Architecture &
Design Scotland
Ailtearachd is Dealbhadh na h-Alba

Design elements for school grounds

Enhancing surfaces

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Surfaces within school grounds have the potential to create a variety of engaging spaces. Walls, surfaces or boundaries can be used to create a welcoming atmosphere, spaces for activity, or areas for small group play.

This document provides a range of ideas for how to enhance surfaces within school grounds.

Contents

Murals and artwork

Creating murals or artworks in school grounds can create a number of engagement opportunities, including a welcoming entrance way, a colourful backdrop, or a way of highlighting a specific area or theme.

It is important to consider the theme or purpose of what you want to create. Should it to reflect the identity of the school or community? Do you want it to tell a specific story, or create a particular atmosphere within an area of the school grounds?

materials

You may need masonry paint, brushes, and protective sheets (or other materials required by the design). You may also need to carry out repairs or apply a base coat beforehand.

labour and skills

Designing the mural could involve art and design staff, parents, pupils, or local organisations with relevant skills. Painting the mural can also be supported by the same groups.

estimated time

Design stage: 1–3 months (depending on who is involved)

Implementation stage: 1–4 weeks (this includes purchasing materials, preparation of the wall as required, and painting)

Design considerations
Consider location and proximity to ball play activities to avoid potential damage.

Technical considerations
Check whether the surface type requires a primer or treatment before painting.
Use the the correct type of paint for the surface material.
Ensure the surface is clean, dust-free, and properly prepared.

Legal considerations
Seek permission from the building or wall owner if required.
If the building is listed or in a conservation area, ensure the appropriate planning permission is sought.

estimated costs

Material costs will depend on the size of the mural or artwork. Exterior masonry paint typically costs £11–£20 per m², depending on the paint quality and your school's location. Suppliers can be found online (search for 'exterior masonry paint') or by visiting a local paint shop or building merchant. If you are engaging a professional artist, costs typically range from £2,000–£5,000.

*see 'Costings note' on p.26

maintenance and lifespan

Repainting might be required within 5-10 years.

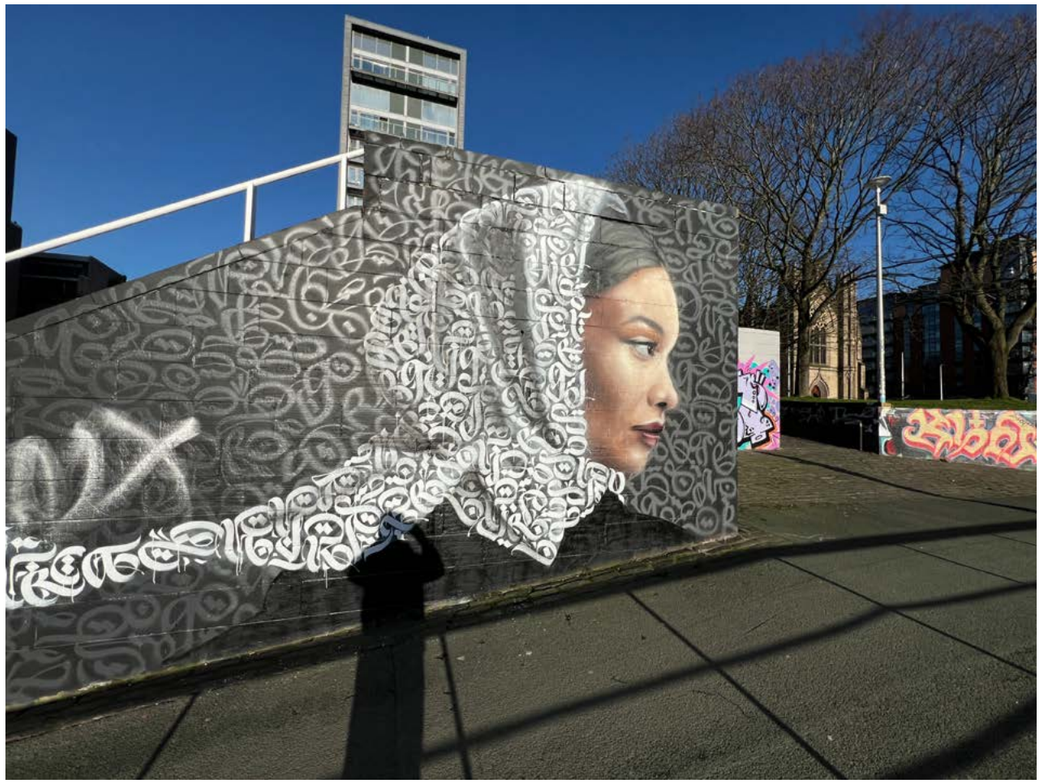
Regularly refreshing the mural as required can help it last well beyond this timeframe.

further ideas

Murals or artwork can be incorporated alongside features such as activity walls, seating, quiet play zones, sensory areas, or sheltered spaces.

They are also great opportunities to collaborate with local artists or arts organisations.

Murals and artwork



Activity wall

Walls can be used to create an activity space for different play or sport exercises, such as climbing, basketball or parkour.

materials

Climbing holds, basketball hoops and parkour elements can be purchased from play providers.

labour and skills

Activity elements can be installed by play providers or contractors.

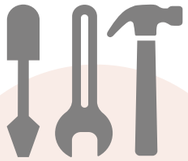
estimated costs

Traverse climbing walls can be installed on an existing wall (5-7m): £1,500-£2,000 (Use online word search for suppliers: ‘school traverse walls’).

Basketball hoop prices depend on fixed system (to wall) or with post. Contact play providers. (Use online word search for suppliers: ‘heavy duty outdoor basketball hoop school’).

Parkour elements depend on the overall design and space. Contact play providers. (Use online word search for suppliers: ‘outdoor parkour elements school’).

***see ‘Costings note’ on p.26**



maintenance and lifespan

Regular checks should be carried out to ensure equipment is safe to use, following the manufacturer’s guidance.

Design considerations
Consider location and proximity to ball play activities to avoid potential damage.
Incorporate seating areas for resting and observing.

Technical considerations
Assess the suitability of the wall for fixing elements (by building surveyor, engineer, or supplier).
Confirm fall protection requirements, as advised by the supplier.
Ensure play elements are sturdy and suitable for outdoor use, taking into account weather and potential vandalism.

Legal considerations
Seek permission from the building or wall owner if required.
For listed building or building in conservation area planning permission may be required.
For self-build elements, seek permission or sign off by local authority as required.

estimated time

Design stage: 1–3 months (depending on who is involved)

Implementation stage: 1–4 weeks (this includes purchasing materials, preparation of the wall as required, and painting).

***Time is dependant on experience, staffing and resources**

loose play parts

Consider providing a storage unit for activity-related equipment such as hoops, slacklines, ropes, and items for ball games. This should be easily accessible during play times.

further ideas

Consider how an activity wall could be integrated with other features such as a mural or artwork, seating, timber posts, or storage.

Activity wall

Existing situation

A school has recently received funding to redesign a section of its school grounds. A survey of pupils and staff revealed a strong need to redesign a section of the school grounds for increased physical activity.

Proposed activity

Seeking to improve pupil physical activity and utilise a vacant boundary wall, the school plans to invest in a multi-use activity wall suitable for both classes and breaks.

The school is evaluating two options:

- a climbing wall
- parkour elements

The images we see on the opposite page provide an example of each of the options. that could apply to this proposed activity.

This example features a climbing wall spanning the entire length of the school's boundary wall, with playful pink and green hues creating a vibrant backdrop. When planning a similar activity wall, using the school's brand or identifying colours can enhance school spirit and visual appeal.

This boundary wall presents a different approach, incorporating parkour elements at various heights. Pupils can enjoy climbing and jumping, while also using the area for socialising, seating, and play. By building parkour elements into the boundary wall, schools can avoid the cost and space required for a traditional parkour vault climbing platform.

Quiet play and seating

Consider how to create spaces for smaller group play, learning, or study. Sheltered spots, corners, or existing walls can be used to form quiet areas with seating or opportunities for focused activity.

materials

Consider using materials such as:

- off-the-shelf benches or seating
- timber for self-build benches
- play boulders or timber logs
- pallets, wood and mud kitchen materials
- raised beds, planters and plants

labour and skills

If you are building benches, seating or a mud kitchen, joinery or woodworking skills may be required. Hire a joiner or contractor if needed.

If you would like standard elements like play boulders or benches, a play provider or manufacturer can supply and install these.

estimated time

Estimated timeframes will vary depending on the design and scale of the project.

estimated costs

Estimated costs will vary based on the design and scale of the project. As a guide, seating might cost between £1,500 and £2,500.

***see 'Costings note' on p.26**

Design considerations
Consider location and proximity to other areas in the school ground. Is it well visible for natural surveillance? Is there sufficient distance from more active areas to avoid any disturbances?

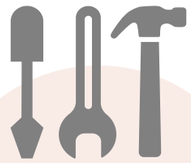
Ensure seating or other elements don't create risk of climbing or falling over an adjacent boundary.

Legal considerations
Seek permission from the building or wall owner if required.
For listed building, wall or building in conservation area planning permission may be required.
For self-build elements, seek permission or sign off by local authority as required.

loose play parts

Consider placing a storage unit next to the area to allow easy access during play times.

Loose parts for quiet play might include plastic containers, rugs, fabric, chalk, and a range of animal or vehicle toys.



maintenance and lifespan

Regular checks should be carried out to ensure furniture and equipment remain safe to use.

The expected lifespan of these items is typically 5–10 years.

further ideas

Think about how seating could support a wellness, sensory, or quiet garden. You might also consider incorporating rain garden planters, shelters, natural play elements, murals or artwork, and raised beds or planters.

Quiet play and seating

Existing situation

Smaller, quiet spaces can be hard to find in a big busy playground. Some pupils can find it overwhelming if there is no opportunity to play or sit in more peaceful settings.

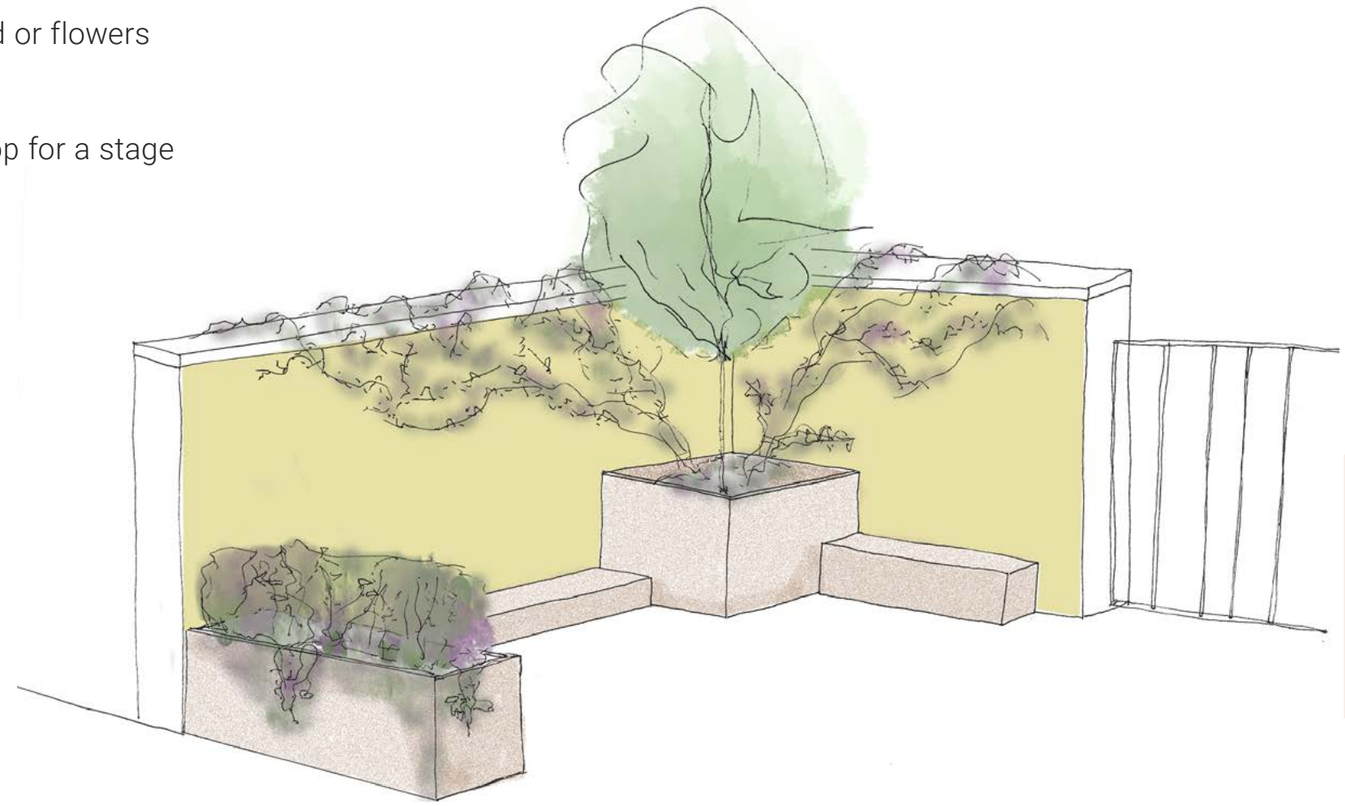
It is good to consider different spaces for different activities, taking into account the fact that children seek a range of experiences.

Proposed activity

One idea would be for a school to create a sensory garden. Some considerations are:

- provide seating to observe nature and surroundings
- allow for quiet activities such as food or flower growing
- create timber benches at different heights
- build a planter with a small tree and climbers (climbing structure may be required)
- incorporate a second planter to grow food or flowers
- include a painting or mural on the wall
- consider using an unused wall as backdrop for a stage

Seating can be placed in a purposeful way, close to nature and plants to create a more relaxing environment.



In this example, a wall has been used as the backdrop to create a seating area, with planters, trees and vertical planting creating interest and shelter.

Greening boundaries

Greening boundaries can help create a softer, more welcoming space. Different plants can be grown along walls or fencing. Covering building walls can have the added benefit of helping to insulate buildings in winter, and keep them cooler in summer. If bordering a busy street, greening walls can help to reduce noise and pollution, creating a wind barrier and shelter.

estimated costs

Climbers, shrubs, and hedging plants typically cost £20–£50 per m².

Topsoil is usually priced at around £60 per m³.

Bare root trees are more affordable than containerised ones (£50 –£200 depending on size and species). Bare root fruit trees are also more cost-effective (£25–£50).

Funding may be available for tree planting, particularly for bare root whip plants (commonly 30/40cm, 40/60cm, or 60/80cm in height).

For more information, refer to the 'Design Elements on Planting' PDF.

***see 'Costings note' on p.26**

labour and skills

For advice on plant choice and designing a planting scheme, work with a horticulturist, landscape designer or plant supplier.

For planting and maintenance, someone experienced in planting or a landscape contractor can help.

To build planters, work with a joiner, contractor, or someone with woodworking skills.

Tree pruning should be carried out by an arboriculturist or tree surgeon.

estimated time

Purchasing and planting trees – including soil preparation and building planters – can take 1–4 weeks.

Bare root plants should be planted between October and February.

Containerised and evergreen plants can be planted all year round.

Growth takes time. Smaller plants will take several years to mature and reach their desired size.

Design considerations
Match the size of established plants to the space and soil volume available:

- a small tree requires a minimum soil volume of 10m³ (with at least 900mm depth).
- hedging requires a minimum soil volume of 600mm width and 600mm depth.

Ensure sufficient space above ground is provided to allow full growth of tree canopy or hedging, otherwise regular pruning or cutting will be required.
Ensure chosen species don't have intrusive root system that could damage adjacent foundations or buildings. Avoid fruit trees along busy roads due to air pollution. Check for underground utilities when planting trees in ground. Each utility provider requires minimum distances from their services.

Technical considerations
Include fixings that allow climbers to be safely attached to the wall.

Legal considerations
Seek permission from the building or wall owner if required.
If the building is listed or in a conservation area, ensure the appropriate planning permission is sought.
For self-build elements, seek permission or sign off by local authority as required.

materials

Common materials include climbers, shrubs, trees, and fruit trees such as espaliers.

Planters and topsoil can be used on hard surfaces. Alternatively, you can break up hard surfacing and replace it with imported topsoil and subsoil to create planting beds.

For further details, refer to *'Design elements on planting and gardens'*.

maintenance

Plants will need regular weeding, cutting back, and pruning depending on the species.

Trained trees grown along walls, require annual pruning and maintenance.

To reduce long-term maintenance, select plant species that naturally stay within a desired size or shape, and/or provide good ground cover.

further ideas

Consider using planters and introducing features that encourage biodiversity, such as bird and bat boxes or insect hotels. Along boundaries, add seating or create quiet play and sheltered areas.

Greening boundaries

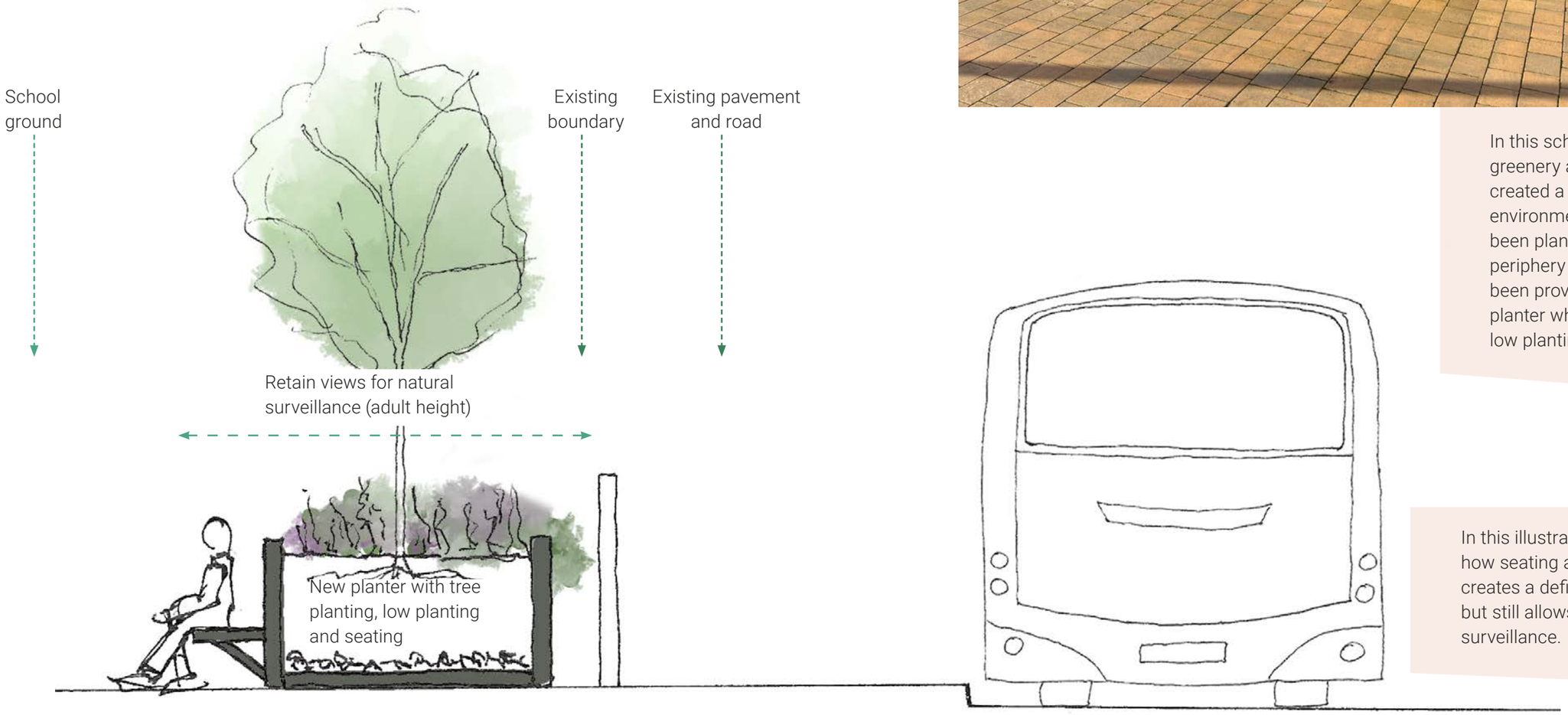
Existing situation

A school has a boundary fence along a busy main road. What could be a potential solution to this issue?

Proposed activities and elements

In order to tackle the noise and pollution from adjacent traffic, here are some ideas:

- placing planters with trees and low planting, or adding ground cover plants can help to reduce noise and pollution
- planters with integrated seating can create space for quiet activities for small groups, and observe surroundings



In this school ground, adding greenery and planting has created a more calming environment. Trees have been planted on the periphery and seating has been provided next to a planter which is filled with low planting.

In this illustration you can see how seating and tree planting creates a defined space, but still allows for natural surveillance.

Large tarmac area

Large tarmac areas are usually dominated by active play. To introduce more variety, consider adding elements that encourage pupils to slow down and engage in creative play. Colour can also help transform the space, for example, through thermoplastic markings. The space can be broken up with planters, shelters (large or small) or an outdoor classroom. Other play elements and equipment can also be added.

estimated costs

Costs will depend on the overall design and the elements chosen. Obtain directly from suppliers based on your specific requirements.

estimated time

Design development: 1–2 months (or longer, depending on who is involved)

Implementation would depend on contractors and raising funds. It may be beneficial to plan for phased implementation as funding is secured.

labour and skills

Design work can be carried out by staff, pupils, and parents. It can also be beneficial to involve a landscape architect to help develop the plans.

Installation should be carried out by a play provider, thermoplastic supplier, or contractor, depending on the elements involved.

loose play parts

For larger hard surface areas, consider loose parts such as scooters, tricycles, bikes, crates on wheels, skateboards, suitcases, buggies, tyres, balls, chalk, cable drums, pallets, timber offcuts, and cardboard.

Provide a nearby storage unit to allow easy access during play times.

Design considerations
Use design elements to create different activity zones.

Technical considerations
Ensure surface is clean, free from damage, with no loose aggregate.
Ensure large areas of painting are given an anti-slip finish.

Legal considerations
For school grounds in conservation area, ensure the correct planning permission is sought.
For self-build elements, seek permission or sign off by local authority as required.

materials

Thermoplastic markings can be used for games and surface design.

For more details, refer to the *'Design elements on furniture and shelter'*.

For outdoor equipment information, see the *'Design elements on play and outdoor learning'*.

maintenance and lifespan

Thermoplastic markings generally require no maintenance, though their lifespan is typically around five years depending on usage and surface wear.

Frequent vehicular access can reduce their longevity.

For further information, refer to the supplier's maintenance guidance.

further ideas

Many other elements can be considered on tarmac surfaces, including timber posts, mural, artwork, activity wall, seating, quiet play, sheltered area, planters, shelter, play and natural elements and storage.

Large tarmac area

This image shows thermoplastic markings in a playground, which add colour and interest.

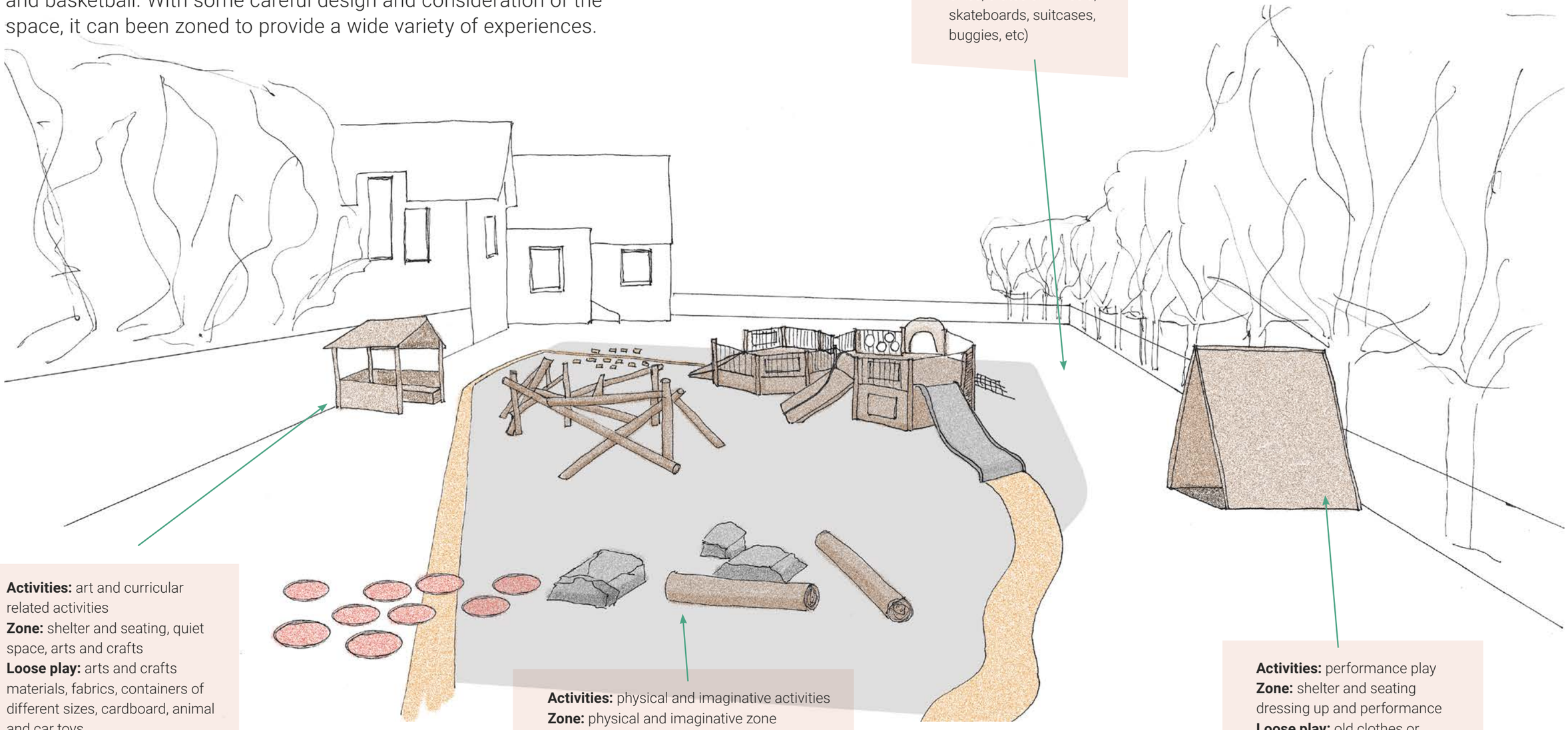
Thermoplastic markings can add some vibrancy to an otherwise dull public space.

More public spaces using thermoplastic markings to bring colour to a streetscape.

Large tarmac areas

Proposed activities and elements

Here is an example of how a large tarmac area can be transformed. This space was previously dominated by ball games such as football and basketball. With some careful design and consideration of the space, it can been zoned to provide a wide variety of experiences.



Activities: wheeling
Zone: wheeling area
Loose play: wheelies (scooters, tricycles, bikes, crates on wheels, skateboards, suitcases, buggies, etc)

Activities: art and curricular related activities
Zone: shelter and seating, quiet space, arts and crafts
Loose play: arts and crafts materials, fabrics, containers of different sizes, cardboard, animal and car toys

Activities: physical and imaginative activities
Zone: physical and imaginative zone
Elements: inclusive and accessible large play unit, climbing element, thermoplastic 'river' with games, natural play rocks and timber logs, large soft-pour safety surface for gymnastics
Loose play: tyres, chalk, cable drums, pallets, pieces of timber, cardboard

Activities: performance play
Zone: shelter and seating dressing up and performance
Loose play: old clothes or dressing up, music player with speakers, cardboard, fabric

Image credits and acknowledgements

This resource has been produced in collaboration with Urban Pioneers.

Cover: Architecture and Design Scotland

Page 2, 6, 7, 15 (top), 19 (top), 22, 23, 27: Images by Architecture and Design Scotland

Page 10, 14, 15, 18, 19, 26, 28, 29: Images and illustrations by Urban Pioneers

Costing note: Please note that all pricing information contained within this design guidance reflects estimates based on market conditions as of the 2024–2025 period. Due to the dynamic nature of industry costs, including material fluctuations and evolving labour rates, these prices are subject to change.

Explore our other resources related to design elements for school grounds

This resource is part of a series of six documents looking at design elements for school grounds. Each document focuses on different parts of our school grounds and provides design ideas on how to enhance them for activities and learning. Other topics include:

- food growing
- furniture and shelter
- planting and gardens
- play and outdoor learning
- rain gardens

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