Haigh MSS Box F1

to Sir Roger Bradshaigh

Memorandums concerning the navigation of the River Douglas in the county Palatine of Lancaster, in order to make the same navigable from the River Ribble to the end of the town of Wigan from a view taken in March 1732/33 by William Palmer.

This river falls into a shifting sand in Ribble, which comes from the sea a considerable distance from the mouth of the Ribble, where there is a very flat shore. The spring tides come with feet water or more (in an ordinary spring) up to Bank Bridge. But the neap tides will not make water for vessels near so high, so that a navigation must wait the spring tides, if it goes thro' the River Asland. But there is a much shorter way proposed and that is thro' Martin Mear, which falls into a lower part of the Ribble near the sea, which would be a more natural drainage, because the water has a much shorter way to run and consequently must have a quicker motion by reason of a greater declivity or fall and so clear the ground sooner.

But perhaps it may be objected that the water now gets not off the Year and if more be brought to it, it will be so much the worse. To this I answer, proper works being made to bring Douglas thro' the Mear, will not only be a means to drain the Mear but also a means to save the land from damage both above and below Rufford which joins the River Douglas.

The works that may be made are as follows:-

1) Make two good cops or banks on each side of the main drain that goes from Douglas to the sluice which keeps the sea out of Martin Mear. Let these banks be set so as to make the main drain nearly all of a wideness and so high as may secure a high flood from breaking over them. At a convenient distance make two ditches on the outside of these banks to receive all the water from the land on both sides. Note:the earth which comes out of these ditches may help to make the banks.

3) Through these cops or banks may be, in each bank, a clow with falling doors, to let the water out of the outside ditches into the main drain, but to shut against the water in the main drain, when the water in the outside ditches is lower etc.

4) Where the Douglas and the main drain meet, there make such works as may readily stop the water out of the main drain or let it in at pleasure. Likewise, near the same place, make such works as may readily stop Douglas from going to Asland or let it go at pleasure.

By these means there will be an opportunity of keeping the drain of Martin Mear open and deep, for turn Douglas down Martin Mear and it will run with swift current and drive the sands etc. into the sea etc. and be a great means to keep a channel open thro' the sands into Ribble; which channel ought to go the same way that the tides ebb and flow. Otherwise the tides will drive sand so as to wreck up the channel or shift it till it comes on hard marl ground where it cannot wear deep. Now the Meals Pool being brought to the Mear drain, both together would have more strength to keep a channel open thro' the sands than either can of themselves. The Meer drain at present is driven to marl ground which has lost much fall etc.

Some use to be made of the works before mentioned:-

1) The current going swiftly and constantly down Martin Mear drain by turning all or part of Douglas into it, keeps it open.

2) To clear the Mear of water, stop the Douglas out of the drain, so will the drain run into the sea, till water is low in it and then the water in the outside ditches forceth thro' the clows in the banks into the drain, and when it is gone into the sea, then let the water out of Douglas into the drain again to keep the passage open.

3) To save the meadows, in some measure, that join Douglas above Martin Mear drain. In a flood set open the passages both down Martin Year and Asland so there will be two rivers to take off the waters, whereas now there is but one, and that the slower river, for Martin Mear has the more fall in the same length than Douglas; now this may make a more free passage from above.

4) This work gives the same opportunity to drain the lands (adjoining Douglas) below the mouth of the cut down Martin Mear as there is in Martin Mear, for it is but turning all the water down thro' Martin Mear and then the Douglas will run empty, so the water will force thro' such clows in the banks as those in Martin Mear, to dry the lands etc.

Now as to the navigation above Rufforth in regard the vessels must wait the spring tides and the Douglas is very narrow in most places. It will answer best for a small navigation with little boats, which will be most within reach of poor watermen to purchase; and the river may be done at a much cheaper rate than it can for large boats, which will require many cuts and bridges and much land to be purchased, whereas less boats may do as well, there being many more of them.

Now in regard they must wait the spring tides, the boats will go by companies, so that it will not be convenient to make locks as usual all the way, but to set single pairs of gates in most places, at such a distance, one from another, as a fleet of boats may be between them. By this means, as the boats come down laden, they will bring a flush of water down with them which will be an advantage to navigation.

As to a calculation of the charge of such work there can be no tollerable account given till a survey of every particular is taken, and the ground set out where the work is to be done in every place and what works are to be made. Also great care ought to be taken where to make wharfs, landing places, haling ways and roads to the riverside. Also where materials and men may be had for the work and at what prices and what waters may be brought from other places.

As to the size of the boats that may be conveniently carried on the River Douglas, it is not yet determined. For the dimensions of the cuts to carry them; but I am of opinion that a river of 5 yards wide and 3 feet deep at low water may be suitable to the rest of the river. But this may be better understood by a particular survey of each part.

As to the difference between a navigation down by Asland and that down Martin Mear, would be better understood by a plan of them both in their due situation.

It seems necessary to have these things agreed on before the work be begun to prevent disputes with the land owners etc.

Being the thoughts of me,

William Palmer.

Haigh MSS Box F1

An estimate of the expence of a navigation from the River Douglas thro' Martin Mear to the sea, together with proper works in order to recover the lost drainage of Martin Mear etc. by William Palmer.

	£	s
1) To stone work to the great gates in the sea bank near Crosstones together with workmanship for the same	222	00
2) To stone work for a lock at the end of the dock within the sea bank.	322	00
3) To a lock which backs the water to a sufficient depth up to Douglas	320	00
4) To wood end workmanship for the great gates in the sea bank together with the lock at the end of the dock next Martin Mear.	300	00
5) To land for a dock and wharf near Crosstones at the sea bank.	20	00
6) To digging the foundations of the great gates in the sea bank and also to digging a dock 500 feet long and 60 feet wide to be a safe harbour within the banks for sea vessels to lodge in.	110	00
7) To making 2 banks and 2 ditches en the outside of them which are each of them about 3½ miles in length which makes 7 miles in all	924	00
8) To making 2 clows in the banks and repairing the present cut and staithing or wearing the soft boggy ground to make the banks to stand.	100	00
9) To cutting a channel thro' the sands and making some wears to confine the cut over the sands to keep straight to the sea etc.	200	00
Total	£2530	00

Note: there may be several advantages gained by carrying the navigation thro' Martin Mear some of which are as followeth:-

1) That way is above 6 miles nearer the sea than to go about by Asland and Hesketh Bank.

2) The way being straight is better for sailing and falls into the sea at the lowest level that can be had so that if there be need the tides may drive vessels upwards etc.

3) Sea vessels may be brought to meet land vessels at Crosstones (nearer the sea) than at the mouth of Asland.

4) Proper works this way gives the opportunity of draining Martin Mear effectually.

5) It gives the opportunity of draining land both above and below Rufford and takes away no priviledge of flowing those lands and may for the most secure the hay from being lost in summer flood. For as there is now but one channel to receive the water (and that channel has but small descent) there will then be two channels which will take the water from above Rufford faster and also let a less quantity go down below, being stopped at pleasure.

6) It will make the river navigation more constant by preventing the river from rising so high, for high water both hinders haling by covering the banks and also stops vessels from passing under bridges. Also the water (carrying a swifter motion in the river) will not be so apt to sand up above Rufford.

An estimate of the charge for work for making the Rivers Asland and Douglas navigable from Becconsall Chapel to a lock near Rufford, so as to make water one yard deep and five yards wide in spring tides and to continue the same to the Miry Lane End near Wigan with locks 12 feet wide and 60 feet long between the gates, the walls to continue 15 feet below the low gates and 12 feet above the upper gates; by William Palmer, Peter Rawson and Martin Willans.

Beconsall to Wainsblade Bridge	
To open and deepen the river to Rufford lock and raising two bridges.	231-00
To stiles and bridges to the haling way.	8-00
To Rufford lock and dam.	386-00
To cutting the River to Wanesblade Bridge.	231-00
To a lock and dam a little below Wanesblade Bridge.	386-00
To stiles in the haling way to Wanesblade Bridge.	1-10
	£1243-I0
Wainsblade Bridge to Douglas Mill Race, near Newborough.	
To opening the river from Wanesblade to Douglas Mill Race.	280-05
To stiles and bridges in the haling way.	3-00
Newborough Mill to Apley Bridge	
To a deep lock at Newbrough Mill.	349-00
To digging the foundation of the deep lock and cutting the Old Douglas.	82-00
To opening the river from the Old Douglas end to Douglas Chapel.	82-05
To a lock and dam near Douglas Chapel.	386-00
To the river cutting from Douglas Chapel to a sharp turn under a steep hill.	115-10
To a lock at the end of a long cut near the sharp turn.	326-00
To a cut about ¾ mile under a hill side cutting.	173-00
To a dam to turn the water into the new cut which makes water to Apley Bridge.	60-00
To open the river from the new cut to Apley Bridge.	57-15
To stiles in the haling way	2-10
To a bridge over the cut.	20-00
Apley Bridge to Gatter's Bridge	
To raising the arch at Apley Bridge.	20-00
To a lock and dam near Apley Bridge	386-00
To cutting a foundation of the lock at Apley Bridge.	18-00
To cutting the river from Apley Bridge lock to the cut against Mr. Holt's house.	156-15
To cutting the new cut against Mr. Holt's house.	23-02
To a lock and dam over against Mr. Holt's house.	386-00
To open the river from the cut to Gatters bridge.	148-15
To stiles and bridges in the haling way.	1-00
Gatter's Bridge to Miry Lane Ends, Wigan	
To open the river from Gatters bridge to Crooks cut	29-10
To the lock and its foundation digging at the great cut end.	344-00
To cutting the great cut near Crook Hall.	165-00
To a dam near Crook Hall at the upper end of the great cut.	15-00
To opening the river from Crooks cut end to above the oldMillstead.	99-00
To a lock and dam above the old Millstead.	386-00

To opening the river from the lock at the old Millstead to Harrysons Platt or Bridge.	148-15
A cut from Harrysons Platt to Miry Lane Ends.	231-00
To 2 locks in the same cut.	700-00
To the cut from Miry Lane Ends to Hennings Bridge for conveying water into Miry Lane Ends	16-01
To a clow at the top of the cut.	10-00
To bridges for way to land and a bridge over the road.	36-00
To a dam near Hennings Bridge to turn water into the cut.	60-00
To stiles and bridges in the haling way,.	4-00
To alterations of drains and unknown chances.	60-00
Total	£6684-16

An estimate of the value of land convenient for the navigation.

To land for a wharf and warehouse at Becconsall Chapel	20-00
To land for a wharf at Wenesblade Bridge	12-00
To land for a wharf at Douglas Mill and a cut thro' old Douglas,	40-00
To land for a lock and some pieces to be cut near Douglas Chapel,	3-00
To land from the end of a long cut under a hill side and land for a cut about i of a mile long,	60-00
To land for a wharf at Apley Bridge,	10-00
To land for a lock and cut near Apley Bridge,	36-00
To land for a wharf at Gatters Bridge,	20-00
To land for a long cut near Crooks Hall,	75-00
To land for two locks and a cut from Harrisons Platt to Miry Lane Ends and a wharf,	231-00
To lands for a cut thro' several lands from Miry Lane Ends to Henhurst Bridge to convey water to the Miry Lane End and some turns in the river to be cut off and the haling way,	50-00
Total	557-00

Distances.

	Miles	Furlongs
Becconsall Chapel to Tarlton,	2	0
Tarlton to Bank Bridge,		3½
Tarlton Bridge to Yarrow Mouth,	1	5½
Thence to Rufford White Bridge,	1	7
Wanesblade Bridge,	2	2¼
Douglas Chapel,	2	7½
Apley Bridge,	2	2¼
Gatters Bridge,	2	1
Crook Hall,	1	5
Harrisons Platt,	1	6¼
Adams Bridge,		3¼
Henhurst Bridge,	1	0½
	20	4

The length of the cut from the River Douglas near Rufford over Martin Mear to the Meals Floodgates is above 6¼ miles.

Note that a navigation over Martin Mear would be nearer the sea than that thro' Asland by 6 miles and more.

Levels.

A-B 2-0, B-C 6-0, Rise at Douglas Mill 7-6, C-D 6-6, D-E 12-1, E-F 5-4, F-G 8-7, G-H 3-8, H-I 2-4, I-K 3-0, K-L 2-8, L-M 8-4.

Total 68 feet 0 inches

From low water in Douglas to the low water in Martin Mear there is 10 inches fall.

From low water in Martin Mear to the bottom sill of the present floodgates is 2 feet 9 inches.

The whole charge of a navigation from the River Douglas over Martin Mear to deep water in the sea and to answer the drainage of Martin Mear, with a safe harbour for sea vessels to lie in and a convenient wharf for landing goods with purchase of lard for the same by a careful estimate will amount to the sum of £2792.