

# SYLWRAP Case Study

## Hawaii Corroded Sewer Force Main Repair

A corroded 30-metre section of ductile iron sewer main inside an underground vault is refurbished after a previous repair put a 75mm round hole in the pipe



*Attempt to clean the pipe by left a hole which water escaped from when the pipe was pressurised*



*Industrial Metal rebuilt the pipe surface around the hole to make it strong enough to withstand a clamp*



*Liquid Metal was painted over the entire main, two flanges at either end and a coupling in the middle to create a metallic external shield against corrosion*



*Six layers of SylWrap HD completed the repair by forming a rock-hard, impact resistant shell*

### Defect

The 450mm pipe was installed in a vault as part of Hawaii's sewer system in the 1970s. 50 years later and it had become severely corroded and weakened.

Previous attempts to clean off the main sandblasted a 75mm round hole into it. The pipe was so pitted and brittle that the hole could not be repaired with a clamp.

The surface profile of the pipe now needed improving to make a clamp effective, followed by refurbishment of the entire 30-metres to keep the main operational.

### Solution

5kg of **Industrial Metal Epoxy Paste** rebuilt the pipe exterior around the hole, ensuring the line was strong and smooth enough for the clamp to be applied.

10kg of **Liquid Metal Epoxy Coating** was painted onto the main, two flanges at either end and a coupling in the middle. It cured to create a metallic exterior shield against corrosion.

The pipe was then reinforced with 20 x SYL866HD **SylWrap HD Pipe Repair Bandages**. Six layers were applied for a final, impact resistant layer of protection

### Result

At a total cost of just under \$5000, refurbishment offered a big financial saving compared with replacing the sewer main.

The engineers making the repair were pleased with how easy application was despite the cramped, wet and dirty conditions inside the vault.

They were also confident enough in the strength of the repair to drop an original plan to encase the main in concrete for further protection.