

A  
S C H E M E  
For executing A  
N A V I G A T I O N  
From Tetney-Haven to Louth;

A N D  
For Draining the low Grounds and Marshes  
adjoining thereto.

By JOHN GRUNDY

TO WHICH IS ADDED

T H E

R E P O R T

O F

JOHN SMEATON, ENGINEER,  
CONCERNING

*The PRACTICABILITY &c. of a SCHEME  
of NAVIGATION, from Tetney Haven to LOUTH,  
in the County of LINCOLN, from a View taken  
thereof, in August 1760; As projected by Mr.  
JOHN GRUNDY of Spalding, Engineer.*



---

NOTTINGHAM: Printed by SAMUEL CRESWELL,  
For E. PARKER, BOOKSELLER at Louth.

MDCCLXI.



184 R  
18850  
L606:386-4  
GRU



# A S C H E M E

F O R A

## N A V I G A T I O N

From TETNEY-HAVEN to LOUTH.



**I**N *October* 1756, I was employ'd to project a Navigation to the Town of *Louth*, in order to which I first made Views of its Situation with respect to the Sea and River *Humber*, and of the Course of the River *Ludd*, which runs through it, of the several Outlets or Harbours on the Sea Coast adjoining, and also of the low Grounds and Marshes between it and the Sea; and afterwards made a Survey and Plan, and took the Levels of the Country from *Louth* to *Tetney Haven*, which falls into the River *Humber*, &c. &c.

FROM which Views, Surveys and Levels, I found that the Town of *Louth* is situated in a Valley, under the Foot of

A the

## A SCHEME for a NAVIGATION

the Woulds, Part of *Lincolnshire* (a fine dry Country extending many Miles on the West, South West, and North West) and about ten Miles from the Sea on the East. Its nearest Ports or Harbours are *Saltfleet*, *Tetney* and *Grimby*, from whence it is supply'd with Coals, Deals, Groceries and other Kinds of Merchandize inwards; and to which a great part of the Corn, Wool and other Produce of the adjoining Country is convey'd by Land Carriage for Exportation. The Country through which this Land Carriage is performed, being mostly flat drowned Marshes, the Soil a strong Clay, and the Roads in Wet Seasons so deep, foundrous and bad, that it is with the greatest Difficulty and at an immense Expence that this Land Carriage is effected, to the great Detriment of Trade and Commerce and to the great Hurt and Disadvantage of the Landed Interest of all the Country adjoining.

The Situation of Louth with Respect to the Country and to the Sea.

THE River *Ludd* runs through this Town, and down a Valley Eastwards thereof, through the Lordships of *Redington* and *Avingham* to *Avingham* Mill, which is about four Miles below *Louth*. In this Distance there are several Water Mills. The Course of the said River is very crooked and its Stream rapid; there being a Fall from *Louth* to *Avingham* Mill Tail, of about forty nine Feet.

The Course of the River *Ludd* to Seaward &c.

From

from *Tetney-Haven* to *Louth*.

From *Avingham* to the Sea is a flat Marshy Country of about six Miles in-Breadth Eastward, and extending many Miles to the North and South.—The said River from *Avingham* Mill runs through this flat Country confined by high Banks and greatly above the Soil, first to *Ringer's* Gowt or Clow, where part of its Waters are occasionally taken in by the said Clow, and convey'd through *Ringer's* Drain to water the low Grounds of *North Cockerington* and *Scupholm*, and then to the *Eau-Mootes* (which is about one Mile below *Avingham* Mill) where it is divided into two Branches and, by Clows or draw Doors on each, are interchangeably taken into Drains, one of which waters the Lordship of *South Summercoates*, &c. and the other *Cunisholme* and *Grainthorpe*, &c. the latter of which Courses empties itself into the Sea through *Grainthorpe* Haven. All these water Courses run greatly above the Soil in Floods, and have high Banks on each Side. About one Furlong above or West of *Ringers* Gowt is a Tunnel of six Inches square lying through the North Bank of the River which waters *Avingham* Fenn and the Lands adjoining to *Blackdyke* Sluice and *Updyke*.

The six Inch Tunnel.

ALL this Tract of low Ground and Marshes, from *Avingham* aforesaid to *Tetney* (being Parts of the Lordships of *Avingham*, *Cunisholme*, *Grainthorpe*, *Ful-*

A 2

flow,

## A SCHEME for a NAVIGATION

Low Grounds  
and Marshes are  
drowned in wet  
Seasons.

*flow, Marsh-Chappel, North-Coates, Thoresby and Tetney,*) are liable to fresh Water Floods from the high Country adjacent, and for Want of a Mother River, Sea-Sluice and other proper and necessary Works for draining and preserving the same, are in all wet Seasons drown'd and greatly overflowed with Water to the great Hurt, Impoverishment and Damage of the said low Grounds and Marshes.

To remedy the foregoing Evils, and for the Emolument, Advantage and Benefit of the several Land-Owners, Land-Occupiers, and Inhabitants not only of *Louth, Redington, Avingham, Cunisbolme, Grainthorpe, Fulstow, Marsh-Chappel, North-Coates, Thoresby and Tetney,* but also of the several Towns adjoining thereto, and within the Reach thereof by Land Carriage,

The Proposal

A Navigation is proposed to be made from *Tetney Haven to Louth*, and together therewith a Mother River and Sea Sluice, for draining the several low Grounds and Marshes aforesaid, also, to be executed in the manner following, *viz.*

I. By the Map hereto annexed, it appears that *Tetney Haven* from the Sea Bank through the *Fitteys* to low Water Mark in the *Humber* is extremely crooked, and therefore, to render the same more commodious for Navigation as well  
as

from *Tetney-Haven to Louth.*

as Draining, a new Cut is proposed to be made over the said *Fitteys*, forty Feet <sup>New Cut over the *Fitteys*.</sup> wide at the Top, twenty two Feet wide at the Bottom and nine Feet deep on an Average.

II. As the Admission of Tides into *Tetney River* and up the Country, has been found to occasion great Injury to the aforesaid low Grounds, and will be hereafter detrimental to draining thereof, it is proposed to erect a Sea Sluice, in the Sea <sup>The Sea Sluice.</sup> Bank near *Tetney Sheep Bridge*, of sixteen Feet clear Waterway in two Arches, with Pointing Doors to the Sea-ward, to stop the Tides, and Draw Doors to the Landward to be occasionally made Use of, as well to make artificial Scowers to cleanse the Outfall below, as also, to retain a necessary Quantity of spring Waters in dry Seasons, not only for the Purposes of Navigation, but also, for the better watering the low Grounds and Marshes.

III. A Pen Sluice or Lock for the <sup>The Lock.</sup> Purposes of Navigation is proposed to be laid by the Side and independant of this Sluice of fourteen Feet Waterway, with two pair of pointing Doors to the Sea-ward, and two Pair of Doors to the Landward thereof, &c.

IV. A new Cut or Canal is proposed <sup>New Cut across Tetney Common.</sup> to be made from the said Sluice across *Tetney Common* to the North Bank  
in

A SCHEME for a NAVIGATION

sharks

in North-Coates; and in order that the Surface of the Water in this new Cut may be kept two Feet lower than the lowest Grounds to be drained thereby, and may be sufficient for Navigation, it is proposed to be made thirty-two Feet wide at the Top, sixteen Feet wide at the Bottom and eight Feet deep.

V. IT is further proposed to continue this new Cut from the said North Bank in North-Coates, through the low Lands of that Parish, across the Fleet to New-Dyke, and from thence along the Boundary-Dyke between Marsh-Chappel, and Fulfrow Lordships, across Water-Lands Drain, Hillgate Lane, Landyke Bank and Drain, and Fulfrow Keydykes to Firebeacon Lane; from thence across Wragholmn Ings to the End of the Division Dyke between Carwborpe and Coneham and Graintborpe Lordships; and from thence along the said Division Dyke, to Blackdyke Sluice, and from thence across part of Avingham Out Fenn to the Dyke between that Fenn and the Clofes, and by the Course of the said Dyke, to the upper End of the said Fenn.—This new Cut is proposed to be made thirty Feet wide at the Top, sixteen Feet wide at the Bottom and seven Feet deep.

Ditto to the upper End of Avingham out Fenn

VI. To open Communications betwixt this new Cut, and the several Water-

from Tetney-Haven to Louth.

Water-courses and Drains it intersects, viz. the Drain by the North Bank between Tetney and North-Coates, North-Coates-Fleet, Newdyke, between North-Coates and Marsh-Chappel, Waterlin's Drain by Hillgate Lane, Landyke Drain, Swing's Dyke, &c. Opening Communications to the new Cut.

VII. BUT if the Land Owners should chuse to continue their present Water Courses and Methods of Draining, then it is proposed to carry them under the new River by subterraneous Tunnels of equal Capacities with the present Drains and Water Courses. Subterraneous Tunnels.

VIII. To lay down Waggon and Horse Bridges, where necessary, to preserve Roadways from Town to Town and keep open Communications over this new proposed River. Waggon and Horse Bridges

IX. FROM the upper End of Avingham Fenn to Louth (there being a Rise of fifty five Feet six Inches and a Half) it is proposed to carry up this Navigation by nine Locks to be erected in the following Places, and of the following Heights viz. One at the said upper End of Avingham Fenn, of six Feet seven Inches and two Tenths of an Inch in Height, allowing the Canal to be one Foot lower than the Surface of the Water in Tetney River at the primary Point when the Levels were taken, and for the proposed Waste to be laid six

A SCHEME for a NAVIGATION

six Inches below the Top of the Lock.

Heights and Places of the Locks.

ONE by *Avingham* Mill, of six Feet TWO Inches and three Tenths of an Inch in Height.

ONE in *Avingham* Field near a Close of Mr. SCROOP's, of six Feet five Inches and three Tenths of an Inch in Height.

Correction: Kedington

ONE at *Redington* End, of four Feet four Inches and three Tenths of an Inch in Height.

ONE at *Redington* Mill, of five Feet eleven Inches and seven Tenths of an Inch in Height.

ONE opposite *Redington* Church of five Feet six Inches in Height.

ONE in *Mallard-Ings*, of six Feet eleven Inches and seven Tenths of an Inch in Height.

ONE by the Side of the *Leather-Mill* of five Feet two Inches and nine Tenths of an Inch in Height.

AND one by the Side of Mr. THOROLD's lower Mill, of eight Feet eight Inches and eight Tenths of an Inch in Height.

X. THE Navigable Course from one of these Locks to another, is proposed to be made partly in the present Course of the River *Ludd*, but mostly by a new Cut in the following Direction, and to be twenty eight Feet wide at the

from *Tetney-Haven* to *Louth*.

the Top, sixteen Feet wide at the Bottom, and six Feet deep, viz. from the Lock at the upper End of *Avingham* Fenn by a new Cut across the high Part of Mr. SCROOP's, Mr. MADISON's, Mr. ROBINSON's, Mr. NAILTHORP's and Mr. SUGAR's Langdales to the Mill Stream; and from thence by the said Mill Stream (except by taking off the largest Crooks) to *Avingham* Mill, from thence by making a new Cut on the North Side of *Avingham* Mill Dam, chiefly over Mr. MADISON's Land to the Bridge Lane, and from thence in the Division Dyke, between *Avingham* and *Kedington* Fields and the Meadows to *Kedington* old Mill, and from thence to pursue the old River up to the *Leather Mill*, except taking off the Irregularities that are too crooked for Navigation; and from the said *Leather-Mill* (to avoid interfering with the said Mill Dam,) a new Cut is proposed to be made on the North Side thereof from thence to Mr. THOROLD's lower Mill, and from this last Mill to *Louth*, as the Mill Dam lies so close under the Hill on the North Side thereof, as not to admit Space enough to make a new Cut for the Navigable Course, and as that Course must be rendered independent of the said Mill Dam, it must be made partly along the

Directions of the Navigable COURSE from *Avingham* out Fenn to *Louth*.

B same,

A SCHEME for a NAVIGATION

fame, and a new Dam made South thereof.

XI. It is also proposed to make proper and necessary Waggon and Horse Bridges over this Navigable Cut from *Avingham* out Fenn to *Louth*, in all Roadways and other Communications, from Property to Property. The Places at present proposed are, one in the Lane leading to *Avingham* out Fenn, one by *Avingham* Mill, one in *Bridge-Lane* at the West End of *Avingham*, one by *Kedington* End, and one by *Kedington* Mill.

Length of the Navigation.

The Length of this Navigation by Locks, viz. from *Avingham* out Fenn to the new Bridge in *Louth*, is four Miles one Furlong and four Chains; and the Flat or Canal Part from *Avingham* out Fenn to *Tetney* Haven is seven Miles two Furlongs and four Chains, in all, eleven Miles three Furlongs and eight Chains.

The ADVANTAGES of the foregoing S C H E M E.

Surface of the Water in the new proposed Canal to be Limited.

I. The Surface of the Water, in the new proposed Canal, or Navigable Cut, is at all times proposed to be kept two Feet lower than the lowest Surface of the Lands contiguous to it, and to be drained thereby, (the Land Doors of the

from *Tetney*-Haven to *Louth*.

the Sluice being to be limited to that Height,) which will therefore allow a sufficient Fall for the perfect Drainage of those Lands.

II. The Sluice and Lock will together be thirty Feet Wide, for admitting the Land Waters to Sea, and therefore will be of a Capacity sufficient for Draining. And as by the Levels it appears, that there will be a Fall from this proposed Sluice through the new Cut to low Water Mark in the *Humber*, of more than five Feet, and the Distance is only about five Furlongs; there can be no doubt but the Land Waters will run off with a quick and effectual Velocity for Drainage. And as by Information it appears that the Neap Tides rise more than four Feet and Spring Tides than ten Feet in *Tetney* Haven, and as its Course will be wide and deep, there can be no doubt of its being a commodious, safe and eligible Harbour for Barges &c. to come into.

III. By Means of the proposed Canal, &c. you have a Flat Navigation without any Lock (but that by the Sea Sluice) from the *Humber* at *Tetney* Haven, to the upper End of *Avingham* out Fenn, which is seven Miles two Furlongs and four Chains; and this new Cut or Canal is in the most eligible Situation to serve as a Mother River

See

Fall to Sea sufficient for Drainage.

Bowyer says no

See

Commodious Harbour.

The new Cut is most eligible for Draining and an early Navigation of the several Lordships adjoining, as it lies in the lowest Slade of those low Grounds, and as the greatest Fall from them appears to be that Way, there being nearly six Feet Fall from the very lowest of those Lands to the Surface of low Water in *Tetney Haven* (the Mouth of this Cut) which is greatly more than is by Calculators esteemed absolutely necessary to drain by.

See

IV. THIS new Cut will also preserve those low Grounds and Marshes from being (as is now the Case) subject to be overflowed by the Field Waters, as it will serve as a Catchwater Drain to stop them there and convey them to Sea through it.

Will serve as a Catch-Water Drain.

Private Drainage to communicate with the new Cut.

See

To communicate the internal Drainage into this new Canal or Mother River, the several Water-Courses and Drains, which it intersects, should be opened into it. These are chiefly the Drains by the North Bank, betwixt *Tetney* and *North-Coates*, *North-Coates-Fleet*, *Newdyke* between *North-Coates* and *Marsh-Chappel*, *Waterlin's Drain* by *Hill-gate Lane*, *Landyke Drain*, *Swings Dyke* &c. But if the Land Owners should chuse to continue their present Water-Courses and methods of Draining, they may be carried under this proposed new Cut by subterraneous Tunnels of equal

if they should

On subterraneous Tunnels to be laid under the new Cut.

equal Capacities therewith, which will preserve them in the same State they now are.

VI. No Inconveniencies will attend the Land Owners by making this Cut by or through their Properties, because the Lands so to be cut, as well as those to be covered by the Banks, are proposed to be paid for at full Value, nor will the Passages to and from Parish to Parish, and to and from their respective Lands be intercepted thereby; Bridges being proposed to be laid wherever necessary.

Land will be paid for and Bridges made.

VII. THIS new Cut or Canal may be also made capable of watering the low Grounds and Marshes of *North-Coates*, *Marsh-Chappel*, *Grainthorpe* &c. and even as high as the upper End of *Avingham* out Fenn, by having moveable Shuttles fixed on the Top of the Land Doors of the Sluice, by which Means the Water therein, may be raised in dry Seasons to a sufficient Height for that purpose; which Shuttles may be immediately taken away again, upon the Approach of any Wet, or when not wanted for the above Use.

The new Canal may be made to convey Waters to the low Grounds in dry Seasons.

See they are

VIII. THIS Navigation from *Avingham* Out Fenn to *Louth*, as it is proposed to be executed, will not be hurtful to, nor interfere with any of the Mills now standing on the River; because

The Navigable Course won't hurt or interfere with the Water Mills.



cause the Navigable Course is to be carried by the Side of the Mill Dams, and the Surface of the Navigable Water above the Mills, is to be kept higher than the Water in the Dams when full, and lower below each Mill Tail than now, so that no Water can be taken from the Mill Dams as above, nor tail-ed up below them by this Navigation.

It won't re-  
quire any Water  
which runs by  
the Eau-Mootes.

IX. IT won't incommode the Water-courses by *Ringers* Drain or the *Eau-Mootes*, nor rob any of the Parishes now water'd thereby of any Water; for as the proposed Lock at the upper End of *Avingham* out Fenn will keep up the Water in the River above these *Eau-Mootes*, &c. one Foot three Inches and seven Tenths higher than it was when I took the Levels, and by making a Ware or Waste there, six Inches lower than the said Lock, the said River or Mill Stream will make its Way over the said Waste into its old Course to the *Eau-Mootes* with a greater Fall than heretofore; and therefore none of that Water can be carried into the new Cut below, except what the Pen of the Lock will hold at each Vessel's passing through, which will be less than in all dry Seasons I am informed, has always and now does pass that way through a six Inch Square Tunnel which now is, and has (as

I am informed) been time immemorial laid under the North Bank of the River or Mill Stream, about one Furlong above, or West of *Ringers* Drain, through which Tunnel, the Proprietors and Occupiers of *Langdales*, *Avingham* out Fenn and Lands adjoining to *Black-Sluice* and *Updyke*, have (as I am informed) at all times unlimitedly taken in Waters in dry Seasons.

The six Inch  
Tunnel being  
sufficient.

X. IT will be of great Advantage to the Drainage of the Meadows between *Avingham* out Fenn and *Louth*; because the Navigable Course, being to be carried under the Foot of the high Grounds, will serve as a Catchwater Drain to stop the Field Water and prevent them from Damaging the said Meadows, as they now frequently do, and because there will be a Fall from them into the new Cut below, of two Feet and a Half, for which Reason any Communications which may hereafter be made from the said Meadows to the said new Cut cannot fail of answering their Drainage.

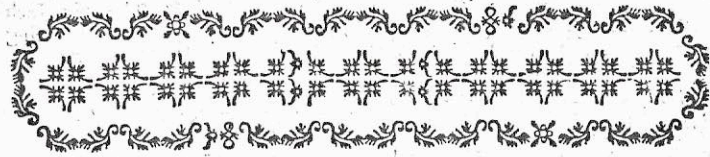
Will benefit the  
Drainage of the  
Meadows.

Spalding,  
Lincolnshire.

JOHN GRUNDY.



The



T H E  
R E P O R T

O F

JOHN SMEATON, ENGINEER,  
CONCERNING

*The PRACTICABILITY &c. of a SCHEME  
of NAVIGATION, from Tetney Haven to LOUTH,  
in the County of LINCOLN, from a View taken  
thereof, in August 1760; As projected by Mr.  
JOHN GRUNDY of Spalding, Engineer.*

HAVING carefully examin'd the Scheme of Navigation propos'd by Mr. JOHN GRUNDY, for making a Navigable Canal, from *Tetney Haven* to the upper End of *Avingham* out Fenn; and from thence to join the River *Ludd* or *Louth* River, between *Ringers* Drain and *Avingham* Mill; and from thence partly by the Course of the River, but chiefly by a new Canal up to new Bridge, at or near the Town of *Louth*, and having carefully compared the said Scheme, with the Lands through which the afore-said Navigation is propos'd to pass; and also examin'd, as well the principal Water-Courses, *Eau-Mootes* and Outfalls, as the Havens and Communications

Communications with the Sea and River *Humber* which relates to the above-said Scheme, I am of Opinion as follows;

I. THAT *Tetney Haven* is the most proper Outfall for a Navigable Canal, as being both safest and deepest; and affording a Communication with the inland Navigation of *Yorkshire*, and the *Trent* for flat Bottom'd Barges, without going to Sea, which at some Seasons of the Year would be dangerous, or impracticable. *See that*

II. THAT the Course of the intended Canal as laid down in Mr. GRUNDY's Plan, from Mr. YOUNG's Warehouse near *Tetney Haven* to its Junction with the *Louth* River, between *Ringers* Drain and *Avingham* Mill, is the most eligible Position, both for the Purpose of Navigation and Drainage, as passing in general through the lowest Grounds.

III. THAT the rest of the intended Navigable Course from the Junction of the Canal with the River as afore-said, to new Bridge near the Town of *Louth* as marked out in the said Plan, is also very proper; and does not seem likely to be attended with any particular Prejudice, to the Owners of the adjacent Grounds, more than what is inseparable from all Undertakings of this Kind.

IV. THAT the Owners of the low Grounds that are liable to be effected by the *Tetney* River, will

*Mark-* will in particular receive great Benefit from this Undertaking: because,

V. THE Water of *Tetney* River, being received into the Navigable Canal before it meets with the Sea Sluice or Lock; as the Water of this Canal is by the said proposed Scheme to be kept constantly lower by one Foot than low Water-mark of the *Tetney* River, under *Sheeps* Bridge; it follows, that the Surface of *Tetney* River will at its Outfall into this Canal be kept at least one Foot lower than it could be, by placing a Sea Sluice at or near *Sheeps* Bridge upon the present Course of the River.

VI. I am further of Opinion that the carrying the Navigation up the *Tetney* River further than *Sheeps* Bridge will no Way contribute to the more effectual Drainage of the *Tetney* Lands, and will carry the Canal considerably out of its due Course; but that a Navigation for Lighters and small Vessels, may be seperately made up the *Tetney* River to *Tetney*, at a small Expence.

VII. THAT the Surface of the Water of the Canal, being kept one Foot lower than the Point of low Water at *Sheeps* Bridge, will be lower than the Surface of the Water in all the Drains that it will intersect, and consequently that the Water of those Drains being turned into the Canal will afford a Means of draining those Lands more effectually: or may occasionally be kept  
up

up at their present Level, by small Shuttles or Stops near the Side of the Canal.

VIII. Where the Passages for Waters from Springs for watering Grounds and other Purposes, are intersected by the intended Canal and are desired to be continued in their present Course, they may be so continued by subterraneous Passages or Tunnels, as has already been observed in Mr. GRUNDY'S Report.

IX. THAT the principal Conveyance of Spring Water next to *Tetney* River appears to be that of the *North-Coates-Fleet*, the Surface of which lies higher than the Surface of the intended Canal, and therefore will discharge itself into the same; consequently if there should be any Objection from *Tetney*, against supplying the Navigation in dry Seasons from their River, such Supply may be had from *North-Coates-Fleet*, or other Sources having Communication with the Canal upward.

X. I am further of Opinion, that which ever of those Ways are thought most eligible, that the Sea Lock ought to be provided with Ebb Gates, or Gates pointed to Landward, as well as Seaward; that the water may be retained in the Canal to its due Height and to enable the Vessels to pass at all Times, when there is depth of Water without the Sea Lock: it also appears to me that the Purpose of the Lock will be as effectually answered, by taking in one Vessel at a Time, as by taking in two.

XI. THAT in Case the several Parishes concerned, would be agreeable that the Redundance of one Parish should contribute to the Defects of another, this Canal would be the best Means of performing it; for a Part of the Water of *North-Coates-Fleet*, or *Tetney River* being committed into the Canal, all those Grounds contiguous, or which might be brought to communicate with the Canal quite up to *Avingham* out Fenn, might by proper Drains be supplied with Spring Water.

XII. THAT according to the modern Practice of building Locks, they are capable of being made and preserv'd Water-tight, wherever this Circumstance is necessary.

XIII. THAT according to this Scheme no Water will be turned away from *Ringers Drain*, and the *Eau-Mootes*; except what is necessary to fill a Part of the first Lock, upon the Canal near the upper End of *Avingham* Out Fenn.

XIV. THAT on the seventh Day of *August* 1760, after the dryest Season that has been known in the Memory of Man, I carefully examined the Discharge of Water by the *Louth* River in twenty four Hours, at *THOROLD'S* Mill, being the first below the new Bridge at *Louth*; and compared the same with the Discharge at *Avingham* Mill; and found the Quantity such as to fill the said first Lock near the upper End of *Avingham* Out Fenn to the Height required for

for the Passage of a Barge, two Hundred Times in twenty four Hours, so that even in the dryest Seasons, the Quantity of Water expended by the Navigation will be so very inconsiderable in Proportion to what will still remain, that the Difference will be quite insensible to the Occupiers of Lands.

XV. THAT there is a Possibility that even this inconsiderable Loss of Water may be totally prevented, in scarce Water-times; but at an Expence to the Undertaking which so inconsiderable a Quantity does not seem to merit.

XVI. THAT the Course of the River from the Place of Junction of the Canal therewith to the Town of *Louth*, being narrow, crooked, and generally shallow, with Level Meadows on one or both Sides and scarcely any Part of it in a Navigable State, I apprehend it will be more eligible and less expensive to dig a new Canal with Locks upon the same at proper Distances, than to pursue the old Course of the River, and that the Scheme above referred to is very proper for this Purpose.

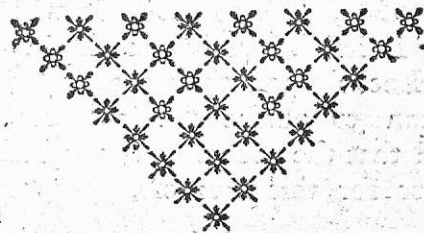
XVII. THAT the Rise of the River, from the Place of Junction of the Canal with the River as aforesaid to *Kedington* old Mill is very gentle; being in Length about two Miles and three Quarters and rises about twenty four Feet, according to Mr. *GRUNDY'S* Survey; from thence to a Meadow a little below the *Leather-Mill*,  
the

the Ascent is more sudden, being eleven Feet and a Half in three Quarters of a Mile; and from thence to the new Bridge at *Louth* still more, being about twenty one Feet in the same Space. I am therefore of Opinion,

XVIII. THAT the Distance of three Quarters of a Mile from the *Leather-Mill* to the new Bridge will be, in proportion to the Distance, the most expensive Part of the Undertaking; but that a considerable Sum will be saved by terminating the Navigation at *Kedington* old Mill, to which Place it may be brought on very moderate Terms.

*Ausborne,*  
July 14, 1761.

JOHN SMEATON,



General

General-ESTIMATE, of the EXPENCE of making a NAVIGATION, from *Tetney Haven* to *Louth* according to Mr. GRUNDY's Plan.

For BARGES, with CANALS wide enough for two to pass in all Places.	For BARGES, with CANALS for one with Passing Places.	For Lighters, drawing two Feet Water.
--	--	---------------------------------------

From <i>Tetney Haven</i> to the New Bridge at <i>Louth</i> ,	} £ 15,590	£ 13,686	£ 10,884
--	------------	----------	----------

From <i>Tetney Haven</i> to the Meadow below the <i>Leather-Mill</i> ,	} £ 12,968	£ 11,241	£ 8,931
--	------------	----------	---------

From <i>Tetney Haven</i> to <i>Kedington</i> old Mill,	} £ 11,098	£ 9,481	£ 7,589
--	------------	---------	---------

From <i>Tetney Haven</i> to the Top of <i>Avingham</i> out Fenn,	} £ 7,853	£ 6,566	£ 5,312
--	-----------	---------	---------

IN the above Estimate, the Expence of procuring an Act of Parliament is not included; the Marsh Land is estimated at ten Pounds, and the Meadow at twenty Pounds per Acre. The Ground covered is reckoned at Half Value, or which is the same thing at Half Quantity: The Quantities to be purchased are as follow, so that

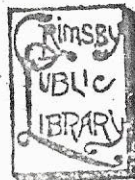
that whatever Alterations there may be in the Price now supposed, the Difference may be applied without affecting the other Articles.

	Two Barge CANAL. ACRES	One Barge CANAL, ACRES	CANAL for LIGHTERS
Marsh Land,	57	45 $\frac{1}{2}$	40
Meadow Land,	32 $\frac{1}{2}$	26	22 $\frac{3}{4}$
Total ACRES	89 $\frac{1}{2}$	71 $\frac{1}{2}$	62 $\frac{3}{4}$

*Austhorpe,*  
July 14, 1761.

JOHN SMEATON.

F I N I S.




---

# REMONSTRANCE

AGAINST THE  
POSTSCRIPT TO THE REPORT OF  
*Mr. JOHN RENNIE,*

ADDRESSED TO THE  
PROPRIETORS OF THE EAST FEN,  
AND OF EAST HOLLAND:

Lincolnshire.

---

[PRICE SIX-PENCE.]

---

PRINTED BY T. RICKABY,  
PETERBOROUGH-COURT, FLEET-STREET,  
LONDON.