

## CASE STUDY NUMBER 81: Amey / Caldervale Technology / Craig Rhodes – Smooth Rhodes valve box levelling tool

### WINNER OF THE NJUG HIGH QUALITY AWARD 2015

The National Joint Utilities Group (NJUG) is the UK industry association representing utilities solely on street works issues. The 42 Utilities and 16 Associates we represent are major contributors to economic growth and work to deliver gas, electricity, water and telecommunications to both individual consumers and UK plc. NJUG members need to continue to drive forward further improvements. We have therefore developed the NJUG Vision for Street Works, which revolves around seven main principles:

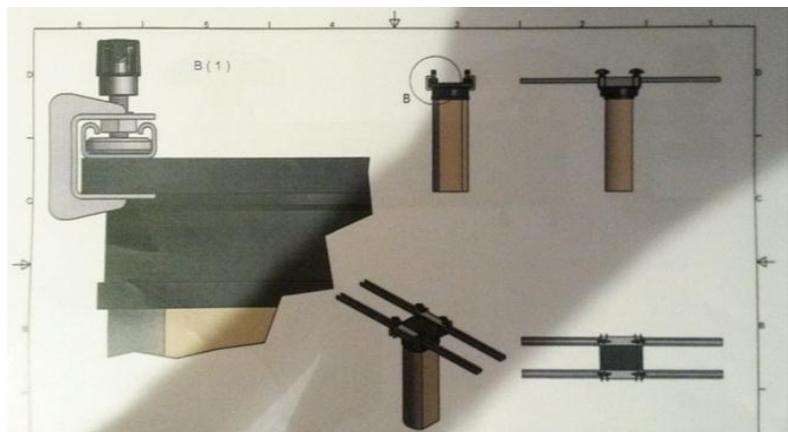
- Safety
- High Quality
- Minimise Disruption
- Keep the Public Fully Informed
- Sustainable Methods and Materials
- Avoid Damage to Underground Assets
- Innovation

This case study is an example of the street works sector delivering on these principles and turning the vision into reality.

### Overview - Smooth Rhodes valve box levelling tool

A tool to ensure valve boxes are level during installation. Amey fit approximately 60 (150 x 150mm) valve boxes / day, and it has been recognised that it is difficult for the operator to successfully reinstate the surrounding ground while ensuring the box remains level, so avoiding a fine owing to the box not being level and within tolerances.

Identifying the benefit of such a solution Amey worked with Caldervale Technology to help finalise the design and develop the technology further by making significant improvement in the design, making it lighter, durable and easy to use.



### Case Study

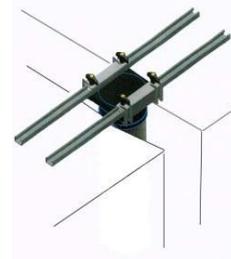
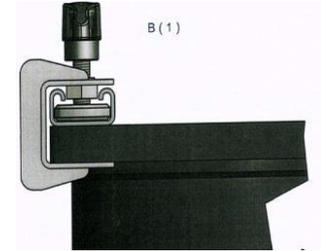
When reinstating an excavation, it is difficult for operational staff to hold a valve box level and adequately compact the ground around the box to ensure sufficient compaction while ensuring the box lid remains level with the surrounding ground and surface.

This device does this simply by securing the box in a set position and holding in the correct place. The chamber tool fits on to the top of any stop tap box or valve box to keep it in place when backfilling and reinstating.

The arms ensure the box is level while two quick release G Clamps hold the box in place. It ensures that there will be reduced call back for reinstatement complaints.

## Smooth Rhodes Valve levelling system: How to install:

1. Following the completion of the pipe connection work inside the excavation, insert the Atlasbox (valve chamber) over the valve.
2. Connect the Smooth Rhodes valve "G Clamps" to both sides of the Atlasbox, as per diagram B(1)
3. Position the Atlasbox and the Smooth Rhodes valve levelling tool at 90° to the trench line.
4. Carefully backfill the trench to the final level, allowing for the addition of the finished reinstatement level as per work instructions. The Atlasbox is now secure
5. Remove Smooth Rhodes valve level system ensuring not to disturb the boundary box or surrounding area.



## Benefits:

- Improved performance done first time every time
- The tool will help to reduce reinstatement defects
- Cost savings:
  - Cost of defect x1 defect from Local Authority = £143 (minimum cost)
  - Cost of x1 team to repair the defect = £110/job
  - Total cost per defect: **£253**
- Cost of manufacture = £100
  - Using this system would generate a Pay back after approximately 0.6 of a defect.
- Initial estimates indicate a saving of £188k/pa to Amey



This system ensures all boxes are correctly and safely installed, with saving owing to the reduction to fines from the local authority, initial trials show a savings of £188,000 in year 1, with quality improving by 100% in this area of work.