



Framework: Supplier: Company Number:

Geographical Area: Project Name: Project Number:

Contract Type: Option:

**Contract Number:** 

Mapping & Modelling Framework Jeremy Benn Associates Ltd

National Tidal Trent Tributaries Modelling

**Professional Service Contract Option C** 

29548

Revision	Status		Originator		Reviewer		Date

PROFESSIONAL SERVICE CONTRACT	under the Mapping	and Modelling Framework	
CONTRACT DATA			

Project Name	Tidal Trent Tributaries Mode	lling
Project Number		
	This contract is made on	10 August 2020
	between the <i>Client</i> and the	
	<ul> <li>This Contract is made put relation to the NGSA Map</li> <li>by reference</li> </ul>	rsuant to the Framework Agreement (the "Agreement") dated 16th day of May 2019 between the <i>Client</i> and the <i>Consultant</i> in ping and Modelling Support Framework. The entire Agreement and the following schedules are incorporated into this Contract
	by reference	
	Schedules 1 to 22 inclusiv	ve la
	The following documents	s are incorporated into this contract by reference
	2020-5_1_PSC_Tidal Tren TTT PSC Management Sci	nt Tributaries_V4 ope v1
Part One - Data prov	vided by the <i>Client</i>	
all Contracts		
1 General	The conditions of contract a	re the core clauses and the clauses for the following main Option, the Option for resolving and avoiding disputes and secondary
	Main Option Option C	Option for resolving and avoiding disputes W2
	Secondary Options	
	X2: Changes in the law	
	X9: Transfer of rights	
	X10: Information modelli	ng
	X11: Termination by the	Client
	X18: Limitation of Liabilit	у
	Y(UK)2: The Housing Gra	nts, Construction and Regeneration Act 1996
	Z: Additional conditions of	if contract
	The <i>service</i> is	The objective of the project is to improve the Client's understanding of flood risk by delivering a range of modelling outputs. These outputs are listed in the individual project Scope
	The <i>Client</i> is	Environment Agency
	Address for communications	
	Address for electronic comm	nunications
	The Service Manager is	
	Address for communications	s Environment Agency
	Address for cleatronic comm	
	The Scope is in	
	2020-5_1_PSC_Tidal Trent	Tributaries_V4
	The language of the contrac	t is English
	The law of the contract is	
	the law of England and Wale	es, subject to the jurisdiction of the courts of England and Wales
	The period for reply is	2 weeks
	The period for retention is	

#NULL!

following Completion or earlier termination

	The following matters w 1 #NULL! 2 #NULL! 3 #NULL! 4 #NULL!	ill be in	cluded ir	n the Early '	Warning Register		
	Early warning meetings	are to t	oe held a	at intervals	no longer than		2 weeks
2 The Consultant's ma	in responsibilities						
	The key dates and cond cond 'none set' 'none set' 'none set' The Consultant prepare: Cost plus Fee and exper	<i>itions</i> t <i>itions</i> t s foreca	to be me to be me asts of th intervals	t are t ne total Defi s no longer	ned than		key date 'none set' 'none set' 'none set'
				5			
3 Time	The starting data is						10 August 2020
	The <i>Client</i> provides acce	ess to th	he follow	ing persons	s, places and thing	5	10 August 2020
	access				, p		access date
	The <i>Consultant</i> submits no longer than	revised	l prograr	mmes at int	ervals		4 weeks
	The completion date for	the wh	ole of th	ne <i>service</i> is	5		30 October 2021
	The period after the Cor submit a first programm	tract D e for ac	ate with cceptanc	in which the e is	e <i>Consultant</i> is to		4 weeks
4 Quality management	t						
	The period after the Cor submit a quality policy s	tract D tateme	ate with nt and q	in which the Juality plan	e <i>Consultant</i> is to is		4 weeks
	The period between Con defects date is	npletior	n of the v	whole of the	e service and the		26 weeks
5 Payment							
	The currency of the cont	<i>ract</i> is	the			£ sterling	
	The assessment interval	is				Monthly	
	The expenses stated by	the <i>Cli</i>	ent are	as stated in	Schedule 9		
	The <i>interest rate</i> is Base	2.0 rat	00% te of the		Bank of England	per annum (not less tha	n 2) above the
	The locations for which t for the cost of support p	he <i>Con</i> eople a	<i>sultant</i> nd office	provides a o overhead	charge are	All U	K Offices
	The Consultant's share p	oercenta sł	ages and hare rang	d the <i>share</i>	ranges are	Consultant's share percentage	
	iess than from greater than	80	%	80 % to 120 %	120 %	50 % 100 %	
6 Compensation event	s						

These are additional compensation events

- Managing and mitigating the impact of Covid 19 and working in ac 'not used' 'not used' 'not used' 'not used'
- 1. 2. 3. 4. 5.

#### 8 Liabilities and insurance

These are additional Client's liabilities

1.	'not used'
2.	'not used'
3.	'not used'

The minimum amount of cover and the periods for which the Consultant maintains insurance are

EVENT The <i>Consultant's</i> failure to use the skill and care normally used by professionals providing services similar to the	MINIMUM AMOUNT OF $\pounds$ 5 Million in respect of each claim, without limit to the number of claims	PERIOD FOLLOWING COMPLETION OF THE WHOLE OF THE SERVICE OR TERMINATION 12 Years
Loss of or damage to property and liability for bodily injury to or death of a person (not an employee of the <i>Consultant</i> ) from or in connection with the <i>Consultant</i> Providing the Service	£ 5 Million in respect of each claim, without limit to the number of claims	12 Months
Death of or bodily injury to the employees of the <i>Consultant</i> arising out of and in the course of their employment in connection with the contract	Which ever is the greater of £5m or the amount required by law in respect of each claim, without limit to the number of claims	For the period required by law
The Consultant's total liabil matters arising under or in other than the excluded ma	ity to the <i>Client</i> for all connection with the contract, tters limited to	£ 5 Million

#### Resolving and avoiding disputes

Litigation in the courts The tribunal is The Adjudicator is 'to be confirmed' Address for communications 'to be confirmed'

Address for electronic communications

The Adjudicator nominating body is

'to be confirmed'

The Institution of Civil Engineers

#### Z Clauses

Z1 Disputes Delete existing clause W2.1

#### **Z2 Prevention**

- 22 Prevention
  23 The text of clause 18 Prevention is deleted.
  24 Delete the text of clause 60.1(12) and replaced by:
  25 The service is are affected by any of the following events
  25 War, civil war, rebellion, revolution, insurrection, military or usurped power;
  25 Strikes, riots and civil commotion not confined to the employees of the *Consultant* and sub consultants,
- Ionising radiation or radioactive contamination from nuclear fuel or nuclear waste resulting from the combustion of nuclear fuel,
   Radioactive, toxic, explosive or other hazardous properties of an explosive nuclear device,
- Natural disaster,
- Fire and explosion,
  Impact by aircraft or other aerial device or thing dropped from them.

#### Z3 Disallowed Costs

Add the following in second bullet of 11.2 (18) add: (including compensation events with the sub contractor, i.e. payment for work that should not have been undertaken). Add the following additional bullets after 'and the cost of ':

- Add the following additional bullets are in a the cost of the solution of the cost of the cost of the consultant's failure to follow standards in Scopes/quality plans. Reorganisation of the *Consultant's* project team. Additional costs or delays incurred due to *Consultant's* failure to comply with published and known guidance or document formats.
- Exceeding the Scope without prior instruction that leads to abortive cost
   Re-working of documents due to inadequate QA prior to submission, i.e. grammatical, factual arithmetical or design errors.

- Re-working or localiteries due to indeclude QA prior to submission, i.e. granimateria, factual antimiteria or design errors.
   Production or preparation of self-promotional material.
   Excessive charges for project management time on a commission for secondments or full time appointments (greater than 5% of commission value)
   Any hours exceeding 8 per day unless with prior written agreement of the *Service Manager* Any hours for travel beyond the location of the nearest consultant office to the project unless previously agreed with the *Service Manager* Attendance of additional individuals to meetings/ workshops etc who have not been previously invited by the *Service Manager*

- Costs associated with the attendance at additional meetings after programmed completion, if delay is due to *Consultant* performance.
  Costs associated with rectifications that are due to *Consultant* error or omission.
  Costs associated with the identification of opportunities to improve our processes and procedures for project delivery through the *Consultant's* involvement

- Was incurred due to a breach of safety requirements, or due additional work to comply with safety requirements
  Was incurred as a result of the *Client* issuing a Yellow or Red Card to prepare a Performance Improvement Plan
  Was incurred as a resulting of rectifying a non-compliance with the Framework Agreement and/or any call off contracts following an audit

#### Z4 Share on termination

Delete existing clause 93.3 and 93.4 and replace with: 92.3 In the event of termination in respect of a contract relating to services there is no *Consultant's* share'

#### **Z6 The Schedule of Cost Components**

The Schedule of Cost Components are as detailed in the Framework Schedule 9.

**Z24 Requirement for Invoice** 

Add the following sentence to the end of clause 51.1: The Party to which payment is due submits an invoice to the other Party for the amount to be paid within one week of the *Service Manager*'s approval of a fee note. Delete existing clause 51.2 and replace with: 51.2 Each certified payment is made within one week after the paying Party receives an invoice from the other Party and If a certified payment is late, interest is paid on the late payment. Interest is assessed from the date by which the late payment should have been made until the date when the late payment is made, and is included in the first assessment after the late payment is made

#### **Secondary Options**

#### **OPTION X2: Changes in the law**

The *law of the project* is the law of England and Wales, subject to the jurisdiction of the courts of England and Wales

#### **OPTION X10: Information modelling**

The period after the Contract Date within which the *Consultant* is to submit a first Information Execution Plan for acceptance is

#### **OPTION X18: Limitation of Liability**

The Consultant's liability to the Client for indirect or consequential loss is limited to

£1,000,000.00

2

The *Consultant's* liability to the *Client* for Defects that are not found until after the *defects date* is limited to

£1,000,000.00

The *end of liability date is* 6 Years after the Completion of the whole of the *service* 

#### Y(UK2): The Housing Grants, Construction and Regeneration Act 1996

The period for payment is 14 days after the date on which payment becomes due

#### Part Two - Data provided by the Consultant

Completion of the data in full, according to the Options chosen, is essential to create a complete contract.



Job Responsibilities Qualifications Experience

The following matters will be included in the Early Warning Register COVID-19 pandemic

#### 5 Payment

The *activity schedule* is presented in Q20-1287 - Tidal Trent Tributaries Modelling Study -

The tendered total of the Prices is

#### **Resolving and avoiding disputes**

The Senior Representatives of the Consultant are



Address for electronic communications



Address for electronic communications

#### **X10: Information Modelling**

The information execution plan identified in the Contract Data is To be completed upon project award

# **Contract Execution**

### **Client** execution

Signed under hand by

Cignot			
Signat			

### for and on behalf of the Environment Agency



#### **Consultant** execution

#### **Consultant** execution

Signed under hand by



Signature

Role

# **Project Details**

**Environment Agency** 

**NEC4 Professional Service Contract (PSC)** 

Modelling Technical Scope

### **Project / contract Information**

Project name	Tidal Trent Tributaries
Expected completion date	31/03/2021
Version number	4
Environment Agency Area	East Midlands
Area lead	
Modelling technical	
Contact for additional information	

This Scope should be read in conjunction with Operational Instruction 379\_05 "Computational modelling to assess flood and coastal risk" current at the Contract Date. In the event of conflict, this Scope shall prevail. The *service is* compliant with the version of the Minimum Technical Requirements set out in OI\_379\_05.

#### **Project Overview**

a) The aim of this project is to gain a better understanding of the flood risk from the Slough Dyke, the Mill Dam Dyke, the Laneham Beck and the Bottesford Beck in Nottinghamshire and Lincolnshire. This project aims to create 4 new models for the named watercourses. The results of this study will be used to identify potential flood risk management schemes, inform incident response, justify asset investment and maintenance as well as inform spatial planning. These watercourses are not gauged at the present. A key objective of this project is to assess the location of potential river gauges to help creating a flood warning service for these catchments areas.

Context:

The Slough Dyke begins at Newark-on-Trent and joins the River Trent downstream of North Muskham.
The Mill Dam Dyke begins upstream of North Scarle and flow through Girton to become The Fleet

watercourse just downstream of Girton. It continues flowing west until it joins the River Trent.

• The Laneham Beck begins downstream of Darlton and joins the River Trent downstream of Laneham.

• The Bottesford Beck begins at Bottesford and joins the River Trent at East Butterwick. The Bottesford Beck is joined by the Messingham Catchwater Drain just downstream of the Road M180.

This study should identify the source(s) and key mechanisms for flooding in the communities highlighted above with particular focus on the communities with the most properties at risk.

• Newark-on-Trent and Winthorpe (Slough Dyke)

North Scarle and Girton (Mill Dam Dyke)

Laneham (Laneham Beck)

• Bottesford and East Butterwick (Bottesford Beck)

There is no existing model for the Slough Dyke, the Laneham Beck and the Bottesford Beck. However, there is an existing 1D model for the Mill Dam Dyke, the 'Mill Dam Dyke (Floodbank, North Scarle) Model, JBA, July 2001'. This model is to be used for information only. 1m and 2m resolution LiDAR from 2017 is available for the catchment areas.

b) Catchment areas:

The Slough Dyke, the Mill Dam Dyke, the Bottesford Beck and the Laneham Beck flow predominantly through small rural villages and rural land.

The extents of the study for the above watercourses are:

• Slough Dyke: from 480772, 354272 (HOMR) to 480919, 361125 (River Trent confluence). Approx. 9 km.

• Mill Dam Dyke: from 485385, 366637 (HOMR) to 482417, 365860 (The Fleet confluence) and to 481536, 366735 (River Trent confluence). Approx. 5.3 km (including the Fleet).

• Laneham Beck: from 477452, 374001 (HOMR) to 481547, 377015 (River Trent confluence). Approx 6.5 km.

• Bottesford Beck: from 492481, 408319 (HOMR) to 483745, 406135 (River Trent confluence). Approx 10 km.

### Flood Warning service:

• The Slough Dyke catchment is not gauged but there is a climate stations at Newark S Wks. There is a flood alert and a flood warning area in the course of this river, but they relate to the flooding caused by the River Trent.

• The Mill Dam Dyke catchment is not gauged and there is no climate stations in the vicinity areas. There is a flood alert and a flood warning area in the course of this river, but they relate to the flooding caused by the River Trent.

• The Laneham Beck catchment is not gauged and the closes climate station is High Marnham. There is a flood alert and a flood warning area in the course of this river, but they relate to the flooding caused by the River Trent.

• The Bottesford Beck catchment is not gauged and there is no climate stations in the vicinity areas. There is a flood alert and a flood warning area in the course of this river, but they relate to the flooding caused by the River Trent.

### Map of Study Area



# 3: Local Flood History

The *Consultant* shall produce a written commentary in the Interim Hydrology Report or Hydrology Review Report to document local flood history analysis. The commentary shall consider the following:

- 3.1 Ranking and severity / probability of events.
- 3.2 Likely causal mechanism of flooding (including combined sources).
- 3.3 The *Consultant* shall collect and evaluate data from the *Client*, Trent Valley IDB, Leicestershire County Council, Lincolnshire County Council, Melton Borough Council, Newark & Sherwood District Council, Nottinghamshire County Council, South Kesteven District Council, Severn Trent Water
- 3.4 The *Consultant* shall collect and evaluate data from social media / other potential sources of information.

# 4: Site Visit and Topographic Survey

The Consultant shall:

4.1 Visit the site to understand the local flood flow pathways and flood history. The *Client* will facilitate this visit(s) and arrange for appropriate staff to accompany the *Consultant* to provide local knowledge. The *Consultant* shall give the *Client* 10 working days notice prior to any required visits.

### 5: Hydrological Assessment & Hydrometric Review

The *Consultant* shall undertake the following activities to provide a hydrological assessment and / or hydrometric review in accordance with the Environment Agency's Flood Estimation Guidelines.

### Reporting

- 5.1.1 Submit a Hydrology Method statement for acceptance by the *Client* before commencing the hydrological assessment and/or hydrometric review. This shall set out the proposed approach, review of hydrometric data, catchment schematisation, and set out the methods and outputs.
- 5.1.2 Submit a Draft Hydrology Report to the *Client* for acceptance prior to the commencement of design simulations.
- 5.1.4 Submit a Final Hydrology Report to the *Client* for acceptance prior to commencement of hydraulic modelling.

### Review data availability

- 5.2.1 Undertake a review of the hydrometric data (rainfall, levels, flow, flood extent) that are available for use for in the study (including donor catchments and verification of models). Assess data availability, and the uncertainties in the accuracy of the data and what effect this could have on the reliability and accuracy of model outputs.
- 5.2.2 Review the performance of all rating relationships that will be used in this study during high flow conditions. The rating throughout the full range of flows shall also be assessed, albeit in a less rigorous manner. The review shall include commentary on the extrapolation above validated range, modular limits, likely hydraulic control in drowned mode and inter-site comparison. Clear conclusions on the suitability of ratings for rainfall-runoff model development and sensitivity testing of hydraulic models must be provided. Conclusions must include an estimate of likely gauge accuracy (% error in flow) for flows up to and including AMAX1. An indication of gauge accuracy at high and extreme flows (0.1% AEP or similar) shall be provided where possible.

- 5.2.3 Review the available survey data and any existing hydraulic models to determine whether a detailed model can be updated / constructed. State the extent of model required, any new survey requirements, and the most appropriate modelling approach. Consider whether simpler methods (e.g. velocity/area) can produce the required results.
- 5.2.4 Recommend any improvements to hydrometric networks and data collection in floods

### **Catchment understanding**

- 5.4.1 Schematise the catchment. Subcatchment schematisation shall represent key hydrological features (e.g. changes in catchment response, key tributaries/confluences, flood storage reservoirs). Catchment delineation must be verified including use of surface water sewer data in urbanised catchments. A GIS shape file of subcatchment boundaries must be provided for acceptance by the Client as part of the Draft Hydrology Report. Boundary unit type (ReFH, FEH, pumped catchment, etc) and inflow locations (point, distributed lateral) shall be described and justified.
- 5.4.2 Update subcatchment schematisation to improve delineation of (urbanised areas, improve resolution of inflows, changes on the ground).

### **Design flow estimation - general**

5.5 Tabulate the hydraulic model node labels corresponding to the locations of all level and flow recorders and other points of interest within the modelled area

### **Design flow estimation - statistical method**

- 5.6.1 Agree peak flow data to be used for the analyses with the *Client*. The data will be based on available data as modified during the study (e.g. by the modelled rating curves).
- 5.6.2 Undertake flood frequency analysis at all gauging stations using the agreed peak flow data. By default, FEH statistical methods (using the latest updates) will be applied - changes to these methods shall be agreed with the *Client*, not limited to options for non-gauged watercourses or borrowing data from other catchments. Compare with any relevant previous estimates. The degree of uncertainty in the estimates shall be assessed. The effect of these uncertainties on the modelled levels and flood extents shall be assessed and documented.
- Estimates of peak flows of different annual exceedence probabilities shall also be made at the 5.6.3 following locations:
- 5.6.4 Where available use historical information to inform flood frequency analyses and choice of design values

### **Design flow estimation - rainfall-runoff methods**

- 5.7.1 Assess the applicability of rainfall-runoff methods such as ReFH1 and ReFH2.
- 5.7.2 Determine the critical design storm(s), including storm duration, DDF and ARF parameters. If the modelled area has a large variation in catchment size and response at different points of interest, the selection of design storms shall take this into account.
- Derive design flood hydrographs (e.g. ReFH, factor ReFH to fit statistical \ accepted design peaks, 5.7.3 Archer method)

Reconcile results and produce final design values

- 5.9.1 Reconcile the results from different approaches (e.g. rainfall-runoff and statistical). If peak flows are significantly changed, the effect on runoff volumes shall be investigated and hydrograph shapes amended if necessary.
- 5.9.2 Justify the final selection of methodology to be taken forward to design runs.

# 7: Fluvial - New Hydraulic Model Build

The Consultant shall construct and deliver a new hydrodynamic hydraulic model extending over all Main River. For fluvial models a single model is required and the Consultant must advise and obtain the *Client's* acceptance shall multiple models be needed to achieve acceptable simulation times. Acceptable run-times are considered 72 hours for 7-day 0.1% AEP simulation on the Client's CMP computer. The model must be able to simulate flood events for:

Fluvial undefended: 1%, 0.1%; Fluvial defended: 50%, 20%, 10%, 5%, 3.3%, 2%, 1.33%, 1%, 0.5%, 0.1% AEPs. Climate change scenarios are required as part of this project. Please refer to Minimum Technical Requirements for Modelling for details of climate change requirements.

### 9: Model Proving, Calibration, Verification & Sensitivity

The *Consultant* shall provide written interpretation of results, design configuration, onset of flooding, standard of protection and recommendations for prioritisation of maintenance.

9.1 The Consultant uses anecdotal data provided by the Client to verify the outputs of the model.

### Fluvial Models:

As a minimum the *Consultant* shall undertake sensitivity analysis on all fluvial models to flows, roughness and downstream boundary condition. Sensitivity analysis to be undertaken for the 1% AEP or AEP closest to bank top level (where the 1% AEP event is in bank), will be submitted to the *Client* for acceptance and comprise:

- 9.4.1 · ±20% flows
- 9.4.2 · ±20% roughness
- 9.4.3 ± 20% slope change in downstream boundary

No project specific sensitivity tests are required.

### **10: Design Simulations & Results**

All scenarios listed below must be delivered for defended scenarios:

Fluvial, tidal, coastal and surface water hazard scenarios are modelled with the flood defence system scenario of defended, no failure by breaching.

Scenarios:

Fluvial undefended: 1%, 0.1%; Fluvial defended: 50%, 20%, 10%, 5%, 3.3%, 2%, 1.33%, 1%, 0.5%, 0.1% AEPs. Climate change scenarios are required as part of this project. Please refer to Minimum Technical Requirements for Modelling for details of climate change requirements.

The *Consultant* shall provide written commentary on the %AEP of onset of flooding, standard of protection (including freeboard, in accordance with the *Client's* Fluvial Freeboard Guidance Note 2000 - W187) and suitability of fit with the anecdotal historic evidence of flooding. Limitations with historical evidence results shall be clearly identified in the conclusions and further recommendations shall be given if appropriate (e.g. state where new telemetry gauges shall be installed, where new survey / LiDAR would improve model accuracy etc). This commentary is to be included within the draft and final Model Report.

In addition the *Client* requires:

- 10.1 Identify the design event probabilities for which the defence provides benefit this shall include all events where retained water level is above local ground levels. The assessment shall include identification of receptors protected. The analysis must be sufficiently detailed to distinguish between individual communities and include strategic infrastructure (trunk road, railways, power sub-stations). Provide this commentary as part of the Model Report.
- 10.4 Simulate structure blockage scenarios for 10 locations x 3 scenarios x 4 %AEPs.
- 10.5 Simulate removal/addition of sediment for 10 locations x 2 scenarios x 4 %AEPs.
- 10.7 Produce a table of the number of residential, critical infrastructure and other non-residential properties within all defended, undefended and blockage %AEP outlines referring to the flood level at the nearest relevant river gauge(s) if applicable).
- 10.8 Assess the performance of the following structures: Location - Bottesford Beck outfall ,Type - outfall, 3 scenarios, 3 %AEPs Location - Laneham Beck doors ,Type - gates, 4 scenarios, 3 %AEPs Location - Mill Dam Dyke doors ,Type - gates, 2 scenarios, 3 %AEPs

# **11: Flood Warning Improvements**

The *Consultant* shall deliver the following services in accordance with Operational Instruction 137\_05 Flood Warning Levels of Services and OI 55\_07 Threshold Setting in Flood Incident Management. The following services are anticipated following receipt of the improved flood outlines but allowance shall be made by the *Consultant* for liaising with the Flood Resilience team for specific guidance on the process and at key points:

11.11 Recommend locations for new gauging stations to improve the Flood Warning Service for the study area.

### **Project Specific Requirements**

11.12 For each tributary state property counts, lead time, time to peak, suitable gauge types and potential locations (if possible), forecasting requirements and a recommendation on whether or not a flood warning service would be feasible.

Assess each watercourse for rapid response catchment status (using o formula taking into account hazard ratings).

# Available Data - Treat as Site Information

All datasets supplied for the project must be returned to the *Client* upon project completion. Datasets returned should adopt the appropriate security marking, be password protected/encrypted in accordance with the latest government guidelines. Data that will be made available to the *Consultant* include:

### Hydrometric data:

Station	Location	Type (Flow / Level / Rainfall, Wind, Wave Height / Direction)	Period of record	Time interval (15 min/daily)	Fluvial/Coastal	Known data quality issues
High	SK 79750 71100	Rainfall	01/2001 to	15 min	Fluvial	Precipitation -
Marnham			now			recording
Newark S	SK 80290 56050	Rainfall	04/2008 to	Daily	Fluvial	Precipitation -
Wks			now			manually read

# Remote Sensing Coverage Map



# Survey Coverage Map



# Asset data types:

The *Client* will provide an AIMS Database containing all asset details at the beginning of the project. Assets to be included are:

Types	Other details
Raised Defences - Walls/Embankments	outfalls

# Existing Model Summary - Fluvial Hydraulic

Model name	Date	Length of modelled watercourse (km)	Hydraulic model type	Other Type	Description	Information only or to be updated
Mill Dam Dyke (Floodbank, North Scarle) Model, JBA, July 2001	07/2001	5	Other	1D ISIS model		Info only