

Transport Users Forum:

Highway Maintenance - Potholes and Winter



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Statutory Duties

- Reading Borough Council, as the Local Highway Authority has a statutory duty under the Highways Act 1980 to maintain the public highway.
- The Council, as Local Highway Authority, has a duty under the Highways Act 1980 Section 41 (1A) to ensure, so far as is reasonably practicable, that safe passage along a highway is not endangered by snow or ice.



Highway Works Operations - Income Generation Works

- Highways & Drainage (H&D) has extensive experience in maintaining the public highway network in Reading, providing reliable and sustainable advice for highway management, maintenance, planning and implementation of works.
- Our experienced and highly trained Operatives have a proven track record of providing high quality services.
- With a dedicated team of 26 employees and a fleet of 12 LG Vehicles, 2 drainage tankers and drainage CCTV digital camera survey equipment.
- We are uniquely equipped to extend our service expertise to private land owners, businesses, residents, housing & education providers.



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Highway Drainage Operations

- The Gully Cleansing Service

The Gully Cleansing Service is provided to fulfil a statutory duty by ensuring that the highway is adequately drained.

The service provides cyclical gully cleansing of all roadside and footway gullies, response to blocked gullies and flooding reports from the Public, Neighbourhood Officers, Councillors and Gully Crews; and to undertake highway drainage repairs and minor improvement schemes. We aim to cleanse all roadside and footway gullies annually.

- We have **17,762 gullies** within the Borough and they are scheduled for an annual clean.
- Ditch Cleaning
- Emergency call out / blockages
- Minor drainage schemes
- Gully repairs
- Sewer repairs



Highway Maintenance (Engineering) Team

Bridge Maintenance

272 bridges and highway structures in Reading
(78 of which are bridges over 1.5 m span)

Programme of inspections & Assessments

- 6 year Principal Inspections
- Bi-annual General Inspections
- Special annual inspections of high risk structures

Annual programme of maintenance works by term contractor.

Winter Maintenance

Road Resurfacing

- Road assessments
- Contract procurement

Highway Maintenance

- Minor highway upgrade schemes
- Footway schemes
- Road marking
- Stabilisation of carriageways
- Road collapses / caverns / voids
- Drainage
- Flood alleviation / reduction schemes
- Site supervision of Developer schemes



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Flood Alleviation / Flood Risk Reduction Schemes

Whiteknights Reservoir



Harness Close



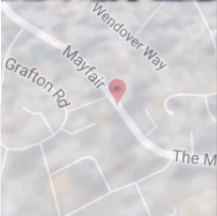
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What is a Pothole?

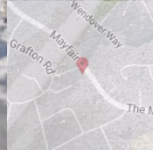
The Council's standard investigatory depth for **carriageway** defects is **50mm** depth over an approx. area of 300 mm x 300mm.

The Council's standard investigatory depth for **footway** defects is **20mm** depth over an approx. area of 300 mm x 300 mm.

Not all defects within the public highway meet this investigatory criteria and in many cases defects are less than the Council's current standard for action, (e.g. Mayfair where we have scabbing of very thin surfacing material).



82-84 Mayfair
Reading
United Kingdom
2017-06-29(Thu) 10:20(am)



82 Mayfair
Reading
United Kingdom
2017-06-29(Thu) 10:20(am)



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How do we repair Potholes?

- The vast majority of potholes that meet the Council's investigatory level (50mm depth) are repaired by cutting out the loose material and reinstating with permanent bitumen (tarmac) material.
- The gang will saw cut a square or rectangle shape around the pothole defect and break out the damaged surface to a depth where the sub-base is solid, removing all loose material. The depth will vary between 50 mm and 100 mm.



How do we repair Potholes?

The base of the pothole is compacted and the sides are coated with a bitumen emulsion.

Surface bitumen (tarmac) material is inserted and compacted.

Alternative proprietary repair materials have been trialled and will be monitored during the winter months



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How long will it take to repair a Pothole?

- The timescale category for repairs is determined by the HMMS (Highway Maintenance Management System) as follows:
 - Emergency response
 - 1 Day Repair
 - 7 Day Repair
 - 28 Day Repair
-
- The Neighbourhood Officer will select the appropriate timescale category, taking into consideration factors such as road classification / type, location of defect , size of defect and likelihood of further rapid deterioration.



Pothole Improvement Plan

Reading Borough Council received a £97,000 share from the £70 Million Pothole Action Fund, made available for this Financial Year (2017/2018), as announced by the Department for Transport. By way of comparison, the Council received a Pothole Funding allocation of approximately £164,000 in 2014. As in previous years, we proposed a further Pothole Repair Plan, following the successful completion of the three previous Pothole Repair Plans. This will enable potholes of a lesser depth than the Council's normal investigatory criteria to be repaired.

The Council's standard investigatory depth for carriageway defects is **50 mm depth over an approx. area of 300 mm x 300 mm**. The Pothole Repair Plan will enable the Council to repair defects of a minimum depth of **30mm**.

The Department for Transport expects this Council to achieve over 1,800 pothole repairs based on the £97,000 share from the Pothole Action Fund. This is based on an average cost for a pothole repair of £53.00. We expect this target to be the minimum number of pothole repairs carried out within this Council's share of the fund.



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Pothole Improvement Plan

- Clearly we are not able to address all roads in the Borough with the share of this funding and therefore we will need to prioritise/target those roads in greatest need. This will be achieved by, firstly, considering those roads which are not included in this Financial Year's highway maintenance major carriageway resurfacing / minor roads surfacing programmes.

Further assessment criteria to then be considered:

- Those roads with the highest scores/results from the unclassified road condition assessments
- Those roads which have generated a high number of complaints from the public, Councillor enquiries, MP enquiries.
- Local knowledge of roads known to have a high proportion of potholes which are either unlikely to deteriorate sufficiently to reach the Council's 50mm depth investigatory criteria
- The Pothole Repair Plan will operate concurrently with the statutory highway inspection regime, as was the case with the previous Pothole Repair Plans.
- The delivery of this Pothole Repair Plan will be carried out using existing Highway Operative resources



Winter Service 2017/18

The Pothole Repair Plan will commence immediately (November 2017) and continue through to the end of the Financial Year (31st March 2018). With the Plan commencing in November it will specifically target the winter season which, typically, is the time of year when potholes are more prone to develop due to the effect of precipitation combined with cold/freezing temperatures on the road structure.



Equipment



Heavy duty machinery readily available



2 hand-held ploughs on standby



47 grit bins in the Borough



5 large gritting vehicles plus 1 mini gritter trailer for narrow roads



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Preparation for the Coming Winter Season

RBC review grit bins - new location requests assessed

RBC review gritting network and make any changes that are required

RBC attend various meetings with Berkshire Consortium, MeteoGroup & Vaisala

RBC attend pre-season meeting with Winter Maintenance Contractor and Wokingham Borough Council's Consultant

Vaisala ensure all weather stations are functioning

Winter Maintenance Contractor places all grit bins back on site

Winter Maintenance Contractor carries out 'dummy run' of routes to check equipment, routes, timings etc.



The Process

- Forecast service provided by MeteoGroup with Vaisala providing the infrastructure
- Weather stations provide raw data to Vaisala e.g. temperatures, wet/dry etc. Data is sent to MeteoGroup to prepare forecast
- Duty Officer (Balfour Beatty/Wokingham BC) obtain initial forecast at approximately midday and evening update approximately 18.00 hrs to decide time and which routes (Primary and/or Secondary)
- Duty Officer notifies Winter Maintenance Contractor (J.H Cresswell and Sons Ltd.) of time to commence gritting
- Spread rate depends on weather, temp., surface state - standard rate 8g/m² or 11g/m² if colder or prolonged cold weather periods
- In prolonged cold weather or when snow is predicted the pedestrianised areas are treated with Urea
- 2 Hours to complete Primary Routes
- 1 Hour for Secondary Routes

Salt Stock



750 tonnes in stock at the start of winter season

Stock continually replenished throughout season

Emergency Services and Council Directorates have own Plan and stocks

During severe winters the Government "Salt Cell" manage distribution nationally

All Local Highway Authorities regularly inform Salt Cell of current salt stocks

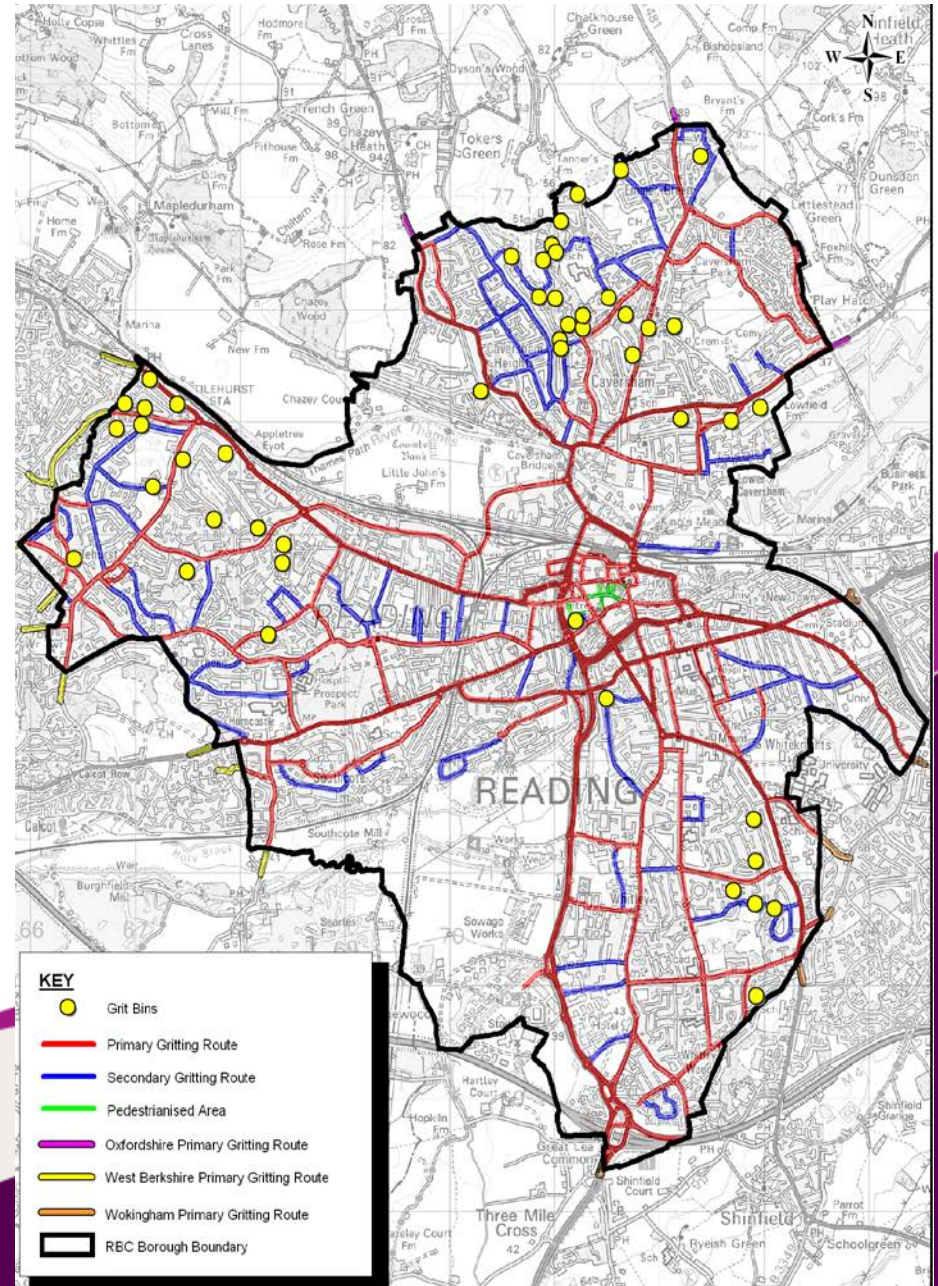
Mutual aid agreements with neighbouring Local Highway Authorities and Highways Agency during salt shortages



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Gritting Routes and Grit Bin Locations

- 47 yellow grit bins located around the Borough
- 118.7 km (2016/17) of Primary routes - 'A class' roads and routes of strategic importance
- 42.1 km (2016/17) of Secondary routes - remaining bus routes and roads of local importance
- Approximately 41% (2016/17) of the highway network is treated
- Map available on website



Grit Bin Assessments

- Assessments of all new location requests carried out in September
- Results fed into the Winter Service Plan then presented to Committee
- All grit bins are placed on site by 1st October each year

Assessment Criteria

Not on Roads already on the gritting Network or Nearby Grit bin	Gradient Greater than 10%	Severe Bends not including Junctions	Close proximity to and Falling Toward Heavily Trafficked main Roads	No. of premises for which the road is only access	Traffic density at peak times	Streets with high vehicle usage and a gradient of 10% or more	Shaded carriage-ways with min. 10% gradient	Side road leading on to a main road	Known prob. with water and/or frost hollows	Access available from carriage-way for filling
0/15	0/15	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	1 to 5	0/10	0/10

- Current qualification score of 60 points required for grit bin
- We only assess new requests

GRIT HELD IN THE YELLOW GRIT BINS IS FOR USE ON THE PUBLIC HIGHWAY ONLY



Town Centre Urea



Urea Pellets



Urea pellet spreader



- Urea extracted from animal urine or synthetically produced chemicals
- Small pellets - do not stain or damage block paving and melt to form a barrier gel
- Used when extreme/prolonged cold weather or snow is predicted to settle
- Spread within 2 hours of request by Streetcare Operatives
- Effective for up to 3 days
- Mechanical sweeping suspended & hand litter picking carried out only

Vaisala Weather Station

(Outside Battle Library in Oxford Road)

Road temperature and surface
state sensors



Dew point, relative humidity
and air temperature sensor

Rain data sensor



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Forecast Data - Decision Sheet

WINTER SERVICE DECISION SHEET 2016/17 - Ref 2016-17/081

Date Decision made: 03/01/17

Time Decision made: 12.30

Winter Duty Officer: Bill Sheldon

Contact No. 07966 895803

Routes	Wokingham Borough Council Network		Reading Borough Council Network	
	Time Action Required	Spread Rate Required	Time Action Required	Spread Rate Required
Primary Routes	14:00	7 gm	14:00	7 gm
Secondary Routes	N/A	No action	N/A	No action
Third Tier	N/A	No action		
Footways/Cycletracks	N/A	No action		

Readiness Colour Alert	Green	Amber	Red
		0.4°C	

COMMENTS :

Actin required, low confidence in RST's , please commence primary network routes at 14:00 with 7gms

LUNCHTIME FORECAST ISSUED TUESDAY 3RD JANUARY 2016:

Dry this afternoon with broken cloud.

Predominantly dry tonight with clear spells for a time, giving way to thicker cloud from the north later on in the night. Moderate westerly winds.

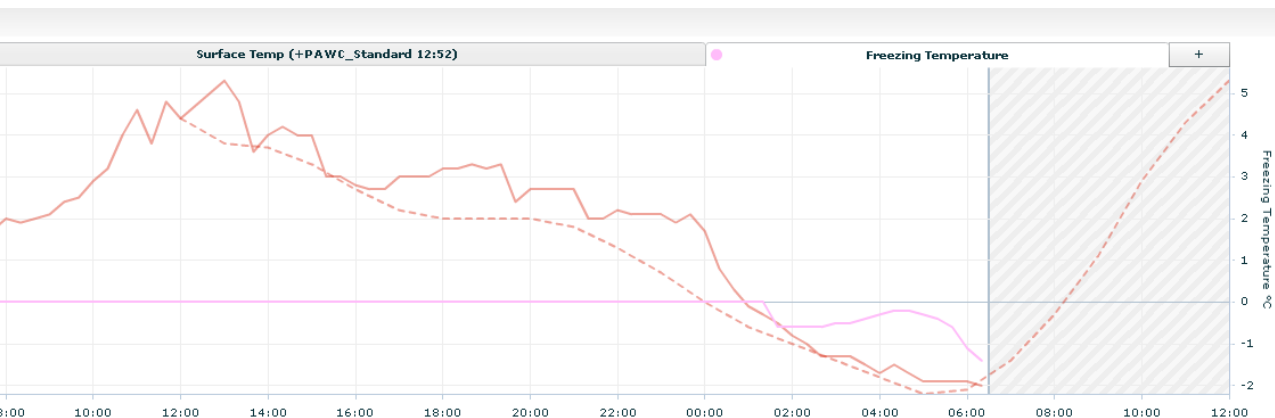
Cloudy at times on Wednesday morning, perhaps with one or two localised showers, then dry and sunnier in the afternoon. Dry and chilly Wednesday evening.

A chilly night. Low confidence in minimum RSTs due to uncertainty in cloud cover - see hazard tables for details.



MeteoGroup Forecast & Temperature Status Graph

	West Berkshire		Reading & East Berks	
Readiness Colour	RED		RED	
Hoar Frost	23-09	HIGH	00-08	HIGH
Ice	23-09	HIGH	00-08	HIGH
Snow	12-14	LOW	N	LOW
Snow Level (m)	200		N/A	
Drifting	N	HIGH	N	HIGH
Heavy Rain	N	HIGH	N	HIGH
Fog	N	HIGH	N	HIGH
Freezing Rain	07-09	LOW	N	LOW
Minimum Air Temp	-0.5		-0.5	
Bridgedeck min temp	-3.5		-3.5	
Urban Min RST	-2.0		-2.0	
Urban RST period < 0	01-08		01-08	
Min RST	-3.0		-3.0	
RST period < 0	23-09		00-08	



<https://www.metoffice.gov.uk/public/weather/observation/rainfall-radar#?map=Rainfall&fcTime=1509578700&zoom=5&lon=-4.00&lat=55.01>



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