
6.0 MAINTENANCE OF STRUCTURES

This section contains maintenance regimes and estimated maintenance costs for all structures, existing and proposed along the length of the canal between Widnes and St Helens.

A maintenance regime has been prepared for each of the following type of structure to be found along the canal either at present or after restoration:

- locks
- reinforced concrete box culverts
- swing bridges and lift bridges
- footbridges
- weirs and overflow channels

The costs included for each type of structure were used to establish the overall maintenance costs for the canal when operational.

Estimated costs for the maintenance of the structures do not include any operational costs incurred, for example, through staffing and power consumption for moveable bridges.

Where fixed bridges are replaced by moveable bridges, it is likely that the highway authority would require reimbursement of the increased maintenance costs in the form of a commuted sum.

MAINTENANCE REGIMES

LOCKS

Maintenance Requirement	Cost (£)	Frequency
Dredge chamber invert	2,500	10 years
Replace lock gates, sluices and sills	25,000	25 years
Remove graffiti and repair vandalism	150	1 year
Paint ladders	250	15 years
General inspection of the structure	250	2 years
Detailed inspection of the structure	750	6 years

Annual Maintenance Cost is £1,670 (quoted at base date April 1995)

REINFORCED CONCRETE BOX CULVERTS

Maintenance Requirements	Cost (£)	Frequency
Repoint masonry cladding	1,500	20 years
Replace joint sealant (based on culvert length of 12m)	1,250	10 years
Removal of graffiti and repairs to vandalism	150	1 year
General inspection of the structure	250	2 years
Detailed inspection of the structure	750	6 years

Annual Maintenance Cost is £600 (quoted at base date April 1995)

SWING BRIDGES

Maintenance Requirements	Cost (£)	Frequency
Full repaint of steelwork	1,500	15 years
Resurface decking and repair waterproofing	2,500	20 years
Maintenance of drainage	200	3 years
Maintenance of hydraulic systems	200	1 year
Replace Mechanical and Electrical equipment	20,000	20 years
Replace swing bridge buffer and bearings	750	15 years
Maintenance of electrical equipment	150	1 year
Maintenance of moving parts of structure	250	1 year
Removal of graffiti and repair of vandalism	250	1 year
Detailed inspection of the structure	1,000	6 years
General inspection of the structure	250	2 years

Annual Maintenance Cost is £2,485 (quoted at base date of April 1995)

LIFT BRIDGES

Maintenance Requirements	Cost (£)	Frequency
Full repaint of steelwork	1,250	15 years
Resurface decking and repair waterproofing	1,000	20 years
Maintenance of drainage	100	3 years
Replace bearings	500	15 years
Replace moving elements	5,000	20 years
Maintenance of moving elements	200	1 year
Remove graffiti and repair vandalism	150	1 year
Detailed inspection of the structure	750	6 years
General inspection of the structure	250	2 years

Annual Maintenance Cost is £1,050 (quoted at base date April 1995)

WEIRS AND OVERFLOWS

Maintenance Requirements	Cost (£)	Frequency
Maintenance of weir	750	10 years
Clear debris from overflow channel	100	3 years

Annual Maintenance Cost is £100 (quoted at base date of April 1995)

FOOTBRIDGES

Maintenance Requirements	Cost (£)	Frequency
Full repaint of steelwork	1,000	15 years
Replace bearings	2,000	20 years
Repoint brick/masonry cladding	1,250	20 years
Maintenance of drainage	100	3 years
Remove graffiti and repair vandalism	150	1 year
Resurface approach ramps and deck	1,000	20 years
Detailed inspection of the structure	500	6 years
General inspection of the structure	250	2 years

Annual Maintenance Cost is £675 (quoted at base date of April 1995)