

Project Details:

Product

AKS lined manholes

Installation

Precast sewer access shafts and insitu bases

Asset Owner

QLD State Government

Principal Contractor

INB HUB Alliance

Registered AKS Installer

DDT Liners (Toowoomba)

Brisbane Water chooses AKS corrosion protection liner

The Queen St to Upper Roma St section of Brisbane's INB project is a \$278-million underground bus link — a jointly funded initiative by the State Government and Brisbane City Council.

Construction of the 1.3-km project began in April 2006 and is expected to be completed by 2008. The busway will substantially ease traffic congestion in the city, and save bus passengers up to 20 minutes during heavy traffic congestion.

The chosen tunnel alignment cuts through existing sewer structures and therefore necessitated the construction of three new sewer access shafts rising from the busway to street level. To marry with the existing sewerage infrastructure, the new access shafts were all of different dimensions. Due to program and site restrictions precast concrete was specified for the shaft components, supplied by Humes in 2-part segments.

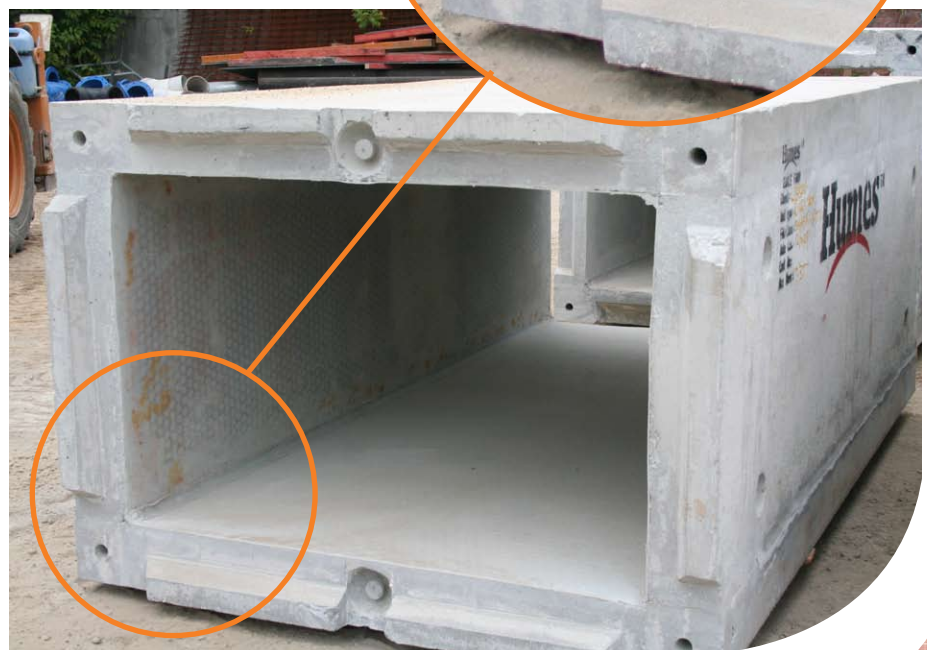
Brisbane Water recognised a corrosion protection system would be required for the inside of the shafts to accommodate

the aggressive conditions of this sewer environment. **Corrosion protection liners (CPLs) are recognised as providing asset life far in excess of coating systems**, and the project specification nominated an opaque or white colour polyethylene (PE) liner of 2.5-mm or greater thickness, with a suitably shaped integral mechanical fixing system (for embedment to concrete). AKS high density PE liner was cast in to both precast shafts and insitu bases of the access structures. For the insitu components the liner was fixed to timber formwork and then cast in position.

Humes is known throughout the Australian civil infrastructure industry as a timely and reliable supplier of precast concrete



Sewer access shaft inside the busway



Humes precast unit with pre-installed opaque AKS lining

products, and with 46 years experience in providing corrosion protection lined solutions, was chosen to supply the access shaft components incorporating AKS HDPE CPL.

Thermo-forming of the AKS CPL and welding/testing of all precast joints was carried out by DDT Liners (Toowoomba), a registered AKS installer. The AKS registered installer program ensures quality installation through specialised training and employment of standardised quality assurance activities.

An advanced national manufacturing capability enables Humes to incorporate AKS linings into a broad selection of precast solutions — providing asset life in excess of most other secondary corrosion protection systems.

To learn more about AKS HDPE corrosion protection linings and details of the registered installers program please visit: [Humes AKS Lining System](#)

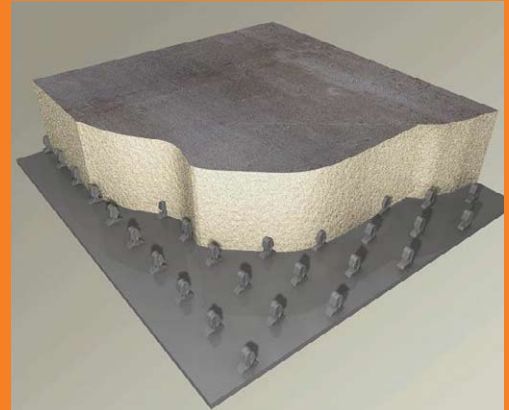
Customised Precast Access Shafts				
Type	Cross-Section			Depth
	Shape	Length	Width	
A	rectangular	1750mm	1250mm	6.120m
B	rectangular	1750 mm	1420mm	7.472m
C	trapezoidal	3300 mm	1380mm	5.815m



Looking into the AKS lined chamber

Humes AKS HDPE Lining

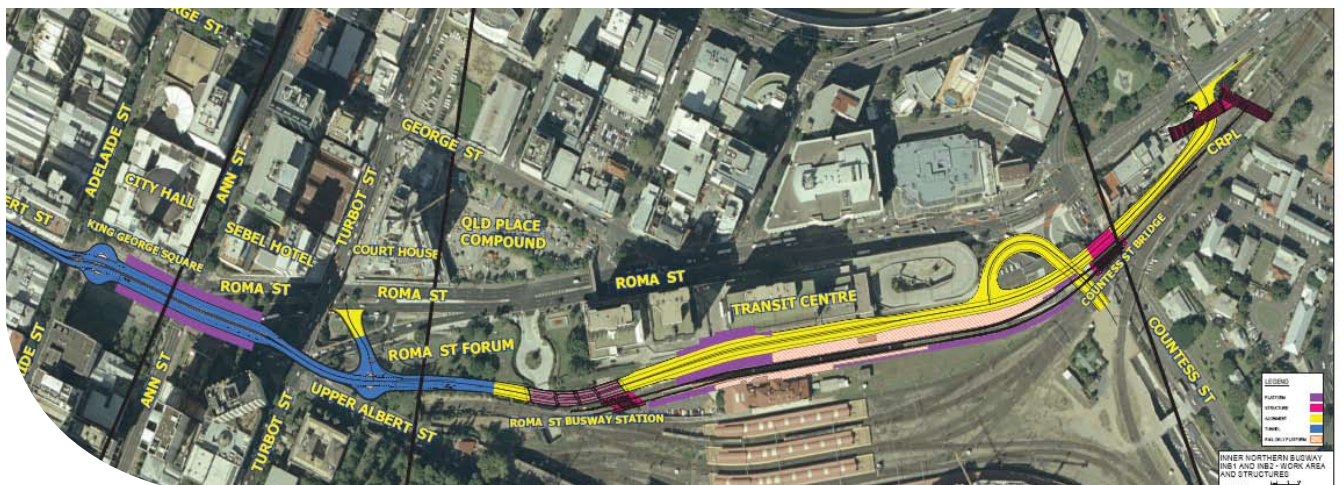
AKS is an impermeable HDPE corrosion protection lining (CPL) which is ideal for precast, insitu and post-application/remediation of sewerage and industrial infrastructure. The AKS forms a protective barrier for structural concrete substrates and is able to withstand both high-level abrasion and harsh chemical environments. It is available in a range of light colours and thicknesses of 1.8mm to 5.0mm. The 12mm long anchors are integrally formed with the sheet at a frequency of 1230 anchors per m² (providing pull-out resistance of 20 tonnes/m²).



AKS anchors provide exceptional pull-out resistance



AKS CPL is available in a variety of colours



Inner Northern Busway Alignment Map: Queen St to Upper Roma St
photo courtesy of INB Hub Alliance