
REPORT TO THE MEETING OF THE EXECUTIVE 11 JANUARY 2012

PORTFOLIO: ENVIRONMENT

REPORT FROM HEAD OF ENVIRONMENTAL SERVICES

SUBJECT: DRAFT AIR QUALITY ACTION PLAN FOR RAWRETH INDUSTRIAL ESTATE AIR QUALITY MANAGEMENT AREA

1 DECISION BEING RECOMMENDED

- 1.1 To authorise public consultation on the draft Air Quality Action Plan for the Rawreth Industrial Estate.
- 1.2 To delegate approval of the final Air Quality Action Plan to the Portfolio Holder for Environment.

2 FORWARD PLAN REFERENCE No: 14/11

3 REASONS FOR RECOMMENDATION

- 3.1 Following declaration of an Air Quality Management Area (AQMA) for the Rawreth Industrial Estate (Minute 108/10) the Council is required to prepare an action plan to demonstrate how improvements in air quality will be secured. The draft action plan is shown at Appendix 1.
- 3.2 Prior to submission to the Department of Environment, Food and Rural Affairs (Defra) for approval, the draft action plan must first undergo public consultation. For this purpose a summary document has been prepared which is shown at Appendix 2.
- 3.3 The public consultation will run until 30 March, after which time it is proposed that the Portfolio Holder for Environment will agree the final Air Quality Action Plan for submission to Defra.

4 SALIENT INFORMATION

- 4.1 In June 2010, the Council created an AQMA at Rawreth Industrial Estate because the area experiences high levels of fine particulate matter (PM₁₀) on more days than is permitted.
- 4.2 The affected area includes properties within Victoria Avenue, Rowan Close and Stirling Close. A copy of the AQMA order, which includes a map, is attached at Annex A to the draft action plan.
- 4.3 Officers are requesting that Members approve the attached action plan for public consultation. Subject to responses received, officers will then amend the action plan for agreement by the Portfolio Holder for Environment and submission to Defra for approval.

- 4.4 A number of the actions involve the participation of Essex County Council and the Environment Agency, therefore their consultation responses are particularly anticipated.
- 4.5 The consultation will follow Council policy and include a mail out to all the residential properties, businesses and organisations consulted during the original AQMA process. The action plan will be made available online via the Council's website and that of the Essex Air Quality Consortium (www.essexair.org).

5 ALTERNATIVE OPTIONS CONSIDERED

- 5.1 The draft action plan identifies a variety of measures to address the elevated levels of particulate matter and consideration will be given to any alternatives suggested through the public consultation process.

6 RISK IMPLICATIONS

- 6.1 The continued presence for a high number of days of elevated levels of particulate matter may pose an increased risk of aggravated respiratory illness.
- 6.2 The Government is likely to introduce a tighter air quality limit for finer particulate matter in the future such as PM_{2.5} (Particulate matter measuring 2.5 micrometres or less). No specific monitoring has been undertaken for particulate matter less than 2.5 micrometres.

7 ENVIRONMENTAL IMPLICATIONS

- 7.1 The action plan identifies a series of measures that will address local sources of pollution and will improve the air quality.

8 RESOURCE IMPLICATIONS

- 8.1 The current budget does not have sufficient funds for any of the measures contained within the Action Plan although clearly many of these are the responsibility of the Highways Authority and individual business operators.
- 8.2 Officers will apply for grants from Defra for both air quality monitoring and action plan measures (in conjunction with partners) as appropriate. This may assist in particular with incentivising businesses to improve arrangements on individual sites. Should such funding not be secured, officers will review the action plan to reflect available resources.
- 8.3 Where officer time is required, work programmes will be altered where necessary to prioritise measures relevant to the action plan.

9 LEGAL IMPLICATIONS

- 9.1 The Council is charged with trying to achieve the national air quality targets only. There is no penalty to the Council should the targets not be met.

I confirm that the above recommendation does not depart from Council policy and that appropriate consideration has been given to any budgetary and legal implications.

SMT Lead Officer Signature: _____

Head of Environmental Services

Background Papers:-

Rochford District Council Progress Report May 2011.

Rochford District Council Detailed Assessment December 2008.

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Planning Action to Improve Air Quality – Rawreth Industrial Estate (RIE)

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Draft

1 Introduction

- 1.1 In June 2010, the Council declared an Air Quality Management Area for Rawreth Industrial Estate and some residential dwellings in adjacent roads including Rowan Close, Stirling Close and Victoria Avenue. A copy of the Air Quality Management Area (Rochford District Council) (No. 1) Order 2010 can be found in Annex A.
- 1.2 The reason for the declaration was that the area experienced too many days of elevated levels of fine particulate matter, referred to as PM₁₀ as defined by the national Air Quality Strategy 2007.
- 1.3 Detailed analysis of these occurrences showed that half the days of exceedance were due to elevated background levels. The remainder were largely due to re-suspension of particles from HGVs using the industrial estate spine road. This is evidenced by the incorporation of properties at Rowan Close in to the Air Quality Management Area (AQMA).
- 1.4 Most other AQMAs declared for particulate matter are in relation to exhaust emissions related to large diesel road vehicles: relatively few are due to circumstances such as those found in the vicinity of Rawreth Industrial Estate (RIE).
- 1.5 This document will discuss the situation as it stands; the measures open to the Council and partner organisations such as the Environment Agency and Essex County Council; and carry out a cost-benefit analysis of the practicable available options whilst also stating their progress.

2 Purpose of the Air Quality Action Plan

- 2.1 The Air Quality Action Plan (AQAP) is intended to specify the measures that the local authority will undertake to move towards achieving the national air quality objectives.
- 2.2 The source apportionment work carried out as part of the Detailed Assessment (DA) of local air quality has enabled these measures to be prioritised. The Action Plan proposes a staged implementation of the measures to improve air quality. The action plan concentrates on the measures most likely to lead to a reduction in the contributions made to the total PM₁₀ arising from Rawreth Industrial Estate.

3 Consultation of the Draft Air Quality Action Plan for RIE

- 3.1 As the Action Plan is so reliant on the conclusions reached in the DA (Bureau Veritas, December 2008) it is recommended that the two documents are read together. This document, along with the DA, will be available online and in Council receptions.
- 3.2 The consultation process will be carried out in line with Council policy and include mailouts to local residents, businesses, local parish and district councillors, the local MP and officers from the Environment Agency and Essex County Council as well as officers from other Council departments.

4 Monitoring

- 4.1 Since June 2011, a particulate analyser has been operational at RIE. Positioned on Makro's premises, it provides hourly measurements of PM₁₀ for the area. Results are presented to officers on a monthly basis and it will be operational until at least June 2012. It is intended that results will be available via the Essex Air Quality Consortium website www.essexair.org.

5 Issues to be considered

Background Concentrations

- 5.1 The contribution to the PM₁₀ levels is high, accounting for 17 days of the permitted 35 days of exceedance of the total PM₁₀ at residential facades. This equates to 68 - 99% of the PM₁₀ present at residential facades. Reducing the background component is extremely challenging and actually impossible for some contributing sources.
- 5.2 Particulate material that has been grouped into the background category includes vehicle exhaust emissions from the roads beyond RIE; more distant sources such as power stations and other combustion plant; and long-range pollutants such as sea salt and sub-saharan dust. Reducing the emissions of these sources would result in a significant reduction in the PM₁₀ account. However, this is not feasible as such a reduction would inevitably take a long time and would need to involve local, regional, national and international action.
- 5.3 Whilst some reductions could be achieved by reducing emissions from road vehicle exhausts contributing to the urban background, again this action is not proportionate to the situation in RIE at this stage.

Suspension of Road Dust

- 5.4 The DA concluded that 1 - 31.6% of the PM₁₀ at residential facades originated from the suspension of road dust from the RIE spine road.
- 5.5 Reducing airborne particulate material at RIE from the suspension of road dust will require a break in the chain linking the original source of the particulate material with the airborne particles found in the air.
- 5.6 This chain starts one of two ways. Firstly, material on commercial yards in RIE contaminating (heavy goods) vehicles, in particular their tyres. These vehicles are then driven out onto the highway and the dirt contaminating the tyres then comes off the vehicles onto the highway surface. The second pathway is material being dropped directly on to the highway surface (from their loads) by vehicles as they travel to and from sites.
- 5.7 Vehicles driving over the material reduce the size of the particles and, subject to the particles being light enough (that is are small enough and without excessive moisture), they are blown into the atmosphere; the heavier the vehicle, the greater the reduction in particle size.

- 5.8 It is for these reasons that HGVs such as lorries and coaches have been identified in particular.

Road Surface, RIE Spine Road

- 5.9 Until November 2011, the condition of RIE spine road was poor. It was heavily pot-holed in places, therefore creating an ideal situation for dusty material to accumulate and thereby exacerbating the situation. In late November 2011, significant (tarmac) patch repairs were undertaken along the length of the RIE spine road.
- 5.10 It is common for both sides of the length of the spine road amongst the industrial units to be occupied by parked cars due to the lack of alternative off-street parking arrangements. This concentrates the flow of all traffic to a narrower route, increasing wear and deterioration.
- 5.11 The RIE spine road is an adopted highway and the responsibility of Essex County Council. Maltese Court and Westfield Close are in private ownership, but not considered to be significant in this matter in any case.
- 5.12 As such, the spine road is swept by Rochford District Council at a frequency that maintains it at Grade B as defined by the Code of Practice on Litter and Refuse produced under section 89 of the Environmental Protection Act 1990 (on a scale of A to D where Grade A is the cleanest). By authorisation of Council officers, the sweeping operation is also carried out early in the morning in order to avoid parked cars blocking the route through the estate.
- 5.13 With regards to resurfacing of the highway, a smoother and better-maintained spine road should significantly reduce the potential for fine particulate matter to be generated and become airborne. The maintenance of the road surface is seen to be a key measure within this plan.
- 5.14 It is worth noting that, at the time of writing, there are trials of the application of a compound called CMA (Calcium Magnesium Acetate) on certain roads with the intention of reducing the quantity of particulate matter in suspension. CMA is a dust-suppressant which works by sticking particles to the road surface. It is expensive and requires regular application. Its use is not proposed within this Action Plan, but the results of the trials will be monitored.

Exhaust Emissions

- 5.15 Only around 0.35% of airborne particulate material in RIE impacting upon the residential facades derives from local vehicle exhaust emissions. To illustrate this, if the current fleet was to be replaced with theoretical vehicles of zero emissions, then only a small – and still insufficient – reduction in PM₁₀ concentrations at residential facades would arise.
- 5.16 Adoption of a low emission zone is the only method by which a reduction in exhaust emissions from the commercial fleet could be achieved. This is where the vehicle fleet is gradually replaced with vehicles with lower emissions. Whilst this type of scheme may offer a small reduction in the PM₁₀ account, it is disproportionate to an estate and problem of this size; the costs are prohibitive and outweigh the benefits for the situation at RIE.

Local Industrial Emissions

- 5.17 Local industrial emissions account for only 0.5% of PM₁₀ present at residential facades. Reducing emissions from the sites would only achieve a small reduction in the overall PM₁₀ concentrations.
- 5.18 These sites – and in particular those that remain un-made or who exercise poor housekeeping – will have an indirect impact on PM₁₀ concentrations by carrying material onto the highway surface, and perpetuating the cycle discussed previously. It is understood that Highways Authorities, such as ECC have powers specific to this type of scenario.
- 5.19 A number of sites on RIE operate under an Environmental Permit issued by either the Environment Agency (EA) or the Council. For example, these include waste transfer sites and concrete batching sites. Where appropriate, these types of premises have tighter controls imposed and are inspected more frequently when they are present within an AQMA and this is already the case for those premises on RIE.
- 5.20 Some further measures to improve site cleanliness are still proposed in this action plan. Although some sites in RIE already have mitigation measures in place to control dust, it is expected that these will be maintained and, if possible, improved, especially where there is currently no routine regulatory enforcement by the EA or the Council.

Emissions from Farming

- 5.21 Farming operations in the locality give rise to 0.5% of PM₁₀ present at residential facades. Farmland surrounds RIE from the South-West to the North and any reduction in contribution from this area would be extremely difficult and only achieve a small reduction in the overall PM₁₀ concentrations.

Development of Rawreth Industrial Estate

- 5.22 In the emerging Local Development Framework (the replacement to the Local Plan), RIE is earmarked for release for residential development and relocation to a less sensitive position within the district. It is anticipated that this may be realised by 2020. Although this development cannot be guaranteed, any actions proposed by this Action Plan need to be mindful of this planning policy and in particular their timeframe for implementation.

6 Summary

- 6.1 An understanding of the mechanisms involved in the generation of airborne particulate material is important in order to evaluate the options available to reduce emissions and therefore exposure.
- 6.2 Several factors have an impact on emissions from road dust, including meteorology, vehicle speed, tyre profile, amount and particle size of material on the road (especially in the tyre pathway), all within the context of high background concentrations from sources largely beyond Rochford District Council's or its partners' control.

- 6.3 A reasonable reduction in the total emissions due to the suspension of road dust is likely to ensure that the national air quality objective is achieved. The nature of the measures taken will determine whether this achievement can, and will, be maintained for the duration of the existence of RIE at its present location and levels of occupation.
- 6.4 Calculating the impact of individual measures is less than straightforward. The mechanisms involved leading to the suspension of road dust are not well understood, and are difficult to quantify. The net effect of any particular measure, for example reducing the amount of material deposited on the road surface, cannot at present be quantified.
- 6.5 A phased approach to taking action to reduce particulate concentrations is therefore proposed. Underpinning this is the continued assessment of the ambient air quality in the area via the analyser at Makro to establish the impact the action plan is actually having on air quality.
- 6.6 It is proposed to maintain the existing measures in place that are aimed at reducing highway surface contamination, and controlling the recontamination. These measures include an enhanced street-sweeping regime and relevant Environmental Permit controls for certain sites on RIE.
- 6.7 The additional measures proposed will be introduced in a phased way, initially through encouraging businesses to implement measures necessary to reduce the contamination of the highway surface (e.g. covering laden vehicles, improving site house keeping and cleanliness) followed by the resurfacing of the spine road, either wholly or in part. The impact of each phase will be closely monitored to determine the need for additional measures.
- 6.8 Vehicle (tyre) cleaning before departing site may provide significant additional benefits for some sites. It is recognised that there are some practical difficulties in implementing such a regime that would need to be overcome, such as cost, limitation of space on site and wastewater disposal.
- 6.9 However effective vehicle cleaning does offer the potential for a significant improvement in the quantities of material on the highway surface and therefore in improving the particulate concentrations in the vicinity of RIE.
- 6.10 As part of the LDF, the Council's Core Strategy has recently been found sound by an inspector acting on behalf of the National Planning Inspectorate. One policy within the Core Strategy relating to air quality expressly prohibits new development within an AQMA, thereby limiting the introduction of new receptors into an area of known poor air quality. This policy may of course be viewed differently should the proposal seek to substantially improve or replace the cause of the poor air quality.
- 6.11 It is prudent to note that the declaration of an AQMA and the duty to create and implement an AQAP does not provide a local authority, or its partners, with any additional authority to enforce its proposed measures. Many measures discussed in this document rely on the good-will and budgetary priorities of those businesses and public bodies concerned. That said, the Council does have a significant sphere of influence and would seek to exercise that.

- 6.12 In future years, should the Department of Environment, Food and Rural Affairs (Defra) continue to invite applications for grants to assist with the implementation of Action Plans, these will be applied for. Limited funds are available to the Council to address the air quality issues within the district.

7 Assessing Proposed Actions

Costs and Benefits

- 7.1 In prioritising the proposed actions to be taken to improve local air quality it is necessary to take into account the costs and benefits of the proposed actions. From the modelling work that has been carried out we know that if there were no additional contribution to the local particulate concentrations from the suspension of road dust, then the national objectives would be achieved at RIE. The ultimate aim of the proposed actions needs to be to reduce the contribution made by suspended road dust as much as possible.
- 7.2 Unfortunately, we are unable to quantify precisely the mechanisms involved. These include the mechanism for material being deposited on the highway in the first place, and the mechanisms for suspending the dust from the highway surface. Each of these processes is complex and dependant upon a large number of variables. The only feasible approach to quantify the benefits is to make a broad and somewhat subjective assessment of the likely impact of each of the proposed measures. In doing so, the subjective nature of this assessment needs to be acknowledged when prioritising action.
- 7.3 Similarly, it is difficult to ascribe detailed costs to each of the proposed measures, so a similar approach is taken in making a broad assessment of the total costs of each proposed action. Measures with a high benefit to cost ratio can then be prioritised.
- 7.4 The impact of each of the proposed measures as has been stated is somewhat uncertain, and it may be found that not all the proposed measures need to be implemented. However, it is imperative that the impacts of the measures that are implemented are continuously monitored and assessed, so that additional measures can be instigated if and when necessary.

Proposed Action/Costs/Air Quality Benefits

Resurfacing and Maintenance of RIE Spine Road/Medium cost/Medium benefit

- A smooth road surface reduces the potential for dust to be collected along the traffic route, thereby also reducing the potential for further compaction and suspension.
- RIE spine road recently received patch repairs (November 2011) along its length. It is important that a regular review of the road surface is conducted with a view to rapid repairs being carried out when found to be necessary.
- Consideration could also be given to the wholesale re-surfacing of the spine road as part of a wider (planned) programme of road surface renewal in the area.
- It is considered that this measure is one which is fundamental to the success of the Action Plan.

Increase Street Cleansing Regime/Medium cost/Low benefit

- While increasing the dry cleaning of RIE spine road does remove some material, this can also have the effect of sweeping some material into the tyre pathways, possibly increasing emissions for a short time.
- Parking is an issue as workers on RIE park their vehicles along both sides of the spine road, concentrating vehicle movement to its centre. This concentrates silt loading to the tyre pathways and impedes sweepers accessing the gutters each side.
- Although street cleansing operations are carried out early in the morning when the road is at its clearest, alone, this option will have a limited effect on improving air quality and requires the good maintenance of RIE spine road.

Road Washing/High cost/Medium benefit

- Street washing could provide a route to remove particles from the road surface in a manner that ensured they did not get entrained into the air.
- However, this option is unlikely to be cost effective and would not have a lasting effect. Wider environmental considerations regarding high usage of water also need to be recognised.
- The technique could pose serious logistical problems of wet cleaning the road, for example on the quantity of water that would be required and safety issue associated with the generation of spray.

Spraying CMA (Calcium Magnesium Acetate) on the Road Surface/High cost/Low benefit

- This technique is mentioned so that it can feature on a review of future available options. It is currently being trialled elsewhere in the country and is expensive.

Reorganising/Resurfacing Sites to Reduce Levels of Vehicle Contamination on the Site/Low to Medium cost (depending on site)/Medium to High benefit (depending on site)

- This option could provide significant improvements without high costs. Vehicle movements should be moved from unmade parts of the site, with consideration given to provision of hard standing.
- Some sites are unmade, and on these costs would clearly be higher.
- On other sites, the process of loading and unloading, together with vehicle movements over the site, cause the vehicles to become contaminated with mud.

- This option is viable where there is participation from relevant businesses. However, where applicable, these changes will come about through variations to Environmental Permits.

Site Cleaning/Low cost/Medium to High benefit

- Where sites are covered with hard surfaces, significant improvements can be achieved by improving the cleaning regime on a site.
- This option is viable where there is participation from relevant businesses, though such improvements can result in an increase in NNDR. However, where applicable, these changes will come about through variations to Environmental Permits.

Vehicle Cleaning/Medium cost/Medium to High benefit (depending on site)

- Whilst this appears to be an attractive option, there are some practical difficulties that would need to be addressed.
- For sites with a high traffic flow, an automated wheel washing facility could be considered. For low traffic flow sites, the costs are likely to outweigh the benefits.
- Wastewater disposal is also an issue. Large plant may require integral wastewater treatment, which in itself may pose problems in relation to the space available. There should also be consideration of the wider environmental impacts of significantly increasing water use.

Relocation/Redevelopment of Raweth Industrial Estate/Low cost/High benefit

- The Allocations document within the emerging Local Development Framework earmarks RIE for redevelopment into a residential housing estate, thus replacing the most significant source of PM₁₀ after background sources. The relocation or redevelopment of RIE would directly lead to the revocation of the AQMA Order.

Development Management Controls/Low cost/High benefit

- The Council's Core Strategy contains a policy (ENV5) which restricts residential development within an AQMA. As such, it prevents any increase in exposure to elevated levels of PM₁₀ within the vicinity of RIE. Although in apparent conflict with the point above, replacement of the source of an AQMA would, of course, be an acceptable development with respect to securing air quality improvements.

Traffic Management/Low to Medium cost /Uncertain benefit

- There may be some adverse impacts from the acceleration and deceleration of vehicles associated with such schemes.
- Regulation of maximum speeds are difficult.

Reduce Speed Limit to 20 mph/Low cost/Uncertain but likely to be Low to Medium benefit

- The aim of specific traffic management schemes would be to reduce vehicle speeds. The mechanism and effects of this are at present uncertain. While it is thought that a reduction in traffic speeds would reduce the amount of material entrained into the atmosphere, there is little data available at present to support this hypothesis.
- The feasibility of implementing a 20 mph speed limit needs to be assessed.
- While it is expected that reducing the speed of vehicles will reduce the entrainment of road dust, the effect at present is difficult to quantify.

8 Monitoring

Implementing the Action Plan

- 8.1 The elevated concentrations of particulate material measured at RIE have been attributed to the suspension of road dust. Measures to reduce this emission will need to be targeted at preventing the road surface being contaminated, removing the contamination, or reducing the mechanisms involved in making the particles airborne.
- 8.2 The following measures are proposed to tackle the emissions of particulates in the RIE area.

9 Site Cleanliness

- 9.1 The most effective technique for controlling an emission is often by controlling the source of the emissions. The surface of the RIE spine road is contaminated by mud and dirt falling from vehicles leaving sites on RIE. Improving the housekeeping and cleanliness of these sites will prevent vehicles becoming dirty in the first place and reduce the amount of material being deposited on the highway surface.
- 9.2 On some sites this will be relatively easy to achieve, especially where the site yard areas are hard surfaced and the operations on the site do not inevitably lead to the contamination of the site surface. On other sites, the yard/vehicle parking areas are not hard surfaced and will therefore be contributing to material being deposited onto the road surface to some extent.
- 9.3 There are some operations on RIE which, due to the nature of the operations of the site, will be regularly causing the yard surfaces to become soiled. These sites are likely to need a very strict cleaning regime if this measure alone is to be effective.

10 Road Condition and Maintenance (In Partnership with Essex County Council)

- 10.1 ECC is a key partner in the implementation of the AQAP. The maintenance of the surface of the RIE spine road is one of the most significant factors in the aim of achieving acceptable air quality in the area.

- Action Timescale
 - To review the condition of RIE spine road and then subsequently repair or replace the surface of the road as appropriate in order to minimise the degradation of the road and potential for accumulation of dust. These decisions will be made in conjunction with officers from Rochford District Council.

To be implemented by April 2012 then revised annually

10.2 Where appropriate, ECC will consider using enforcement action to control the contamination of the road surface with materials likely to endanger other road users.

- Action Timescale
 - To control deposition of material from vehicles onto the highway, ECC will consider taking enforcement action under section 161 of the Highway Act 1980, where appropriate. These decisions will be made in conjunction with officers from Rochford District Council.

To be implemented by April 2012 then reviewed annually

11 Environmental Enforcement (In Partnership with the Environment Agency)

11.1 The EA is another key partner in the implementation of the AQAP. Both the Council and the EA have powers to vary, where appropriate, Environmental Permits that they have issued to operators to protect the environment.

- Action Timescale
 - The Council will work in partnership with the EA to encourage or where necessary require that a high standard of housekeeping is achieved and maintained on sites that operate with the benefit of an Environmental Permit.

To be implemented by April 2012 then reviewed annually

- Action Timescale
 - The Council will work in partnership with the EA to encourage or where necessary require, that all loaded goods vehicles using RIE spine road to access sites where the occupier holds an Environmental Permit are suitably covered.

To be implemented by April 2012 then reviewed annually

12 Working in Partnership with Businesses

12.1 The Action Plan aims to work in partnership with local businesses towards improving local air quality. Initially this will be through encouragement and advice, although it is

recognised that it may in certain circumstances be necessary to consider taking a more formal approach to address the problem.

- Action Timescale
 - The Council will work in partnership with businesses to encourage a high standard of housekeeping on all sites within RIE.

To be implemented by September 2012 then reviewed annually

- Action Timescale
 - The Council will work in partnership with businesses to encourage all sites within RIE to be covered with a hard standing where appropriate.

To be implemented by April 2013 then reviewed annually

13 Vehicle Cleaning

13.1 It may not be possible to improve site cleanliness sufficiently to ensure that the air quality objectives are achieved. It may also be more cost effective to thoroughly clean vehicles before they leave site. This may particularly be the case where only a small number of vehicles access the site, or where the nature of the business will inevitably mean that the site surface has some contamination.

13.2 The Council will also work in partnership with the EA as both are enforcing bodies for Environmental Permits.

- Action Timescale
 - The Council will work in partnership with the EA to encourage, or require where necessary, the installation of effective wheel and/or vehicle cleaning facilities at sites that operate with the benefit of an Environmental Permit.

To be implemented by September 2012 then reviewed annually

14 Road Surface Cleaning

14.1 Standard mechanical dry sweeping of the road surface does remove some material from the road surface. However there are also a number of other processes taking place during the sweeping process. Significantly, road sweeping aims to remove material from the gutter, and does so by sweeping the material into the centre of the carriageway using rotary brushes. This may lead to an increase in material in the tyre path, and so may result in some increase in suspension of road dust.

14.2 It is however thought to be a more effective tool if the sweeping takes place very frequently. The aim of road sweeping is to remove material from the surface of the road faster than the processes depositing material onto the road surface are replacing it.

- Action Timescale

- The Council will maintain this existing enhanced level of street cleansing along the length of RIE spine road.

Already in place

15 Speed Reduction

- 15.1 There is an obvious relationship between vehicle speed and the suspension of road dust. There will be a lower speed where, even without a change in silt loading of the road surface, the suspension of road dust will be insignificant. There are currently no data available to quantify the process. Reducing vehicle speed alone is unlikely to be a feasible solution to the problem at RIE, especially as there is limited potential to achieve even 30mph along the spine road, but it is seen as a potentially important factor in reducing the suspension of road dust from vehicle movements.

- Action Timescale
 - The Council will discuss with ECC and businesses on RIE the feasibility of introducing a 20 mph speed limit on RIE spine road.

To be discussed by January 2013 then reviewed biennially

16 Development Control

- 16.1 The Core Strategy was formally adopted by the Council on 13 December 2011. It includes Policy ENV5 which restricts residential development with an AQMA and requires developers to secure improvements in areas of poor air quality.

- Action Timescale
 - The Council will apply Policy ENV5 rigorously and encourage developers of appropriate sites to contribute to improvements where their developments are in or influence areas of poor air quality.

Already in place

17 Monitoring the Effectiveness of Implementing the Action Plan

- 17.1 It is a relatively simple matter to estimate the reduction in emissions that are necessary in order to achieve the air quality objectives. If the relationship between a source activity and an emission rate is known, then the necessary reduction in an activity can be estimated.
- 17.2 Unfortunately the relationship/mechanisms for dirt getting onto the highway, being removed and becoming entrained in the air are not well understood.
- 17.3 It is an integral part of the Action Plan to review the effectiveness of the measures that have been implemented. Only by assessing the performance of the Action Plan can it be determined whether or not emissions of particulate material have been reduced to a level where the national air quality objectives are likely to be achieved.

- 17.4 The current phase of air quality monitoring at RIE will continue until at least June 2012. Prior to this date, officers will consider the merits of a continuation of this, or whether to carry out shorter programmed phases of monitoring, all of which is subject to the agreement and continued support of Makro (on whose land the monitoring unit is placed).
- 17.5 The annual Progress Report required by Defra is the appropriate means for reporting the effectiveness of the measures included within this Action Plan. Once approved by Defra, each Progress Report is available on the Council's website and at www.essexair.org.

Glossary

AQAP	Air Quality Action Plan
AQMA	Air Quality Management Area
DA	Detailed Assessment
EA	Environment Agency
RIE	Rawreth Industrial Estate
PM ₁₀	Particulate Matter measuring 10 microns (micro metres) or less
HGV's	Heavy Goods Vehicles
LDF	Local Development Framework
NNDR	National Non-Domestic Rates

Annex A

Rochford District Council

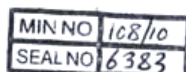


ENVIRONMENT ACT 1995, section 83

Air Quality Management Area Order

Rochford District Council ("The Council"), in exercise of the powers conferred upon it by Section 83(1) of the Environment Act 1995, hereby makes the following Order:

1. This Order may be cited as the **Air Quality Management Area (Rochford District Council) (No. 1) Order 2010** and shall come in to effect on **1 June 2010**.
2. The effect of the Order is to designate as an Air Quality Management Area ("the AQMA"), the area as shown outlined in red on the plan in Schedule 1 which incorporates all premises on Rawreth Industrial Estate and some residential premises in the following streets:
 - a) Rowan Close;
 - b) Stirling Close;
 - c) Victoria Avenue.
3. Where the AQMA includes any part of a property, it shall be taken to include the whole of that property (buildings and associated open space) within the same curtilage.
4. The AQMA is designated in relation to a likely breach of the particles (PM₁₀) 24-hour mean Objective as specified in the Air Quality (England) (Wales) Regulations 2000, as amended.
5. This Order shall remain in force until it is varied or revoked by a subsequent Order.



The Common seal of **ROCHFORD DISTRICT COUNCIL** was hereunto affixed

DATED:

7th May 2010

in the presence of

SIGNED:

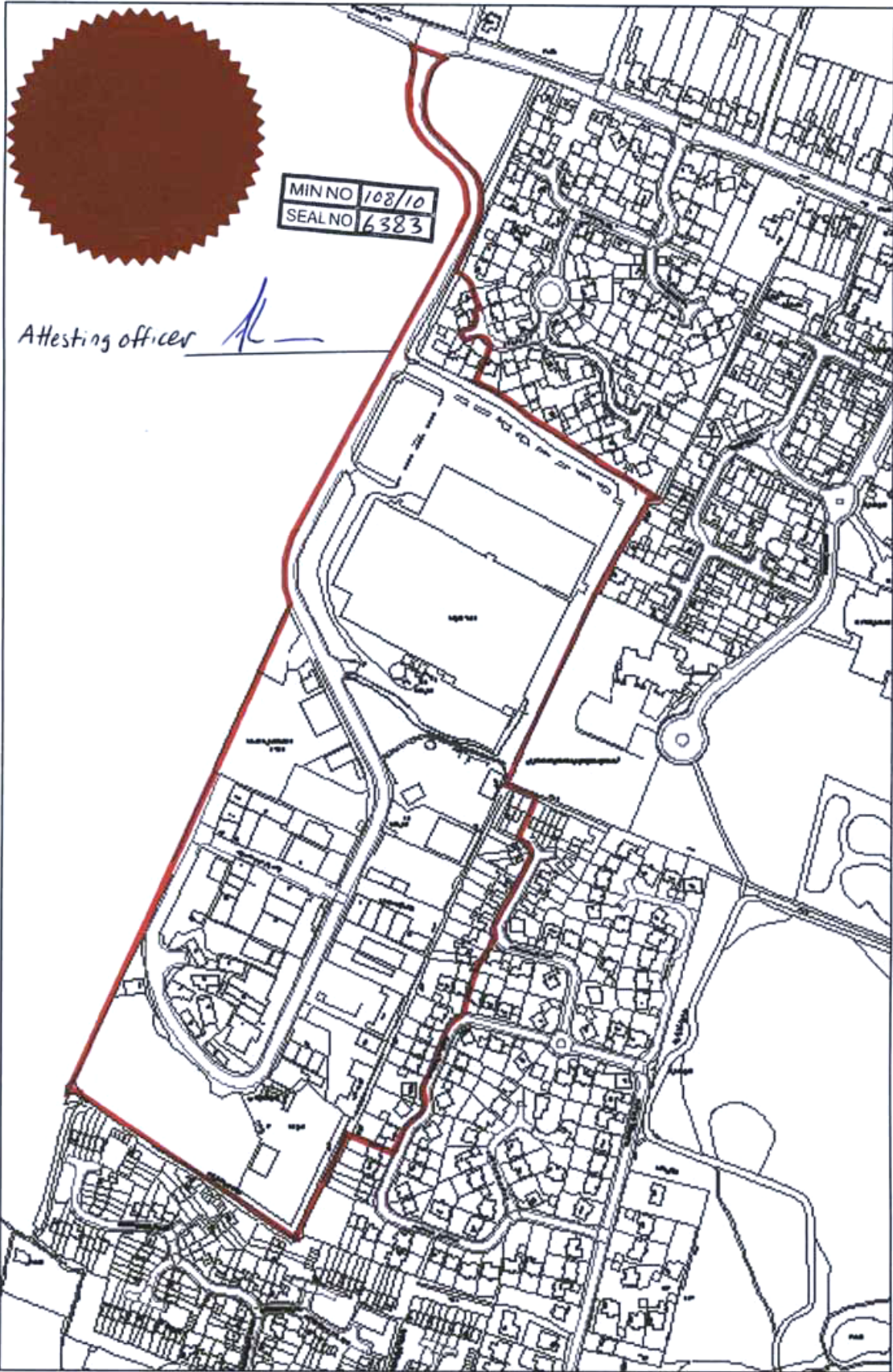
A handwritten signature in blue ink, appearing to be "A. - -".

Attesting Officer

Address for all communications:
Rochford District Council, Council Offices
South Street, Rochford, Essex SS4 1BW

Notes: A copy of this Order and associated plan have been deposited and may be seen, free of charge, at the above address during normal working hours and on the Council's website www.rochford.gov.uk. Enquiries should be directed to Environmental Services at the above address, via telephone on (01702) 546366) or else via the website.

Schedule 1 - Air Quality Management Area (Rochford District Council) (No. 1) Order 2010



AIR QUALITY ACTION PLAN
Summary document for consultation

The following wording will be used within the mailed correspondence to residents, businesses, ward councillors and other interested parties and similar wording will also appear on the webpage that is created on the Council's website.

Full copies of the Action Plan will be sent to neighbouring Local Authorities and partner organisations.

The Council, as part of its local air quality management duties, is inviting comments on its proposals to address poor air quality at Rawreth Industrial Estate and nearby residential streets.

In 2010, following public consultation, the Council created an Air Quality Management Area because of the number of days that the area experiences high levels of fine dust known as PM₁₀. PM₁₀ is made up of particles with a diameter of 10 micrometres or less.

The Council's Air Quality Action Plan (AQAP) proposes a number of measures to be carried out by the Council, other partner organisations and businesses on the industrial estate in order to reduce the levels of dust experienced in the area. The proposals mainly relate to dealing with the condition and use of the industrial estate road as this was found to be the most significant factor in the production of the dust.

A summary of the options being considered are as follows:

- Resurfacing and maintenance of the road.
- Increased street cleansing.
- Improving housekeeping on industrial sites.
- Resurfacing/Introducing hard standing to some yards on the estate.
- Revised Environmental Permits for appropriate sites.
- Enforcement action to control contamination of the estate road.
- Investigation in to the effectiveness of a reduced speed limit.
- Restrictions and proposals regarding residential development.

A full copy of the AQAP is available online at http://www.rochford.gov.uk/environment/air_quality.aspx and in Council receptions at both Rayleigh and Rochford.

Questions and comments are invited and can be submitted online, by e-mail at airquality@rochford.gov.uk or by letter to the Environmental Protection Unit, Council Offices, South Street, Rochford, Essex SS4 1BW **from now until Friday 30 March 2012**.

Once the consultation has closed, the comments that have been received will be considered for inclusion within the finalised AQAP by the Portfolio Holder for the

Environment. The document will then be submitted to the Department of Environment, Food and Rural Affairs for approval.

Further details regarding the Council's local air quality management duties can be found at http://www.rochford.gov.uk/environment/air_quality.aspx.