built on relationships

ROSMEAD STREET, HULL

BRETT LANDSCAPING PROVIDES PERMEABLE PAVING TO £23M HULL FLOOD RESILIENCE PROJECT

PROJECT	Rosmead Street
CLIENT	Morrisons Water Services, Yorkshire Water and Hull City Council
PRODUCT	Omega Flow Brindle

The first part of a vital £23m project to alleviate the risk of flooding in Hull has been completed with product, design support and on-site assistance from Brett Landscaping.

Brett Landscaping has worked with contractor Morrison Water Services, Civil Engineer Alan Wood & Partners, Yorkshire Water and Hull City Council to retrofit Rosmead Street, a residential street vulnerable to surface water flooding, supplying 4,000 square metres of concrete block permeable paving.

The Rosmead Street scheme is the first part of a £23m investment in surface water management schemes planned across Hull and East Riding due to be completed over the next five years, coordinated by the Living With Water partnership.

Hull has always been a city susceptible to flooding, due to its location on low lying land alongside the Humber estuary and River Hull. Surface water from the surrounding area and city itself has to flow through a series of drainage and sewer networks to discharge into the estuary. This system was challenged in 2007 when over 9,000 properties were flooded. Since then, a number of partners have joined together to work on increasing the cities resilience through awareness and engagement, alongside investment in the infrastructure.

The Living With Water partnership consists of Hull City Council, East Riding Of Yorkshire, Environment Agency, Yorkshire Water and academic partner, University of Hull with the objectives of raising awareness of flood risk in the region, educating and engagement with the community and look at ways to mitigate surface water flood risk in the area.

At Rosmead Street the Living With Water team committed to a SuDS retrofit scheme that would help to mitigate any future serious rainfall incidents by removing the original Macadam roadway and using permeable paving to attenuate the water flow and ease pressure on the sewer systems.

Brett Landscaping supplied 4,000m2 of its 80mm Omega Flow permeable paving. This rectangular block paving has a unique nib design which performs both structurally and hydraulically, allowing surface water through the joints between the blocks into the construction below, whist providing structural integrity to the pavement surface.

This form of SuDs is ideal for residential areas where the surface water needs to be managed whilst also providing a hard trafficable pavement in areas where car parking is at a premium.

The Brett team supplied design services, sharing their experience and knowledge with Yorkshire Water on how the permeable paving systems would work into the future following installation.

By using Brett Landscaping's PermCalc software they were able to calculate the specific hydraulic and structural requirements for the design of the pavement at Rosmead Street.

Hull-based Consulting Civil & Structural Engineers Alan Wood & Partners worked extensively on the hydraulic and structural design for the retrofitting of the permeable pavement to Rosmead Street and needed to ensure that the system was both buildable and fit for purpose.

The technical team at Brett Landscaping was able to provide that detail on how to achieve compliance to BS 7533-13: 200, for a Type C fully lined tanked system along the full length of the carriageway with a Dense Bituminous Macadam road base, to attenuate the surface water before it passes into the Yorkshire Water network of sewers.

This would serve to ensure a long-term attenuation of stormwater while maintaining the strength and integrity of the permeable paving as it manages heavy traffic loads, with Brett Landscaping providing a maintenance programme to ensure the stabilisation of the paving joints and to mitigate the future clogging of the jointing material.

Finally, Brett Landscaping worked with Alan Wood & Partners to run CPDs on SuDS & The Role of Permeable Paving, providing information on compliance and how to use the Rosmead Street project as an active example of best practice.

Emma Brown, general manager for Living With Water and Strategic partnerships Manager at Yorkshire Water, said: **"This is the first project of our Blue Green vision which aims to increase flood resilience in the local area by managing surface water better during periods of heavy rain. We've engaged with the local community to understand what's important to them and how we can work together to implement these measures in a way that works for them day-to-day."**

Ross Housley, Contract Director, Morrison Water Services, said: **"Throughout the Living With Water programme, Morrison Water Services have integrated a supply chain ecosystem in order to deliver the very best outcomes for the Partnership and the community in Hull.**

"Brett Landscaping are the perfect example of this by supporting the design requirements set out by Morrison Water Services by supplying the Omega permeable paving. Not just a supplier of their product, the team offered support throughout the project on several occasions. Partnership working at its best."

James Gibson, Director of Civil Engineering. **"We have a good working relationship with Brett who have previously provided us with CPD presentations on updates with permeable pavements and their compliance with British Standards.**

"On this project Brett Landscaping was able to help us with detailing of the pavements where the surface water needed to be attenuated and helped us to sense check the hydraulic and structural design of the pavements where a dense bituminous macadam has been used as the roadbase."

Jamie Gledhill, Engineering Technical Manager, Brett Landscaping, said: **"With the amendments in Government policy and Schedule 3 on SuDS coming into force in 2024, it is important that manufacturers step forward to provide active advice and assistance to these multi-partner schemes as the industry adapts to the changing requirements.**

"Brett Landscaping is now working on a range of schemes for water utility companies and local authorities that have been tasked by OFWAT to solve their localised problems of combined sewer overflow. The project at Rosmead Street is a strong example of multi-agency cooperation and coordination with industry stakeholders to deliver a long-term solution to residents."

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