

Case Study: StormTech Infiltration System

MAIN ROADS WA - SOUTH STREET 640KL SUMP REPLACEMENT

INSTALLATION DATE: APRIL 2013

GENERAL PROJECT INFORMATION

- A crumbling storm water sump in the median of South Street required replacement or refurbishment.
- The creation of a new retail warehouse on the corner directly opposite meant that the solution required a new turning lane with heavy traffic loadings.
- Main Roads WA had serious concerns about the risk of structural and functional failure due to major problems with other products.
- To ensure the best product was selected for the job, Main Roads WA reviewed independently verifiable data and conducted their own research.



DESIGN CONSIDERATIONS

- Installation time and area needed to be kept to a minimum. Being a major thoroughfare any reduction of traffic flow would create congestion issues especially at peak times.
- Construction was completed in approximately ten days.
- High flow rates and large storage volumes were anticipated due to an increase in impermeable area and increased storm intensity since the creation of the initial sump.
- Maintenance for the system needed to be simple, fast and inexpensive. With surface flow being captured, high silt loads were expected.



DESIGN STANDARDS

- The system needed to be capable of withstanding AS5100.2 loads (SM1600 load case) for a minimum of 50 years with an appropriate factor of safety.
- All data relied upon had to be verified and quality controlled. An in-depth analysis by the Australian Roads Research Board using design standards including AS2566.1, AS4678 and AS2041.1 as guidance gave MRWA a high degree of confidence.
- Main Roads WA represent Austroads on the AS2566.1 Buried Flexible Pipe code and have approved the Stormtech arch and Cubic M3 AASHTO specification HDPE pipe.

