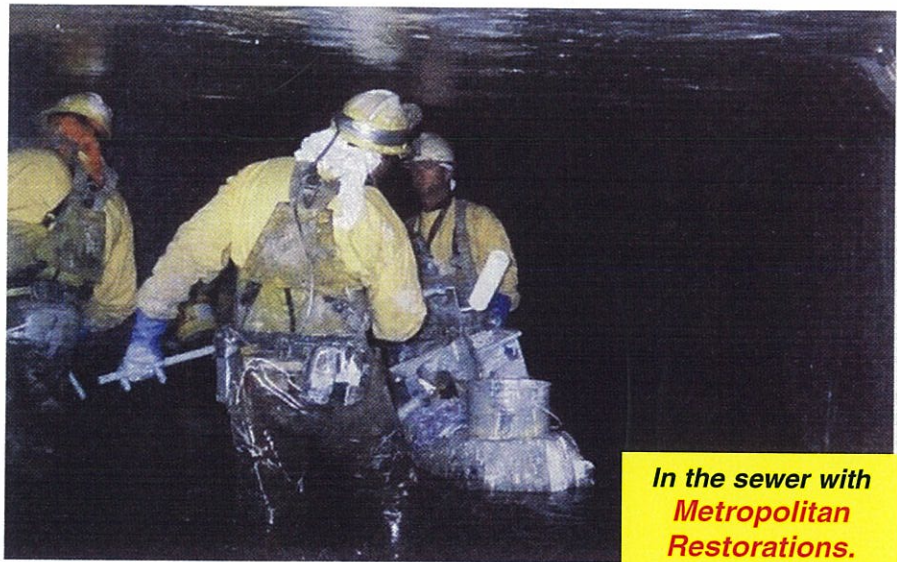


Hurstville Sewer Reline

The re-lining of the Hurstville Sewer was one of the largest repair specifications for sewer lines put together by Sydney Water. Major concrete spalling and badly deteriorated surfaces throughout



Before and after -
exposed surface and
Sikadur-41 build up.



In the sewer with
Metropolitan
Restorations.

the 160 metre long x 3.5 metre wide x 1.5 metre high tunnel meant intense blasting and cleaning was required to prepare the substance for repair. **Metropolitan Restorations** were called upon to do the repair, which included the following:

- Repairs using **Sika MonoTop[®] -610** as a protective coating to the exposed steel and as a bonding bridge for the polymer modified repair mortar **Sika MonoTop[®] -615HB**.

- Relining using **Sikadur-32** as a prime coat for the epoxy mortar **Sikadur-41**. This was applied as a 20mm render coat around the sewer line wall. Once in place the render was covered with the protective coating **Sikagard-62**, to ensure maximum protection.

Once completed the sewer line was put back into service, and allowing the tunnel to remain in a workable state for many years to come.

As part of a large refurbishment project, the Wollongong Hospital, located south of Sydney, required a typical concrete repair system to reinstate areas that spalled or were showing signs of deterioration. **Metropolitan Restorations** were asked to apply the Sika concrete repair system to areas that had the building corbels removed. Any exposed steel was cleaned and protected with **Sika MonoTop[®] -610**. This material was also used to prime the concrete area surrounding the steel, before the **Sika MonoTop[®] -615HB** patch repair mortar was applied to fill the cut out areas. Where rusted bars were removed, new starter bars were installed using the quick setting **Sika PowerFix[®] -1** anchoring adhesive.

Added to this, **Metropolitan Restorations** were required to re-caulk all window and panel joints. These were sealed using **Sikaflex[®] -PRO** polyurethane joint sealant, whilst less critical joints were finished with the **Sikaflex[®] -Construction** sealant.

Wollongong Hospital Repairs

The removed
corbels being
repaired

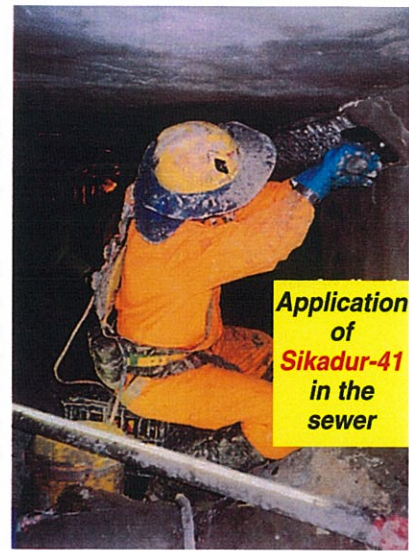


Sika in the Sewer

Metropolitan Restorations were contracted by the AWT in Sydney to repair the Tunks Park aqueduct in Northbridge after many years of aggressive behaviour from within. The concrete had degraded due to carbonation and the constant flow of water containing aggressive materials. As a result, the concrete was losing its alkalinity, thus exposing the steel reinforcement to damage.

The repair work involved the contractor and specifier "thinking outside the square". Due to constant flow and moisture within the aqueduct, **Sika Plug**, a temporary water stop, was used in conjunction with **SikaSwell** swellable sealant, to patch and fill many areas, to allow repair work to continue. Repairs were generally completed using the bonding bridge **Sikadur-32** along with **Sikadur-41** epoxy repair mortar. The internal walls were then coated with **Sikaguard-62**, a protective epoxy coating. Any external repairs were completed using the **Sika MonoTop** polymer modified cementitious repair system.

As a result the aqueduct is still in service, 85 years after it was first constructed.



South Windsor Reservoir



Keeping water reservoirs watertight is an integral part of any design and maintenance of such structures. Waterproof coatings or joint systems are used to ensure that this level of watertightness is maintained. Recently, the South Windsor reservoir in western Sydney required an overhaul of its existing joint system. The AWT, after careful inspection and analysis, realised the need for a new joint system. **Metropolitan Restorations** were contracted to replace the existing joints with the flexible **Sikadur-Combiflex** system.

adhesive **Sikadur-31**. The system was being placed over the spider web patterned floor joints, and around the floor to wall joint. The existing sealant in the floor joints was initially removed, and replaced with **Sikadur-PRO 2HP**, which acted as a cushion for the hypalon sheeting. The **Sikadur-Combiflex** was then applied on the prepared substrate.

The floor to wall joint required some special attention. The wall, made of steel, needed to be sand blasted to remove all traces of contaminant.

The wall was then coated with **Sikadur-32** bonding agent, blinded with sand, and allowed to cure, giving the **Sikadur-31** adhesive an excellent key to bond to.

Sikadur-Combiflex is a combination of flexible hypalon PVC sheeting, held in place by the epoxy



Sewer Reline at Bondi

The sewer line found underneath Blair Street, Bondi, Sydney was constructed over 70 years ago using brickwork. In some areas the brickwork had eroded due to severe decay, resulting in a breakdown of the brick bedding mortar. Some sections of the sewer line had been placed on the heritage list by the Heritage Council, and as such, repair work had to result in a similar appearance.

Metropolitan Restorations were contracted by the A.W.T. to conduct the repairs. The repairs fell into three parts – re-pointing the brick bedding mortar in the heritage sections, major patch repair of the brickwork and reprofiling of the sewer line.

The brickwork bedding mortar was reinstated using a sand/cement mix that included **SikaTop-77** polymer admixture. The **SikaTop-77** was added to improve workability and watertightness. Spraying a sand/cement mix with **SikaTop-77**, at a different ratio to the bedding mortar repaired the large patches. The mortar was sprayed on to adhere loose bricks, and to achieve bulk patching in those sections of the sewer line. Finally, some sections of the sewer line required re-profiling. The lining in the lower sections of the tunnel and chamber was re-profiled using the epoxy repair products **Sikadur-31/41** to patch and level out the tunnel, before a protective coating of **Sikagard-62** was applied.

Spraying the brick lining with sand/cement mix, including **SikaTop-77**.

