

Bridge would be necessary.

Between Herring Bridge and Bars Bridge extensive works would be necessary to obtain the required 80 ft. channel. Along this section a road runs on the top of each bank and numerous properties are built on the land at the back of the bank. Four Road Bridges and one footbridge span the channel through this length.

It would be necessary to widen the channel on the North side and this would involve the removal and rebuilding of the existing road together with some 40 properties varying from cottages to large farmhouses and outbuildings. All five bridges would have to be reconstructed together with ancillary works to Public Utility services.

Above Bars Bridge the most difficult operation would have to take place.

With the exception of the length through the Tares sufficient width is not available between the existing flood banks. It would be necessary therefore to construct a new flood bank on either the North or South side and obviously this work would have to be undertaken before any dredging operations could take place. The proper construction, consolidation, and turfing of this bank would be of prior importance as it protects a large area of fen land from the water of the Glen.

This new flood bank would have to be constructed from Bars Bridge to upstream of Jubilee Bridge at Thurlby. The new 80 ft. channel width would necessitate the reconstruction of both Tongue End Road Bridge and Jubilee Footbridges.

A considerable increase in the channel grade is available in the length up to Kate's Bridge and a channel width of only 40 ft. would be required for this length. Some rebuilding of flood banks would be necessary on this final length but in places the desired width could be obtained within the present banks.

The total estimated cost of Scheme 'B' amounts to £1,318,100 as per detailed estimate attached.

9. Contributions and Ministry Grant.

Under the Ministry of Agriculture, Fisheries and Food's usual procedure, it is anticipated that grant aid of 80% or possibly more would be made available for either Scheme 'A' or Scheme 'B'. It is also possible that a contribution towards the nett cost of either scheme might be obtainable from the Lincs River Board and/or The Black Sluice Internal Drainage Board, bearing in mind that Scheme 'A' would

greatly reduce the incidence of discharges over the Tongue End weir into their pumping system, and that Scheme 'B' would eliminate it almost entirely.

10. Conclusion.

Although the recent flood in July of last year was not by any means a major one, alarm and flood damage occurred.

If the Board are prepared to carry out an improvement scheme to the lower reaches of the Glen, I consider that the most practical scheme for all concerned would be for the Board to carry out Scheme 'A' over a period of 2 or 3 years. The work could then be carried out as economically as possible using the boards own plant, supplemented by hired plant at competitive rates. Increased staff should not be required.

Scheme 'B' would involve large contracts, big earth moving machinery and a considerably increased number of staff and employees.

It should be borne in mind that no improvement works, apart from maintenance works, have been carried out on the River Glen for many years. It was hoped, in recent years, that the completion of the Greatford Cut, taking a large part of the water from the West Glen, would remove the troubles from the Glen below Tongue End. Unfortunately this has been proved wrong, both practically by recent floods, and theoretically by the recent survey and extensive investigations carried out for this report.

In this connection I would like to acknowledge the help given in the preparation of this report by the office staff and, in particular, the intricate calculations and estimates prepared by Messrs. W.A. Fower, District Engineer and G.E. Bowyer, B.Sc. (Hons).

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Accompanying this report are - Estimates of Schemes 'A' and 'B'.
For Inspection at the Meeting - 2½" Site Plan of River Glen, Kate's Bridge to Surfleet.

Longitudinal and cross sections Scheme 'A'
Longitudinal and cross sections Scheme 'B'

RIVER GLEN ESTIMATE.

SCHEME 'A'.

58,400 cu.yds.	Excavation Surfleet Sluice to Surfleet Road Bridge	2/6	7,300.	0.	0.
40,000 cu.yds.	Extra over above for carting spoil	10/-	20,000.	0.	0.
18,400 cu.yds.	Spreading spoil	1/6	1,380.	0.	0.
46,200 cu.yds.	Excavation Surfleet Road Bridge to Herring Bridge Pinchbeck	2/6	5,775.	0.	0.
46,200 cu.yds.	Spreading Spoil	1/6	3,465.	0.	0.
55,400 cu.yds.	Excavation Herring Bridge to Bars Bridge Pinchbeck	2/6	6,925.	0.	0.
55,400 cu.yds.	Extra over above for carting spoil	10/-	27,700.	0.	0.
275,000 cu.yds.	Excavation Bars Bridge to Kate's Bridge	2/6	34,375.	0.	0.
275,000 cu.yds.	Trimming Spoil into Banks	1/6	20,625.	0.	0.
	Compensation		5,000.	0.	0.
	Provisional Sum for Fascines		25,000.	0.	0.
	10% Contingencies		157,545.	0.	0.
			15,755.	0.	0.
			<u>£173,300.</u>	0.	0.

RIVER GLEN ESTIMATE.

SCHEME 'B'.

2,610,000 cu.yds.	Excavation Surfleet Reservoir to Kate's Bridge	2/6	326,250. 0. 0.
350,000 cu.yds.	Extra over above for carting and forming consolidated bank	10/-	175,000. 0. 0.
2,260,000 cu.yds.	Spreading Soil	1/6	169,500. 0. 0.
212,000 sq.yds.	Strip turf at site of New Bank	6d.	5,300. 0. 0.
84,000 sq.yds.	Turf riverside batter of new bank	2/6	10,500. 0. 0.
Item	Reconstruct Heathcotes Tunnel		12,000. 0. 0.
Item	Reconstruct Woolley's Mill Tunnel		500. 0. 0.
5 No.	Reconstruct Freshwater feeds	£200	1,000. 0. 0.
900 chains	Cut Soke Dykes 6yds/yd run	£15/5/-	13,725. 0. 0.
4,000 yds.	Reconstruct New Roadway	£5/10/-	22,000. 0. 0.
Item	Alterations to Post Office Lines		5,000. 0. 0.
Item	Alterations to Electricity Lines		10,000. 0. 0.
Item	Alterations to Water Supply		20,000. 0. 0.
Item	Protection Piling Surfleet Road Bridge		10,000. 0. 0.
Item	Protection Piling Pinchbeck Railway Bridge		5,000. 0. 0.
Item	Protection Piling Counter Drain Railway Bridge		5,000. 0. 0.
Item	Additional Sluice Surfleet Reservoir		40,000. 0. 0.
Item	Replacement of Properties		150,000. 0. 0.
Item	Reconstruct Flaxmill Bridge		15,000. 0. 0.
Item	Reconstruct Herring Bridge		25,000. 0. 0.
Item	Reconstruct Benners Footbridge		5,000. 0. 0.
Item	Reconstruct Money Bridge		25,000. 0. 0.
Item	Reconstruct Boarden Bridge		17,500. 0. 0.
Item	Reconstruct Bars Bridge		25,000. 0. 0.
Item	Reconstruct Tongue End Footbridge		5,000. 0. 0.
Item	Reconstruct Tongue End Road Bridge		15,000. 0. 0.
Item	Reconstruct Jubilee Bridge		5,000. 0. 0.
Item	Reconstruct Blue Gowt Sluice and Bridge		5,000. 0. 0.
250 acres	Land Purchase		50,000. 0. 0.
	Compensation		25,000. 0. 0.
	10% Contingencies		1,198,275. 0. 0.
			119,825. 0. 0.
			<u>£1,318,100. 0. 0.</u>