

Reinforcement of banks

Vibwall (thin slurry wall)

LENS CANAL EMBANKMENTS

LOISON-SOUS-LENS - PAS-DE-CALAIS - FRANCE



Vibwall (thin slurry wall) cut-off to reinforce the Lens Canal Embankments



The works consisted of the construction of a thin slurry wall along a section nearly 2.4km long.

The purpose of these works, carried out for Voies Navigables de France in the communes of Loison-sous-Lens, Noyelles-sous-Lens and Harnes (62), was to:

- stop seepage into the embankments so as to protect them from internal erosion problems and reduce flow into the ground water table of the earth below.
- reinforce the embankments so as to prevent surface landslip.

CLIENT:	VOIES NAVIGABLES DE FRANCE (VNF)
SUPERVISING ENGINEER:	VOIES NAVIGABLES DE FRANCE (VNF)
JOINT VENTURE:	SOLÉTANCHE BACHY (MANDATAIRE) - KELLER
ARCHITECT:	C.E.T.E.
TOTAL COST OF WORKS:	1,5 M EUROS INC. TAX
WORKS BY SOLÉTANCHE BACHY:	636 000 EUROS INC. TAX
PERIOD OF WORKS:	NOVEMBER 2006 - APRIL 2007

WORKS CARRIED OUT:

- Construction of a vibwall cut-off:
 - Thickness: 6cm - Total length: 2,395m
 - Depth: 5 to 8m - Corresponding to a total of 15,765m²
- Protection of the banks under a bridge with wattle-work and wood (52m) and flat gabions (260m²).
- Bypass using sheet-piling and restoration of two discharge structures.
- Removal and reinstallation of street furniture, cutting down and planting of shrubs and bedding plants, river signals, maintenance of access for walkers.
- Reconstruction of towpaths.



Construction of a thin cut-off wall by vibwall technique



View of the site

Several points with unusual characteristics on this long section required specific treatment:

- bypassing of potential obstacles and discharge structures using metal sheet-piling,
- restoration and connecting of discharge structures to sheet-piling,
- protection of banks using wattle-work and flat gabions under Noyelles-sous-Lens bridge.

These works were carried out adjacent to the towpaths along the Lens Canal. Access was maintained for cyclists and walkers throughout the project and the towpaths were completely restored when the works were completed. In the same way, the street furniture and trees along the canal were removed and then either put back in place or replaced on an identical basis.

The preparation and respect of an Organization Chart and Waste Management Plan, including regular “environmental” audits, enabled all parties involved to fully satisfy environmental protection requirements.

Vibwall installation sequence

