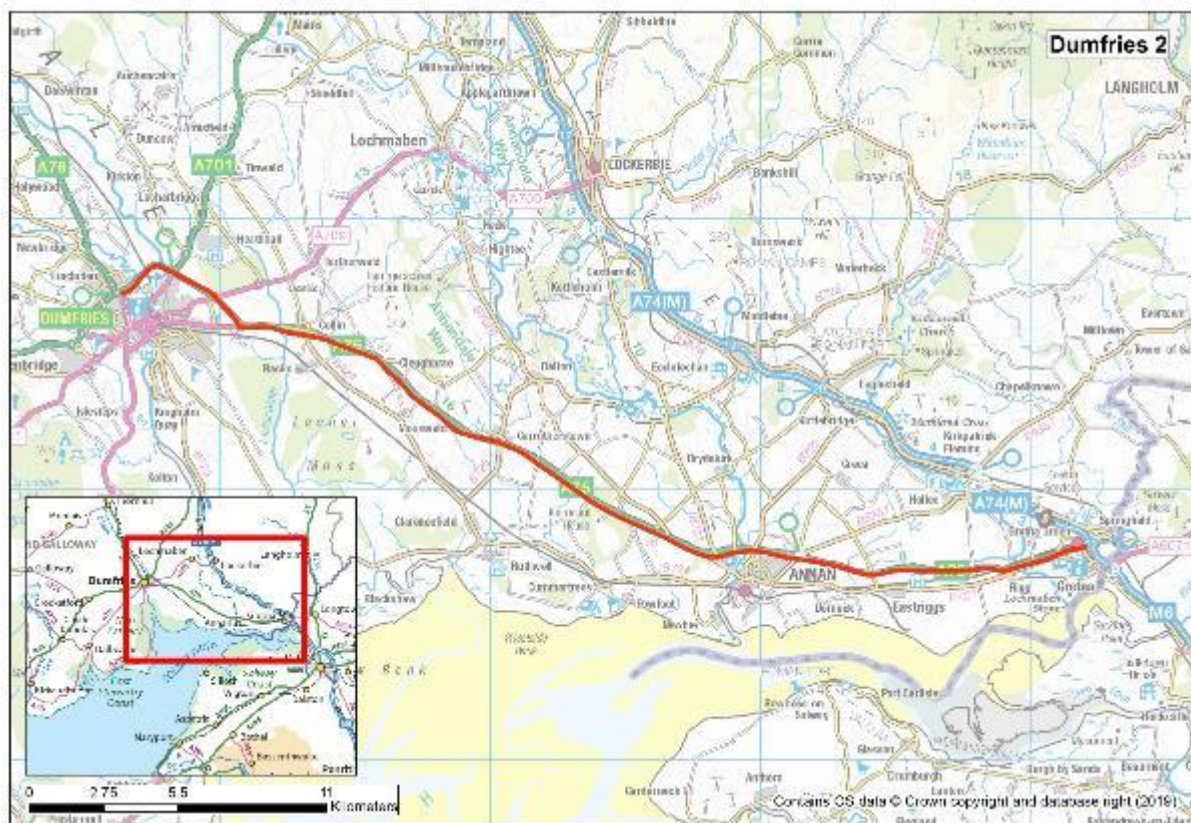




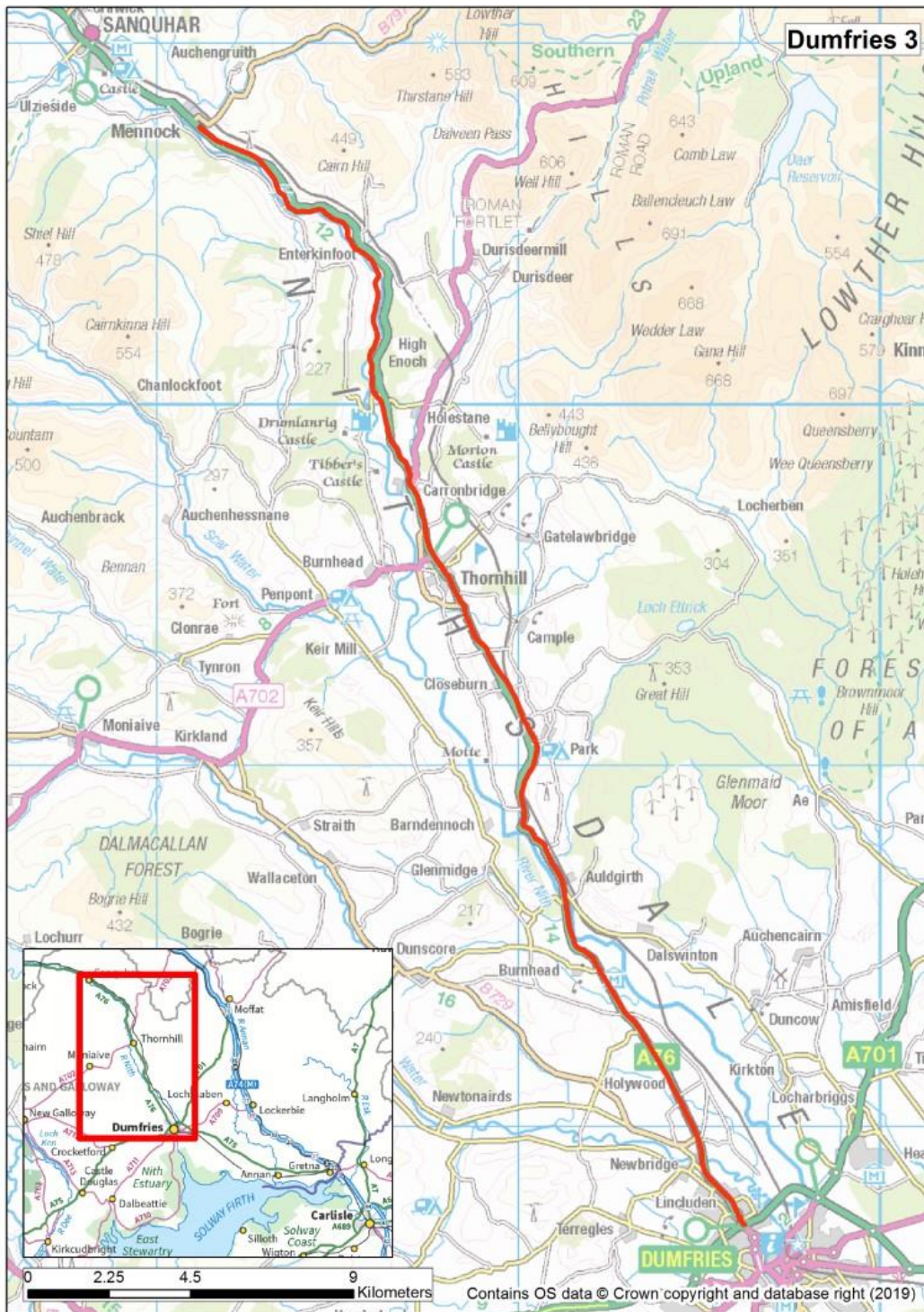
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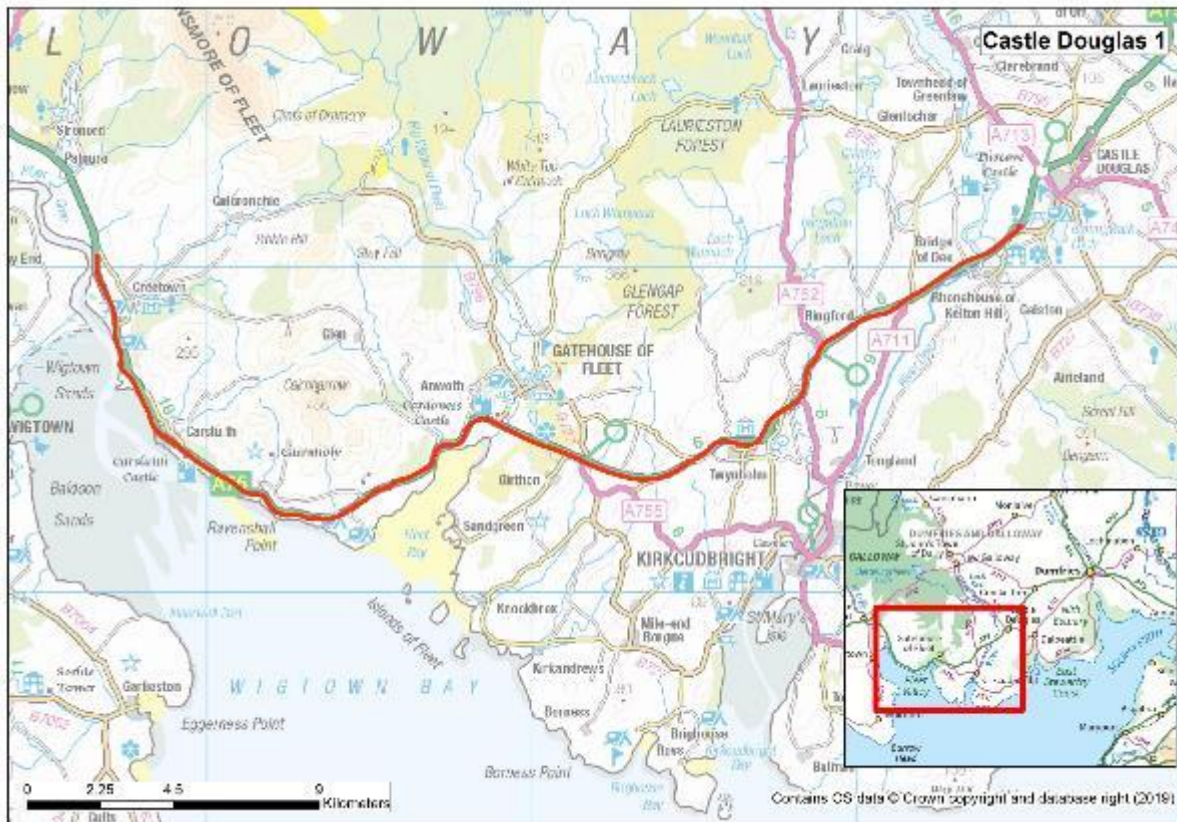
Route 22



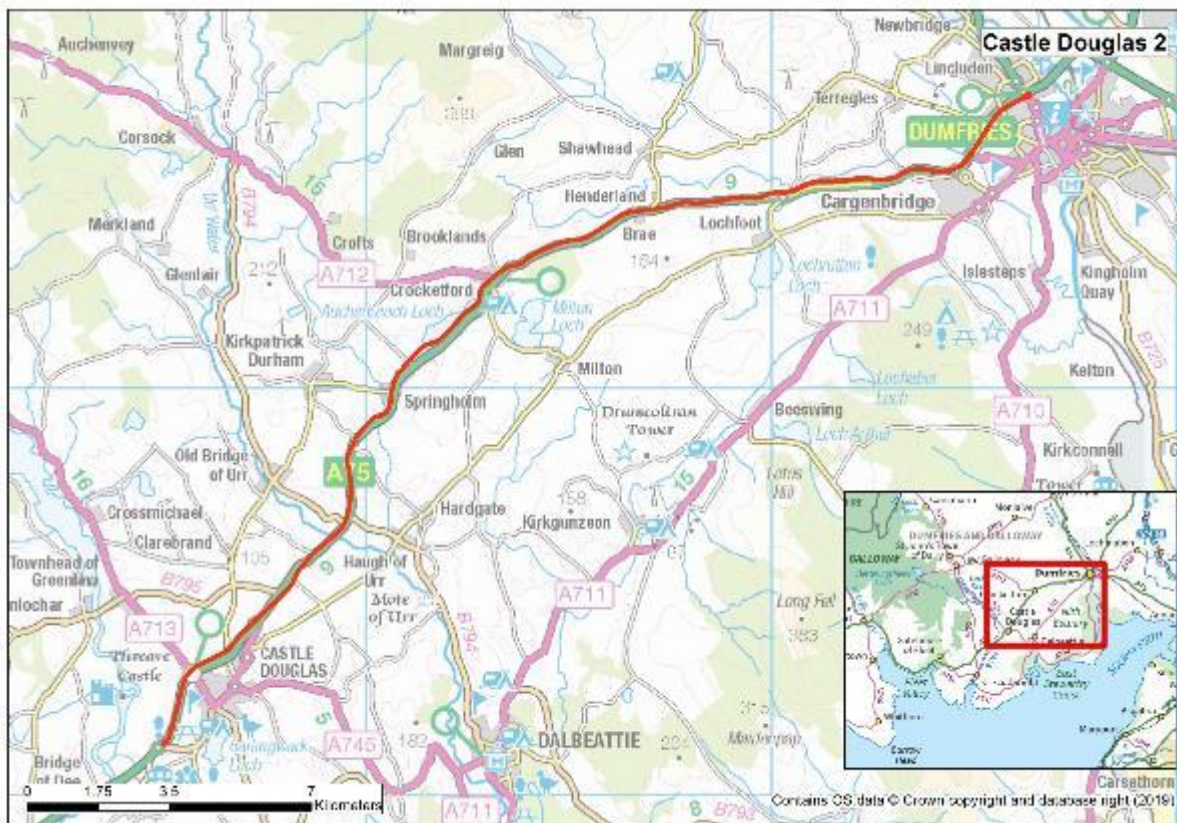
Route 23



Route 24



Route 25



Route 26



Route 27

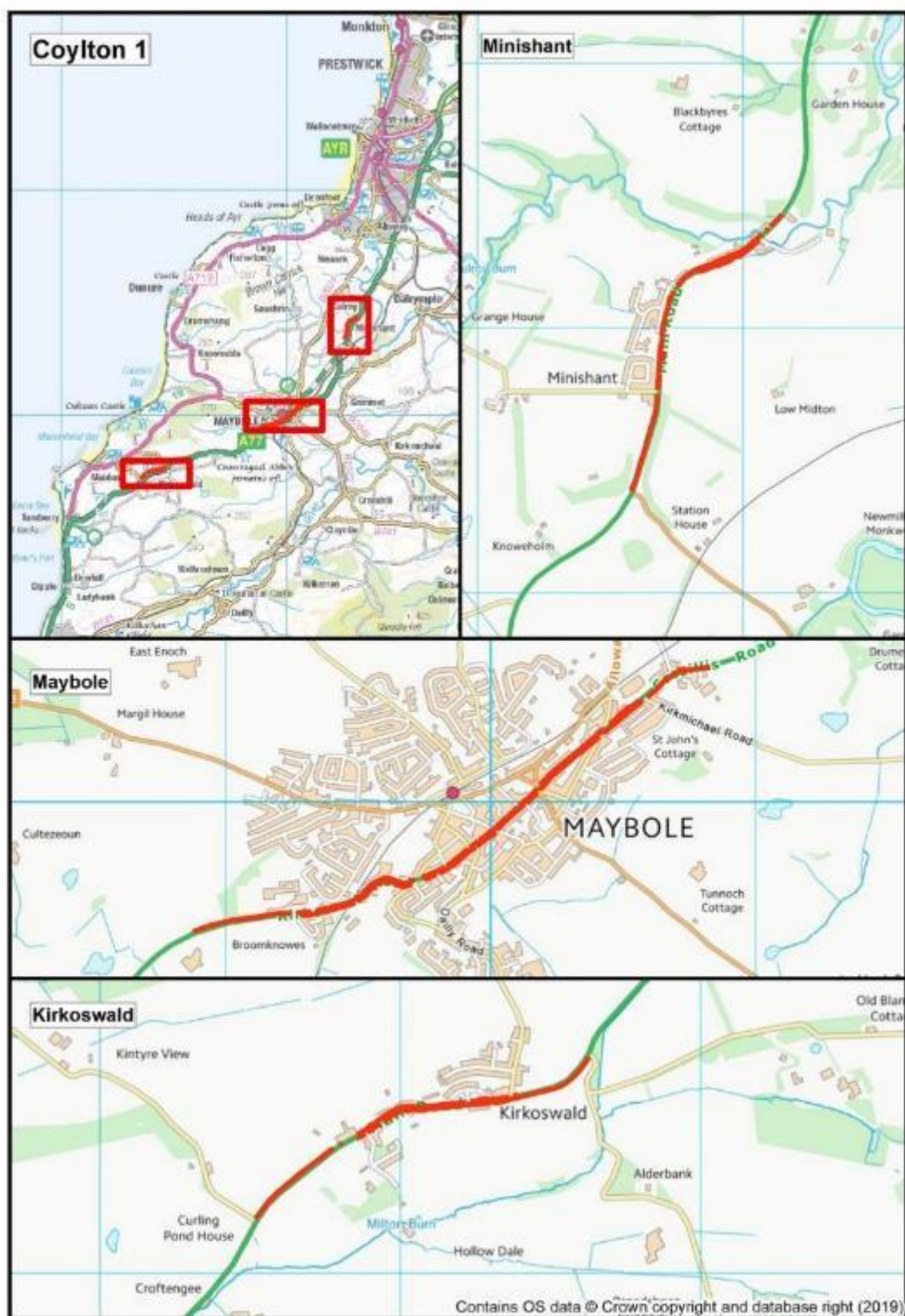


II. precautionary treatment routes for footways, footbridges and cycling facilities





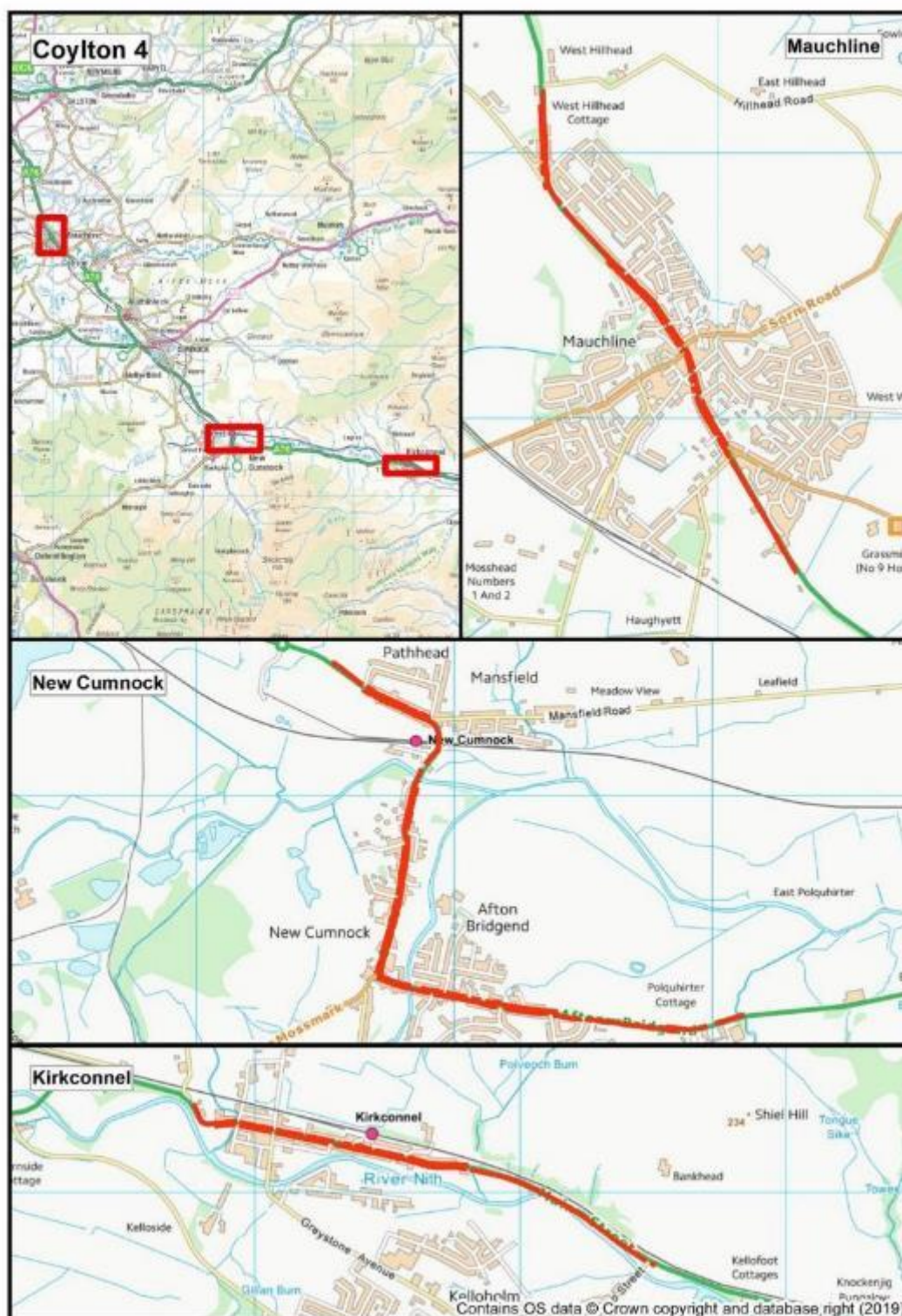






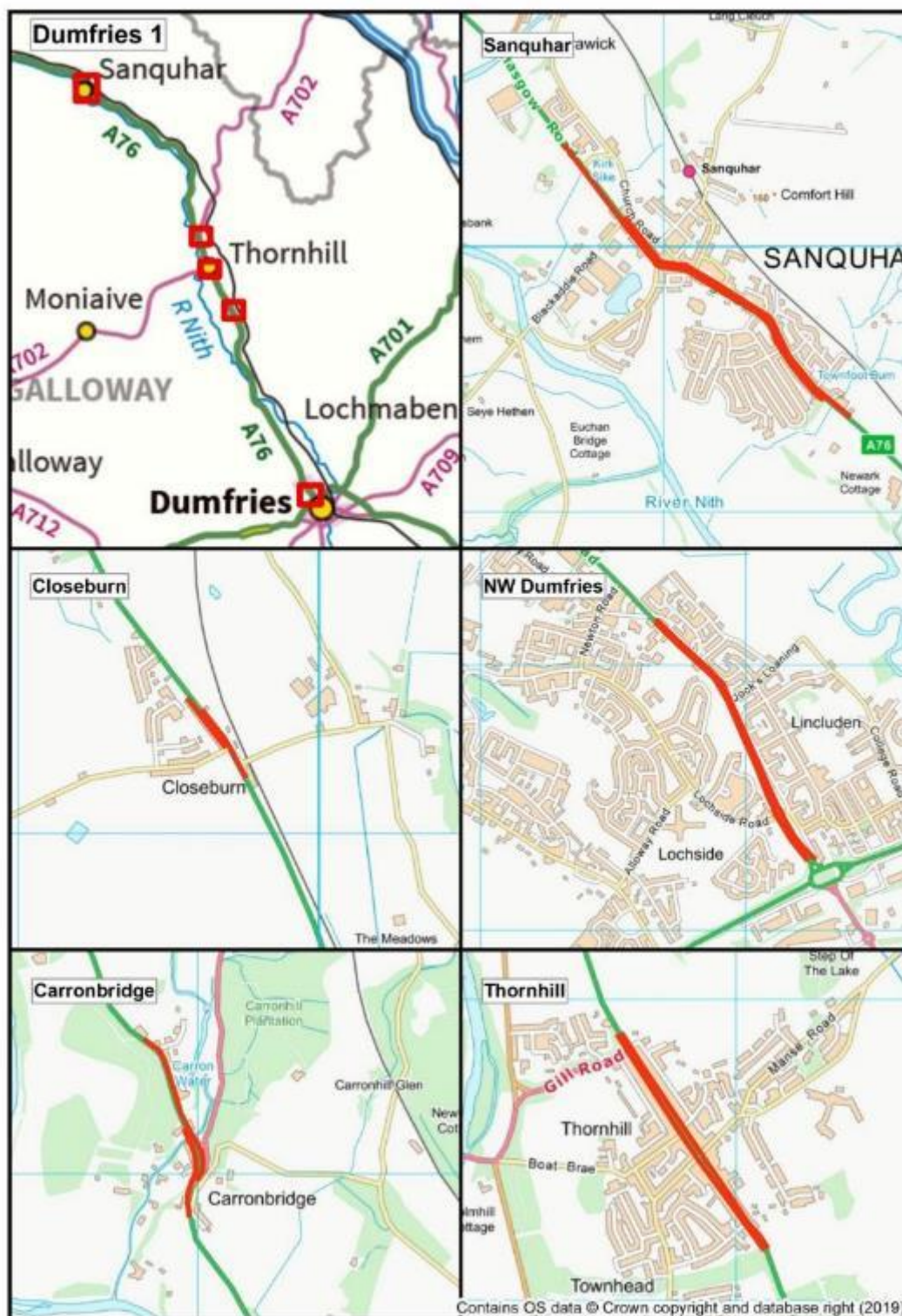


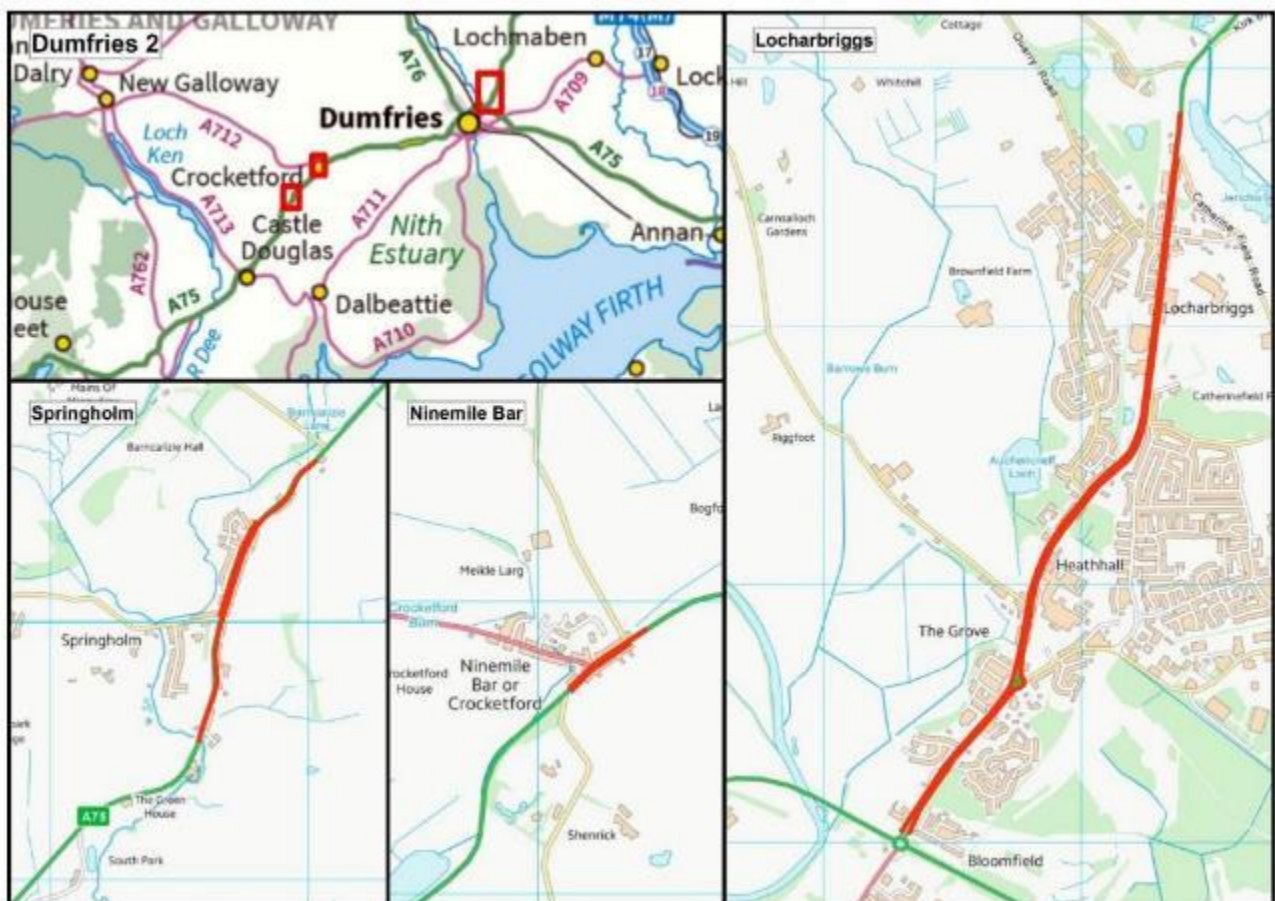






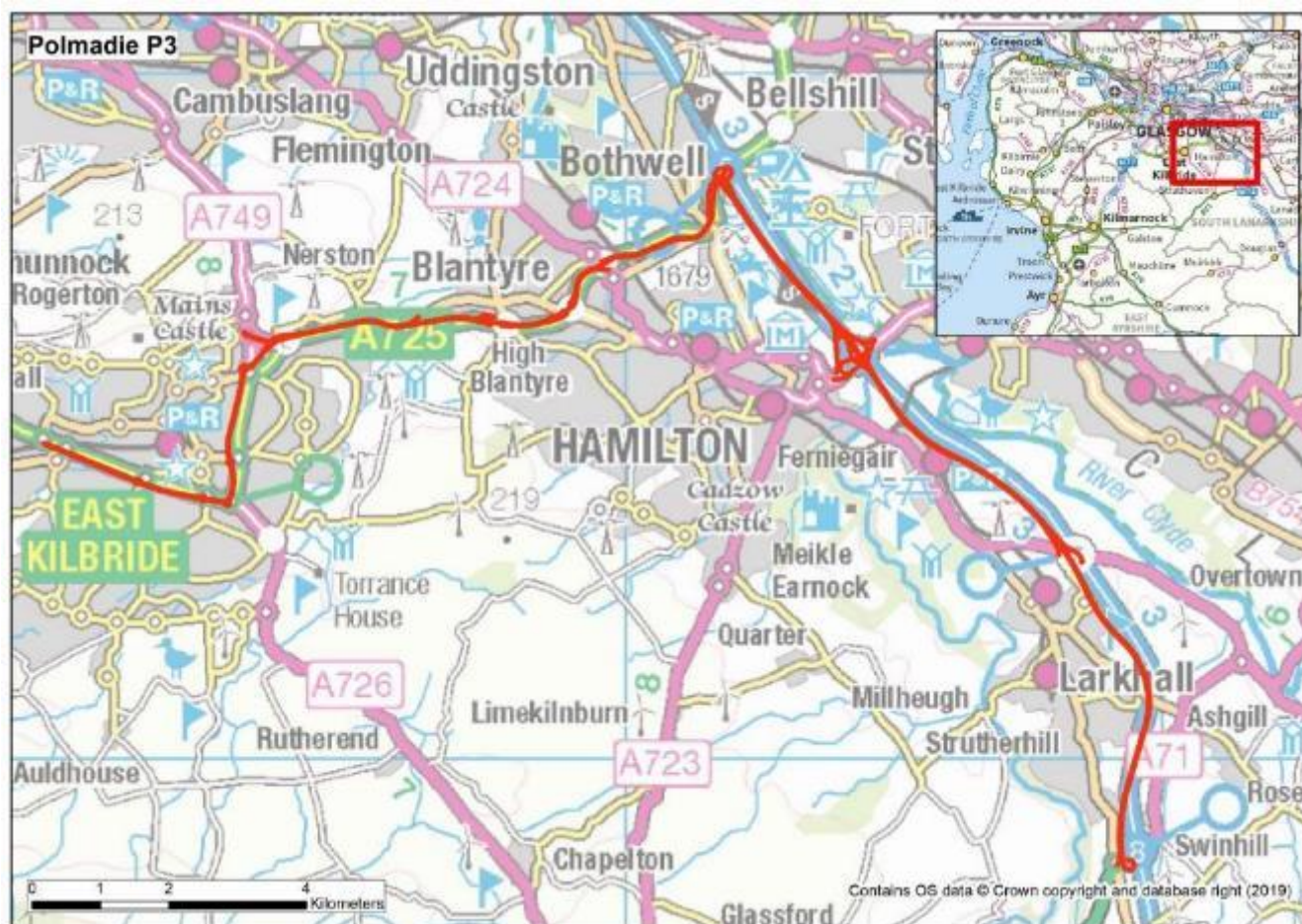


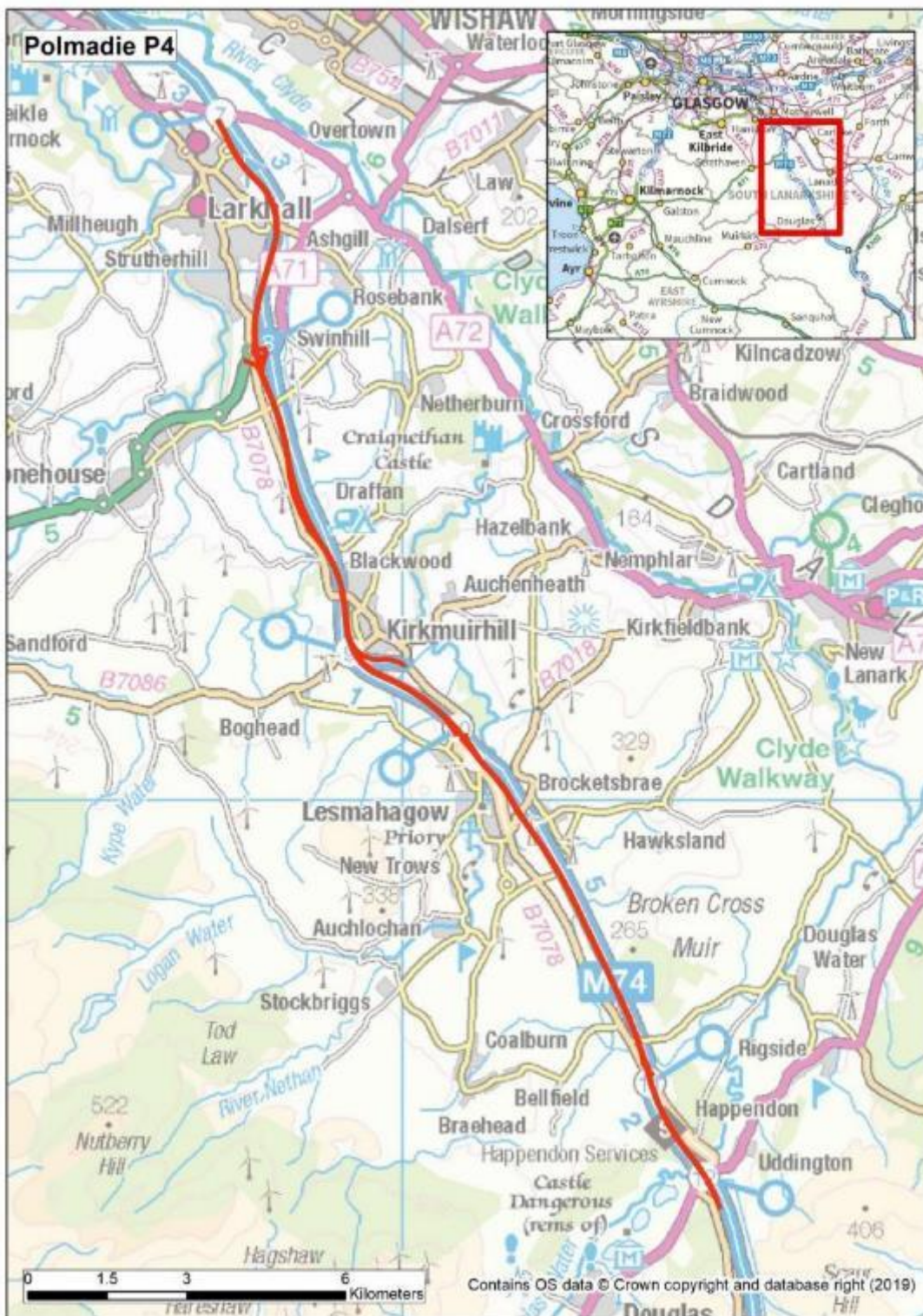


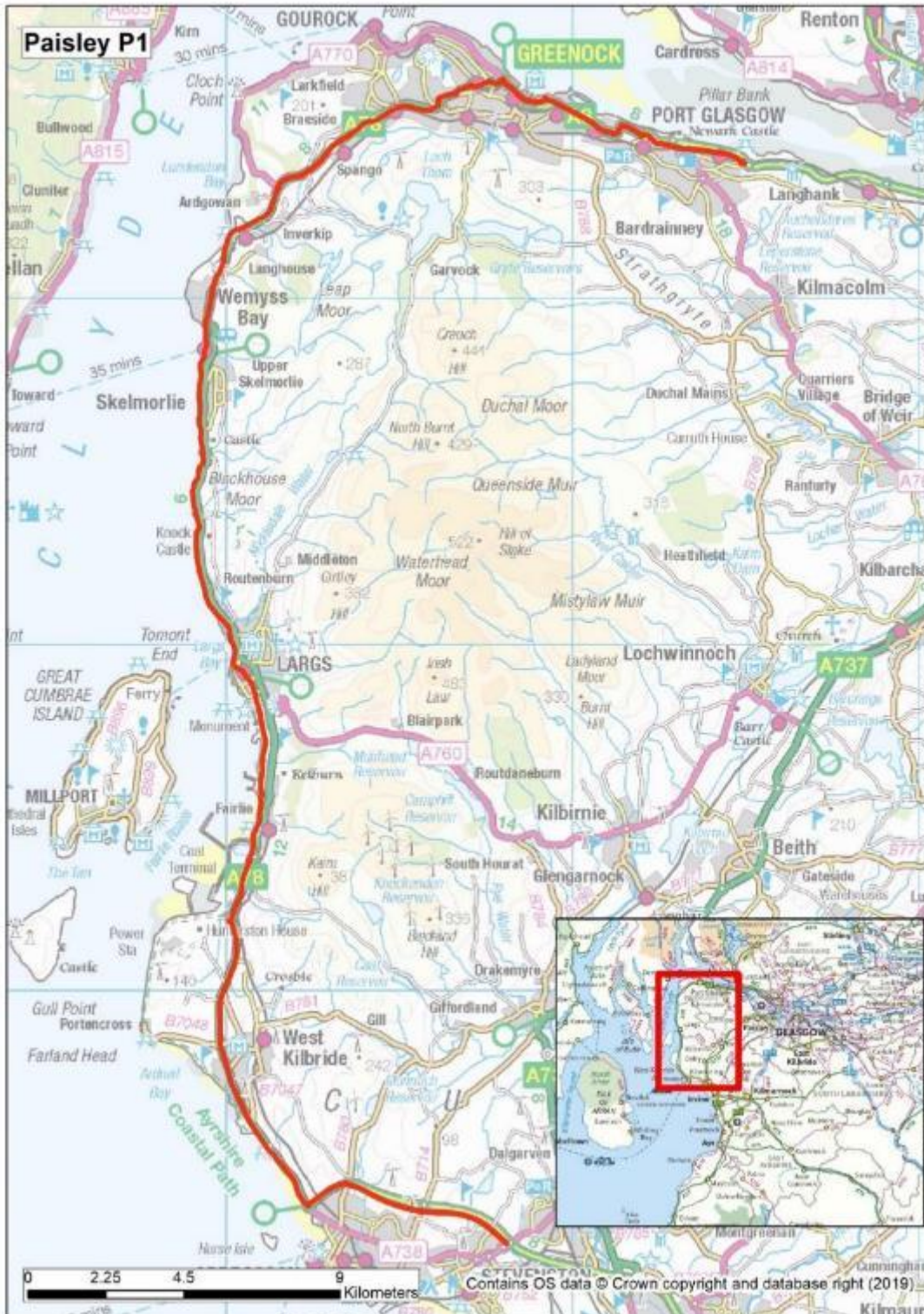


N/A



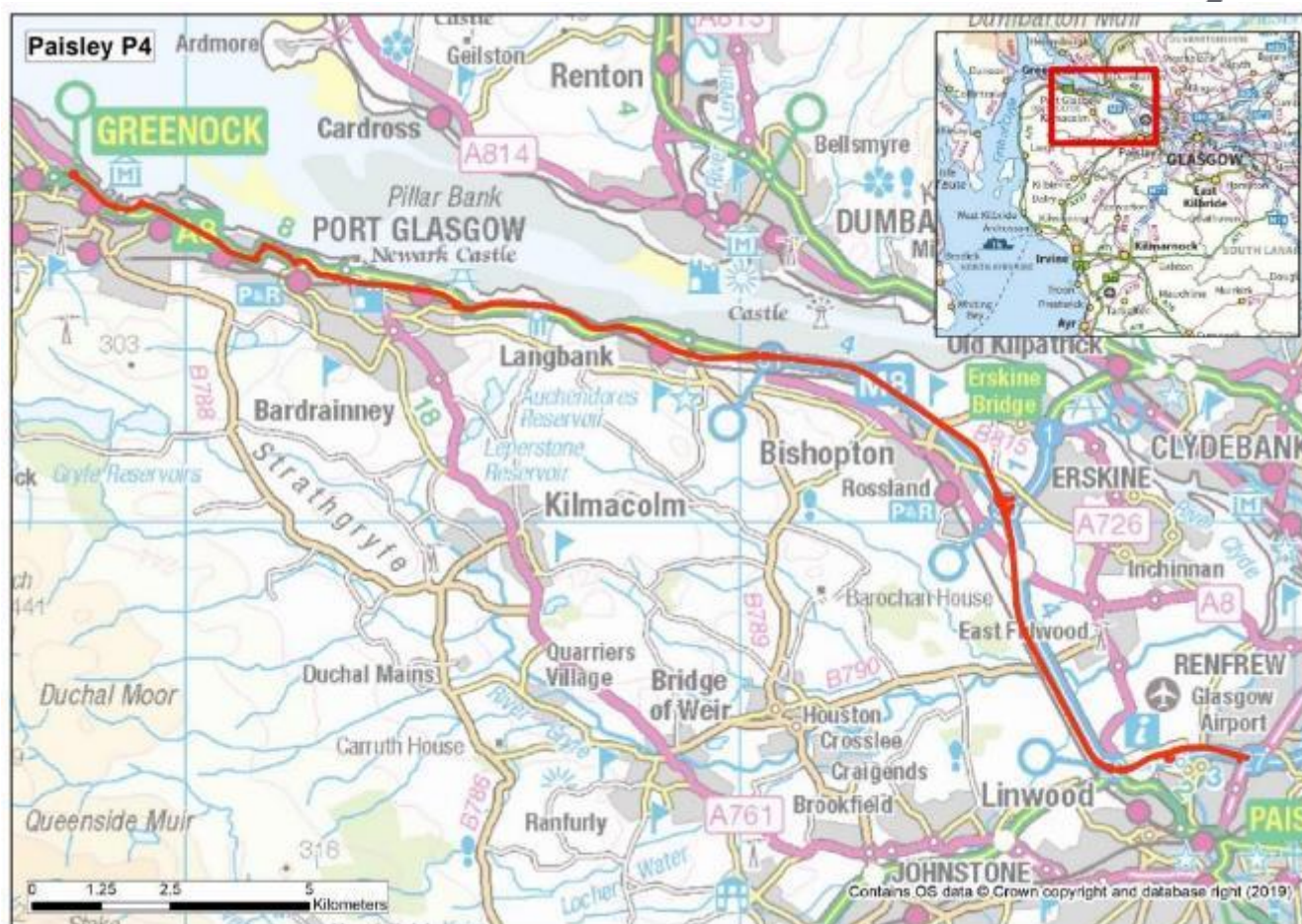


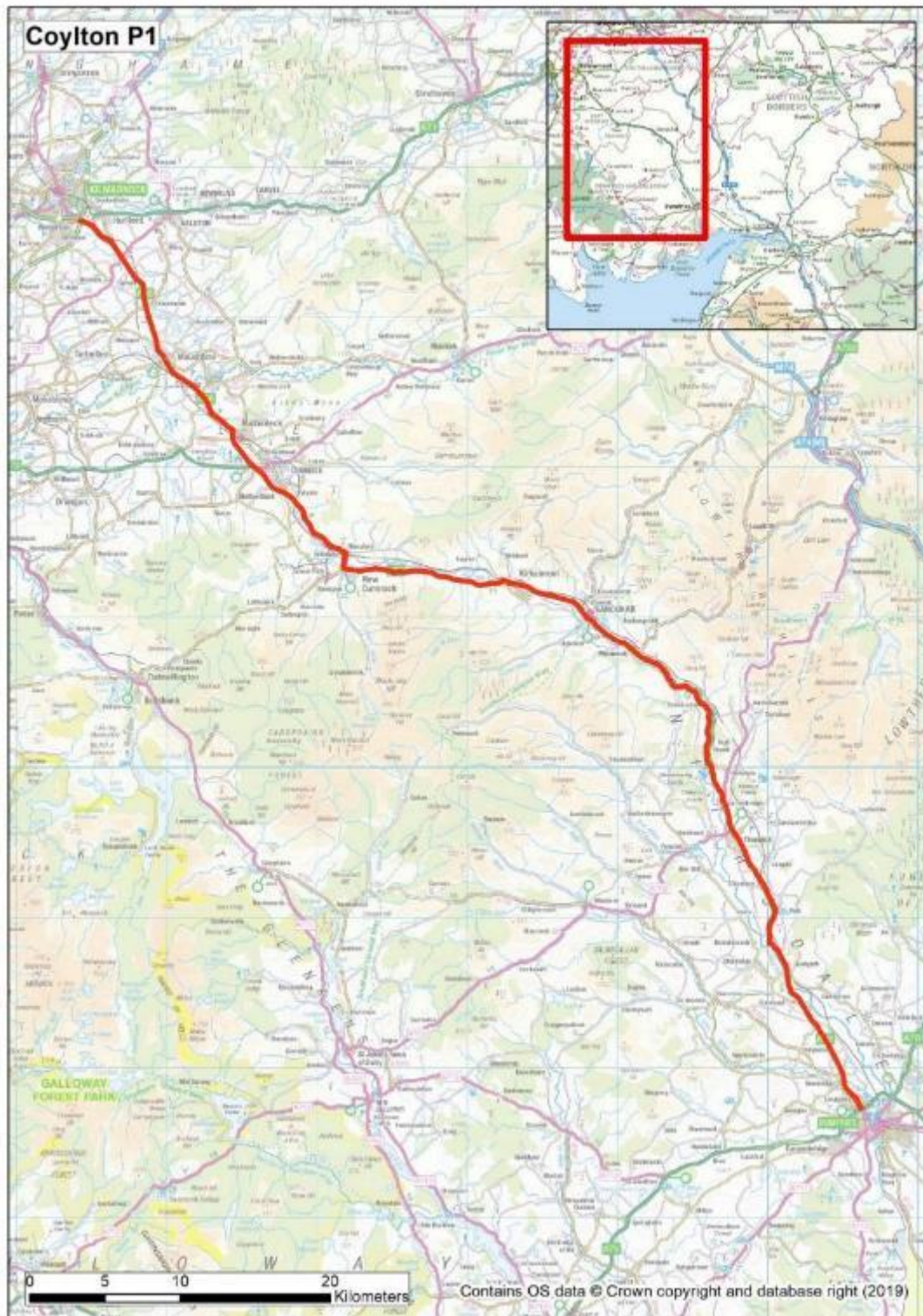


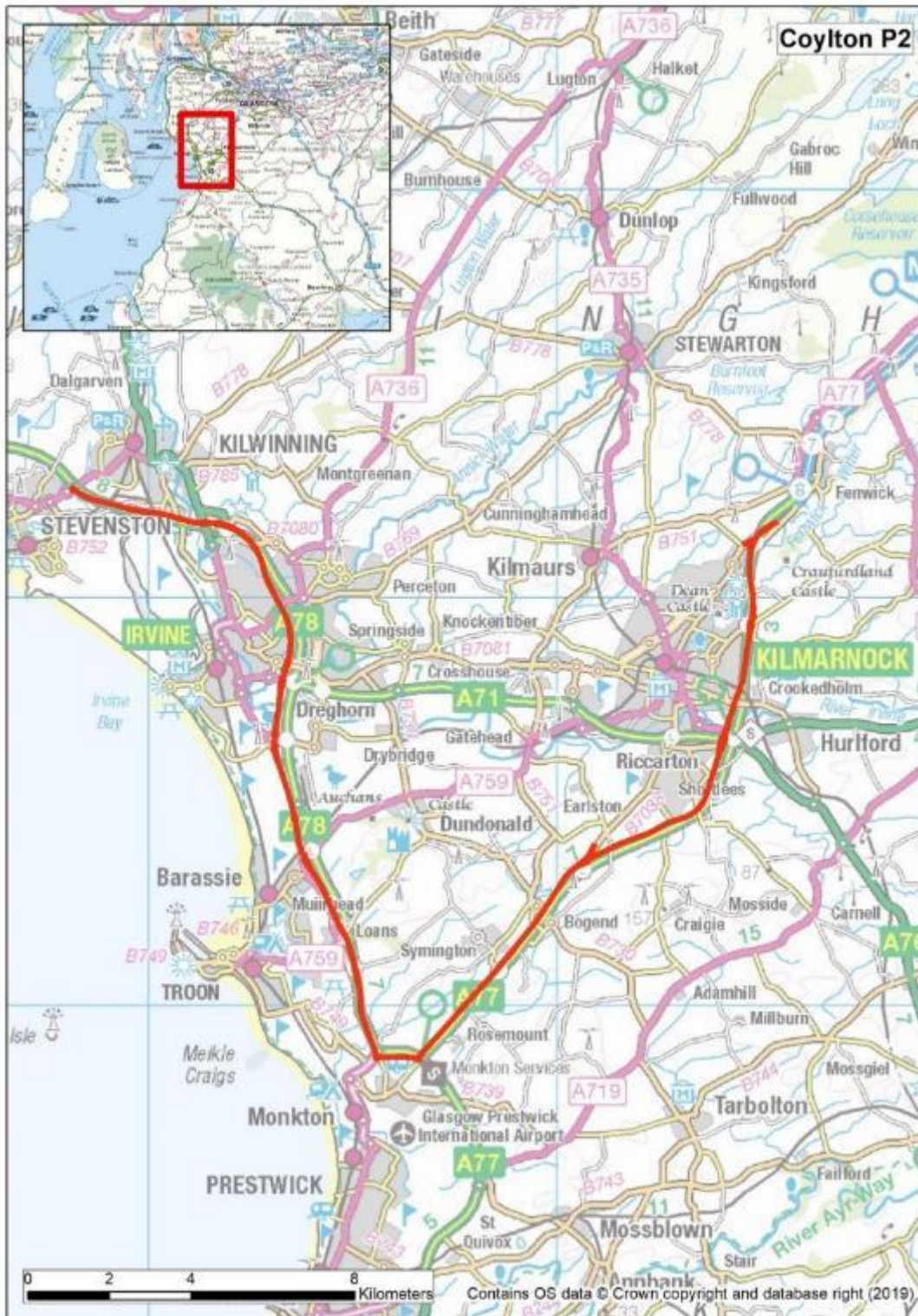




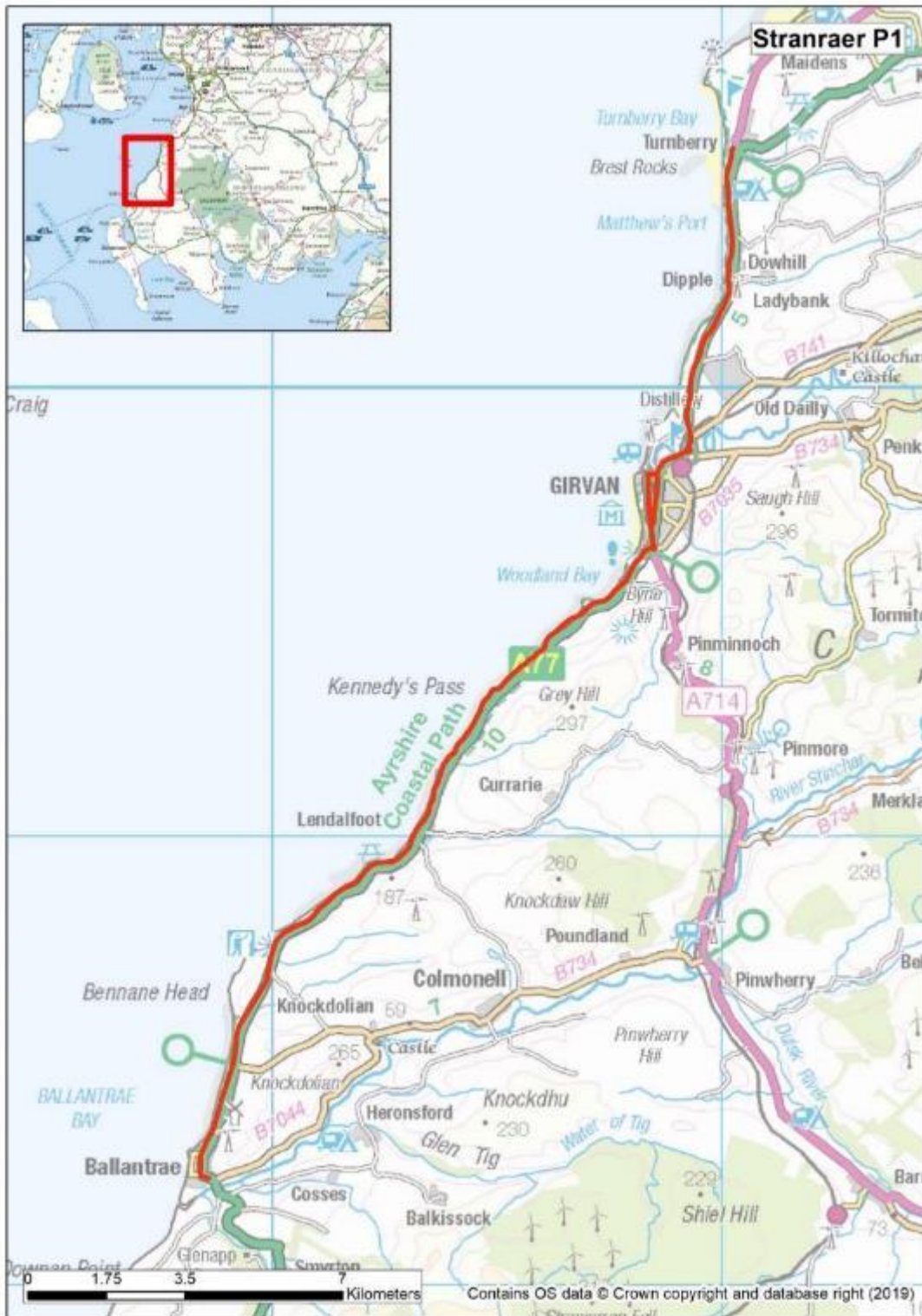


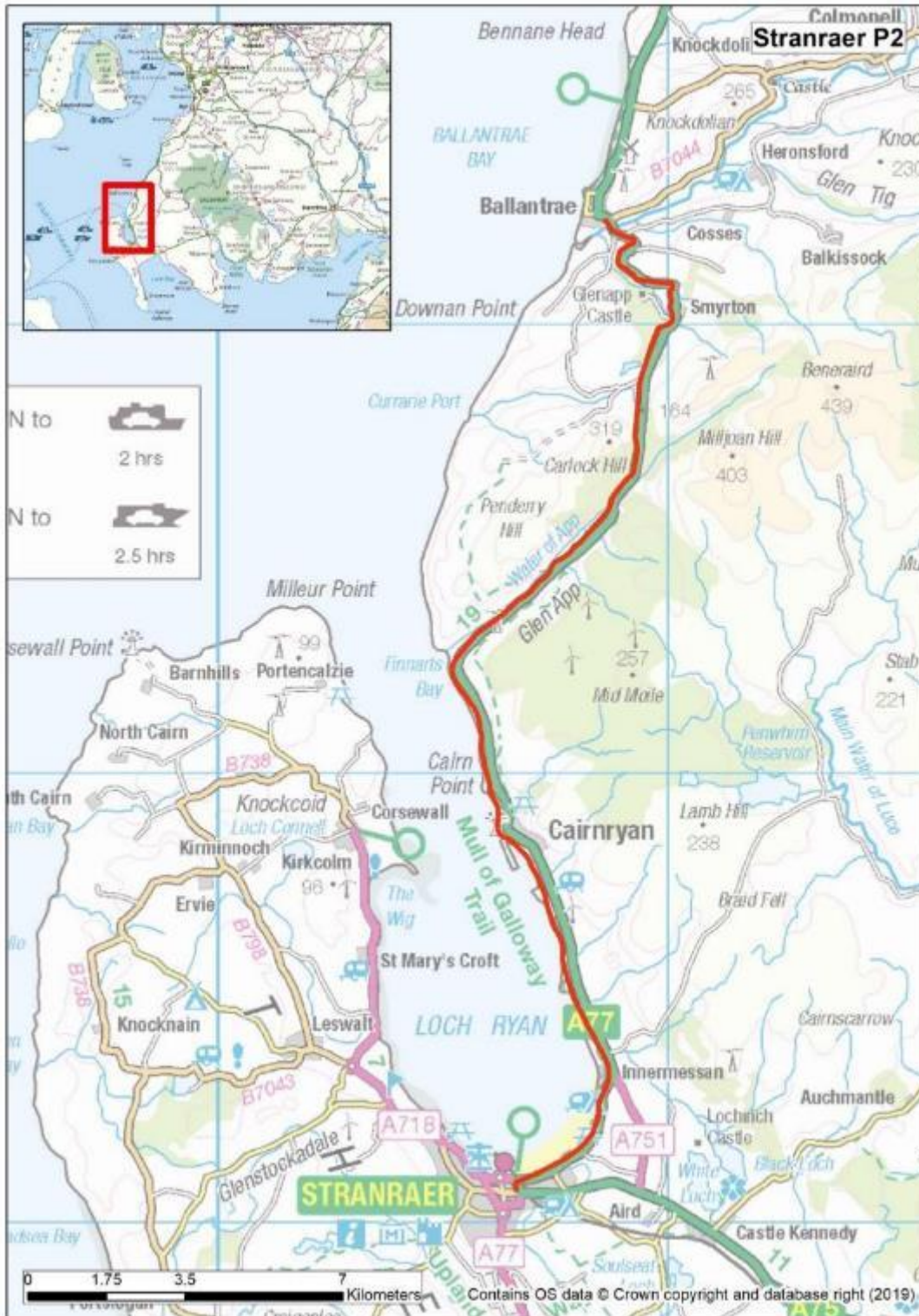


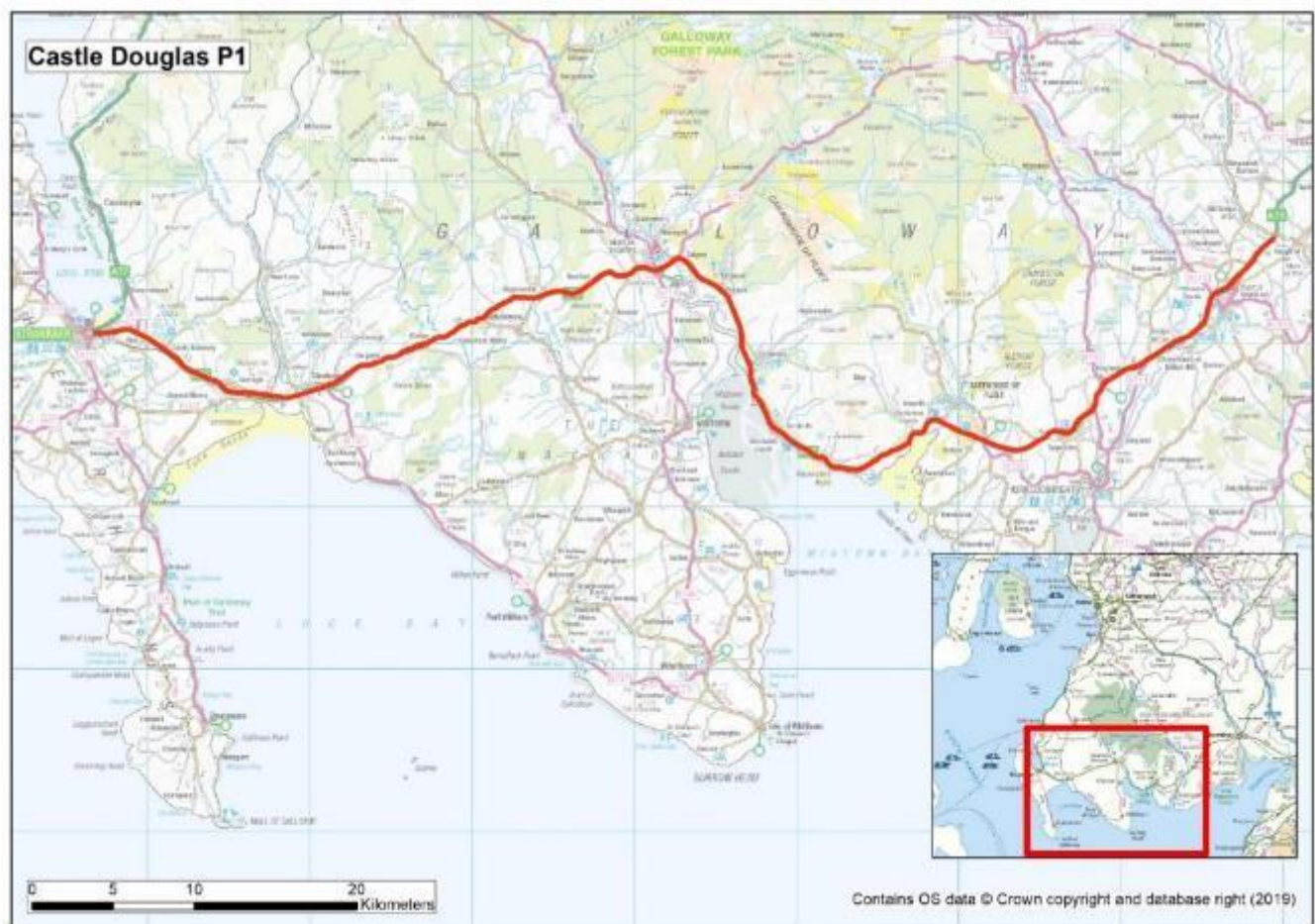














- V. Ploughing routes for carriageways, including on/off slips and depots
- VI. Weather stations including sensor types and where these sites are equipped with weather cameras

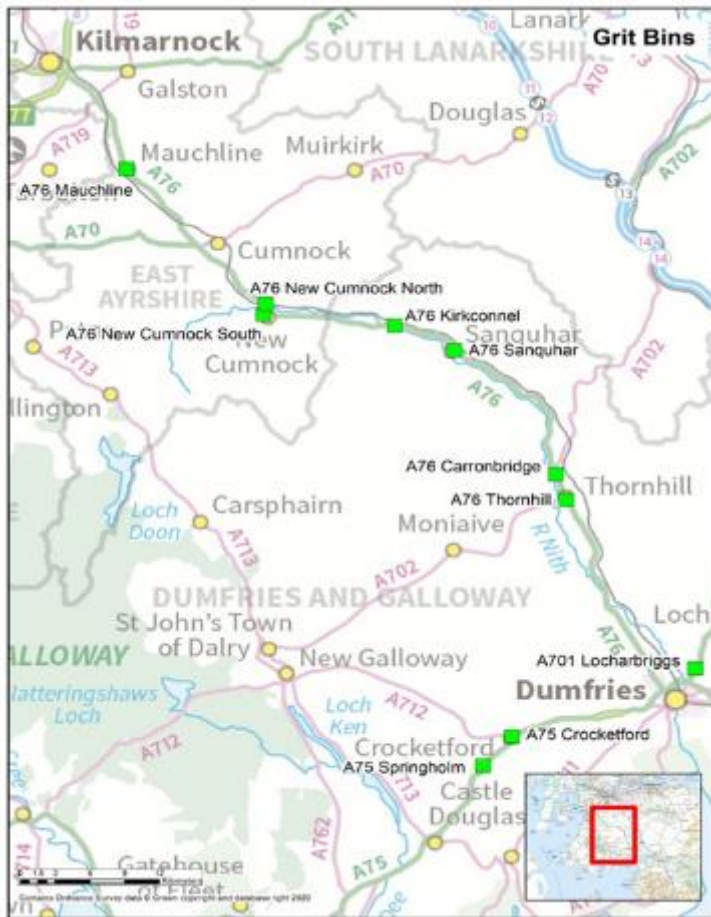


- VII. Snow gates – N/A
- VIII. Snow Fences – N/A
- IX. Shelter Belts – N/A
- X. Snow Poles – N/A
- XI. Snow or Ice and Hidden Message Signs

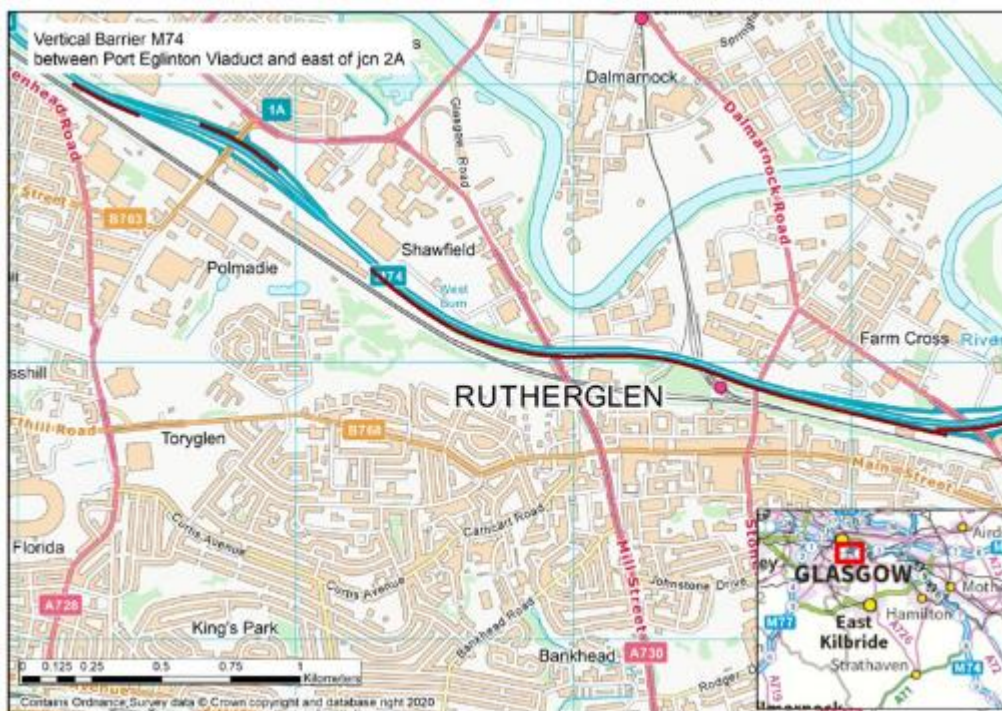
Road Number	Location	Detailed Description
M74	Junctions 5 to 6 S/B	Hidden Message Sign 0.25 miles prior to Jct 6
M74	Junctions 8 to 9 S/B	Hidden Message Sign 0.5 miles prior to Jct 9
M74	Junctions 10 to 11 S/B	Hidden Message Sign 0.5 miles prior to Jct 11
A725	Crossbaskets	Ice Warning Signs
A701	St Annes	Ice Warning Signs

XII. Salt Bins

No	Location	Size
1	A75 Springholm, at the shop	0.5m ³
2	A75 Crocketford at A712 junction	0.5m ³
3	A76 Thornhill at the cross	0.5m ³
4	A76 Carronbridge at Sawmill junction	0.5m ³
5	A76 Sanquhar at Bus stop near post office	0.5m ³
6	A76 Kirkconnel at Needle St junction	0.5m ³
7	A76 New Cumnock South at Bridgend	0.5m ³
8	A76 New Cumnock North at Pathhead	0.5m ³
9	A76 Mauchline at the cross	0.5m ³
10	A701 Locharbriggs at Library access	0.5m ³

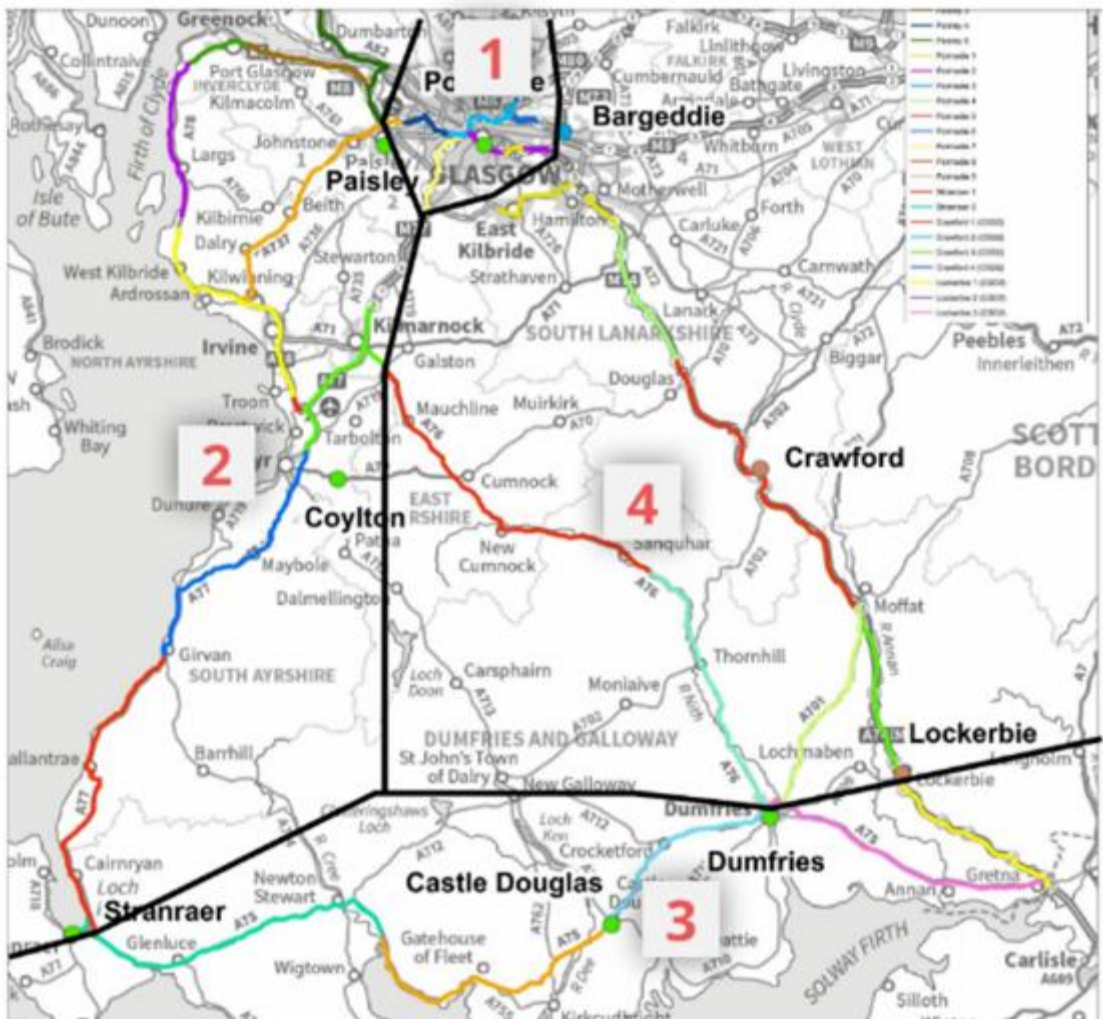


XIII. Vertical Concrete Barriers



XIV. Other Facilities – N/A

XV. Climatic Domains – Used for 2-5 day forecast only



16. Compiling and Maintaining Records

Records of decisions, amendments to decisions, actions taken and patrol communications will all be entered in an electronic log by the Winter Service Duty Officer. The Winter Service Duty Officer shall ensure that all winter service records (electronic and paper copies) are referenced, filed securely and maintained.

The spreader vehicle data logger reports will be reviewed for completeness of data and effectiveness of applied treatment. A daily report on the previous 24 hours' winter service operations will be prepared by the Winter Service Duty Officer and submitted to the Severe Weather Manager, highlighting any aspects where action may be required.

Amey will maintain accurate salt stock monitoring records and will submit stock levels to the CMS platform at intervals required by the Director.

Within 24 hours of completing each precautionary salting operation or other snow or ice removal operation reports will be completed and held electronically. The reports will detail the summary forecast and actual weather data, planned and actual spread rates, planned and actual commencement times, completion times for each route, amount of de-icing material spread on each route and any other relevant information. These records will be updated daily and held in a shared electronic storage facility, providing a remote access facility for the Director and the Performance Audit Group.

Prior to 31 May each year the Severe Weather Manager will submit a Winter Service report to the The Directors prepared for the immediately preceding Winter Service period ending 15th May. This report will review the previous Winter Service Operations and shall help inform the requirements for the subsequent Winter Service Plan.

The following typical records will be held electronically;-

Item	Contents include:
1	Decisions taken, when and by whom,
2	Planned and actual treatment records,
3	Planned and actual response times achieved,
4	Planned and actual commencement times,
5	Planned and actual route times,
6	Planned and actual spread rates,
7	Observations and actions taken by the Winter Service Patrols,
8	Output from Winter Service Plant on-board data capture devices,
9	Winter Service Plant down time and software faults,
10	Winter Service Plant deployment records (including vehicle location records) and driver and operator logs,
11	Logs (both manual and electronic) for telephone, electronic mail and two way communication calls,
12	Loading point de-icing stocks and replenishment orders,
13	RWIS Records,
14	Weather forecasts and actual weather experienced,
15	Complaints by members of the public and Trunk Road users,
16	Accidents during winter conditions,
17	Road closures due to winter conditions,
18	Weights and volumes as appropriate for the amount of de-icing material(s) spread for each route,
19	Pre- and mid-season road sensor calibration systems,
20	Winter Service Plant calibration certificates, and

21	Actual salt stocks held including strategic salt stocks.
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17. Snow Poles – N/A

- 17.1. There are currently no snow poles on the South West Unit

18. Snow Gates

- 18.1. There are currently no snow gates on the South West Unit

19. Variable Message Snow and Ice and Hidden Message Signs

- 19.1. Maintenance and operation of message signs and associated liaison
 19.1.1. Below is a schedule that specifies the type and location of the following signs in the Unit

Road Number	Location	Detailed Description
M74	Junctions 5 to 6 S/B	Hidden Message Sign 0.25 miles prior to Jct 6
M74	Junctions 8 to 9 S/B	Hidden Message Sign 0.5 miles prior to Jct 9
M74	Junctions 10 to 11 S/B	Hidden Message Sign 0.5 miles prior to Jct 11
A725	Crossbaskets	Ice Warning Signs
A701	St Annes	Ice Warning Signs

EQUIPMENT_ID	LOCATION_NAME	Gantry ID	Road Name	Direction
VMS/A12	VMS A12 A82S South of Inverness		A82	South
VMS/A737/4816N	VMS 15960 A737N 1 mile W J29 St James	15960'	A737	North
VMS/A9	VMS A9 A82N South Of A9		A82	North
VMS/B1	VMS B1 M8W 0.5 miles E of J29A Bishopton		M8	West
VMS/B2	VMS B2 M8E approaching J30		M8	East
VMS/B4	VMS B4 A82W approaching Erskine Br slip		A82	West
VMS/C4	VMS C4 A82S at Fort William		A82	South
VMS/C5	VMS C5 A82N Fort William		A82	North
VMS/LJTS_1	VMS Local Journey Time VMS at M8 J10		M8	
VMS/LJTS_2	VMS Local Journey Time VMS at M80 J2		M80	

VMS/M74/1005N	VMS 14976 M74N J1a Polmadie	14976	M74	North
VMS/M74/1027S	VMS 14034 M74S J1a Polmadie	14034	M74	South
VMS/M74/1098N	VMS 14974 M74N J1a Polmadie	14974	M74	North
VMS/M74/1133S	VMS 14036 M74S E of J1a Polmadie	14036	M74	South
VMS/M74/1158S	VMS 1158S M74SE of J1a Polmadie	1158S	M74	South
VMS/M74/1173N	VMS 14972 M74N E of J1a Polmadie	14972	M74	North
VMS/M74/1173S	VMS 14038 M74S E of J1a Polmadie	14038	M74	South
VMS/M74/1238N	VMS 14970 M74N W of J2 Cambuslang	14970	M74	North
VMS/M74/1238S	VMS 14040 M74S W of J2 Cambuslang	14040	M74	South
VMS/M74/1271N	VMS 1271N M74N W of J2 Cambuslang		M74	North
VMS/M74/1308N	VMS 14968 M74N J2 Cambuslang	14968	M74	North
VMS/M74/1308S	VMS 14042 M74S J2 Cambuslang	14042	M74	South
VMS/M74/1416N	VMS 14966 M74N J2 Cambuslang	14966	M74	North
VMS/M74/1416S	VMS 14044 M74S J2 Cambuslang	14044	M74	South
VMS/M74/1437S	VMS 1437S M74SE of J2 Cambuslang		M74	South
VMS/M74/1459N	VMS 14964 M74N E of J2 Cambuslang	14964	M74	North
VMS/M74/1459S	VMS 14046 M74S E of J2 Cambuslang	14046	M74	South
VMS/M74/1475N	VMS 1475N M74N W of J2a Fullarton		M74	North
VMS/M74/1501N	VMS 14962 M74N J2a Fullarton	14962	M74	North
VMS/M74/1501S	VMS 14048 M74S J2a Fullarton	14048	M74	South
VMS/M74/778S	VMS 14028 M74S E of M74 J1 Kingston	14028	M74	South
VMS/M74/879S	VMS 14030 M74S E of J1 Kingston	14030	M74	South
VMS/M74/939N	VMS 14978 M74N W of J1a Polmadie	14978	M74	North
VMS/M74/939S	VMS 14032 M74S W of J1a Polmadie	14032	M74	South
VMS/M74/966N	VMS 966N M74N W of J1a Polmadie		M74	North
VMS/M77/135N	VMS 07950 M77N NJ1 Dumbreck	07950'	M77	North
VMS/M77/250S	VMS 07060 M77S 1/2 mile SJ1 Dumbreck	07060'	M77	South
VMS/M77/340N	VMS 07920 M77N 1/2 mile NJ2 Barrhead Rd	07920'	M77	North
VMS/M77/480S	VMS 07090 M77S 1/4 mile SJ2 Barrhead Rd	07090'	M77	South
VMS/M77/645N	VMS 07890 M77N N of J3 Nitshill Rd	07890'	M77	North
VMS/M77/868N	VMS 07860 M77N 1/4 mile NJ4 Crookfur Rd	07860'	M77	North
VMS/M8/6344W	VMS 04840 M8W 0.25 miles W of J9 Easterhouse Rd	04840'	M8	West
VMS/M8/6392E	VMS 04150 M8E 0.25 miles E of J10 Bartiebeith Rd	04150	M8	East
VMS/M8/6416E	VMS 6416E M8E 0.25 miles E of J10 Bartiebeith Rd		M8	East
VMS/M8/6485W	VMS 04870 M8W 1/4 mile W J10 B'beith Rd	04870'	M8	West
VMS/M8/6581E	VMS 04120 M8E E of J11 Stepps Rd	04120'	M8	East
VMS/M8/6674W	VMS 04900 M8W 1/4 mile W J11 Stepps Rd	04900'	M8	West
VMS/M8/6718E	VMS 04090 M8E 1/2 mile E J12 C'nauld Rd	04090'	M8	East
VMS/M8/6836W	VMS 04930 M8W 1/4 mile W J12 C'nauld Rd	04930'	M8	West
VMS/M8/6876E	VMS 04050 M8E 1/4 mile E J13 Provan	04050'	M8	East
VMS/M8/6965W	VMS 04950 M8W 1/4 mile W J13 Provan	04950'	M8	West
VMS/M8/7111W	VMS 04980 M8W 1/4 mile E J15 Townhead	04980'	M8	West
VMS/M8/7258E	VMS 1 M8E at Craighall Rd (Craighall RM)		M8	East

VMS/M8/7259E	VMS 2 M8E at Dobbies Loan (Craighall RM)		M8	East
VMS/M8/7260E	VMS 3 M8E Beneath M8 (Craighall RM)		M8	East
VMS/M8/7276E	VMS 02048 M8E W of J16 Craighall	02048'	M8	East
VMS/M8/7949E	VMS 01940 M8E 1/2 mile W J24 Helen St.	01940'	M8	East
VMS/M8/8120E	VMS 01910 M8E J25A B'head Shopping Cent	01910'	M8	East
VMS/M8/8143W	VMS 01110 M8W J25A B'head Shopping Cent	01110'	M8	West
VMS/M8/8352W	VMS 01140 M8W 1/2 mile W J26 Hillington	01140'	M8	West
VMS/M8/8432E	VMS 01880 M8E 1/2 mile E J27 Arkleston	01880'	M8	East
VMS/M8/8563W	VMS 01170 M8W 1/4 mile W J27 Arkleston	01170'	M8	West
VMS/M8/8651E	VMS 01850 M8E E of J28 Glasgow Airport	01850'	M8	East
VMS/M8/8967E	VMS 01810 M8E W J29 St James	01810'	M8	East
VMS/M80/1373S	VMS 05840 M80S E of J3 Hornshill	05840	M80	South
VMS/M80/510S	VMS 05940 M80S 1 mile E of J3 Hornshill	05940'	M80	South
VMS/M80/636S	VMS 05930 M80S J3 Hornshill	05930	M80	South
VMS/M80/728S	VMS 05920 M80S E of J3 Hornshill	05920	M80	South
VMS/M80/733N	VMS 733N M80N E of J3 Hornshill		M80	North
VMS/M80/810S	VMS 05910 M80S E of J3 Hornshill	05910	M80	South
VMS/M80/94N	VMS 05010 M80N 1/4 mile N J1 Provan	05010'	M80	North
VMS/O	VMS O M8E near J4 East Whitburn		M8	East
VMS/O1	VMS O1 M8E 1 mile W J2 Newbridge		M8	East
VMS/O2	VMS O2 M8E 1.25 miles W Hermiston Gait		M8	East
VMS/O3	VMS O3 M8W approaching J2		M8	West
VMS/O4	VMS O4 M8E 0.25 miles E of J2 Claylands		M8	East
VMS/O5	VMS O5 M8E 1.25 miles W of J1 Hermiston Gait		M8	East
VMS/O6	VMS O6 M8(W) 1 mile E of J4		M8	West
VMS/P	VMS P M74N 1 mile north of J14 off-slip		M74	North
VMS/P2	VMS P2 M74 southbound, north of J13		M74	
VMS/P3	VMS P3 M74 northbound, south of J12		M74	
VMS/P5	VMS P5 M74 southbound, 12Km north of J15		M74	
VMS/P6	VMS P6 M74 northbound, 12Km north of J15		M74	
VMS/Q	VMS Q M74N 0.5 miles N of J6 Hamilton		M74	North
VMS/Q14	VMS Q14 M74N S of J8 Canderside		M74	North
VMS/Q5	VMS Q5 A75(W) 4 miles E of Dumfries		A75	West
VMS/Q7	VMS Q7 A75(E) 3 miles E of Stranraer		A75	East
VMS/Q9	VMS Q9 A701S N of A75 Dumfries		A701	South
VMS/S	VMS S M8E 1 mile W J26 Hillington		M8	East
VMS/S2	VMS S2 M8W J25 Cardonald After Off Slip		M8	West
VMS/V	VMS V M8E At J14 Fruitmarket		M8	East
VMS/V1	VMS V1 M8E At Easterhouse		M8	East
VMS/V10	VMS V10 A77NS of A70		A77	North
VMS/V12	VMS V12 A76NS of A71/A77		A76	North
VMS/V13	VMS V13 A76S N of A70		A76	South
VMS/V14	VMS V14 A76NS of A70		A76	North
VMS/W6	VMS W6 M80N S of J3 Hornshill		M80	North

- 19.1.2. Amey will Liaise with the Traffic Scotland Control Room for activation and de-activation of the VMS signs throughout the Network with any specific messaging that is required in addition to the standard winter messages they already display. Amey Route teams will activate any hidden message signs should they be required for closures or warnings and will then ensure these are closed back up following cessation of the event.

20. Salt Bins

- 20.1. Stock level monitoring and replenishment procedures
- Salt bins will be placed on site prior to 30th September each year and fully stocked. They will be monitored throughout the winter period by the Route teams that are on the Network each day to ensure they are stocked and damage free. If any bin is missing or damaged they will be replaced within 48 hours. When the bins are only $\frac{1}{4}$ full the Route team will arrange to replenish the salt the following day to ensure there is always plenty of salt available for use. All bins will be collected at the end of the season, cleaned and hinges greased before being stored in the Depots available for the following season

21. Salt Measurement Apparatus and Equipment

- 21.1. Equipment and locations and recording methods
- I. All frontline, reserve and patrol vehicles will have data logging and transmission equipment that will automatically measure the amount of salt, brine or potassium acetate being distributed and allow reports to be run and saved in the Management System. These figures will be used to keep stocks monitored and amounts used will be included in daily, weekly and monthly reports.
 - II. All brine production will be produced using an automated facility using Marine salt to a concentration of 23% dissolved NaCL. and storage facilities shall have facilities to measure the concentration of brine in production and being delivered to the vehicles. These will be used to monitor usage, production and concentration levels and will be included in daily, weekly and monthly reports.

Appendix A - Precautionary Treatment Route Cards

Route 1

	Description
travel	Depot at Polmadie to A725 at River Clyde Bridge
Grit	From A725 River Clyde Bridge to Whirlies roundabout and then on A726 to East Mains roundabout, circulating all roundabouts on route.
Grit	From A726 East Mains roundabout to Whirlies roundabout and then on to A725 to the River Clyde bridge
Travel	Travel to Raith interchange and then south on A725 to Whistleberry s/b off slip
Grit	Whistleberry off slip
Travel	Whistleberry Rd to Glasgow Rd
Grit	s/b on slip from Glasgow Rd
Travel	A725 to Main St S/B off slip
Grit	A725 Main st S/B off slip and the S/B on slip and continue to treat through the dedicated lane
Grit	S/B off slip to Douglas St and the S/B on slip
Travel	A725 S/B to A725 / A749 Mavor split (Bear Right)
Grit	Grit from A725 to A749 Mavor (turn about Mavor) and Treat from A749 Mavor to A725 Whirlies bypass
Travel	A725 N/B to Hamilton Rd
Grit	N/B off slip to Hamilton Rd
Travel	Stonemyeadow Rd to rejoining A725 at Nerston Rd and travel A725 N/B to off slip at Douglas St
Grit	N/B off slip to Douglas St and the N/B on Slip
Travel	A725 to Main St N/B off slip
Grit	A725 Main St N/B off slip and N/B on slip
Travel	A725 N/B to Craighead off slip
Grit	A725 Craighead N/B off slip
Travel	Craighead Rd to Whistleberry Rd to Glasgow Rd to roundabout at Forrest St and turn around to Glasgow Rd N/B on slip
Grit	Glasgow Rd N/B on slip
Travel	A725 to the off slip at Craighead Rd and then travel off slip road

Winter Service Plan



Grit	Craighead Rd N/B on slip to A725
Travel	End on slip to J7 S/B off slip
Grit	M74 junction 7 S/B off slip keeping in right hand lane
Travel	End of route. Travel back to depot

Route 2

	Description
Travel	From depot to M74 N/B at junction 3A at boundary with DBFO
Grit	M74 northbound from DBFO boundary to M8 then take slip road on to westbound M8 lane 2 and 3 to junction 23 Dumbreck off slip
travel	Turn at top of slip and travel M8 e/b to start of M74 southbound carriageway
Grit	Southbound M74 lane 2 and 3 to junction 3A at boundary with DBFO
travel	M74 junction 3A southbound off slip and take M74 junction 3A northbound on slip
Grit	M74 northbound lane 1 and hardshoulder from boundary with DBFO to junction 1
Grit	M74 junction 1 N/B off slip
Travel	Carnoustie St, Scotland St, Wesst St and Wallace St to M74 southbound on slip
Grit	M74 junction 1 S/B on slip
Grit	M74 southbound lane 1 and hardshoulder to boundary with DBFO at junction 3A
Travel	M74 northbound to junction 3 off slip Carmyle
Grit	M74 N/B off slip to Carmyle and turn right
Travel	A763 Carmyle to M74 jct 3 S/B on slip
Grit	M74 jct 3 S/B on slip
Travel	M74 southbound to jct 3A and then return M74 northbound to junction 2A off slip
Grit	M74 jct 2A N/B off Slip
Grit	M74 jct 2A N/B on Slip
travel	M74 northbound to Jct 2 off slip
Grit	M74 jct 2 N/B off Slip
Grit	M74 jct 2 N/B on Slip
Travel	M74 northbound to Jct 1A off slip
Grit	M74 jct 1A N/B off Slip
Grit	M74 jct 1A N/B on Slip
Travel	M74 northbound to junction 1 and return to M74 s/b jct 1A off slip
Grit	M74 jct 1A S/B off Slip
Grit	M74 jct 1A S/B on Slip
Travel	M74 southbound to Jct 2 off slip
Grit	M74 jct 2 S/B off Slip
Grit	M74 jct 2 S/B on Slip
Travel	M74 southbound to Jct 2a off slip and return to M74 northbound junction2
Grit	M74 N/B jct 2 off slip splitter island at foot of slip rd
Travel	Cambuslang Rd and u-turn where suitable
Grit	M74 jct 2 N/B on slip Splitter island
Travel	M74 northbound to junction 1a
Grit	M74 N/B jct 1A off slip splitter island at foot of slip rd
Travel	Polmadie Rd and u-turn where suitable
Grit	M74 jct 1A N/B on slip Splitter island
Travel	Travel M74 northbound to jct 1 and U-turn and travel M74 southbound to jct 1a
Grit	M74 S/B jct 1A off slip splitter island at foot of slip rd
Travel	Polmadie Rd and u-turn where suitable

Winter Service Plan



Grit	M74 jct 1A S/B on slip Splitter island
Travel	M74 southbound to junction 2
Grit	M74 S/B jct 2 off slip splitter island at foot of slip rd
Travel	Cambuslang Rd and u-turn where suitable
Grit	M74 jct 2 S/B on slip Splitter island
Travel	End of Route. Return to depot

Route 3

	Description
Travel	Depot to 300m prior to M8 jct 13 W/B off slip
Grit	M8 W/B Lane 1, 2 and 3 to start of Kingston bridge
Travel	M8 W/B over Kingston bridge
Grit	M8 W/B from end of Kingston Bridge to junction 24 (Helen St)
Grit	M8 Jct 24 (Helen St) W/B off slip and W/B on slip to M8
Travel	M8 Westbound to jct 25 W/B off slip (Clyde Tunnel)
Grit	M8 Jct 25 (Clyde Tunnel) W/B off slip and W/B on slip to M8
Travel	M8 Westbound to jct 26 W/B off slip (Hillington)
Grit	M8 Jct 26 (Hillington) W/B off slip and W/B on slip to M8
Travel	M8 Westbound to jct 27 and return on M8 to E/B off slip (Hillington)
Grit	M8 Jct 26 (Hillington) E/B off slip and E/B on slip to M8
Travel	M8 Eastbound to 300m prior to jct 25 E/B off slip (Clyde Tunnel)
Grit	M8 Eastbound from prior to Jct 25 off slip to start of Kingston Bridge
Travel	M8 E/B over Kingston Bridge
Grit	M8 E/B from end of Kingston Bridge (main carriageway) to start of jct 17 E/B off slip to Great Western Rd
Grit	Junction 17 (Great Western Rd) E/B off slip
Travel	Great Western Rd and turn where appropriate and travel to Jct 17 E/B on slip
Grit	M8 jct 17 E/B on slip (Great Western Rd) and continue to treat M8 Main Carriageway off side lane to M8 Jct 15 (Castle St) off slip and grit to traffic lights at end of slip
Travel	Alexandra Parade and Glebe St (right and then right) Springside Express way (Stirling Rd) to M8 W/B on slip
Grit	M8 Jct 15 W/B on slip and continue to treat main carriageway offside lane continuing on to Charing Cross off slip to traffic lights.
Travel	Travel to St Georges Rd Traffic lights and M8 jct 18 E/B on slip to M8
Grit	M8 jct 1 E/B on slip (Charing Cross) to M8
Travel	M8 eastbound to Jct 15 E/B off slip to Kirkintilloch
Grit	M8 jct 15 E/B off slip to Kirkintilloch
Travel	Baird St the slip of to Springburn S/B expressway to M8 Jct 15 Loop U
Grit	M8 Jct 15 Loop U W/B on slip to M8 and continue to grit to Jct 16W/B off slip to traffic lights
Travel	Right at traffic lights to M8 Jct 16 E/B on slip (Craighall)
Grit	M8 jct 16 E/B on slip (Craighall) to merge with Main carriageway
Travel	M8 E/B to jct 14 E/B off slip (Fruit Market)
Grit	M8 Jct 14 E/B off slip (Fruit Market)
Travel	Turn left and via Viewpark Ave to roundabout and u-turn and return to M8 Jct 14 W/B on slip (Fruit Market)
Grit	M8 Jct 14 W/B off slip (Fruit Market) to merge with main carriageway
Travel	M8 W/B to Jct 15 (Castle St) off slip
Grit	M8 W/B Jct 15 (Castle St) off slip
Travel	Turn right at traffic lights

Grit	M8 Jct 15 (Castle St) E/B on slip and the continue to grit lane 1 and2 to M8 J13 (M80) N/B off slip
Travel	M80 N/B to jct 2 and return M80 S/B to Jct 1 off slip
Grit	M80 S/B carriageway from jct 1 off slip on to M8 main carriageway and continue with Lane 1 and 2 (layby and hardshoulders) to jct 15 off slip (Cathedral St and Glasgow Cross)
Travel	M8 E/B to where jct 13 M80 off slip diverges
Grit	M8 E/B main carriageway to where M80 E/B on slip merges with main carriageway.
Travel	End of Route. Return to Depot.

Route 4

	Description
Travel	M74 S/B from Depot to DBFO Boundary at J6
Grit	M74 S/B from DBFO to J8 S/B off slip
Grit	M74 S/B J8 Off slip
Travel	A71 to B7078 roundabout and return to M74 N/B on slip
Grit	M74 N/B on slip from J8 and mainline to DBFO boundary at J6
Travel	M74 to J5, turn and return to J6 S/B off slip to J6 Hamilton
Grit	M74 Junction 6 S/B off slip to Hamilton
Travel	At roundabout return to M74 Junction 6 S/B on slip
Grit	M74 Junction S/B on slip from Hamilton
Travel	M74 S/B to J7 Off slip
Grit	M74 S/B off slip taking left splitter
Travel	M74 N/B to start J6 Off slip to Hamilton
Grit	M74 J6 N/B slip to Hamilton
Travel	Circulate roundabout and head to J6 N/B on slip from Hamilton
Grit	M74 J6 N/B On slip
Travel	End of route. Return to Depot

Route 5

	Description
Travel	M74 to J6 Motherwell S/B Off Slip
Grit	M74 Jct 6 S/B off slip to Motherwell
Travel	At traffic lights take Airbles Rd then Tinkers lane, A723 w/b to M74 jct 6 S/B on slip
Grit	M74 Junction 6 S/B on slip from Motherwell to M74
Travel	M74 S/B to Start J8 S/B Off slip staying on main line
Grit	M74 S/B from J8 off to and including J11 off slip
Travel	B7078 to J11 N/B On slip
Grit	M74 J11 N/B On slip
Travel	M74 N/B to J10 N/B Off slip
Grit	M74 Jct 10 N/B off slip
Travel	To start M74 N/B On slip
Grit	J10 N/B On Slip
Travel	To Start M74 N/B Slip Road to J8
Grit	M74 N/B Off slip to J8
Travel	M74 S/B to J9 S/B Off slip
Grit	M74 S/B Off slip at J9 taking left splitter
Travel	To start M74 N/B Off slip to J6 Motherwell
Grit	M74 junction 6 N/B off slip to Motherwell
Travel	At traffic lights take Airbles Rd then Tinkers lane, A723 w/b to M74 jct 6 N/B on slip
Grit	M74 junction 6 N/B on slip from Motherwell
Travel	End of Route. Return to Depot

Route 6

	Description
Travel	Depot to M8 W/B at jct 10 where boundary with DBFO
Grit	M8 W/B from DBFO boundary to M8 jct 13 off slip (M80)
Grit	M80 on slip and M80 Northbound to past Jct 2 to boundary with DBFO gritting lane 1 plus hard shoulder
Travel	M80 N/B to jct 3 Hornhill and then return on M80 southbound to Jct 2 (B765) then bear left
Grit	M80 Jct 2 S/B off slip then grit roundabout and under bridge deck and then roundabout and grit M80 Jct 2 S/B on slip
Travel	M80 southbound and then M8 e/b to Jct 12 (A80) and then bear left
Grit	M80 Jct 12 E/B off slip (B765)
Travel	Travel over A80 on to M8 jct 12 E/B on slip to M8
Grit	M8 jct 12 E/B on slip to M8
Travel	M8 Eastbound to Jct 11 (B765) off slip
Grit	M8 E/B Jct 11 (B765) off slip and M8 Jct 11 E/B on slip to M8
Travel	M8 e/b to jct 10 and then return on M8 W/B to jct 11 (B765) off slip
Grit	M8 Jct 11 (B765) W/B off slip and then M8 Jct 11 W/B on slip to M8
Travel	M8 W/B to jct 12 (A80) off slip
Grit	M8 Jct 12 (A80) W/B off slip and W/B on slip to M8. Continue to grit M8 W/B lane 1 and hardshoulder to M8 Jct 13 W/B off slip
Travel	M8 W/B to jct 13 and then M80 N/B to jct 2 (B765)
Grit	M80 Jct 2 off slip (B765) and then on slip back on to M80 N/B
Travel	M80 N/B to Jct 3 (Hornhill) and then return on M80 s/b
Grit	M80 S/B from DBFO boundary to slip off to M8 E/B
Travel	Over roundabout to M8 E/B on slip and Turn Left
Grit	Slip road on to E/B M8 and then continue to grit M8 main carriageway to Jct 10 E/B off slip. Bear left
Grit	M8 jct 10 E/B off slip
Travel	M8 W/B to where jct 12 W/B off slip diverges
Grit	M8 W/B from where jct 12 off slip diverges to merge with jct 12 W/B on slip
Travel	M8 W/B to where jct 13 W/B off slip diverges
Grit	M8 W/B from where jct 13 off slip diverges to merge with jct 12 W/B on slip
Travel	M8 W/B to jct 15 and turn to M8 jct 15 E/B on street at Stirling Rd
Grit	M8 jct 15 E/B on slip (Stirling Rd)
Travel	M8 E/B to jct 14 E/B off slip
Grit	M8 jct 14 E/B off slip to the right
Travel	Viewpark Ave, Alexander Park St, Cumbernauld Rd Alexandra Parade, then turn right to Viewpark Ave to M8 Jct 14 W/B on slip
Grit	Splitter at bottom of jct 14 W/B on slip
travel	M8 jct 14 W/B on slip to M8 w/b Jct 17 (Great Western Rd) off slip
Grit	M8 w/b Jct 17 (Great Western Rd) off slip to traffic lights
Travel	Turn right and where appropriate return to M8 jct 17 W/B on slip (Great Western Rd)

Grit	M8 Jct 17 W/B on slip then continue to grit dedicated lane and Jct 19 W/B off slip to Argyle St
Travel	Turn right to North St and then to Jct 19 E/B on slip
Grit	M8 jct 19 (Anderston) on slip and continue to grit nearside dedicated lane to E/B off slip to St Georges Rd traffic lights
Travel	Turn right and then right again to Garscube rd and then right again on to New City Rd on slip to W/B M8
Grit	New City Rd W/B on slip to Great Western Rd W/B on slip to Main carriageway
Travel	M8 W/B between jct 17 on slip and Jct 19 E/B off slip
Grit	M8 main carriageway from prior to Jct 17 E/B off slip (crossover trail) to Jct 12 E/B off slip (crossing to lane 1 after Jct 18 E/B on slip) Grit hardshoulder from jct 12 to where on slip will merge
Travel	M8 E/B to where jct 11 off slip diverges
Grit	M8 E/B Jct 11 from where off slip diverges to end of on slip merges
Travel	End of route. Travel back to depot

Route 7

	Description
Travel	Depot to start of route M8 E/B at Jct 22 Seaward St ramp
Grit	M8 E/B secondary carriageway from point where Jct 22 Seaward St exits secondary carriageway to end of secondary carriageway at Harry Ramsdens
Travel	M8 W/B secondary carriageway Scotland St on ramp
Grit	M8 secondary c/way from Scotland St on ramp to point M77 splits from secondary carriageway
Grit	M77 S/B on slip to M77 S/B Jct 1 off slip dedicated lane
Grit	M77 S/B off slip Jct 1 including dedicated lane
Travel	N/B on slip Jct 1
Grit	M77 N/B on slip Jct 1
Travel	M77 N/B on slip to M8 E/B
Grit	M8 E/B on slip from M77 N/B
Travel	M8 W/B off slip to M77 S/B
Grit	M77 S/B from M8 to M77 Jct 3
Grit	M77 S/B from junction 3 to M77 Jct 5 off slip
Travel	M77 Jct 5 N/B on slip
Grit	M77 N/B from Jct 5 to end of junction 3
Grit	M77 N/B from junction 3 to end of M77. Continue to Treat to Seaward St off ramp
Grit	Seaward St dedicated offside loop
Travel	M77 S/B off slip Jct 2
Grit	M77 S/B off slip Jct 2
Travel	M77 N/B on slip Jct 2
Grit	M77 N/b on slip Jct 2
Travel	M77 N/B off slip Jct 1
Grit	M77 N/B off slip Jct 1
Travel	M77 S/B on slip Jct 1
Grit	M77 S/B on slip Jct 1
Travel	M77 S/B off slip Jct 3
Grit	M77 S/B off slip Jct 3
Travel	M77 N/B on slip Jct 3
Grit	M77 N/B on slip Jct 3
Travel	M77 N/B off slip Jct 2
Grit	M77 N/B off slip Jct 2
Travel	M77 S/B on slip Jct 2
Grit	M77 S/B on slip Jct 2
Travel	M77 Jct 3 S/B on slip
Grit	M77 Jct 3 S/B on slip
Grit	M77 S/B climbing lane from Jct 3 to Jct 4, Hard shoulder and lane 1
Grit	M77 Jct 4 S/B off slip
Travel	M77 N/B on slip Jct 4

Grit	M77 N/B on slip Jct 4
Travel	M77 N/B off slip Jct 3
Grit	M77 N/B off slip and N/B on slip Jct 3
Travel	M8 Jct 23 W/B off slip
Grit	M8 Jct 23 W/B off slip and W/B on slip including hard shoulder
Travel	M8 E/B secondary c/way and return M8 W/B to point where Jct 24 off slip exits M8 Stay on main carriageway
Grit	M8 W/B between Jct 24 off slip and Jct 24 on slip in Lane 1 and 2
Travel	M8 W/B to Jct 26 off slip
Grit	M8 W/B Jct 26 off slip dedicated split lane, bear left at end of slip road to Hillington
Travel	End of route return to depot

Route 8

	Description
Travel	M74 S/B to Start J8 S/B On slip
Grit	M74 S/B On slip from J8
Travel	M74 S/B to J9 S/B Off slip
Grit	M74 S/B off slip at J9 taking right splitter
Travel	B7078 to J10 S/B On Slip
Grit	M74 S/B On slip from J10
Travel	M74 S/B to start J11 off slip
Grit	M74 Main line from J11 to J12 on slip merge
Travel	M74 S/B to jct 13 and then return on M74 N/B to point where M74 Jct 12 (A70) diverges.
Grit	M74 J12 diverge to end J8 N/B on slip merge
Travel	End of route. Return to Depot

Route 9

	Description
Travel	Exit Depot, travel to St James then E/B on M8 to J26 off slip. Circle roundabout and return W/B on M8 to the Start of the White Cart Viaduct
Spray	Travelling in Lane 2, spray lanes 2 & 3 of the westbound c/way over the Whitecart Viaduct
Travel	Westbound on the M8 to Junction 30 Erskine Bridge W/B off slip
Travel	Northbound on the M898 to the start of the Erskine Bridge
Spray	Spray the Northbound c/way over the Erskine Bridge
Travel	Eastbound on the A82 to Mountblow Flyover and return on the A82 W/B c/way to the S/B slip to the Erskine Bridge
Travel	Southbound on the A898 to the start of the Erskine Bridge
Spray	Spray the southbound c/way over the Erskine Bridge
Travel	Southbound on the M898 to the E/B on the slip to the M8
Travel	Eastbound on the M8 to the start of the Whitecart Viaduct
Spray	Travelling in Lane 2, spray lanes 2 & 3 of the eastbound c/way over the Whitecart Viaduct
Travel	Eastbound on M8 to J26 Hillington E/B off slip, circle Hillington roundabout and re-join the M8 via the J26 Hillington W/B on slip
Travel	Westbound on the M8 to the start of the Whitecart Viaduct
Spray	Spray lane 1 over the westbound c/way of the Whitecart Viaduct
Travel	From the Whitecart Viaduct to the A737 Westbound off slip (J28 A)
Spray	Spray the westbound c/way of the A737 over the St James Interchange
Travel	Westbound on the A737 to the Linwood off slip, circle the roundabout and return on the A737 eastbound c/way to the start of the St James Interchange
Spray	Spray the eastbound c/way over the St James Interchange
Travel	From the end of St James Interchange to start of the Whitecart Viaduct
Spray	Sprsy lane 1 over the eastbound c/way of the Whitecart Viaduct
Travel	Eastbound on the M8 to the start of the Kingston Bridge
Spray	Travelling in the middle lane, spray lanes 4 & 5 of the eastbound c/way of the Kingston Bridge
Travel	Eastbound on the M8 to J18 St Georges Road E/B off slip
Travel	At the traffic lightd, turn right onto St Georges Road, right onto the New City Road and right on J17 Phoneix W/B on slip to the M8
Travel	Travelling in the middle lane to the start of the Kingston Bridge W/B c/way (adjacent to Anderston W/B off slip
Spray	Travelling in lane 4, spray lanes 4 & 5 of the westbound c/way over the Kingston Bridge
Travel	Westbound on the M8 to J24 Helen Street W/B off slip
Travel	Exit to slip road, turn right at the traffic lights onto Helen Street and right onto J24 Helen Street E/B on slip
Travel	Eastbound on the M8 to the start of the Kingston Bridge

Spray	Travelling in lane 3 (which is the nearside lane), spray lane 3 to the Bothwell Street E/B off slip
Spray	Spray both lanes of the Bothwell Street eastbound off slip to the traffic lights (travelling in lane 2)
Travel	Continue straight onto Bothwell Street, turn right onto Blithwood Street and right onto Waterloo Street
Travel	Continue to the start of Waterloo Street W/B on slip (at Douglas Street)
Spray	Spray Waterloo Street W/B on slip
Spray	Staying in lane 2, spray lanes 2 and 3 over the W/B c/way of the Kingston Bridge to the West Street off slip
Spray	Travelling in lane 2 of the West Street W/B off slip, spray both lanes of the slip road to the traffic lights
Travel	At the traffic lights on the West Street off slip, turn right onto Wallace Street, right onto Tradeston Street, right onto Cook Street and continue to the start of the J20 West Street E/B on slip
Spray	Travelling in Lane 1, spray both lanes of the West Street E/B on slip
Spray	Staying in Lane 1, spray Lanes 1 and 2 over the E/B c/way of the Kingston Bridge
Spray	Spray Stobcross E/B off slip down to the Clydeside Expressway
Travel	Westbound on the Clydeside Expressway and exit at the Finnieston off slip
Travel	Turn left at the traffic lights onto Finnieston Road and then right into Stobcross Road, circle the Hydro car park and return to the N/B c/way of Finnieston Street to rejoin the E/B c/way of the Clydeside Expressway
Travel	Clydeside Expressway to the start of the Stobcross W/B on slip to the Kingston Bridge
Spray	Spray the Stobcross W/B on slip until its merge with the Waterloo Street W/B on slip and continue spraying lane 1 over the westbound c/way of the Kingston Bridge until the start of the West Street W/B off slip
Travel	West Street W/B off slip (travelling in Lane 2)
Travel	At the traffic lights on the West Street off slip, turn right onto Wallace Street, right into Tradeston Street, right onto Cook Street and continue to the start of the J20 West E/B on slip
Travel	Lane 2 of the West Street E/B on slip
Spray	Spray the offside dead area of the West Street on slip until the start of the varioguard on the Kingston Bridge
Travel	Travel in Lane 2 over the Kingston Bridge towards the Bothwell Street E/B off slip
Spray	From opposite the start of the Stobcross E/B off slip, spray Lane 2 to 50 metres onto the Bothwell Street E/B off slip
Travel	Travel in nearside lane of the Bothwell Street E/B off slip to the traffic lights
Spray	At the traffic lights, spray the left turning lane into Pitt Street
Travel	Pitt Street, turn left onto St Vincent Street and left onto Newton Street to the start of the Newton Street W/B on slip
Spray	Spray Newton Street W/B on slip until its merge with Waterloo Street W/B on slip
Travel	Westbound over the Kingston Bridge and exit via West Street W/B off slip (travelling in lane 2)
Travel	At the traffic lights on the West Street off slip, turn right onto Wallace Street, right onto Tradeston Street, right onto Cook Street and continue to the start of the J20 West Street E/B on slip

Travel	Travel in Lane 2 of the West Street E/B on slip and over the Kingston Bridge towards the North Street E/B off slip
Spray	Spray the North Street E/B off slip from the start of the Bothwell Street E/B off slip to its merge with North Street
Travel	North Street, turn right onto St Vincent Street, turn right onto Newton Street and joining the M8 W/B c/way
Travel	Travel in lane 3 over the westbound c/way of the Kingston Bridge
Spray	Spray lane 3 from the start of the West Street W/B off slip to the end of the Kingston Bridge
Travel	End of route. Return to Depot

Route 10

	Description
Travel	Depot to M8 W/B at western end of White Cart Viaduct
Grit	M8 W/B from end of Viaduct lanes offside and adjacent which becomes hardshoulder, lane 1 and 2 to M8 jct 30 (M898) off slip
Grit	M80 jct 30 off slip to M898
Grit	M898 and A898 to start of Erskine Bridge
Travel	A898 N/B over Erskine Bridge
Grit	From End of Erskine Bridge the off slip to W/B A82
Grit	A82 W/B to Barloan roundabout then the A82 N/B to Stoneymollen roundabout circulating all roundabouts on route
Grit	A82 S/B from Stoneymollen roundabout to Barloan roundabout
Travel	A82 N/B to Renton N/B off slip
Grit	A82 N/B off slip to Renton and then S/B on slip from Renton
Travel	A82 S/B to Iomondgate and then turn and travel A82 N/B to Stoneymollen and then return A82 S/B to S/B off slip to Renton
Grit	A82 S/B off slip to Renton
Travel	Turn and travel A82 S/B on slip from Renton and then A82 S/B to Barloan roundabout
Grit	A82 E/B from Barloan to A898 S/B slip on to Erskine Bridge
Grit	A898 S/B on slip from E/B A82
Travel	A898 S/B over Erskine Bridge to end of bridge deck
Grit	A898 S/B to M8 jct 30 E/B on slip
Grit	M8 jct 30 E/B on slip from M898 S/B
Grit	M8 E/B from Jct 30 on slip to point where M8 White Cart Viaduct bridge starts. (hard shoulder and lane 1 and 2 becoming offside and adjacent after jct 29 E/B on slip)
Travel	M8 E/B over White Cart Viaduct to end of bridge deck
Grit	M8 E/B from end of WCV to end of M8 E/B jct 27 (Arkleston) on slip which becomes hardshoulder and lane 1
Travel	M8 E/B to jct 26 off slip
Grit	M8 E/B jct 26 off slip hardshoulder which becomes lane 1 and 2 at end of slip
Travel	End of route Return to depot.

Route 11

	Description
Travel	Depot to M8 E/B jct 27 (Arkleston) on slip
Grit	M8 Jct 27 E/B on slip (Arkleston) including hardshoulder
Grit	M8 E/B Main carriageway from jct 27 on slip to Jct 25 (Clyde Tunnel) off slip hard shoulder and lane 1.
Grit	M8 Jct 25 (Clyde Tunnel) E/B off slip
Travel	Through tunnel and then return to M8 E/B jct 25 E/B (Clyde Tunnel) on slip
Grit	M8 E/B jct 25 E/B (Clyde Tunnel) on slip
Grit	M8 E/B from jct 25 on slip to jct 24 E/B off slip lane 1 and hardshoulder
Grit	M8 jct 24 (Hellen St) off slip and jct 24 E/B on slip
Grit	M8 E/B from end of jct 24 on slip to jct 22 off slip to Seaward St (secondary carriageway) to roundabout
Travel	Roundabout to Seaward St W/B secondary carriageway
Grit	M8 W/B on slip from Jct 22 Seaward St
Travel	M8 W/B to Jct 23 Merge
Grit	M8 W/B from jct 23 merge off side and adjacent lanes to Jct 27 off slip. Continue gritting to merge with jct 27 on slip where start of bridge deck lanes 1 and 2 and 3
Travel	M8 W/B over WCV to jct 28
Grit	M8 W/B from end of White Cart Viaduct hardshoulder and lane 1 and continue on to A737 hard shoulder and lane 1 and 2 to point where Linclyve viaduct bridge starts.
Travel	A737 W/B over Linclyve Viaduct
Grit	A737 W/B from end of viaduct to A737/A738 junction at Howgate in Kilwinning circulating all roundabouts on route
Grit	A738 from Howgate junction to Pennyburn roundabout
Grit	A738 pennyburn roundabout splitters
Travel	A738 / A737 to start of dual section at High wall section treating all splitters on route
Grit	A737 E/B from High wall lane gain at Kilbarchan to end of on slip from Kilbarchan
Travel	End of route. Return to depot

Route 12

	Description
Travel	Depot to M8 W/B jct 29 off slip
Grit	M8 jct 29 W/B off slip and M8 jct 29 W/B on slip
Travel	M8 W/B to M8 jct 30 off slip. Stay on main carriageway
Grit	M8 W/B to A8 Cartdyke roundabout (MacDonalds) circulating all roundabouts on route
Grit	A8 and M8 E/B to M8 jct 30 E/B off slip
Grit	M8 Jct 30 E/B off slip to M898
Travel	M898 N/B to spectacle off slip
Grit	M898 to Spectacles off slip and A898 N/B on slip from Spectacles
Travel	A898 N/B Erskine Bridge to end of bridge deck
Grit	A898 N/B slip to A82 E/B
Travel	A82 E/B and u-turn at Dalhotter cemetery and travel to A82 W/B off slip and stay on main carriageway
Grit	A82 W/B between slips for A898 Erskine bridge to where A898 on slip joins A82 W/B
Travel	A82 W/B to Dunglass roundabout and return to A82 E/B at A898 off slip. Stay on Main carriageway
Grit	A82 E/B between slips for A898 Erskine bridge to where A898 on slip joins A82 E/B
Travel	A82 E/B and u-turn at Dalhotter cemetery and travel to A82 N/B off slip to A898
Grit	A898 on slip fro A82 to start of Erskine bridge deck
Travel	A898 Erskine bridge S/B to off slip to spectacles
Grit	A898 Spectacles off slip and M898 S/B on slip from Spectacles
Travel	M898 to M8 jct 30 W/B on slip
Grit	M8 jct 30 W/B on slip from M898 S/B
Travel	M8 W/B to Jct 31 W/B off slip
Grit	M8 W/B Jct 31 (Westferry) off slip and M8 jct 31 W/B on slip
Travel	M8 to Langbank roundabout and return to M8 Jct 31 E/B off slip (Westferry)
Grit	M8 E/B Jct 31 (Westferry) off slip and M8 jct 31 E/B on slip
Travel	M8 E/B to jct 30 off slip and stay on main carriageway
Grit	M8 E/B from where off slip diverges to end of M8 Jct 30 on slip merge
Travel	M8 E/B to jct 29 off slip
Grit	M8 E/B jct 29 off slip and M8 Jct 29 E/B on slip
Travel	End of route. Return to depot

Route 13

	Description
Travel	Depot to M8 Jct 27 W/B on slip
Grit	M8 Jct 27 WB on slip
Travel	M8 W/B to Jct 28 off slip
Grit	M8 Jct 28 W/B off slip
Grit	M8 Jct 28 E/B on slip
Travel	M8 E/B to Jct 27 E/B off slip
Grit	M8 Jct 27 E/B off slip
Travel	M8 W/B then A737 W/B to A737 W/B Linwood off slip
Grit	W/B off and on slip A737 Linwood
Travel	A737 W/B to Johnstone off slip
Grit	W/B off and on slip A737 Johnstone
Travel	A737 W/B to Kilbarchan off slip
Grit	W/B off slip to Kilbarchan B787
Travel	A737 to E/B on slip from Kilbarchan
Grit	A737 E/B on slip from Kilbarchan B787
Travel	A737 E/B to Johnstone interchange
Grit	A737 E/B off and on slip A737 Johnstone
Travel	A737 E/B to Linwood off slip
Grit	A737 E/B off and on slip A737 Linwood
Travel	A737 E/B to St James off slip
Grit	A737 E/B off slip to St James
Grit	A737 St James interchange roundabout
Grit	A737 W/B St James on slip
Travel	A737 W/B to Kilbarchan and return A737 E/B to end of A737 Kilbarchan E/B on slip
Grit	A737 E/B from Kilbarchan on slip to M8 E/B on slip at Lincrive Viaduct
Travel	M8 E/B Lincrive Viaduct (acetate treated)
Grit	M8 E/B Jct 28A (end of Lincrive viaduct) to start of White cart viaduct hard shoulder lane 1 and 2
Travel	M8 E/B white cart viaduct bridge deck
Grit	M8 E/B from end of bridge deck to M8 Jct 24 off slip offside and adjacent lanes
Travel	M8 E/B Jct 24 off slip to M8 W/B Jct 24 on slip and continue M8 W/B to Jct 25A off slip
Grit	Jct 25A off slip to Braehead and M8 Jct 25A E/B on slip
Grit	M8 E/B from where Jct 25 off slip departs to when M8 Jct 25 on slip joins M8 hard shoulder and lane 1
Travel	M8 E/B to Jct 24 and return M8 W/B
Grit	M8 from end of Jct 24 on slip to Jct 27 W/B off slip Lane 3 and 4
Grit	Jct 27 W/B off slip (Arklestone)
Travel	End of route return to Depot

Route 14

	Description
Travel	Leave depot and travel to Cartsdyke roundabout A8 W/B
Grit	A8 westbound from Cartsdyke roundabout to Bullring roundabout
Grit	A8 E/B to Cartsdyke roundabout
Travel	A8 W/B to Bullring roundabout and bear left
Grit	A78 south from Bullring roundabout to Dunlop St roundabout, and return A78 E/B to Bullring circulating all roundabouts and Treating splitters islands
Travel	A78 W/B to Dunlop St roundabout
Grit	A78 S/B TO Bankfoot roundabout and U-turn
Grit	A78 N/B to Dunlop St roundabout Treating dual carriageway sections and splitters islands
Travel	End of route, return to depot

Route 15

Stage	Status	Description
1	Travel	Exit Ayr Depot and travel to A76 Crossroads roundabout
2	Treat	At Crossroads Roundabout Treat full roundabout in nearside lane then continue A76 Southbound to Crosshands
3	Treat	Treat A76 Southbound through Crosshands and Mauchline to Catrine junction
4	Treat	Treat A76 south to Templeton Roundabout Treat full roundabout in nearside lane then continue A76 Southbound
5	Treat	Treat A76 Southbound to Dettingen Roundabout
6	Treat	At Dettingen Roundabout Treat full roundabout in nearside lane then continue A76 Southbound
7	Treat	Treat A76 Southbound to Skerrington Roundabout
8	Treat	At Skerrington Roundabout Treat full roundabout in nearside lane then continue A76 Southbound
9	Treat	Treat A76 Southbound to Garleffan Roundabout
10	Treat	At Garleffan Roundabout Treat full roundabout in nearside lane then continue A76 Southbound
11	Treat	Treat A76 Southbound through Pathead, New Cumnock to B741 Dalmellington roundabout
12	Treat	Treat A76 Southbound from Dalmellington roundabout to Crawick bridge,
13	Travel	Turn at crawick Industrial estate and Travel North on A76 through New Cumnock Pathead to Garleffan Roundabout.
14	Treat	Treat splitter island at south of Garleffan Roundabout
15	Travel	At Garleffan Roundabout take 2nd exit A76 Northbound
16	Treat	Treat splitter island at north of Garleffan Roundabout
17	Travel	Travel North on A76 to Skerrington Roundabout.
18	Treat	Treat splitter island at south of Skerrington Roundabout
19	Travel	At Skerrington Roundabout take 2nd exit A76 Northbound
20	Treat	Treat splitter island at north of Skerrington Roundabout
21	Travel	Travel North on A76 to Dettingen Roundabout.
22	Treat	Treat splitter island at south of Dettingen Roundabout
23	Travel	At Dettingen Roundabout take 2nd exit A76 Northbound
24	Treat	Treat splitter island at north of Dettingen Roundabout
25	Travel	Travel North on A76 to Templeton Roundabout.
26	Treat	Treat splitter island at south of Templeton Roundabout
27	Travel	At Templeton Roundabout take 1st exit A76 Northbound
28	Treat	Treat splitter island at north of Templeton Roundabout
		Travel North on A76 through Mauchline and Crosshands to
30	Treat	Treat splitter island at south of Crossroads Roundabout
31	Travel	At Crossroads Roundabout take 1st exit A76 Northbound
32	Treat	Treat splitter island at A719 exit of Crossroads Roundabout
33	Travel	End of route return to Ayr Depot.

Route 16

Stage	Status	Description
1	Travel	Leave Ayr depot
2	Treat	From Depot A77 N/B to Sandyford roundabout
3	Treat	A77 Sandyford to Dutchhouse N/B
4	Treat	Circulate Dutchhouse Roundabout
5	Treat	A77S/B Dutchhouse to Sandyford
6	Treat	Circulate Sandyford Roundabout
7	Treat	A77 Sandyford S/B to Whitletts Rbt
8	Treat	Circulate Whitletts Roundabout
9	Treat	A77 Whitletts to Holmston Roundabout
10	Treat	Circulate Holmston Roundabout
11	Treat	A77 Holmston Roundabout to Bankfield roundabout
12	Treat	Bankfield Rbt and continue on to A77 Southbound carriageway
13	Treat	A77 Southbound carriageway through Minishant, Maybole, Kirkoswald and Turnberry to Bridgemill Rbt
14	Treat	Bridgemill Rbt and continue on to A77 Southbound carriageway
15	Treat	A77 S/B carriageway to Traffic lights. Continue straight through Dalrymple Street and Glendoune Street to mini roundabout.
16	Treat	Take 1st exit at mini roundabout to A77 Southbound carriageway.
17	Treat	A77 Southbound carriageway to Shallochpark Rbt
18	Treat	Shallochpark Rbt and splitter to A77 Northbound carriageway
19	Travel	A77 Northbound carriageway to mini roundabout
20	Treat	Mini roundabout and continue along Henrietta Street to roundabout
21	Treat	Take 2nd exit on roundabout and continue Treating to traffic lights on Knockcushan street
22	Travel	Turn left at traffic lights and travel A77 Northbound carriageway to Bridgemill rbt
23	Treat	Splitters at Bridgemill rbt
24	Travel	A77 Northbound through Turnberry, Kirkoswald, Maybole and Minishant to Bankfield rbt
25	Treat	Splitters at Bankfield rbt
26	Travel	A77 Northbound carriageway to Holmston rbt
27	Treat	Splitters at Holmston rbt
28	Travel	A77 Northbound carriageway to Whitletts rbt
29	Treat	Splitters at Whitletts rbt
30	Treat	A77 Northbound carriageway to Ayr Depot Jct
31	Travel	End of route

Route 17

Stage	Status	Description
1	Travel	Travel from Ayr depot to Dutchhouse Roundabout
2	Treat	A77 N/B to Spittalhill interchange
3	Treat	A77 N/B from Spittalhill interchange to Bellfield interchange
4	Treat	A77 N/B from Bellfield interchange to Connect Boundary at Meiklewood interchange
5	Travel	Travel round Meiklewood interchange to A77 S/B at end of
6	Treat	A77 S/B from Boundary to Bellfield interchange
7	Treat	A&A S/B from Bellfield interchange to Spittalhill interchange
8	Treat	A77 S/B from Spittalhill interchange to Dutchhouse Roundabout
9	Travel	Travel A77 N/B to start of Spittalhill off slip
10	Treat	Spittalhill N/B off slip
11	Travel	Turn and travel to start of Spittalhill S/B on slip
12	Treat	Spittalhill S/B on slip
13	Travel	Travel A77 S/B to Dutchhouse and turn to start of A77 N/B off slip at Bellfield
14	Treat	Bellfield N/B off slip, Bellfield roundabout and N/B on slip
15	Travel	Travel A77 N/B to start of Grassyards of Isip
16	Treat	Grassyards N/B off slip and N/B on slip
17	Travel	Travel A77 Meiklewood and turn and travel A77 S/B to start of Grassyards S/B off slip
18	Treat	Grassyards S/B off slip to S/B on slip
19	Travel	Travel A77 S/B to start of Bellfield off slip
20	Treat	Bellfield S/B off slip and then A76 S/B to Crossroads Roundabout circulate Bowhouse Roundabout
21	Travel	Travel A76 south to Bargower and turn and travel A76 north to start of splitter island at Crossroads roundabout
22	Treat	Splitter island south of roundabout and splitter island north of roundabout
23	Travel	Travel A76 north to splitter island at south of Bowhouse roundabout
24	Treat	Splitter island south of roundabout and splitter island north of roundabout
25	Travel	Travel A76 N/B to Bellfield Roundabout
26	Treat	Bellfield S/B on slip
27	Travel	Travel A77 S/B to Dutchhouse roundabout
28	Treat	A78 south from Dutchhouse to Monktonhead roundabout
29	Treat	A78 south from Monktonhead to Meadowhead roundabout

30	Treat	A78 north from Meadowhead to Monktonhead roundabout
31	Treat	Circulate Monktonhead roundabout and treat A78 south to Dutchhouse roundabout
32	Travel	Travel A77 S/B to start of splitter lanes at Whiteletts roundabout
33	Treat	Splitter lanes 3 and 4 at Whitletts roundabout
34	Travel	End of routes and return to depot

Route 18

Stage	Status	Description
1	Travel	Travel from Ayr depot to A78 at Loans northbound off slip
2	Treat	Loans northbound off slip
3	Travel	Travel to A78 Loans northbound on slip
4	Treat	Loans northbound on slip
5	Travel	Travel to A78 Hillhouse northbound off slip
6	Treat	Hillhouse northbound on slip
7	Travel	Travel Old Ayr Rd to Meadowhead roundabout
8	Treat	A78 N/B from Meadowhead roundabout to Warrix interchange
9	Treat	A78 northbound to Eglinton Interchange
10	Treat	A78 northbound to Pennyburn roundabout
11	Treat	Pennyburn roundabout and A78 northbound to Sharphill roundabout
12	Treat	Sharphill roundabout and A78 northbound to Chapelhill roundabout
13	Treat	Chapelhill roundabout
14	Treat	A78 northbound to end of splitter island
15	Treat	A78 northbound to Montfode roundabout
16	Treat	A78 northbound to Seamill Hydro
17	Treat	A78 northbound to Yerton Brae
18	Treat	A78 northbound to Hunterston Power Station roundabout
19	Treat	Hunterston roundabout
20	Treat	A78 southbound to end of splitter island
21	Travel	Travel A78 southbound to start of splitter island at
22	Treat	Splitter island
23	Travel	Travel to splitter island at south of Montfode roundabout
24	Treat	Splitter Island
25	Travel	Travel A78 southbound to start of splitter island at
26	Treat	Splitter island
27	Travel	Travel to A78 southbound
28	Treat	A78 southbound from Chapelhill roundabout to Sharphill
29	Treat	A78 southbound from Sharphill to Pennyburn roundabouts
30	Treat	A78 southbound from Pennyburn to Eglinton Interchange
31	Treat	A78 southbound from Eglinton to Warrix Interchange
32	Treat	A78 from Warrix to Meadowhead roundabout
33	Travel	Travel A78 northbound to Newhouse n/b off slip
34	Treat	Treat off slip
35	Travel	Travel to Newhouse n/b on slip
36	Treat	Treat on slip
37	Travel	Travel A78 northbound to Warrix n/b off slip
38	Treat	Treat off slip
39	Travel	Travel to Warrix n/b on slip
40	Treat	Treat on slip
41	Travel	Travel A78 northbound to Eglinton n/b off slip

42	Treat	Treat off slip
43	Travel	Travel to Eglinton n/b on slip
44	Treat	Treat on slip
45	Travel	Travel A78 to Eglinton S/B off slip
46	Treat	Treat off slip
47	Travel	Travel to Eglinton S/B on slip
48	Treat	Treat on slip
49	Travel	Travel A78 to Warrix S/B off slip
50	Treat	Treat off slip
51	Travel	Travel to Warrix S/B on slip
52	Treat	Treat on slip
53	Travel	Travel A78 to Newhouse S/B off slip
54	Treat	Treat off slip
55	Travel	Travel to Newhouse S/B on slip
56	Treat	Treat on slip
57	Travel	Travel A78 to Hillhouse S/B off slip via Old Ayr Rd
58	Treat	Treat on slip
59	Travel	Travel to Loans S/B off slip
60	Treat	Treat off slip
61	Travel	Travel to Loans S/B on slip
62	Treat	Treat on slip
63	Travel	End of route travel back to depot

Route 20

Stage	Status	Description
1	Travel	Leave depot and travel to A78 Hunterston Ore terminal roundabout
2	Grit	A78 northbound from Hunterston to A78 Bankfoot roundabout
3	Travel	A78 southbound to Largs
4	Grit	Splitter islands at Station and then at Morrisons roundabout
5	Travel	End of route, return to depot

Route 21

	Description
Travel	Depot to A701 Edinburgh Rd roundabout
Grit	Edinburgh Rd to Tinwalds Downs
Grit	Tinwalds Downs to Amisfield
Grit	Amisfield to Johnfield (McEwans Bus Depot)
Grit	Johnfield to Ae Bridge
Grit	Ae Bridge to Burrance
Grit	Burrance to South Mollinburn Bridge
Grit	South Mollinburn Bridge to St Anns Bridge
Grit	St Anns Bridge to Beattock south jct
Grit	Beattock south jct to Beattock East jct
Travel	End of route – Return to depot

Route 22

	Description
Travel	Depot to A76 Glasgow Rd roundabout
Grit	A76 Glasgow Rd to start of Collin By-pass
Grit	Collin Eastbound to end of Eastbound
Grit	End of East dual to Carrutherstown
Grit	Carrutherstown 3 lane Hargrove improvement section to Start of Kinmount
Grit	Start of Kinmount to end of Kinmount
Grit	End of Kinmount to Gretna Eastbound dual
Grit	Gretna Eastbound dual to Glasgow Rd off
Travel	Glasgow off to Glasgow Rd on slip
Grit	Gretna Westbound dual
Travel	From end of dual carriageway to Annan junction
Grit	Annan East Quadrant link road on and off slip
Travel	A75 westbound to start of Hargrove improvement scheme
Grit	A75 westbound through Hargrove improvement scheme to junction of old A75
Grit	Old A75 from Carrutherstown eastbound till junction with A75 at east end, then join A75 westbound
Travel	A75 westbound to Collin By-pass
Grit	Collin Westbound dual
Travel	End of route return to depot

Route 23

Stage	Status	Description
1	Travel	Depot to A76 Glasgow Rd Rbt
2	Grit	Glasgow Rd R/A – A76 Lochside R/A (N/B)
3	Grit	A76 Lochside R/A – A75 Glasgow Rd R/A (S/B)
4	Grit	A75 Glasgow Rd R/A – A76 Irongray Jct (South)
5	Grit	A76 Irongray Jct (South) – A76 Newbridge Jct
6	Grit	A76 Newbridge Jct – A76 Glengowar
7	Grit	A76 Glengowar – A76 Irongray Jct 9 (North)
8	Grit	A76 Irongray Jct (North) – A76 Auldgirth
9	Grit	A76 Auldgirth – A76 Barburgh Mill
10	Grit	A76 Barburgh Mill – A76 Closeburn (South) 40mph
11	Grit	A76 Closeburn – A76 Thornhill (South) 30mph
12	Grit	A76 Thornhill (South) 30mph – A76 Thornhill (North) 30mph
13	Grit	A76 Thornhill (North) 30mph – A702 junction CarronBridge
14	Grit	A76 north from A702 junction CarronBridge to Glenairlie start of 3 lanes
15	Grit	A76 Glenairlie start of 3 lanes – A76 Crawick
16	Travel	Turn at driver's discretion
17	Grit	A76 Glenairlie overtaking lane S/B
18	Travel	End of route return to depot

Route 24

	Description
Travel	Depot to Creetown East
Grit	Creetown West to Carsluith East Cott
Grit	Carsluith East Cott to Skyreburn
Grit	Skyreburn to Gatehouse West Jct
Grit	Gatehouse West jct to start of 3 lanes
Grit	Start of 3 lanes to end
Grit	End of 3 lane to Twynholm
Grit	3 lanes at Twynholm to end of 3 lanes
Grit	Twynholm to Hightae
Travel	End of route return to depot

Route 25

	Description
Travel	Depot to Hightae junction
Grit	Hightae to Allanton
Grit	Allanton to Ramhill Bridge
Grit	Ramhill Bridge to 3 lanes at Beattyknowes
Grit	Start of 3 lanes to end
Grit	From End of 3 lanes to start of Glen Dual at Drummole roundabout
Grit	Eastbound Dual to the start of 3 lanes
Grit	3 lanes section of the Glen
Grit	End of 3 lanes at Garroch roundabout to Glasgow Rd roundabout
Travel	Glasgow Rd Rbt to start of Westbound dual travel
Grit	Start of Westbound dual to end
Travel	End of route return to depot

Route 26

	Description
Travel	Depot of A75 Stair Drive
Grit	A75 from Stair Drive to A751 Jct
Travel	A751 to jct with A77 at Innermessan
Grit	A77 north to new roundabout at ferry terminal at north of Cairnryan
Grit	From new roundabout at ferry terminal at north of Cairnryan to start of 3 lanes at Pinnies
Grit	Start of 3 lanes to end of 3 lanes
Grit	End of three lane to wide section
Grit	New wide section to Watertanks
Grit	Watertanks to Ballantrae village
Grit	Ballantrae village to Bennane hill improvement scheme
Grit	Bennane improvement to start of 3 lane section
Grit	Start of 3 lanes to end of 3 lanes at Bennane
Grit	End of three lane to Shallochpark Rbt
Travel	End of route return to depot

Route 27

	Description
Travel	Depot to A77 Stair Drive
Grit	A77 from Stair Drive to A751 Jct
Grit	A751 from A77 at Innermessan to A75
Grit	A75 from A751 jct to 3 lanes at start to Dunragit west section
Grit	Start of Dunragit west 3 lane section to end of lane section
Grit	From end of west section to start of east 3 lane section
Grit	A75 eastbound through Dunragit east 3 lane section
Grit	A75 eastbound from end of Dunragit 3 lane section to start of Glen Luce 3 lane section
Grit	Treat Glen Luce 3 lane section eastbound
Grit	A75 east from end of Glen Luce 3 lane section to start of Barlae dual carriageway section
Grit	A75 Barlae dual eastbound to eastern crossover point within dual section
Grit	Crossover section to A75 westbound carriageway
Grit	A75 westbound to end of dual carriageway section
Travel	A75 westbound to start of Glen Luce 3 lane section
Grit	A75 westbound to end of Glen Luce 3 lane section
Travel	A75 westbound to start of Dunragit 3 lane east section
Grit	A75 westbound to end of Dunragit east 3 lane section
Travel	A75 westbound to start of Dunragit west 3 lane section
Grit	A75 westbound to end of Dunragit 3 lane west section
Travel	Turn and travel A75 Eastbound to crossover point in Barlae Dual carriageway section
Grit	A75 eastbound from crossover point to B733 junction at Kirkcowan
Travel	Kirkcowan to Start of Westbound dual (travel)
Grit	Westbound Dual to west crossover point and Treat crossover point to A75 eastbound carriageway
Travel	A75 Eastbound to B733 jct Kirkcowan
Grit	Kirkcowan to Shennanton Jct
Grit	Shennanton to The House on the Stilts
Grit	The House on the Stilts to Benfield
Grit	Benfield to Newton Stewart 3 lane section
Grit	Newton Stewart 3 lane section to Rbt
Grit	Newton Stewart Rbt to Blackcraig
Grit	Blackcraig to Palnure
Grit	Palnure to Creetown East Jct