



WALES & WEST
UTILITIES



Geographical Analysis and Pipeline Digitization

Ben Morgan

May 2013

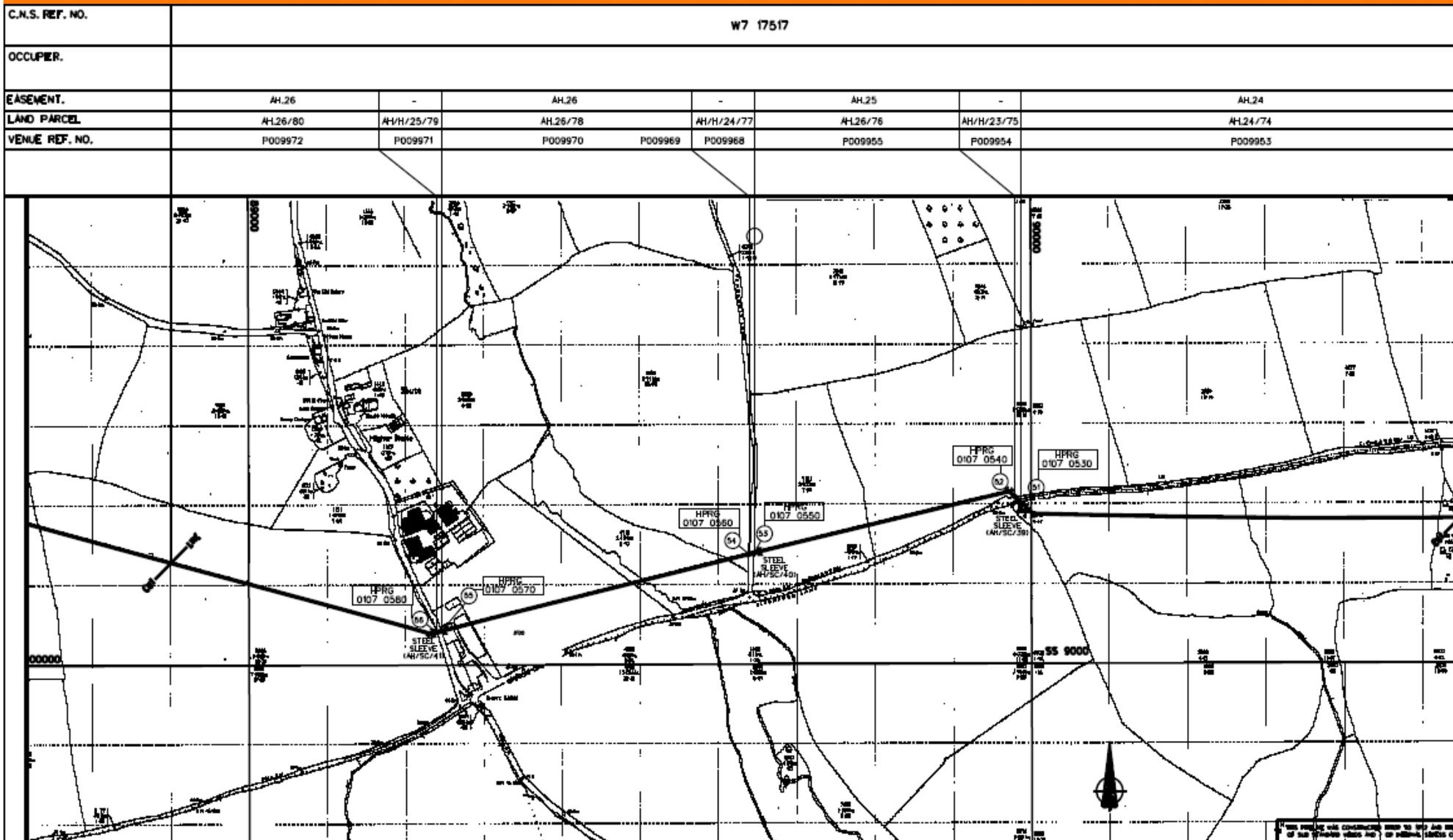
Presentation will look at:

- WWU's current position regarding pipeline records and mapping
- Recent advancements to pipeline records and mapping
- Further steps proposed regarding pipeline records and mapping
- How above steps should assist WWU in future Geo-mapping
- Benefits and drivers of Geo Mapping



WALES&WEST UTILITIES Current Position – Spread sheets

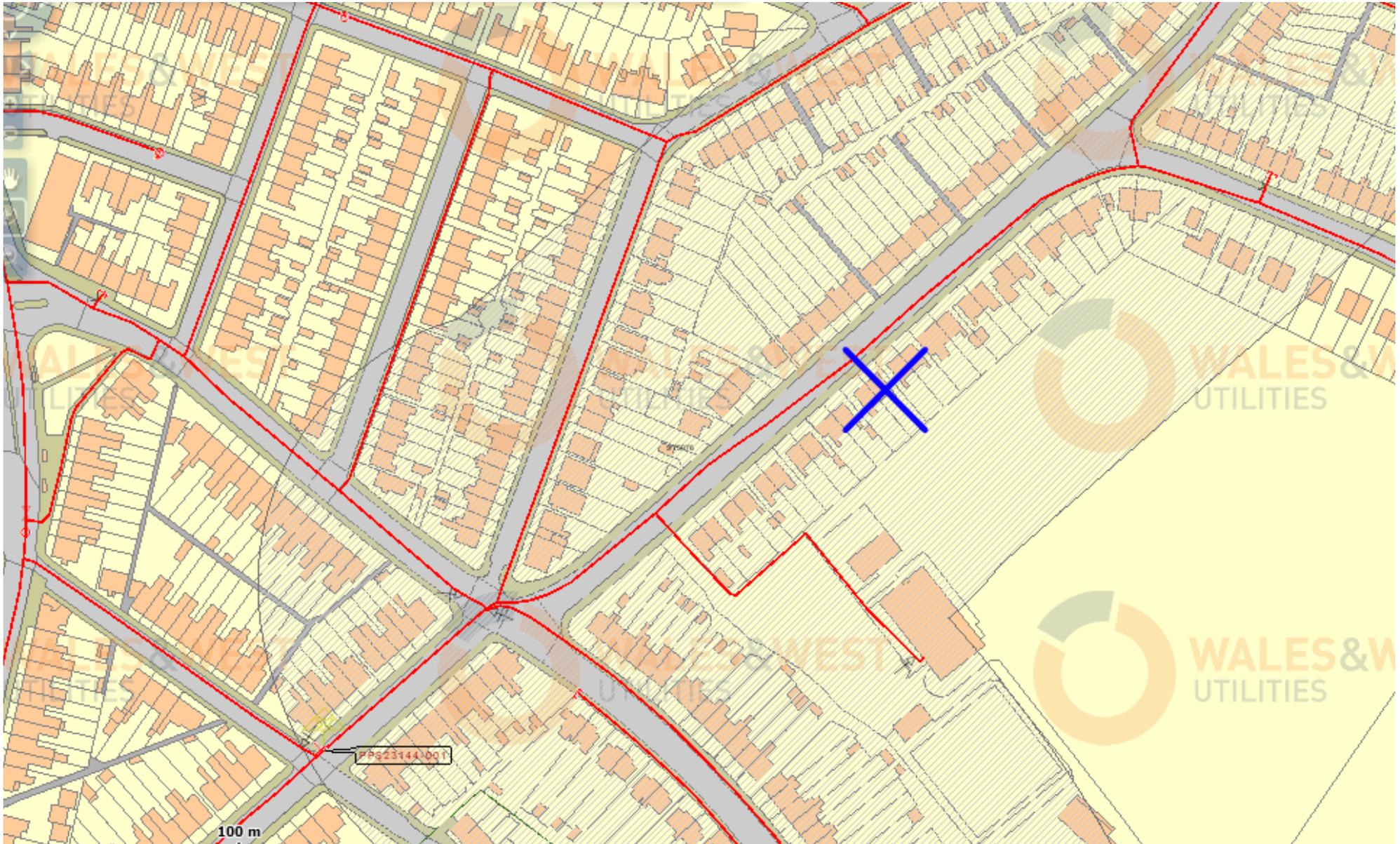
OLI	AssetID	PIPELINE NAME	LDZ	PIPELINE NUMBER	Asset Type	CNS LENGTH
4	W159654	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.074
4	W159656	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	1.502
4	W159660	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.144
4	W159670	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.121
4	W159675	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.014
4	W159680	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.001
4	W159690	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.518
4	W159698	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.026
4	W159700	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.005
4	W159710	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	1.132
4	W159735	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.462
4	W159740	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.604
4	W159754	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.05
4	W159756	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.32
4	W159762	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.216
4	W159764	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.176
4	W159768	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.524
4	W159784	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.078
4	W159785	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.051
4	W159787	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.039
4	W159788	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	1
4	W166942	MAELOR - BROOKES FARM	Wales	HN001	Line Pipe CNS	0.004
4	W151004	FIBREGLOSS BRANCH	Wales	HN002	Line Pipe CNS	0.014
4	W151006	FIBREGLOSS BRANCH	Wales	HN002	Line Pipe CNS	0.14





WALES & WEST
UTILITIES

Current Position – Gas Map



Recent Advancements – Pipeline

Asset 360 Degree View > Office View

Asset Structure

Asset Search

Please Enter Asset inputs

Asset Hierarchy

Asset ID	Asset Description
▼ WWU	
▶ WWU-WS	Wales South
▶ WWU-WN	Wales North
▼ WWU-SW	South West
▶ Offtakes	Offtakes
▶ PRIs	PRIs
▶ Dist Governors	Dist Governors
▶ Service Gover...	Service Governors
▼ Pipelines	HP Pipelines
▼ WWU-SW-...	BARRINGTON - WALFOR...
▶ IP Routes	IP Pipelines
▶ MP Routes	MP Pipelines
▶ Storage	Storage
▶ Pig Traps	Pig Traps
▶ Block Valves	Block Valves
▶ CP Schemes	CP Schemes

Assets List

Asset Details

Equipment ID	Description	Post Code
WWU-SW-MN-PAH000	AYLESBEARE - HIG...	
WWU-SW-MN-PAM000	AKERS WAY - MORE...	
WWU-SW-MN-PAS000	SEABANK (NATIONA...	
WWU-SW-MN-PAT000	ANTONY - TORPOINT	
WWU-SW-MN-PBC000	BREAKWATER - CO...	
WWU-SW-MN-PBD000	BARRINGTON - WAL...	
WWU-SW-MN-PBH000	BURRATON - KIT HILL	
WWU-SW-MN-PBL000	BURRATON - LISKE...	
WWU-SW-MN-PBS000	BURRATON - SHILLI...	
WWU-SW-MN-PBW000	BARRINGTON - WAL...	
WWU-SW-MN-PCB000	CORSTON - BRISLIN...	
WWU-SW-MN-PCD000	CIRENCESTER - DU...	
WWU-SW-MN-PCO000	CORSTON OFFTAKE	
WWU-SW-MN-PCS000	COALPIT HEATH - S...	
WWU-SW-MN-PCT000	CORSTON - TROWB...	
WWU-SW-MN-PDS000	DENBURY SPUR	
WWU-SW-MN-PEM000	EASTON GREY - MI...	
WWU-SW-MN-PFC000	FRAMPTON COTTE...	
WWU-SW-MN-PFS000	FRAMPTON COTTE...	
WWU-SW-MN-PFT000	FIDDINGTON - TEW...	

Recent Advancements – Pipeline

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Recent Advancements – Pipeline Sections

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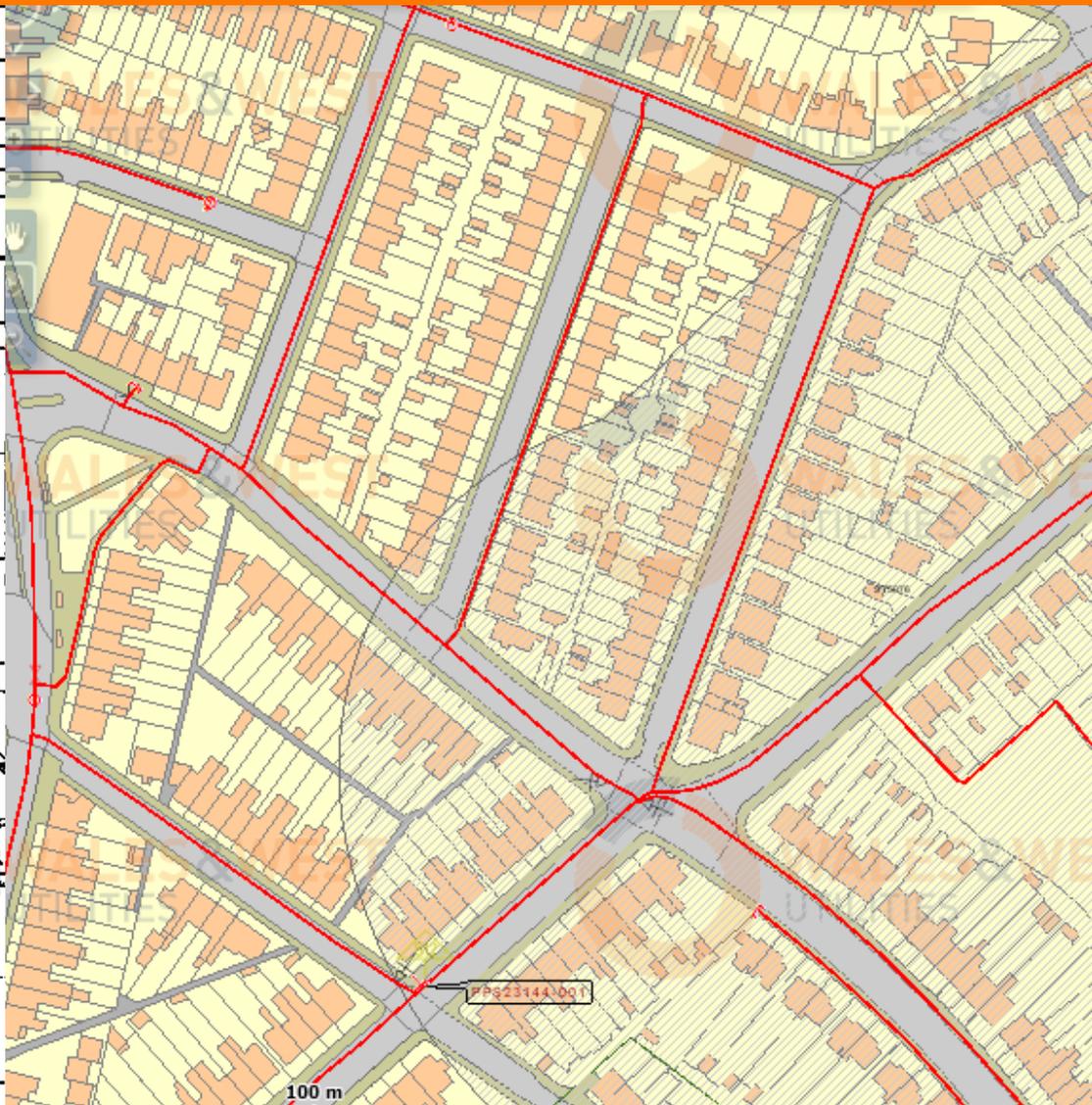
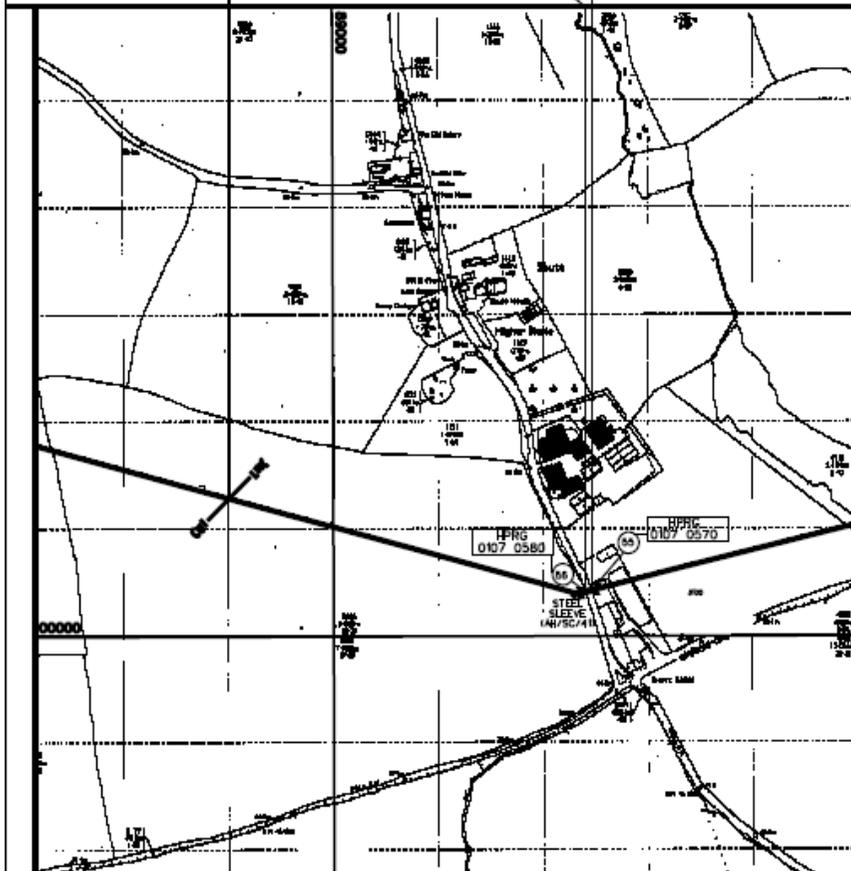
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101509446	LINE PIPEW728503	
101509447	LINE PIPEW728504	
101509448	LINE PIPEW728505	
101509449	LINE PIPEW728506	
101509460	WATER CROSSING ...	
101509461	WATER CROSSING ...	
101509808	WATER CROSSING ...	
101509809	WATER CROSSING ...	
101509810	WATER CROSSING ...	
101509811	WATER CROSSING ...	
101509812	WATER CROSSING ...	
101509813	WATER CROSSING ...	
101509814	WATER CROSSING ...	
101509815	WATER CROSSING ...	
101509816	WATER CROSSING ...	
101509817	WATER CROSSING ...	
101511110	LINE PIPEW728507	
101511111	LINE PIPEW728508	

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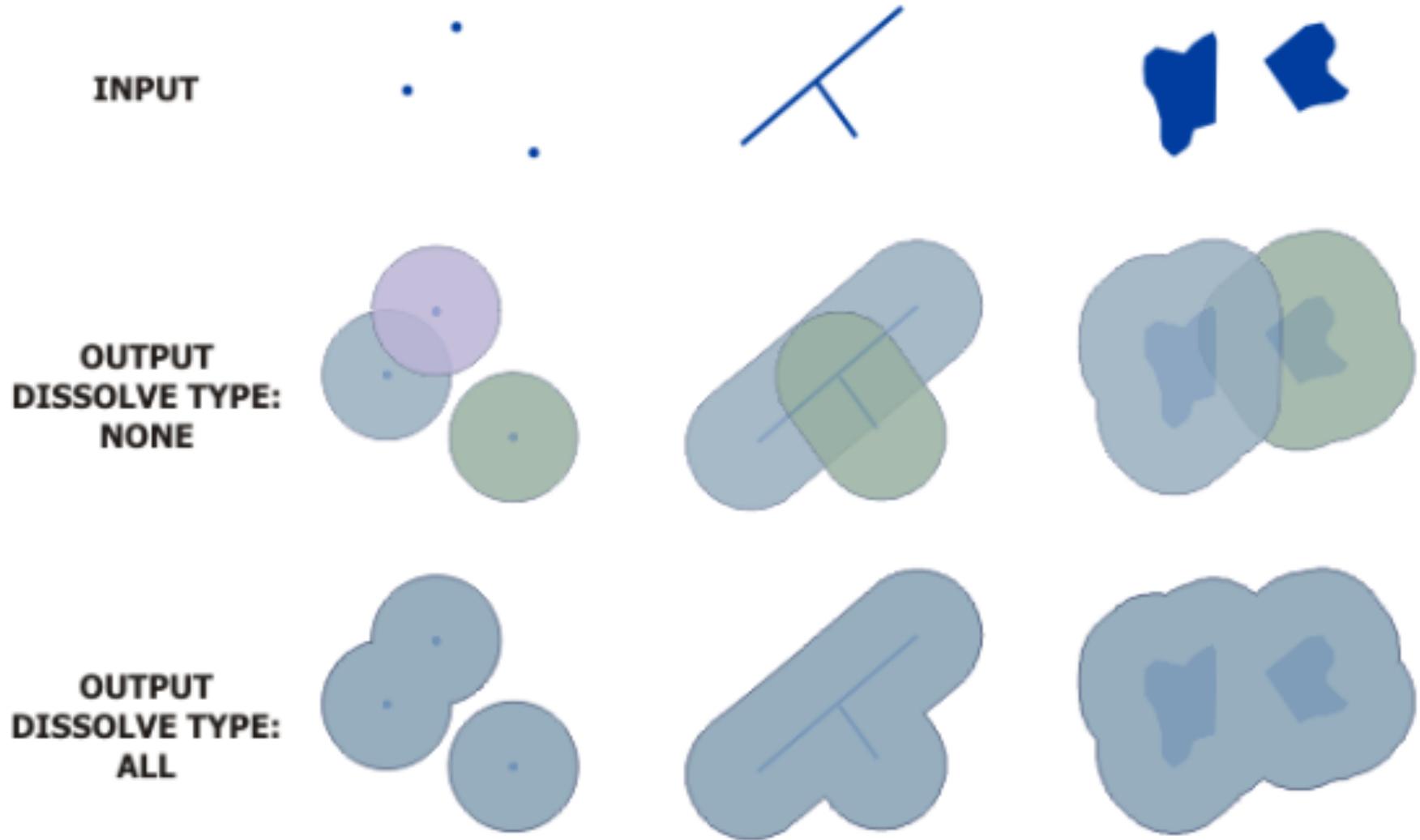


C.N.S. REF. NO.			
OCCUPIER.			
EASEMENT.	AH.26	-	AH.26
LAND PARCEL	AH.26/80	AH/H/25/79	AH.26/78
VENUE REF. NO.	P009972	P009971	P009970

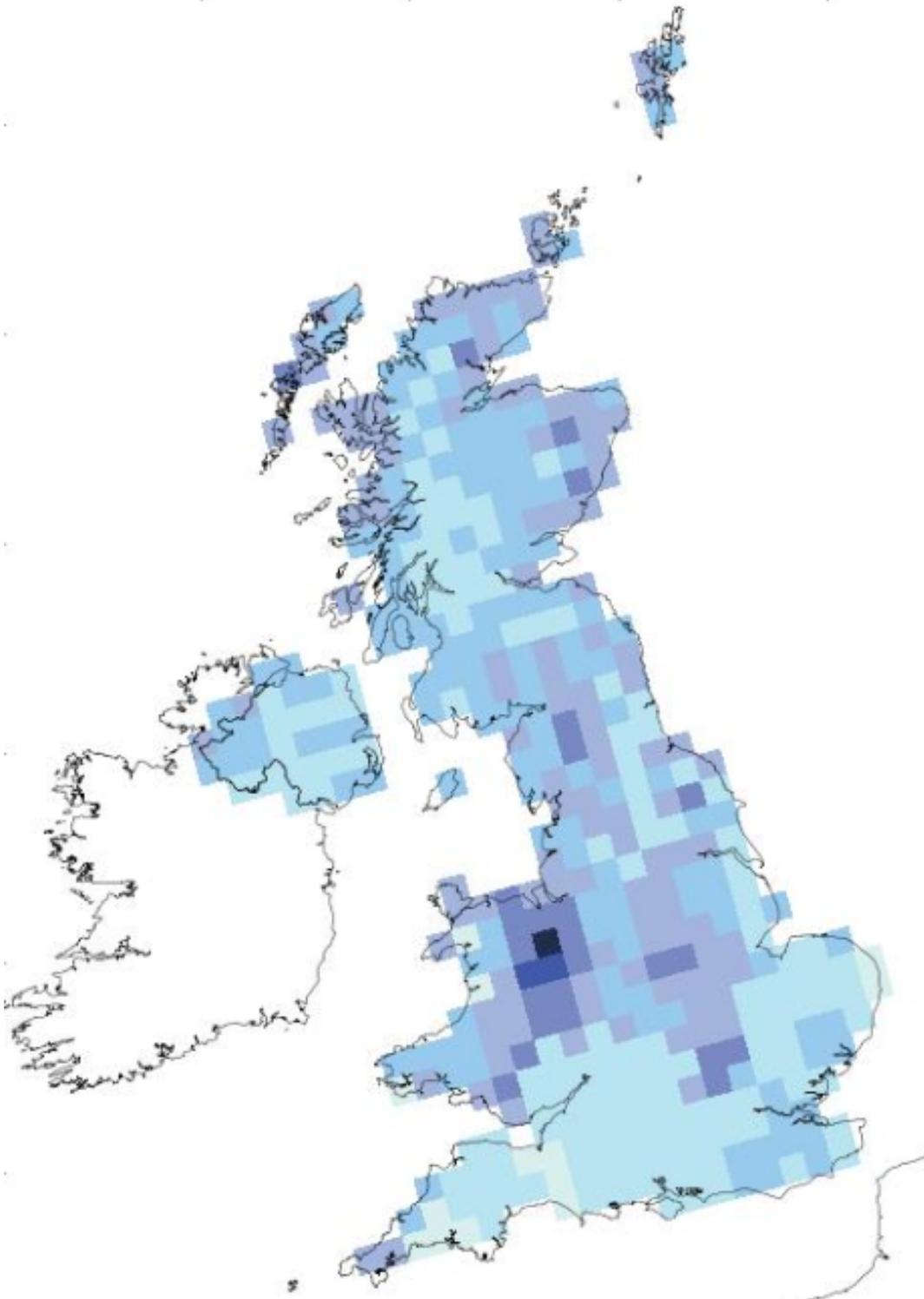


Benefits

Illustration



Drivers/Benefits – Climate Change



Wettest day in summer

- Flash flooding
- River bed erosion
- River bank erosion
- Bridge crossings



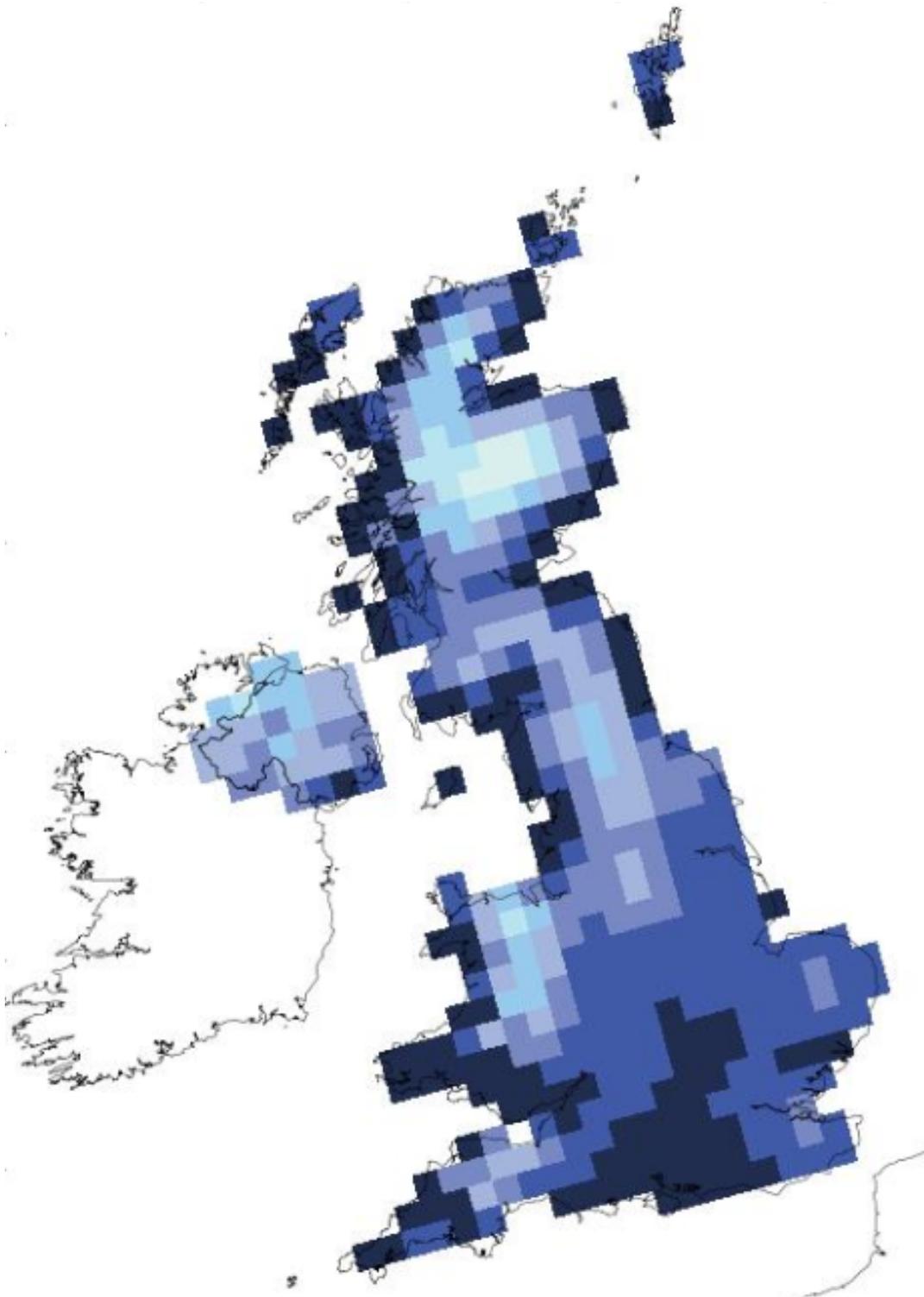
http://ukclimateprojections.defra.gov.uk/media/image/0//UK_WinWet_Hi_2080_50_large.jpg

Drivers/Benefits – Climate Change

Winter Mean Precipitation

- Longer term flooding
- AGI Flooding
- Pipe Float

[http://ukclimateprojections.defra.gov.uk/
media/image/m/0/
UK_WinPmean_Hi_2080_90_large.jp](http://ukclimateprojections.defra.gov.uk/media/image/m/0/UK_WinPmean_Hi_2080_90_large.jp)



Benefits – River Crossings



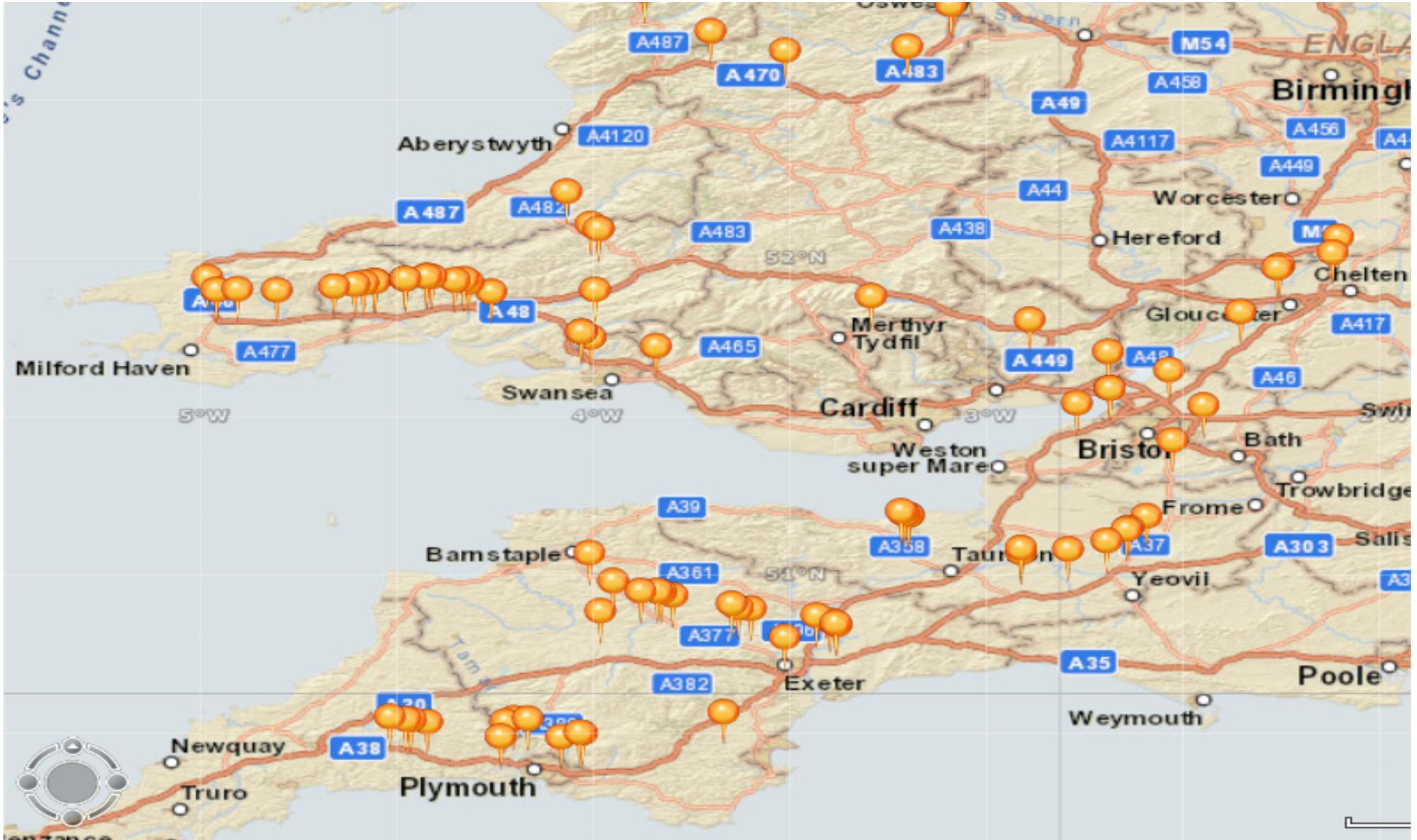
Uckington to Cheltenham

- ~32bar
- 300mm Diameter
- 1979 construction
- Up to 47,000 customers



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UTILITIES

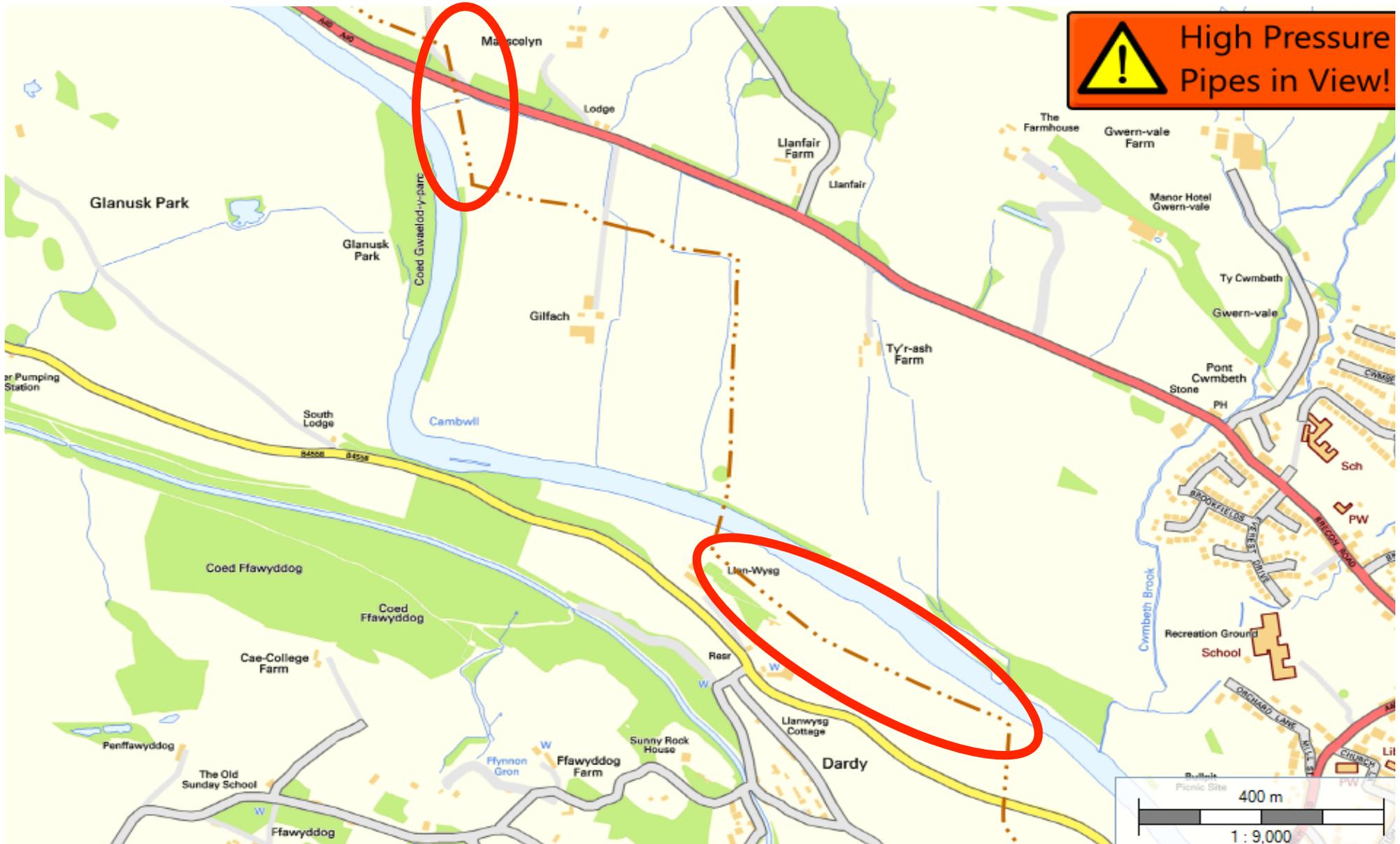
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WALES & WEST
UTILITIES

Benefits – River Crossings



Benefits - Flooding

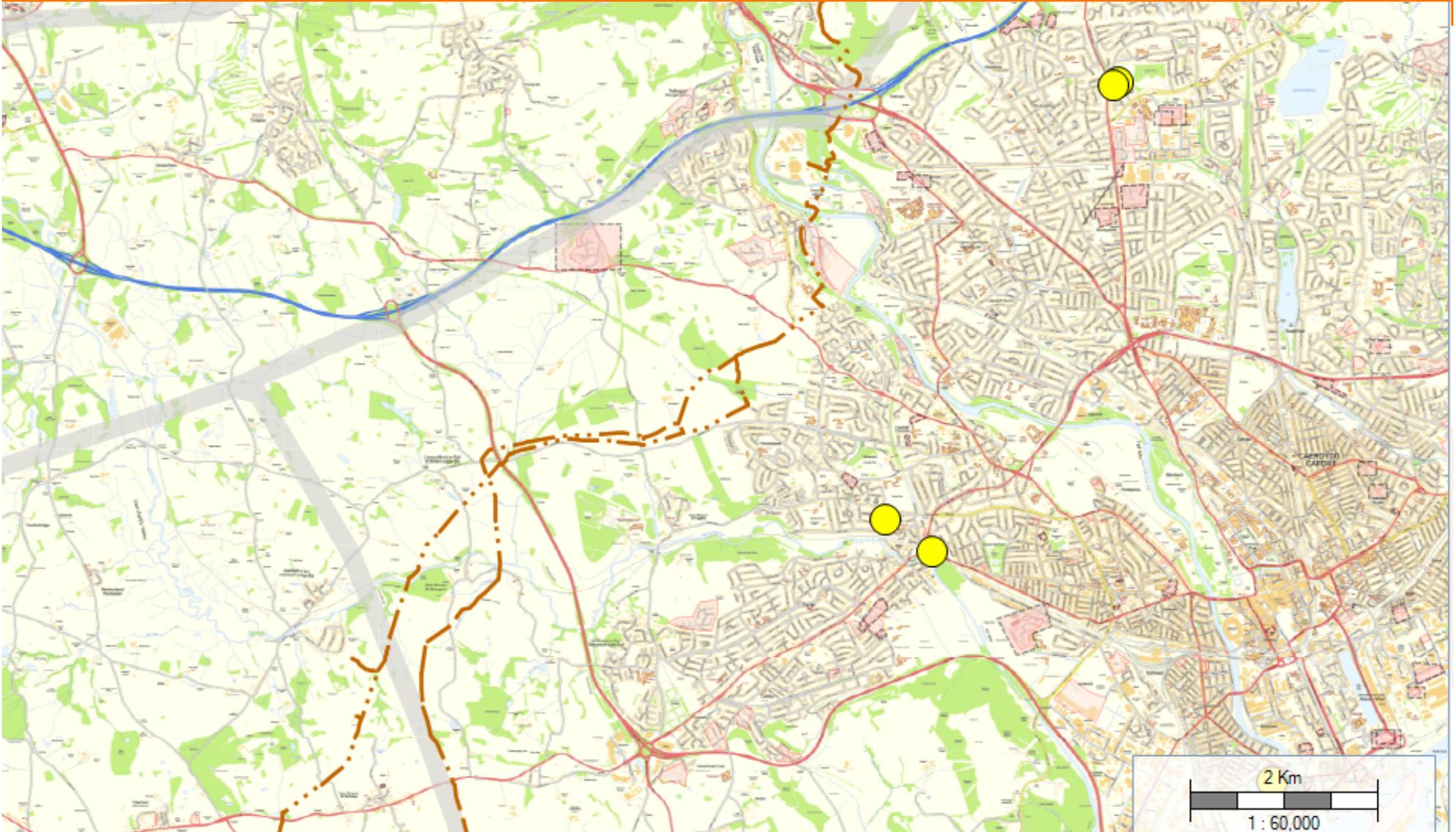




Benefits - Infrastructure



Population density





WALES&WEST UTILITIES Benefits – 3rd Party Interference

Can overlay:

- Building Proximity distances;
- Easements;
- Aerial sightings;
- Land owner parcels;
- Location of Cathodic Protection points, valve chambers etc

- Increasing scrutiny around HP pipeline interventions
 - High cost assets
- At the same time ageing plant
 - WWU has ~1120km of Pre 1972 pipeline (40+ years old)
- At the same time driver for risk trading across asset groups
- Assist in the prioritisation and identification of key areas in terms of:
 - Likelihood – faults, environmental risks
 - Consequence – customer numbers, population density, national infrastructure

Thank You – Any Questions

