

UPGRADING BRISBANE'S OLDEST SEWER AT KINGSFORD SMITH DRIVE

The S1 Main Sewer upgrade project will carry out vital rehabilitation works on the S1 Main Sewer from James Street in Fortitude Valley, along Kingsford Smith Drive, Hamilton, to Violet Street in Eagle Farm.



Construction of the S1 Main Sewer upgrade along Kingsford Smith Drive will be carried out in two phases over four years.

Background

The S1 Main Sewer was constructed by miners a century ago and now carries 60 per cent of Brisbane's sewage. The 12km sewer starts at Toowong and ends at the Eagle Farm pump station.

The S1 Main Sewer is a critical asset that services the equivalent of 750,000 people. Over time, the concrete sewer pipe has corroded and the sewer now needs vital rehabilitation to ensure the stability of the network.

The section of the upgrade along Kingsford Smith Drive is complex, due to the age, size and depth of the sewer. The century old pipe is up to 1.5m in diameter and lies 20m beneath the ground.

Project benefits

The S1 Main Sewer upgrade will:

- extend the operational life of the sewer by at least 50 years
- ensure safe and reliable sewerage services for more than 60 per cent of Brisbane
- cater for future growth and development within the S1 catchment.

Construction phases

The S1 Main Sewer upgrade along Kingsford Smith Drive between Hunt Street and Theodore Street will be completed in two phases over four years.

Phase 1

Phase 1 construction, **between Hunt Street and Riverview Terrace**, will start in **March 2015** and finish by **mid-2016**, weather and ground conditions permitting.

During phase 1, the sewer pipe will be **relined** with a steel reinforced polyethylene pipe, using trenchless technology.

Five sewer **maintenance holes** will also **be improved** by removing the old, tapered shafts and installing larger, cylindrical concrete shafts to provide wider access to the underground sewer line.

To ensure the safety of workers and to minimise traffic impacts, work will be carried out **Sunday to Thursday** between **8pm and 5am** during off-peak traffic and low flow conditions in the network.

Phase 2

Phase 2 construction, **between Riverview Terrace and Theodore Street**, will be completed as part of the Kingsford Smith Drive upgrade.

Queensland Urban Utilities is also upgrading other sections of the S1 Main Sewer outside Kingsford Smith Drive during both phases.



About the sewer relining

The S1 Main Sewer was the first major trunk sewer built in Brisbane and was constructed 100 hundred years ago, using traditional mining techniques available at the time.



Early sewer construction using traditional tunnelling methods

An unreinforced concrete pipe was constructed inside the tunnel in segments. The pipe is up to 1.5m wide and sits 20m (the equivalent of eight building storeys) below the ground surface.

Recent CCTV condition monitoring has identified internal corrosion of the concrete pipe. The rehabilitation will ensure safe and reliable sewerage services for the network.

Innovative trenchless relining

To avoid digging up Kingsford Smith Drive, the existing concrete pipe will be relined between Hunt Street and Riverview Terrace using a spiral, steel-reinforced polyethylene liner that can be fed from a spool on the surface into the underground pipe segments.

This is a trenchless methodology that requires a relatively small site footprint. The spooled liner will be mobilised to site each night and will be **removed by 5am each day** to allow the road to reopen.

Community impacts

During construction, the following impacts may be experienced:

- construction-related noise, including excavation, compressors and vehicle movements
- safety lighting
- some odour during pipeline ventilation
- changed traffic conditions, including lane closures and diversions along sections of Kingsford Smith Drive.

We will **keep you informed** about progress and provide regular construction updates for directly impacted residents.

Mitigation measures

The project team will minimise construction impacts by:

- fast tracking the works with multiple crews working at the same time between Hunt Street and Riverview Terrace
- programming works at night between 8pm and 5am to minimise traffic impacts
- **reopening all traffic lanes** on Kingsford Smith Drive by 5am each morning
- managing noise levels at source
- using compressors with in-built noise suppression
- using approved traffic management to ensure pedestrian and motorist safety
- monitoring and mitigating odour, to the extent possible, without compromising worker safety.



FOR MORE INFORMATION
OR TO REGISTER TO RECEIVE PROJECT UPDATES

CALL
1800 071 230

VISIT
www.urbanutilities.com.au/S1mainsewer

EMAIL
Community.Feedback@urbanutilities.com.au

ABN 86 673 835 011
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