



master-planning with paving



REVISITS & CASE STUDY
PRP ARCHITECTS
PROJECTS 2012

Interpave

THE PRECAST CONCRETE PAVING
AND KERB ASSOCIATION

www.paving.org.uk



Introduction

This case study is part of a series exploring the application of current approaches to master-planning, urban design and 'place shaping', focusing on external surfaces. These topics are discussed in more detail in Interpave's *Planning with Paving* document, available via www.paving.org.uk. The case study looks at how precast concrete paving, including permeable pavements, forms an important part of the hard landscaping palette of a major multi-disciplinary practice involved with a diversity of projects. The original 2010 Case Study is now updated here with more recent photos of projects being constructed. An additional case study, published in October 2012, looks specifically at PRP's masterplanning of the Mardyke Estate in the London Borough of Havering, which makes extensive use of concrete block permeable paving.

PRP

PRP is one of the world's largest multidisciplinary practices specialising in sustainable residential and mixed-use design. It has a specialist Landscape division, involved from the start in master-planning projects alongside its other designers and consultants. In 2010, Associate Director David Ellis said: *"We work closely with our architects, particularly in shaping public spaces, and each project is treated from the bottom up with a site-responsive approach – and density is not the main driver. We do favour the perimeter block layout with enclosed gardens and have also embraced a palette of hardscape materials which meet our needs on many sites including precast concrete blocks, flags and kerbs. In the same way, we use detailed design experience from earlier schemes – such as Forum House Wembley – to inform our larger master-planning projects."*



FORUM HOUSE WEMBLEY

Close to Wembley Stadium, Forum House provides 24,000m² of residential space with additional retail and community areas. The development forms a block wrapped around a central courtyard above a car park. This courtyard forms the central focus of the development, overlooked by most of the apartments, but also had to accommodate a number of technical demands.



Granite finish concrete block paving at Forum House Wembley

PRP Landscape's Simon Abbott explained: *"One of the main constraints was access and on-site turning for the largest fire brigade vehicles and concrete block paving was ideal for this as well as the other equipment needed to maintain building facades. Porous resin-bound gravel was also used in untrafficked areas, contrasting with the block paving. Whilst we initially looked at other materials for the vehicle access paving, we avoid importing products wherever possible and are comfortable with the choice and consistency of precast concrete from UK manufacturers."* The high quality granite finish concrete block paving is laid in a simple pattern across the courtyard and structured with black cross-bands. Cutting through the paving are black granite diagonals to give connectivity with the outside.

Sustainable Paving

PRP has a strong sustainability ethos and with ISO 14001 accreditation needs to demonstrate what it is achieving. David Ellis commented: *"Clients are also increasingly demanding sustainable criteria such as local sourcing, which imported paving materials cannot satisfy. Having said that, aesthetics and performance are the main drivers in our selection of hardscape materials. We always integrate sustainable drainage into our schemes and make extensive use of permeable paving which is particularly effective in terms of land use on the urban projects that we are involved with. An interesting example is our winning design for a sustainable landscape project at the BRE Innovation Park near Watford".*



Designing with Paving

As with any other element of a project, PRP consider detailed design and execution on site to be central to successful hard landscaping. David Ellis added: *"Civils, drainage and traffic engineers are fully involved at all stages to ensure that all technical aspects of the work are achieved – but decisions are primarily design-driven so that technical solutions are not obvious, as we saw earlier with the Wembley project. Detailing and levels are all determined by us, as are material specifications, and we ensure that below-ground services are fully coordinated. The following examples of recent major master-planning schemes demonstrate this approach".*

BRE INNOVATION PARK

This project followed a competition in 2009 run by the British Homes Awards, BRE and the Landscape Institute,

Three Interpave members donated products to the landscape project, intended to bring together the very different individual houses on the Innovation Park as a sustainable community. A limited palette of subtle colours helps to unite the diversity of architectural styles and to develop a sense of place with coordinated themes. Visually, the designers consider that the different manufacturers' products work particularly well together.

Although designed effectively as a Home Zone, the new paved area also has to accommodate some very non-domestic traffic – including 23m long vehicles – as it remains a central artery of the BRE research site. Precast concrete permeable paving is used throughout the new Home Zone and is already installed in other, earlier areas of the Innovation Park.



Concrete block permeable paving at the BRE Innovation Park

Precast Concrete Paving Principles

With precast concrete paving and kerbs, distinct, modular units and designed variations in colour, texture and shape can break up areas giving visual interest and a human scale not possible with monotonous, formless materials such as asphalt. In recent years, Interpave manufacturers have transformed this concept, moving away from simple, regular patterns and colours to expand an extensive palette of styles, shapes, colours and textures to meet current demands in urban design, matching – and often exceeding – the visual qualities of materials such as stone. This is a valid and sustainable interpretation of the requirement for 'local materials' in adopted guidelines. It is generally unrealistic on cost, availability and accessibility grounds to specify locally extracted stone which may have been used in the past, while imported stone fails to meet sustainability criteria.

Essential requirements for paving materials, from Manual for Streets and other guidelines, can be summarised as follows:

- visually attractive able to deliver distinctive local character
- capability for visual or tactile differentiation between distinct areas
- durable and maintainable with reliable product supply
- accessible to all with consistent slip and skid resistance
- well drained to avoid standing water and compatible with SUDS
- sustainable – in the widest sense

More information on how precast concrete paving is uniquely placed to satisfy all these requirements can be found in *Planning with Paving*, via www.paving.org.uk.

CLAPHAM PARK

Using a Design Code, PRP set out to establish design guidance – both mandatory and advisory – for the built space at Clapham Park, London. This is to ensure that the implementation and construction of individual plots results in an architecturally coherent whole whilst integrating areas with different characters, senses of place and community.



Precast concrete blocks, flags and kerbs feature heavily in the Clapham Park Design Code

One of its overarching principles is *“the unification of the site by use of a simple palette of hardscape materials, creating a landscape language that links the overall site.”* It proposes a palette of materials including concrete paving blocks in various sizes, patterns and colours to suit specific areas, concrete paving flags including tactile ‘blister paving’, as well as concrete kerbs and channel edgings. These products meet the Code’s requirement for BRE Green Guide A-rated constructions and locally sourced products. Permeable paving further enhances the sustainability ethos.



Concrete block permeable paving used for internal courtyards



Realisation of the Design Code on a secondary road in an early phase with precast concrete paving



Clapham Park is a large project, strategically organised in phases. At the time of this 2012 update, early phases are being completed and some occupied. Related streets and other external areas are also being finished alongside, closely following the Design Code to create a distinctive, high quality environment.

KENNETT ISLAND VILLAGE

This completed, award-winning project in Reading makes substantial use of precast concrete paving in a straightforward but nonetheless effective way to provide high quality urban spaces.

PRP was commissioned by developer St James to rework a previous scheme for the 28-hectare former sewage works

site. This represented an important opportunity to establish a key urban gateway when entering Reading along the A33 from the South and to create a new urban quarter with a strong sense of place. The scheme comprises 1,150 new homes, office and similar commercial (B1) uses, as well as retail, hotel, community hall, nursery and other recreational facilities.



Defining Urban Character

The master-plan provides a regular grid of interlocking streets formed by urban blocks with a central piazza with employment uses in the southwest quarter and residential elsewhere. Cars are parked on the street and in discreet mews areas in the centre of the blocks. Underground car parking, required in the original scheme was eliminated.



Dynamic External Spaces

The residential density increases around the central square at the heart of the development where there is a focus on community facilities and shops. The central square provides facilities for the wider community with creative industry space and provision for public art. This is a dynamic, pedestrian favoured space where the use of water within sculptural features is a key theme. It provides an exciting space to meet and interact, play and be entertained or relax at the heart of the new residential area.



Precast Concrete Paving

Precast concrete block paving is used throughout the scheme, generally in simple rectilinear patterns to unite the different areas and help develop a sense of place. PRP Landscape's Tom Delhanty commented: *"Although we favoured natural stone paving initially, the client was keen for us to explore precast concrete as an alternative. We found a similar aesthetic to stone in the high quality finish concrete block and flag paving eventually specified*

and were certainly not disappointed with that choice. We were really pleased with the look, quality and performance of the concrete paving, which copes with a bus route through the central square".

The scheme succeeds in achieving a number of goals including developing a contemporary interpretation of traditional street pattern, demarcation of public and private domains and a clear street hierarchy with passive traffic calming to ensure a safe environment for pedestrians and cyclists. The result is a high quality network of places and connecting streets, recognised in the Best Design category of the Housebuilding Innovation Awards 2009 where the project was Highly Commended.

Sustainable Materials

In addition to the application of an energy strategy to reduce demand in new homes and during construction, and ecological enhancements to this brownfield site, a green procurement procedure was established for materials and products, which precast concrete paving satisfied. Comprehensive information on the sustainability credentials of precast concrete paving can be found on a dedicated section of the Interpave website www.paving.org.uk/sustainability.php. Also, the BRE *Green Guide to Specification* includes a range of precast concrete paving specifications – covering blocks, flags and 'grass concrete' units – as generally 'A' or 'A+' rated.

The developers have introduced a number of eco-friendly modes of transport and, since completion, have launched their own car club, providing residents with the option to rent eco-friendly, low emission cars by the hour. They are also exploring the OYBike Rental System to encourage local residents to seek alternative, healthier, greener ways to travel.



Photos of Kennett Island:
Robert Greshoff www.greshoff.co.uk

PRP developed a Design Code document at Outline Planning stage for the redevelopment of these two London estates so that it could proceed in a cohesive and integrated manner but, at the same time, encourage a variety of design approaches to create a place of quality, character and distinction.

KEY

1. Modular porous pavement
2. Porous bedding layer
3. Porous sub-base
4. Compactable Tree Soil
5. Drainage layer
6. Concrete footing to granite kerbs
7. Granite kerbs
8. Porous resin bound gravel
9. Aeration and irrigation pipe
10. Underground geyser system
11. Tree guard
12. 600 x 450 stone aggregate precast concrete slabs

An aerial photograph of a residential development. The layout features a central green space with a circular area containing trees and a small structure. This central area is surrounded by a network of roads and numerous residential buildings, which are arranged in a grid-like pattern. The overall design suggests a planned community with a central park or recreational area.

An aerial photograph of a modern playground. The playground features a large, curved, yellow sand area with a small wooden play structure. Adjacent to the sand area is a grey paved area with a curved path. The playground is bordered by a low wall and a row of small green shrubs. In the background, there is a brick building with large windows and a glass entrance. The overall design is clean and modern, with a focus on safety and accessibility.

A photograph of a playground area enclosed by a metal fence. The playground features a wooden structure with a slide and a red and yellow play panel. The area is surrounded by a brick building with large windows.

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HEATHSIDE AND LETHBRIDGE

PRP's master-plan for Heathside and Lethbridge – two adjoining local authority housing estates – represents part of The London Borough of Lewisham's ambitious regeneration programme. Here, streets will be designed to encourage activity and will include green spaces, generous landscape and amenity provision – including a series of Homezones. Vehicular paving is generally planned as concrete block permeable paving.

In 2012, only the high-density Phase 1 – forming a tall barrier to the busy Blackheath Hill trunk road along the northern edge of the development - is being completed, as shown here.



A more domestic style of concrete paving is used for raised, communal garden areas



Heathside and Lethbridge master-plan including Homezones to encourage activities



Light and dark concrete block paving defines vehicular and pedestrian areas behind Phase 1



Block paving with warm mottled tones forms part of the overall materials palette



Enhanced finish concrete paving flags clearly identify the entrances to the Phase 1 blocks

Interpave acknowledges with thanks the contributions from PRP Landscape, including project photos and illustrations. www.prparchitects.co.uk



Formpave



Marshalls



www.paving.org.uk

The Old Rectory, Main Street, Glenfield, Leicester LE3 8DG United Kingdom
e: info@paving.org.uk t: 0116 232 5170 f: 0116 232 5197

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t: 0116 232 5170 f: 0116 232 5197
e: info@britishprecast.org
www.britishprecast.org



t: 0116 232 5191
f: 0116 232 5197
e: info@interlay.org.uk
www.interlay.org.uk