

Noisestop Acoustic Barriers



hales

RETAIL | NOISESTOP | SAWMILLS

Noisestop Acoustic Barriers

We supply one of the widest ranges of wooden acoustic panels in the UK. These panels not only look great but provide the very best solution to tackle excessive and unwanted noise across many applications, ranging from residential, education and transport to commercial and industrial. Our in-house team of highly skilled consultants and manufacturers can work with you to choose the right noise barrier to meet your requirements.

Our Acoustic fencing works by creating an adequate barrier to disturb and repel any unwanted sound. This can have an extreme effect, noticeably reducing noise levels and minimising any previous disruption.

Aside from effective noise management, acoustic fence panels offer greater levels of privacy and are more aesthetically pleasing than industrial-styled security fencing.

Setting standards

All panels in our fencing and acoustic barrier range are also specially manufactured by ourselves to satisfy stringent highway performance standards. Tested and compliant to BS EN 1794-1 and BS EN 1794-2, the acoustic panels also comply with Highways Sector Scheme 2C for the prefabrication of environmental barriers.

At Hales we are one of the only noise barrier specialists in the UK to offer a 30 year desired service life on our acoustic fencing. All our noise-stop barriers are designed to be maintenance free subject to correct installation.



Why Acoustic Barriers?

What is noise?

Noise, by definition, is unwanted sound. It can be annoying, interfere with communications, affect leisure or relaxation activities and at the most extreme it can cause hearing loss and even mental health or physiological symptoms. The intensity of noise is measured in decibels (dB). Timber structures and barriers are excellent absorbers of sound helping to reduce noise levels in a wide range of applications.

Helping create better everyday environments

It is estimated that around 40% of the UK population is exposed to road traffic noise during the day time of about 55dB and 20% are exposed to higher levels over 65dB. The problem increases when engine speeds change, for instance on hills, at lights or at crossroads. There is a growing body of evidence concerning the adverse effects noise can have on health and general quality of life. Current evidence indicates that prolonged exposure to high levels of noise can lead to mental health and physiological symptoms.

Testing

Our acoustic barrier system is a proven and simple solution that can help home owners, house builders and local authorities manage traffic noise issues.

Our systems have been independently tested by Salford University to Highways England requirements - BS EN 1793 Road Traffic Noise Reducing Devices.

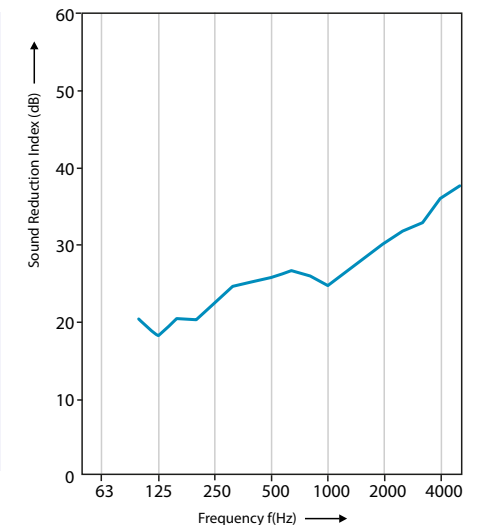
The GroovyLite system on its own achieved an average reduction of 25dB in the laboratory tests, giving the highest rating B3 - the rating required for highways schemes.

Typical sound levels found in the environment

Sound level	Location	Sound level	Location
0 dB (A)	Threshold of hearing	60 - 70 dB (A)	Typical high street
20 - 30 dB (A)	Quiet bedroom at night	70 - 90 dB (A)	Inside factory
30 - 40 dB (A)	Living room during day	100 - 110 dB (A)	Burglar alarm at 1m away
40 - 50 dB (A)	Typical office	110 - 130 dB (A)	Jet aircraft on take-off
50 - 60 dB (A)	Inside a car	140 dB (A)	Threshold

Data from Salford University acoustic tests on the GroovyLite system

Frequency f (Hz)	R % octave (dB)
50	-
63	-
80	-
100	20.3
125	18.4
160	20.4
200	20.3
250	22.3
315	24.5
400	25.0
500	25.6
630	26.5
800	25.9
1000	24.5
1250	26.3
1600	28.2
2000	29.9
2500	31.5
3150	32.6
4000	35.7
5000	37.3

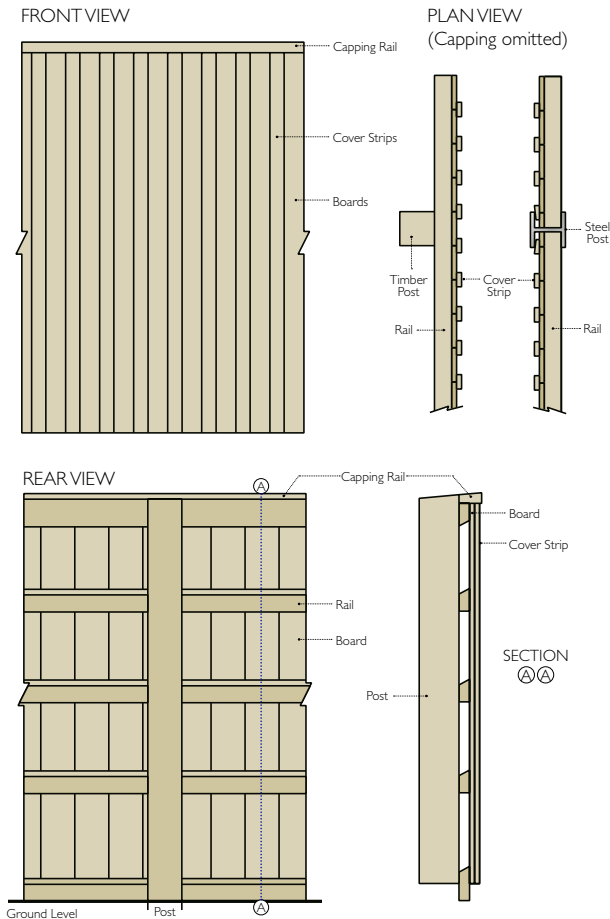


Reflective Acoustic barriers

Our **Reflective Acoustic screens** have been a popular option to tackle excess and unwanted noise. They are suitable for many applications including residential, commercial, education, transport and industrial uses.

These acoustic barriers work by reflecting noise off their carefully designed profile which consist of vertical sawn boards, cover strips and secured using horizontal timber rails to prevent any gaps through which sound could travel, as seen in the diagram.

These barriers either come loose in kit form to be constructed on site or pre fabricated.



Post options:

These panels can either be constructed using wooden posts or steel posts* depending on site requirements.

Panel sizes:

Depending on site requirements are panels normally come in 2.4m or 3.0m widths with heights varying from 0.5m to 9.0m.

*Please note we don't supply steel posts. These would have to be sourced elsewhere.

How to erect Reflective Acoustic barriers

Instructions for LOOSE panels (wooden and steel posts)

Step 1:

The initial stage of any fencing job is calculating your component quantities. In order to determine how many bays and posts you require, please speak to one of our specialist consultants who can help you. They will ask for measurement details of the area you want to cover and how high you want your barrier to be.

Step 2:

Install the fence posts:

- Dig a suitable hole for your posts supplied;
- Place the post into the hole, then half fill the hole with water;
- Pour the dry bag(s) of concrete directly into the hole, until the mix is above the level of the water. You may need to add a little more water at this stage if any dry powder is still visible;
- Agitate the mixture with a stick to ensure that any air bubbles are released;
- Adjust the position of the post so its level and allow it to set.

Repeat process for all posts at your required centres (2.4m or 3.0m) along the length of the barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Step 3:

Fit the gravel boards onto the posts along the bottom of the barrier. Make sure they are buried 50mm into the ground.

Step 4:

Face fix the cant rails onto the posts at an equal spacing, securing using stainless steel nails.

Step 5:

Now the main support structure of your barrier is in place, you can attach the vertical boards. The boards need to be nailed onto the cant rails butted up to each other.

Step 6:

Cover strips then need to be attached over the joints where the panels butt up together, using stainless steel nails.

Step 7:

Finally, attach the capping rail with stainless steel nails to the top of the fence to provide a neat finish and allow water to shed in the direction of the post.

How to erect Reflective Acoustic barriers

Instructions for PRE-FABRICATED panels

Step 1:

The initial stage of any fencing job is calculating your component quantities. In order to determine how many bays and posts you require, please speak to one of our specialist consultants who can help you. They will ask what is the area you want to cover and how high do you wish your barrier to be.

Step 2:

Install the fence posts:

- Dig a suitable hole for your posts supplied;
- Place the post into the hole, then half fill the hole with water;
- Pour the dry bag(s) of concrete directly into the hole, until the mix is above the level of the water. You may need to add a little more water at this stage if any dry powder is still visible;
- Agitate the mixture with a stick to ensure that any air bubbles are released;
- Adjust the position of the post so its level and allow it to set.

Repeat process for all posts at your required centres (2.4m or 3.0m) along the length of the barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Option 1: Wooden Posts

Step 3:

Panels are to be put into place using lifting straps and held in place (when lifting) with a spreader bar connected to the 8.8mm eyebolts supplied in the top rail.

Step 4:

Gravel boards to be buried 50mm.

Step 5:

Face fix panels to wooden posts by bolting the panels through the rails.

Step 6:

Cover strips then need to be attached over the joints where the panels butt up together, using stainless steel nails.

Step 7:

Finally fix the capping onto the top of the panels using stainless steel nails to shed water in the direction of the post.

Option 2: Steel Posts

Step 3:

Panels will come 15mm less in width than the posts centres. Panels are to be put into place using lifting straps and held in place (when lifting) with a spreader bar connected to the 8.8 bolts in the top rail.

Step 4:

Gravel boards to be buried 50mm.

Step 5:

To fix panels in steel posts use timber wedges to hold the panels into place and then bolt the wedges onto the steel posts.

Step 6:

Finally fix the capping onto the top of the panels using stainless steel nails to shed water in the direction of the post.

Reflective Acoustic barriers – photo gallery

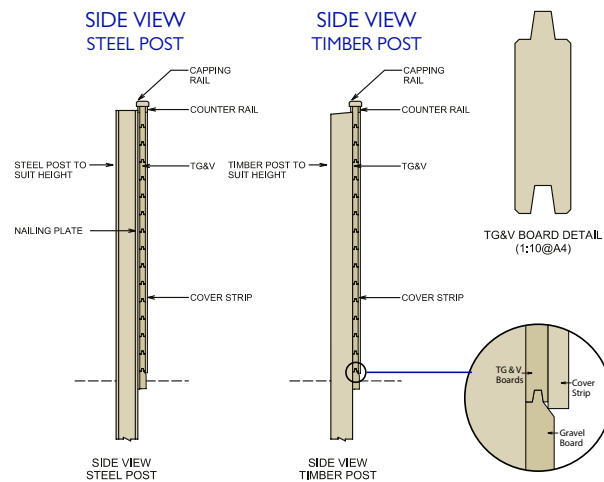
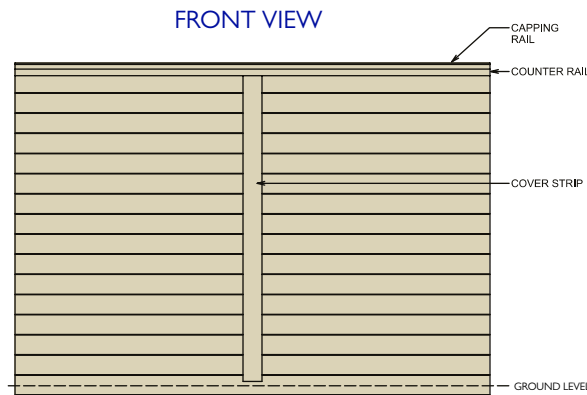


Groovy Reflective Acoustic barriers

Our **Groovy Reflective Acoustic screens** have been a popular option to tackle excess and unwanted noise. They are suitable for many applications including residential, commercial, education, transport and industrial uses.

These acoustic barriers work by reflecting noise off their carefully designed profile which consist of horizontal tongue and groove interlocking boards and vertical cover strips to avoid any gaps through which sound could travel, as seen in diagram.

These barriers are supplied loose in kit form to be constructed on site.



Post options:

These panels can either be constructed using wooden posts or steel posts* depending on site requirements.

Panel sizes:

Depending on site requirements are panels normally come in 2.4m or 3.0m widths with heights varying from 0.5m to 9.0m.

*Please note we don't supply steel posts. These would have to be sourced elsewhere.

How to erect Groovy Reflective Acoustic barriers

Step 1:

The initial stage of any fencing job is calculating your component quantities. In order to determine how many bays and posts you require, please speak to one of our specialist consultants who can help you. They will ask for measurement details of the area you want to cover and how high you want your barrier to be.

Step 2:

Install the fence posts:

- Dig a suitable hole for your posts supplied;
- Place the post into the hole, then half fill the hole with water;
- Pour the dry bag(s) of concrete directly into the hole, until the mix is above the level of the water. You may need to add a little more water at this stage if any dry powder is still visible;
- Agitate the mixture with a stick to ensure that any air bubbles are released;
- Adjust the position of the post so its level and allow it to set.

Repeat process for all posts at your required centres (2.4m or 3.0m) along the length of the barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Step 3:

Face fit the gravel boards onto the posts using stainless steel nails along the bottom of the barrier. Make sure they are buried 50mm into the ground.

Step 4:

Fit the horizontal T&G boards to the posts and build up to required height by interlocking the boards together, the top board will have no tongue on to leave a flat finish.

Step 5:

Fix the counter rails onto the front and back of the fencing, then the cover strips over the joints of where the T&G board butt up together using stainless steel nails.

Step 6:

Then fix the centre strip front and back of the bay in the centre of each bay.

Step 7:

Finally, attach the capping rail with nails to the top of the fence to provide a neat finish and allow water to shed in the direction of the post.

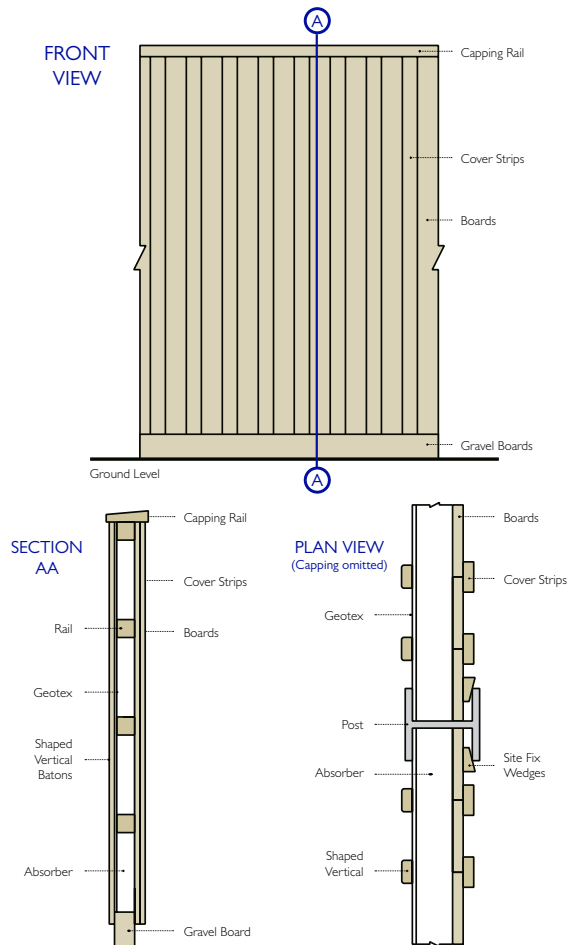
Absorbent Acoustic barriers

Our **Absorbent Acoustic** screens have been a popular option to tackle excess and unwanted noise. They are suitable for many applications including residential, commercial, education, transport and industrial uses.

These acoustic barriers are the perfect solution in order to keep unwanted noise in a contained space due to their two part panel feature.

One side of the panel is reflective consisting of vertical sawn boards and cover strips and the other side of the panel consists of a protective membrane and absorbent material to absorb any unwanted sound and prevent disturbance elsewhere.

These barriers either come loose in kit form to be constructed on-site or prefabricated.



Post options:

These panels can either be constructed using wooden posts or steel posts* depending on site requirements.

Panel sizes:

Depending on site requirements are panels normally come in 2.4m or 3.0m widths with heights varying from 0.5m to 9.0m.

*Please note we don't supply steel posts. These would have to be sourced elsewhere.

How to erect Absorbent barriers

Instructions for LOOSE panels (wooden and steel posts)

Step 1:

The initial stage of any fencing job is calculating your component quantities. In order to determine how many bays and posts you require, please speak to one of our specialist consultants who can help you. They will ask for measurement details of the area you want to cover and how high you want your barrier to be.

Step 2:

Install the fence posts:

- Dig a suitable hole for your posts supplied;
- Place the post into the hole, then half fill the hole with water;
- Pour the dry bag(s) of concrete directly into the hole, until the mix is above the level of the water. You may need to add a little more water at this stage if any dry powder is still visible;
- Agitate the mixture with a stick to ensure that any air bubbles are released;
- Adjust the position of the post so its level and allow it to set.

Repeat process for all posts at your required centres (2.4m or 3.0m) along the length of the barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Step 3:

Fit the gravel boards onto the posts along the bottom of the barrier. Make sure they are buried 50mm into the ground.

Step 4:

Face fix square rails onto the posts with 600mm gaps, using the 600mm spacers provided, allowing for the absorbent slabs to be added later.

Step 5:

On the non-absorbing side of the barrier (facing the area that you are looking to protect from the noise). Attach the vertical boards to the rails using stainless steel nails. The boards need to be nailed onto the rails butted up to each other

Step 6:

Cover strips then need to be attached over the joints where the panels butt up together, using stainless steel nails.

Step 7:

On the front side of the barrier (facing the noise source) infill with 1.2 x 0.6m absorbent slabs and cover over with the membrane securing with stainless steel staples.

Step 8:

Fix cover strips over the membrane with a 225mm spacing.

Step 9:

Finally fix the capping onto the top of the panels using stainless steel nails to allow water to shed in the direction of the post.

How to erect Absorbent Acoustic barriers

Instructions for PRE-FABRICATED panels

Step 1:

The initial stage of any fencing job is calculating your component quantities. In order to determine how many bays and posts you require, please speak to one of our specialist consultants who can help you. They will ask what is the area you want to cover and how high do you wish your barrier to be.

Step 2:

Install the fence posts:

- Dig a suitable hole for your posts supplied;
- Place the post into the hole, then half fill the hole with water;
- Pour the dry bag(s) of concrete directly into the hole, until the mix is above the level of the water. You may need to add a little more water at this stage if any dry powder is still visible;
- Agitate the mixture with a stick to ensure that any air bubbles are released;
- Adjust the position of the post so its level and allow it to set.

Repeat process for all posts at your required centres (2.4m or 3.0m) along the length of the barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Option 1: Wooden Posts

Step 3:

Panels are to be put into place using lifting straps and held in place (when lifting) with a spreader bar connected to the 8.8mm eyebolts supplied in the top rail. Making sure the absorbent side faces the source of the noise.

Step 4:

Gravel boards to be buried 50mm.

Step 5:

Face fix panels to wooden posts by bolting the panels through the rails.

Step 6:

Cover strips then need to be attached over the joints where the panels butt up together, using stainless steel nails.

Step 7:

Finally fix the capping onto the top of the panels using stainless steel nails to allow water to shed in the direction of the post.

Option 2: Steel Posts

Step 3:

Panels will come 15mm less in width than the posts centres. Panels are to be put into place using lifting straps and held in place (when lifting) with a spreader bar connected to the 8.8 bolts in the top rail.

Step 4:

Gravel boards to be buried 50mm.

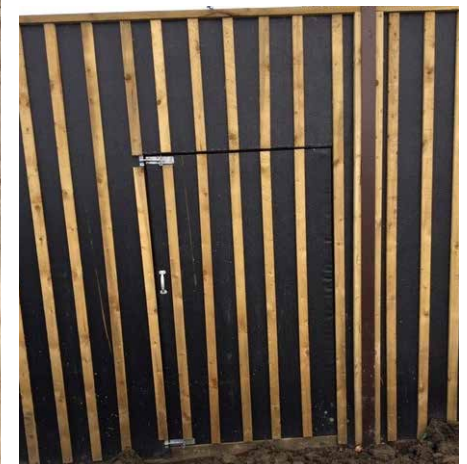
Step 5:

To fix panels in steel posts use timber wedges to hold the panels into place and then bolt the wedges onto the steel posts.

Step 6:

Finally fix the capping onto the top of the panels using stainless steel nails to allow water to shed in the direction of the post.

Absorbent Acoustic barriers – photo gallery

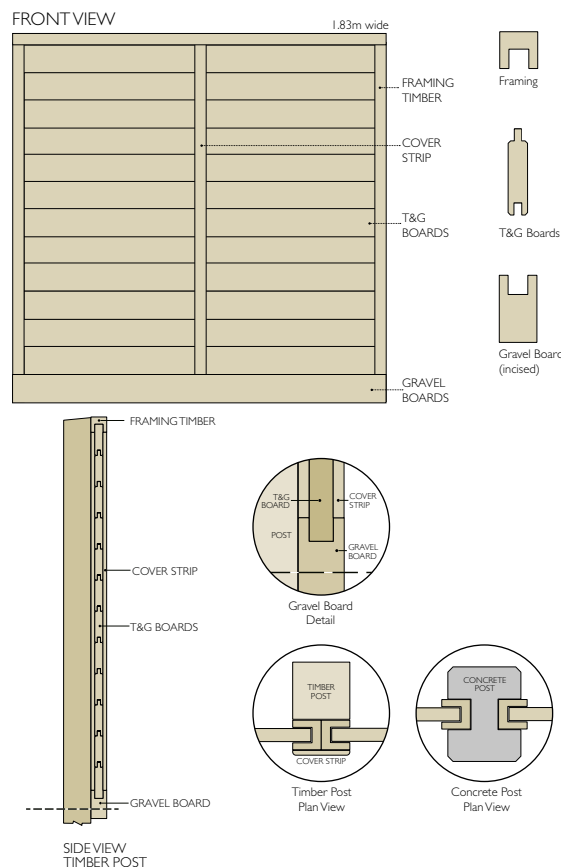


GroovyLite Reflective barriers

The **GroovyLite** system is simple to specify and install, even on uneven ground and sloping sites. The solid timber panels simply fix to the timber posts or slot into the concrete posts.

Manufactured from solid interlocking Pine boards the GroovyLite panels are all 1.83m (6 feet) in width and available in a choice of heights ranging from 900mm up to 2400mm. There is also an option for a more decorative finish by adding trellis to the tops of the panels.

The panels also have gravel boards on the base designed to give premium long term performance even in ground contact situations.



Proven Long Term Protection

All the timbers used on the GroovyLite system are preservative treated Pine. Using Pine allows a superb penetration and distribution of the preservative into the timbers. We offer both a 15 year and 30 year desired service life on all our GroovyLite acoustic barriers. Our 30 year desired service life barriers benefit from a longer treatment cycle and are surface incised to provide an even more assured performance from these critical ground contact components. This tried and tested protection against decay organisms ensures the GroovyLite components are to Highways England standards.

How to erect GroovyLite Reflective barriers

Step 1: Install the fence posts:

Install your posts. You can either use wooden posts or concrete posts.

Dig a suitable hole for your posts, allowing for the height of the fence and gravel board. As a rough guide the hole should be a minimum $\frac{1}{3}$ the height of the fence. E.g. a 6' high fence would need a 8' post in a 2' deep hole.

Similarly, the hole should be three times the diameter of the post.

Place the post into the hole, then fill with either ballast and cement or post mix concrete.

Option 1: Concrete Posts

Step 3:

Then place your panel in position to measure the position of the next post and dig a new hole. Repeat this process along the length of the fencing barrier, using a taut line from one end of the fence to the other to maintain a straight line.

Step 4:

Once all posts are fitted simply slot the GroovyLite panels into between the concrete posts.

Option 2: Wooden Posts

Step 3:

Then place your panel in position to measure the position of the next post and dig a new hole, allowing the panels to butt up to each other on the front of the post.

Step 4:

Once all the posts are in, attach the panels to the front of each post, using nails.

Step 5:

You will then fix the cover strip over the joint, where the panels butt together. Repeat this process along the length of the fencing barrier, using a taut line from one end of the fence to the other to maintain a straight line.

GroovyLite Case Study

Hales has carried out practical testing of the GroovyLite system at a private lodge property close to a busy trunk road in Shropshire. The owners were previously unable to utilise the front garden area because of high traffic noise and also wanted to have more privacy from passing traffic.

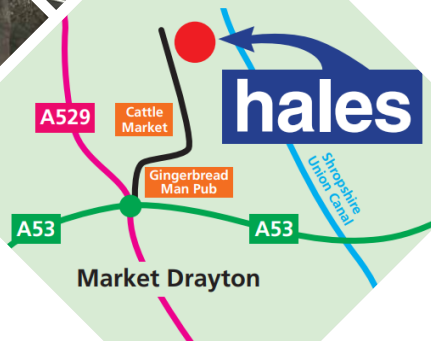
Hales designed and installed the new GroovyLite perimeter fencing at the front of property creating a private and more noise acceptable environment for everyday use.

On a typical mid-week, mid-morning, noise levels were simultaneously recorded both at the roadside and behind the newly erected acoustic fence.



The noise level readings were recorded over a 15 minute period.

The results showed an average noise reduction of 16.45 decibels on the property side of the GroovyLite fence, meeting the B3 highways rating.



About Us

Established in 1982, Hales Sawmills is a family business now in its third generation. Based in Market Drayton, Shropshire, we manufacture and supply an ever-growing range of **general sawn wood, agricultural timbers, fencing, decking, gates, garden timbers** and **acoustic barriers**.

As a business we operate by a rigorous set of standards covering workmanship, customer service, health and safety and environmental practices. To ensure our timber products have a long and low maintenance service life and are fully protected against wood decay and insect attack, we pre-treat our softwood timbers using the latest timber technology within our own on-site timber treatment facility.

Delivery

We have our own fleet of delivery vehicles including integral off load facilities - which we use to make both local and UK mainland deliveries through England, Wales & Scotland. All drivers have current forklift and moffett licences. We also have FORS silver accreditation as well as CE certification for our acoustic panels.



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Opening Hours:

Mon-Thu 7.00am -17.30pm Fri 7.00am-17.00pm Sat 8.00am-13.00pm Sun Closed.

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The mark of responsible forestry