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PROPOSED RESIDENTIAL DEVELOPMENT

EXISTING CARAVAN PARK

MEDWAY BRIDGE MARINA, ROCHESTER, KENT

ENVIRONMENTAL NOISE ASSESSMENT (TRAINS & TRAFFIC)

Medway Bridge Marina Ltd
Rochester, Kent
ME1 3HS

PWH/jas/1030R/4295 *10 March 2015*

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CONTENTS

1.00 INTRODUCTION

1.01 W A Hines & Partners were instructed in *2006* to prepare a *Noise Assessment Report* with regard to the proposed residential development of the existing *Caravan Park* adjoining the *Medway Bridge Marina* in *Rochester, Kent.*

1.02 At that time, where sites proposed for residential development were subjected to noise, Local Authorities were required under the guidelines of *PPG24 "Planning & Noise"* to consider the effects of the noise on the development and operate their planning control policies accordingly.

1.03 To enable the Local Authority to give full consideration to such sites, in respect of their acceptability or otherwise for residential development relative to the prevailing noise climates, and to progress the development layout, existing site conditions were measured and a assessment of the site *NEC* was made.

1.04 Based on that assessment, the measures required to control the noise to acceptable levels both on the site (garden areas) and within the proposed residential properties were set out, taking account of the criteria recommended in recognised Circulars and Standards.

1.05 As *PPG24* has now been replaced and there is no longer a requirement to assess the site *NEC,* the previous report has been revised to take account of the current standards. The existing noise levels measured on the site in *2006* have been used to enable a current assessment of the conditions to be made and the necessary noise mitigation measures to be set out.

2.00 THE CARAVAN PARK & PROPOSED DEVELOPMENT

2.01 The *Caravan Park* in the *Medway Bridge Marina,* which is the site proposed for the residential development, is to the west of the *Marina* immediately adjoining the rear of houses in *Farmdale Avenue*. The *Medway Bridge,* which carries both the traffic on the *M2* and *Eurostar* trains to and from *London,* is some *220M* to the west.

2.02 The *Caravan Park* is presently accessed from the *Marina* and its position to the surrounding areas, roads and the *Medway Bridge* is shown on the ***Location Plan*** and ***Aerial View***. There are a number of unoccupied caravans in the *Park.* Views of the *Caravan Park* in *2006* are shown on the ***Photographs***.

2.03 Following the removal of the caravans from the *Park* site the proposal is to residentially develop the site. A preliminary layout scheme for the site in *2006* was prepared which consisted of flats and terraced houses with the houses positioned on the north side of the site towards the river with the flats to the rear. In principle the new scheme would be expected to have a similar layout which would require the present access from the *Marina* to be closed and access to be gained via the road to the *Marina* further to the east.

3.00 NOISE POLICIES & STANDARDS

PPG24 "Planning & Noise"

3.01 In the previous *2006* report reference was made to the specific guidelines set out in *"Planning Policy Guidance PPG 24: Planning & Noise"*. This document was issued to ensure that consistent standards were applied by Local Authorities in respect of their planning policies on noise. Together with other advice in respect of noise, this guidance document introduced the concept of *Noise Exposure Categories (NECs*) to help *Local Planning Authorities* in their consideration of applications for residential development near transport related and or commercial and industrial noise sources.

3.02 However *PPG24* was withdrawn in *March 2014* and replaced with immediate effect by the *National Planning Policy Framework (NPPF)* and the *Noise Policy Statement for England (NPSE).* Under these policies there is no requirement to assess a site's suitability for residential development by categorization of the site's external noise levels, only a requirement to ensure that, should residential development be proposed, internal and external noise environments for the development, are within acceptable limits.

National Planning Policy Framework (NPPF)

3.03 The *National Planning Policy Framework* was published on *27 March 2012* and came into force with immediate effect. It provides only general guidance (although the *NPSE* refers to assessment criteria in a general sense). *Section 8 "Healthy Communities"* makes no reference to environmental noise only commenting on noise in further sections.

3.04 *Section 11* "and enhancing the natural environment' advises that the planning system should contribute to and enhance the natural and local environment by":-

- *Preventing both new and existing development from contributing to or being put at unacceptable risk from, or being adversely affected by unacceptable levels of soil, air, water or noise pollution or land instability.*

3.05 With regard to *Planning Policies* and *Decisions* these should aim to:-

- *avoid noise giving rise to significant adverse impacts on health and quality of life as a result of new development.*
- *mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions.*
- *recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of nearby land uses since they were established.*
- *identify and protect areas of tranquillity that have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.*

Noise Policy Statement for England (NPSE)

3.06 The *Noise Policy Statement for England (NPSE)* was published by the *Department for Environment, Food and Rural Affairs (DEFRA)* in *March 2010*. The complete document includes the *Policy Statement* itself and an *Explanatory Note*.

Key concepts used in the *NPSE* are:

- *NOEL or "no observed effect" meaning the level (of noise) below which no effect on health or quality of life can be detected.*
- *LOAEL or "lowest observed adverse effect" meaning the level (of noise) above which adverse effects on health and quality of life can be detected.*
- *SOAEL or "significant observed adverse effect" meaning the level (of noise) above which significant adverse effects on health and quality of life can occur.*

3.07 The aims of the *NPSE* are:-

- *Avoid significant adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of the policy on sustainable development.*

- *Mitigate and minimise adverse impacts on health and quality of life from environmental, neighbour and neighbourhood noise within the context of the policy on sustainable development.*

- *Where possible, contribute to the improvement of health and quality of life through the effective management of environmental, neighbour and neighbourhood noise within the context of the policy on sustainable development.*

3.08 With regard to the situation which lies somewhere between *LOAEL* and *SOAEL* *Paragraph 2.3* of the *Explanatory Note* makes it clear that the approach to the minimisation of noise from environmental and related sources should be reasonable and balanced stating:-

- *Furthermore, the broad aim of noise management has been to separate noise sources from sensitive noise receivers and to noise. Of course, taken in isolation and to a literal extreme, noise minimisation would mean no noise at all. In reality, although it has not always been stated, the aim has tended to be to minimise noise as far as reasonably practical. This concept can be found in the Environmental Protection Act 1990, where, in some circumstances, there is a defence of "best practicable means" in summary statutory nuisance proceedings.*

3.09 When considering the impact of transport related noise however the use of the current standard *BS8233:2014* is still appropriate.

BS8233:2014

3.10 *BS8233:2014 "Guidance on sound insulation and noise reduction for buildings"* provides guidance on internal noise targets for residential accommodation which are set out in ***Table 1***. These targets are considered appropriate for the proposed residential development of the *Caravan Park*.

BS8233:2014
Table 1 - Indoor ambient noise levels for dwellings

Activity	Location	07:00 to 23:00	23:00 to 07:00
Resting	Living Room	35 dB LAeq (1 hr)	-
Dining	DiningRoom/Area	40 dB LAeq (16 hr)	-
Sleeping	Bedroom	35 dB LAeq (16 hr)	30 dB LAeq (8 hr)

Where development is considered necessary or desirable, despite noise levels above WHO guidelines, the internal target may be relaxed up to 5 dB and reasonable internal levels still be achieved

3.11 ***BS8233*** also sets a target range of *50/55 dB LAeq (t)* for noise levels in private gardens, although this is frequently difficult to achieve in urban locations and those close to significant transport related noise sources.

Railway Noise & The Insulation of Dwellings

3.12 With regard to the noise from rail traffic further advice is given on acceptable criteria in the *HMSO* publication *"Railway Noise & The Insulation of Dwellings"*. In *Section 5.3.2* on *Page 33* a range of *LAeq* categories is given as set by the *Midland Joint Advisory Council*. A lower range is set where no special precautions need be taken, to an upper range where no noise sensitive development should be permitted. With regard to internal noise levels the general requirement was that *40 dB LAeq* would be a good standard to achieve.

World Health Organisation (WHO)

3.13 *Section 4.2.3* of *WHO Community Noise Guideline Values* discusses how electrophysiological and behavioural methods have demonstrated that both continuous and intermittent noise indoors lead to sleep disturbance. The more intense the background noise, the more disturbing is its effect on sleep. Measurable effects on sleep start at background noise levels of about *30 dB LAeq*. Physiological effects include changes in the pattern of sleep stages, especially a reduction in the proportion of REM sleep. Subjective effects have also been identified, such as difficulty in falling asleep, perceived sleep quality, and adverse after-effects such as headache and tiredness.

3.14 Where noise is continuous, the noise level should not exceed *30 dB LAeq* indoors, if negative effects on sleep are to be avoided. When the noise is composed of a large proportion of low-frequency sounds a still lower guideline value is recommended, because low frequency noise (e.g. from ventilation systems) can disturb rest and sleep even at low sound pressure levels. It should be noted that the adverse effect of noise partly depends on the nature of the source.

3.15 If the noise is not continuous, *LAMax* is generally used to indicate the probability of noise induced awakenings. Effects have been observed at individual exposures of *45 dB LAMax* or less. Consequently, it is important to limit the number of noise events exceeding *45 dB LAMax*. Therefore, the guidelines should be based on a combination of values of *30/35 dB LAeq* and *45 dB LAMax*.

Internal Noise Targets

3.16 On the basis of the recommendations stated and the guidance provided by the *NPPF*, the *NPSE*, *BS8233* and the *World Health Organisation (WHO)* regarding overall (*LAeq*) and maximum levels of noise *(LAMax)* it is considered that appropriate *internal noise targets* for the proposed residential development of the existing *Caravan Park* would be those shown in ***Table 2***.

Table 2
Internal Noise Targets

Living Rooms	35/40 dB LAeq (5 min)
Bedrooms	30/35 dB LAeq (5 min) 45 dB LAMax

External Noise Targets

3.17 With regard to the criteria stated in the Standards (*WHO/BS8233*) regarding external noise criteria a review of "*Health effect-based noise assessment methods: A review and feasibility study (NPL Report CMAM 16 1998*)" reported the following:-

> "*Perhaps the main weakness of both WHO inspired documents is that they fail to consider the practicality of actually being able to achieve any of the stated guideline values. We know from a national survey of noise exposure carried out in England and Wales that around 56% of the population are exposed to daytime noise levels exceeding 55 dB LAeq and that around 65% are exposed to night-time noise levels exceeding 45 dB LAeq (as measured outside the house in each case).*
>
> *The percentages exposed above the WHO guideline values could not be significantly reduced without drastic action to virtually eliminate road traffic noise and other forms of transportation noise from the vicinity of houses. The social and economic consequences of such action would be likely to be far greater than any environmental advantages of reducing the proportion of the population annoyed by noise. In addition there is no evidence that anything other than a small minority of the population exposed at such noise levels find them to be particularly onerous in the context of their daily lives."*

4.00 SITE NOISE LEVELS

Previous Noise Survey

4.01 A previous survey of the *Caravan Park* was made on *Tuesday 31 October 2006.* This survey established the sources of noise on the proposed residential site to be from passing road traffic on the adjoining *Medway Bridge (M2)* and the intermittent noise from the *Eurostar trains* on the high level tracks adjoining the bridge. The traffic noise was the dominant and continuous noise which effected the site with short term noise from the passing of the trains approximately every *20 minutes.* Although not recorded at the time of the survey, it was understood from residents, that during certain wind speeds and direction the railings on the bridge produce mid frequency noise which is also very noticeable.

Survey Date, Measurement Positions, Equipment & Weather

4.02 During the *2006* survey a *Rion NA 18 Integrating Sound Level Meter* was set up on the *Caravan Park* in *2 positions* and the prevailing noise climates were measured continuously over *10 minute periods* at each position between *13:30* and *15:20* hours. The meter was calibrated before and after the measurements. At both positions the height of the microphone was *1.5M* above the ground level of the site. The weather during the survey period was mild, dry with a moderate north westerly wind.

Measured Noise Levels (Daytime)

4.03 The *2006* survey data is shown in ***Table 3***.

Table 3

Position of Measurement	Start Time	LA90	LAeq	LAMax	LAMin
1 North West Corner of Site	13:30	57.3	60.0	75.3	54.9
	13:40	57.5	59.6	66.0	55.0
	13:50	55.8	60.2	73.1	53.8
	14:00	56.1	58.6	70.1	53.0
	14:10	58.3	60.4	68.5	55.6
	14:20	58.2	60.4	66.7	54.3
	14:30	56.7	59.6	68.2	53.7
2 South East Corner of Site	14:50	55.0	59.1	62.2	52.9
	15:00	55.9	59.3	62.5	53.3
	15:10	54.5	58.6	62.9	53.4

Noise Levels at Night

4.04 During the daytime period (*0700* to *2300 hours*) noise levels would be expected to remain much the same, as they are governed by the constant noise of the *M2 traffic* on the *Medway Bridge*, with the intermittent noise from trains on the adjoining tracks. During the night hours (*2300 to 0700 hours*) however, noise levels normally would reduce, but due to the traffic flows and the type of traffic (*HGVs*) on the *M2* and the train movements, the general noise climates at night in this case, would likely remain much the same as during the day.

Current Noise Levels

4.05 Considering the noise levels measured on the proposed site during the 2006 survey and that 9 years have past since then, on current estimations of traffic flow increases set out in *CRTN " Calculation of Road Traffic Noise"* using *Charts 3, 16a* & *16b,* the maximum likely noise level increase on the proposed residential site would ***be 2 dB LAeq.*** This would increase the maximum measured noise level during the *2006 survey* from *60 dB LAeq* to ***62 dB LAeq***.

5.00 SUITABILITY OF SITE FOR RESIDENTIAL DEVELOPMENT

Overall Planning Considerations

5.01 The previous assessment under *PPG24* of the *Noise Exposure Categorisation (NEC)* of the proposed site, based on the *2006* measured data, set the entire site within *NEC B* during the daytime and within the lower limit of *NEC C* during the night, making comment that in principle there should be no reason for planning permission to be refused for the residential development of the site, on noise grounds, provided that the final scheme would incorporate appropriate noise mitigation measures to ensure that acceptable internal and external noise levels are achieved.

5.02 Considering the likely small increase in the site noise levels over the past 8 years, due to higher traffic flows and the possible increase in the number of train movements, the assessment would be same, although not now required, by the standards set by *PPG24*, as they have been withdrawn. However under current standards there would still be a requirement to provide suitable noise mitigation to ensure that the development is protected from external noise.

Recommended Noise Mitigation Measures

5.03 As no specific residential scheme layout for the site has yet been prepared, taking account of the noise levels that would exist on the site at present, the following noise control measures are recommended to meet the internal noise targets set by reference to current Standards. These measures are necessarily in outline at this stage.

Internal

- *All properties are to be constructed of brick/block cavity walls with insulated roofs.*
- *All windows are to contain double glazing capable of providing a sound reduction in excess of 30 dB Rw.*

- *With windows closed to control noise entrainment, there will be a requirement under the Building Regulations to provide "fresh air". This can be provided by the introduction of passive acoustic wall ventilators (See **Appendix A**). These ventilators should be fitted in all "habitable rooms".*

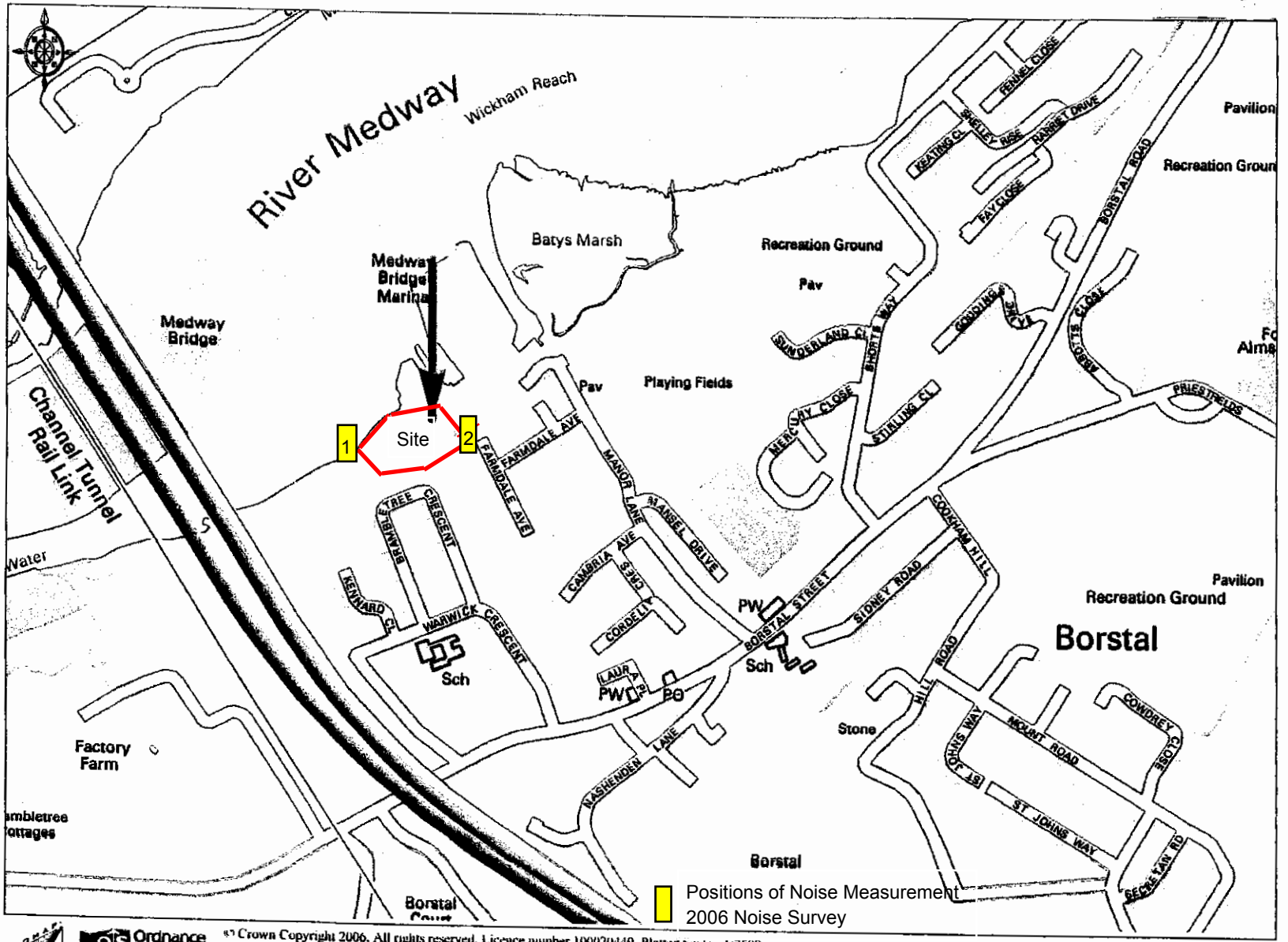
External

- *Due to the noise sources being much higher than the ground level of the site no noise mitigation measures can be introduced which would effectively reduce the external noise environment. However dependent on the estate layout garden areas could benefit from noise screening by the properties themselves.*

6.00 CONCLUSIONS

6.01 A previous survey of the proposed residential development site (*Caravan Park*) established that the site was within *NEC B/C,* as assessed by the now withdrawn standard *PPG24.* On this evidence there was no reason on noise grounds for planning permission to be refused for a residential development scheme on the site, provided noise mitigation measures were incorporated into the scheme. This assessment would still be the case today, as it is expected that only marginal increases on the site noise levels would have occurred in the intervening 8 years.

6.02 Noise mitigation measures recommended in this assessment report would ensure that acceptable internal noise conditions would be achieved against prevailing external noise sources.



Medway Bridge Marina, Manor Lane, Rochester, Kent, ME1 3HS

LOCATION PLAN

MEADWAY BRIDGE MARINA - CARAVAN PARK
PROPOSED RESIDENTIAL DEVELOPMENT

AERIAL VIEW

VIEWS OF CARAVAN PARK - 2006 SURVEY

TOWARDS MARINA

PARK LOOKING SOUTH

TOWARDS BRIDGE

PARK LOOKING EAST

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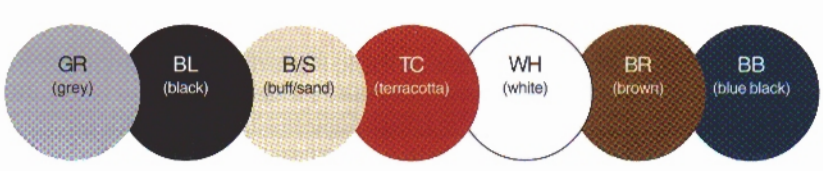
ACOUSTIC

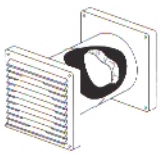
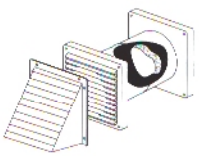
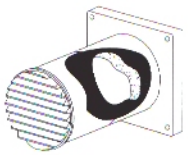
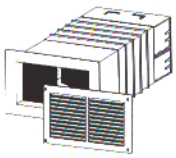
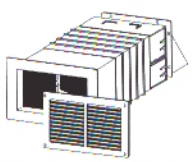
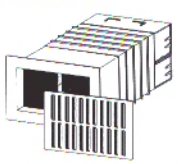
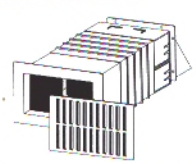
APPENDIX A

- Rytons Acoustic AirCores®
- Rytons Acoustic AirLiner® Sets with Flush Fitting Louvre Ventilators '9 x 3' and '9 x 6'
- Rytons Acoustic AirLiner® Sets with Hit & Miss Ventilators '9 x 3' and '9 x 6'

Colour Key



Rytons Acoustic AirCore® and AirLiner® Sets

Rytons Order/Specification Code	Main Uses, Features and Benefits	Size	Free Area	Colours	BBA Approved
Code: AAC5  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons Acoustic AirCore®** **Soundproofed by 41dB.** Acoustic core ventilator. Background vent - meets 4000mm² regulations. Appliance vent - 39cm² Effective Free Area*. For new or refurbishment projects. Tested by the Building Research Establishment.	**Tube:** 127mm (Dia.) x 358mm (L)	4400mm² 44cm² U.V. stabilised	**Ext. Grille:** WH, B/S, TC **Int. Grille:** WH	
Code: AAC5CWL  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons Cowled Acoustic AirCore®** **Soundproofed by 41dB plus 3dB for cowl.** Cowled acoustic core ventilator. Background vent - meets 4000mm² regulations. Appliance vent - 39cm² Effective Free Area*. For new or refurbishment projects. Tested by the Building Research Establishment.	**Tube:** 127mm (Dia.) x 358mm (L) **Cowl:** 210mm (L) x 205mm (H) x 90mm (D)	4400mm² 44cm² U.V. stabilised	**Ext. Grille:** WH, B/S, TC **Int. Grille:** WH **Cowl:** WH, B/S, TC	
Code: AAH5  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons Acoustic High Rise AirCore®** **Soundproofed by 41dB.** Acoustic high level core ventilator. Background vent - meets 4000mm² regulations. Appliance vent - 38cm² Effective Free Area*. Fitted from the inside on new or refurb projects. Tested by the Building Research Establishment.	**Tube:** 127mm (Dia.) x 358mm (L)	4400mm² 44cm² U.V. stabilised	**Ext. Grille:** WH, B/S, TC **Int. Grille:** WH RECOMMENDED	
Code: TALSET  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 6' Acoustic AirLiner® Set with Flush Fitting Louvre Ventilator** **Soundproofed by a minimum of 35dB.** Background vent - meets 8000mm² regulations. Appliance vent - 42cm² Effective Free Area*. Baffles reduce sound, light and draughts. Internal fixed open flush fitting louvre ventilator. Tested by the Building Research Establishment.	Extends from 250-404mm (L) with MFAB fitted	8100mm² 81cm² U.V. stabilised	**Air Brick:** GR, BL, B/S, TC, WH, BR, BB **Louvre:** WH	BBA Irish Reg. Stat.
Code: TALCWL  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 6' Cowled Acoustic AirLiner® Set with Flush Fitting Louvre Ventilator** **Soundproofed by 35dB plus 3dB for cowl.** Background vent - meets 8000mm² regulations. Appliance vent - 41cm² Effective Free Area*. Baffles reduce sound, light and draughts. Internal fixed open flush fitting louvre ventilator. Tested by the Building Research Establishment.	Extends from 250-404mm (L) with MFAB fitted (exc. cowl)	8100mm² 81cm² U.V. stabilised	**Cowl:** B/S, TC **Air Brick:** B/S, TC **Louvre:** WH	BBA Irish Reg. Stat.
Code: TALH&M  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 6' Acoustic AirLiner® Set with Hit & Miss Ventilator** **Soundproofed by a minimum of 35dB.** Alternative to trickle ventilators in windows. Meets 8000mm² regulation requirements. Baffles reduce sound, light and draughts. Adjustable internal hit & miss ventilator. Tested by the Building Research Establishment.	Extends from 250-404mm (L) with MFAB fitted	8100mm² 81cm² U.V. stabilised	**Air Brick:** GR, BL, B/S, TC, WH, BR, BB **Hit & Miss:** WH	BBA Irish Reg. Stat.
Code: TALHMCW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 6' Cowled Acoustic AirLiner® Set with Hit & Miss Ventilator** **Soundproofed by 35dB plus 3dB for cowl.** Alternative to trickle ventilators in windows. Meets 8000mm² regulation requirements. Baffles reduce sound, light and draughts. Adjustable internal hit & miss ventilator. Tested by the Building Research Establishment.	Extends from 250-404mm (L) with MFAB fitted (exc. cowl)	8100mm² 81cm² U.V. stabilised	**Cowl:** B/S, TC **Air Brick:** B/S, TC **Hit & Miss:** WH	BBA Irish Reg. Stat.

* Always refer to Effective Free Area when ventilating a heat producing appliance

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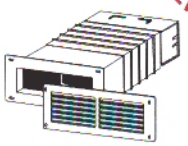
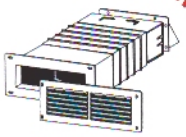
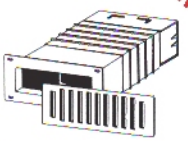
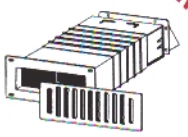
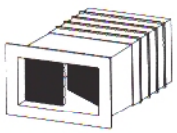
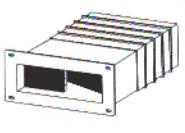
Rytons Acoustic AirLiner® Sets and AirLiners®

Rytons Order/Specification Code	Main Uses, Features and Benefits	Size	Free Area	Colours	BBA Approved
Code: TAL4SET NEW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 3' Acoustic AirLiner® Set with Flush Fitting Louvre Ventilator** **Soundproofed by a minimum of 36dB.** Background vent - meets 4000mm² regulations. Appliance vent - 25.5cm² Effective Free Area*. Baffle reduces sound, light and draughts. Internal fixed open flush fitting louvre ventilator. Tested by the Building Research Establishment.	Extends from 250-368mm (L) with MFAB fitted	4000mm² 40cm² U.V. stabilised	**Air Brick:** GR, BL, B/S, TC, WH, BR, BB **Louvre:** WH	
Code: TAL4CWL NEW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 3' Cowled Acoustic AirLiner® Set with Flush Fitting Louvre Ventilator** **Soundproofed by 36dB plus 3dB for cowl.** Background vent - meets 4000mm² regulations. Appliance vent - 25cm² Effective Free Area*. Baffle reduces sound, light and draughts. Internal fixed open flush fitting louvre ventilator. Tested by the Building Research Establishment.	Extends from 250-368mm (L) with MFAB fitted (exc. cowl)	4000mm² 40cm² U.V. stabilised	**Cowl:** B/S, TC **Air Brick:** B/S, TC **Louvre:** WH	
Code: TAL4H&M NEW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 3' Acoustic AirLiner® Set with Hit & Miss Ventilator** **Soundproofed by a minimum of 36dB.** Alternative to trickle ventilators in windows. Meets 4000mm² regulation requirements. Baffle reduces sound, light and draughts. Adjustable internal hit & miss ventilator. Tested by the Building Research Establishment.	Extends from 250-368mm (L) with MFAB fitted	4000mm² 40cm² U.V. stabilised	**Air Brick:** GR, BL, B/S, TC, WH, BR, BB **Hit & Miss:** WH	
Code: TAL4HMCW NEW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 3' Cowled Acoustic AirLiner® Set with Hit & Miss Ventilator** **Soundproofed by 36dB plus 3dB for cowl .** Alternative to trickle ventilators in windows. Meets 4000mm² regulation requirements. Baffle reduces sound, light and draughts. Adjustable internal hit & miss ventilator. Tested by the Building Research Establishment.	Extends from 250-368mm (L) with MFAB fitted (exc. cowl)	4000mm² 40cm² U.V. stabilised	**Cowl:** B/S, TC **Air Brick:** B/S, TC **Hit & Miss:** WH	
Code: TAL8000  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 6' Acoustic AirLiner®** Acoustic telescopic cavity liner. Baffles reduce sound, light and draughts. Contains 3 unique acoustic panels. Use with Rytons MFAB and internal vents. Tested by the Building Research Establishment.	220mm (W) x 140mm (H) Extends from 250-404mm (L) with MFAB fitted	8100mm² 81cm²	BL	BBA BRITISH BOARD OF AGREEMENT CERTIFICATE No. 94/3071 Irish Reg. Stat.
Code: TAL4000 NEW  Visit www.vents.co.uk for a Technical Data Sheet	**Rytons '9 x 3' Acoustic AirLiner®** Acoustic telescopic cavity liner. Baffle redúces sound, light and draughts. Contains 3 unique acoustic panels. Use with Rytons MFAB and internal vents. Tested by the Building Research Establishment.	220mm (W) x 71mm (H) Extends from 250-368mm (L) with MFAB fitted	4000mm² 40cm²	BL	

* Always refer to Effective Free Area when ventilating a heat producing appliance

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