FLOOD RISK IN PONTCANNA

Today I will discuss…

- Quick intro to probabilities and flood risk
- Flood risk from the sea
- Flood risk from the River Taff
- Flood risk from surface water
- Our existing flood defences
- More things we can do to help reduce flood risk
- How might we help protect ourselves if there is an actual flood?

FLOODS – THE LANGUAGE OF CHANCE…

Flood risk modelling uses historic water level, rainfall, and river flow data to predict the chance of future events. It describes them in terms of "annual chance".

1 "Annual flood"… the highest flow that usually happens every year – a 100% chance in any year

10 A "once in ten-year flood event" … has a 10% chance of happening in any given year.

100 A "once in a hundred-year flood event" … has a 1% chance of happening in any given year.

200 A "once in two-hundred-year flood event" … has a 0.5% chance of happening in any given year.

1000 A "once in a thousand-year flood event" … has a 0.1% chance of happening in any given year.

QUESTION 1

Q: I roll a dice and get a six. Does that make it more or less likely that I get a six next time?

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A: No. The probability of each dice roll is independent of previous and subsequent dice rolls.

QUESTION 2

Q: There was a ‘thirty-year flood’ two weeks ago, so will we be fine for the next thirty years?

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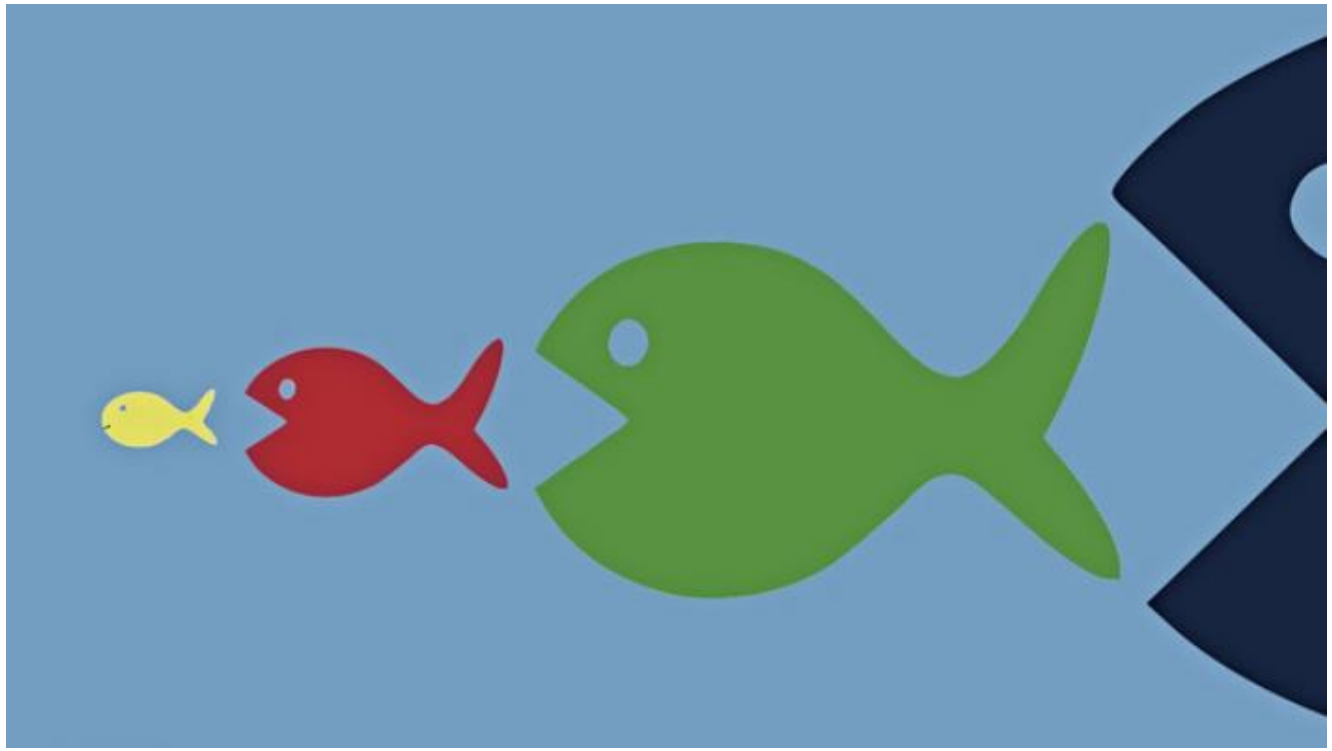
Q: There was a ‘thirty-year flood’ two weeks ago, so will we be fine for the next thirty years?

A: No. The probability of each flood event is independent of previous and subsequent events.

THE NUMBER ONE RULE OF FLOODING

There *could* always be a bigger flood than the one you are considering…

… but the bigger it is, the less likely it is.



COASTAL FLOOD RISK IN PONTCANNA

Source:
https://flood-risk-maps.naturalresources.wales/

High risk of flooding from the sea

High means that each year, this area has a chance of flooding of greater than 1 in 30 (3.3%).

Medium risk of flooding from the sea

Medium means that each year, this area has a chance of flooding of between 1 in 200 (0.5%) and 1 in 30 (3.3%).

Low risk of flooding from the sea

Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 200 (0.5%).

Very low risk of flooding from the sea

The shading on the Flood Risk Assessment Wales map shows the risk of flooding from rivers, the sea and from surface water and small watercourses.

All areas outside the shaded area are categorised as having a very low chance of flooding.

Very low means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%).

https://flood-risk-maps.naturalresources.wales/?locale=en

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More about flood risk

Find an address

Layer List

Layers

- Flood Defence Locations
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  - Sea
  - Rivers and Sea
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  - Medium
  - Low
- Flood Risk from the Sea
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  - Medium
  - Low
- Flood Risk from Surface Water & Small Watercourses
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  - Medium
  - Low
- Risk Level Under Review

Caerdydd / Cardiff

Feedback

1:25,000 0.6km

322,522 176,218 Meters

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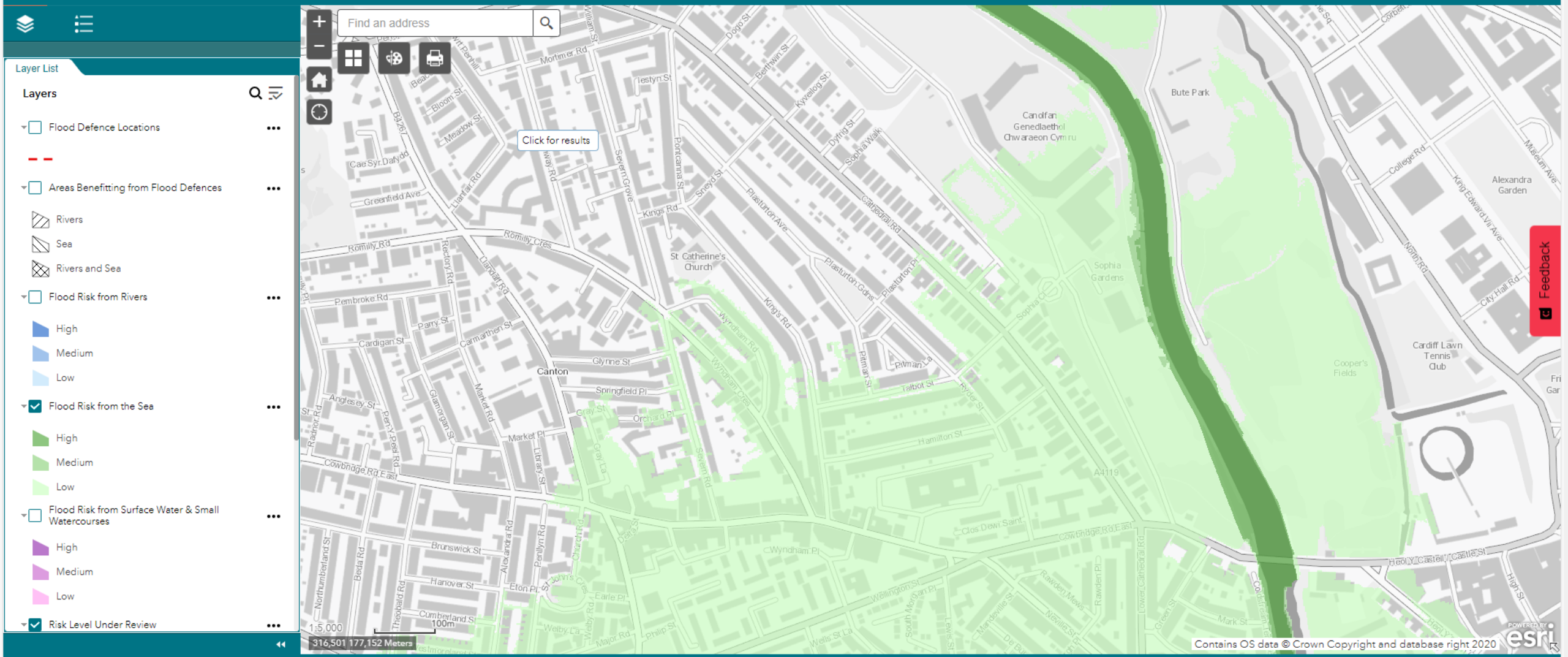

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COASTAL FLOOD RISK IN PONTCANNA

- We have somewhere between 0.5% to 0.1% annual chance of coastal flooding.
- A coastal flood would most likely be caused by a combination of a low-pressure storm surge happening at the same tide as a high spring tide.
- There are big, expensive, well built and maintained flood defences at the barrage and along the Taff that help keep us safe.
- These defences were designed and built relatively recently, and took account of sea level rise due to climate change.
- If there was a flood it would be more likely to occur near a spring tide, or equinox. Spring high tides usually occur early in the morning, and early evening.

RIVER FLOOD RISK IN PONTCANNA

Source:
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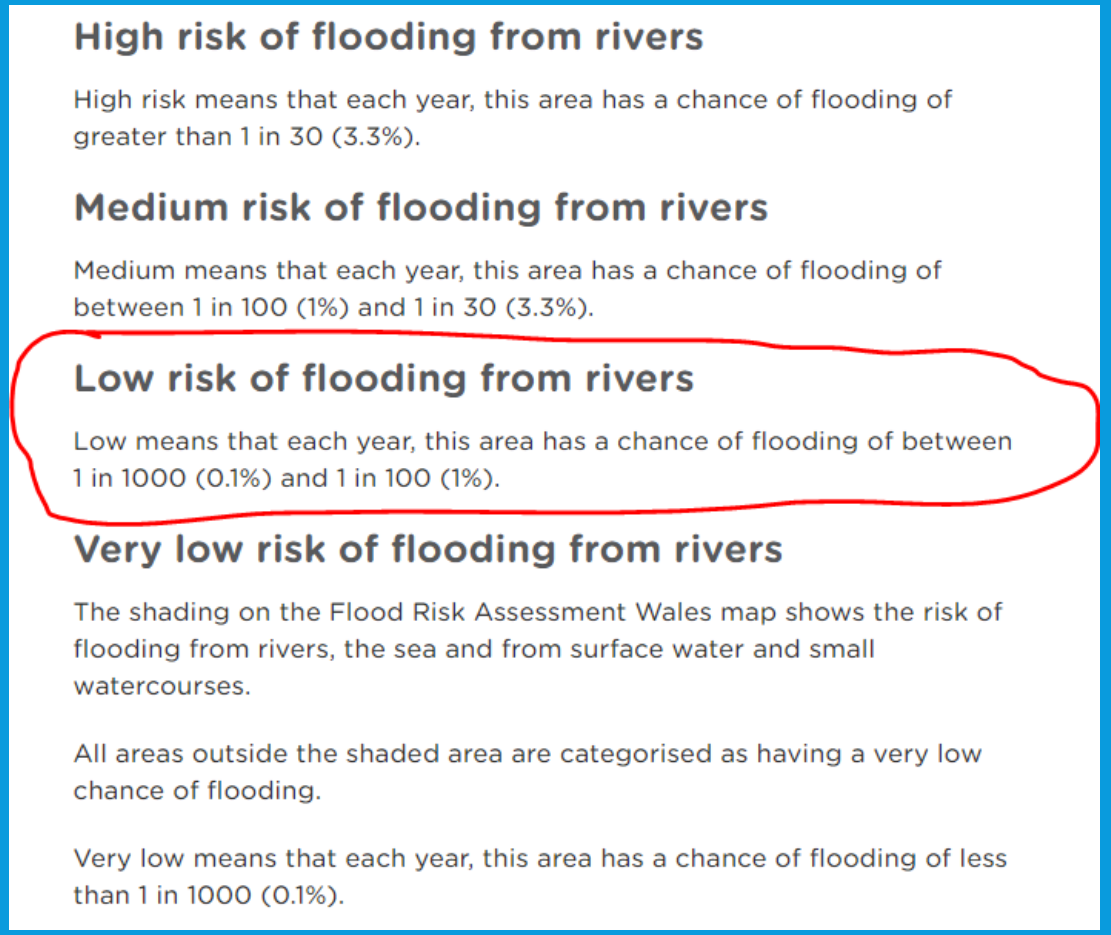

High risk of flooding from rivers

High risk means that each year, this area has a chance of flooding of greater than 1 in 30 (3.3%).

Medium risk of flooding from rivers

Medium means that each year, this area has a chance of flooding of between 1 in 100 (1%) and 1 in 30 (3.3%).

Low risk of flooding from rivers

Low means that each year, this area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).

Very low risk of flooding from rivers

The shading on the Flood Risk Assessment Wales map shows the risk of flooding from rivers, the sea and from surface water and small watercourses.

All areas outside the shaded area are categorised as having a very low chance of flooding.

Very low means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%).

UK Centre for Ecology & Hydrology | FLOOD ESTIMATION HANDBOOK WEB SERVICE

0 credits | Great Britain

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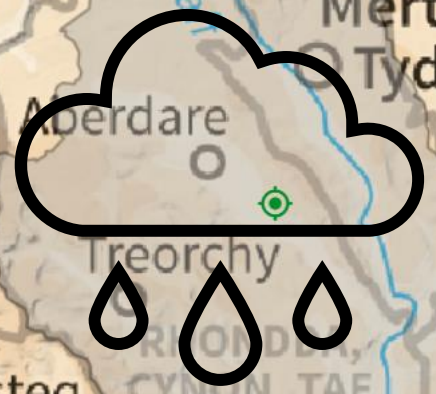
Area	509.96 km²



Pen y Fan 886m
Crickhowell
Abergavenny
R Usk
BLAENAU GWENT
MERTHYR TYDFIL
Ystalyfera
Merthyr Tydfil
Ebbw Vale
Monmouth
Raglan
R Wye
TORFAEN
MONMOUTHSHIRE
Usk
Aberdare
NEATH PORT TALBOT
Neath
Treorchy
Pontypool
Cwmbran
Chepstow
Maesteg
CAERPHILLY
Caerphilly
Pontypridd
Newport
BRIDGEND
Pyle
Bridgend
Pencoed
CARDIFF
Avonmouth
Portishead
Porthcawl
5 km

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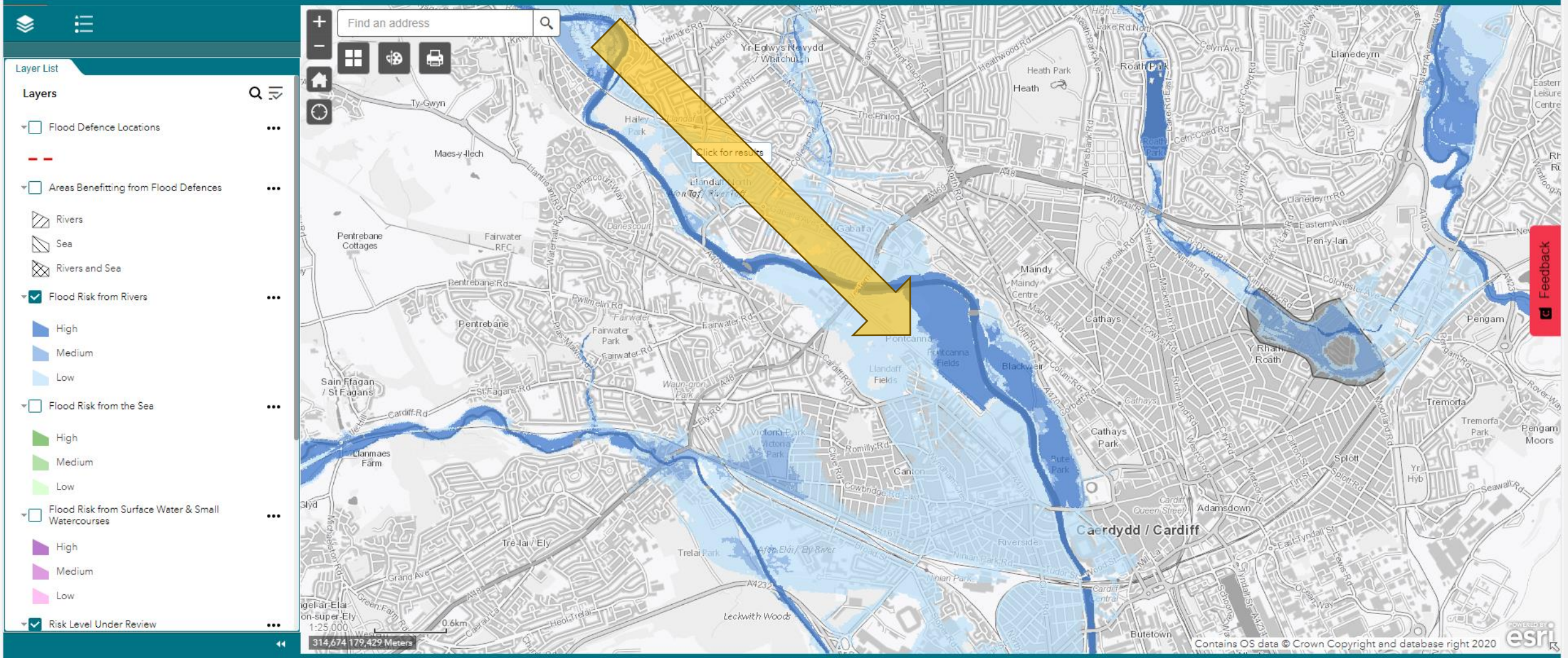

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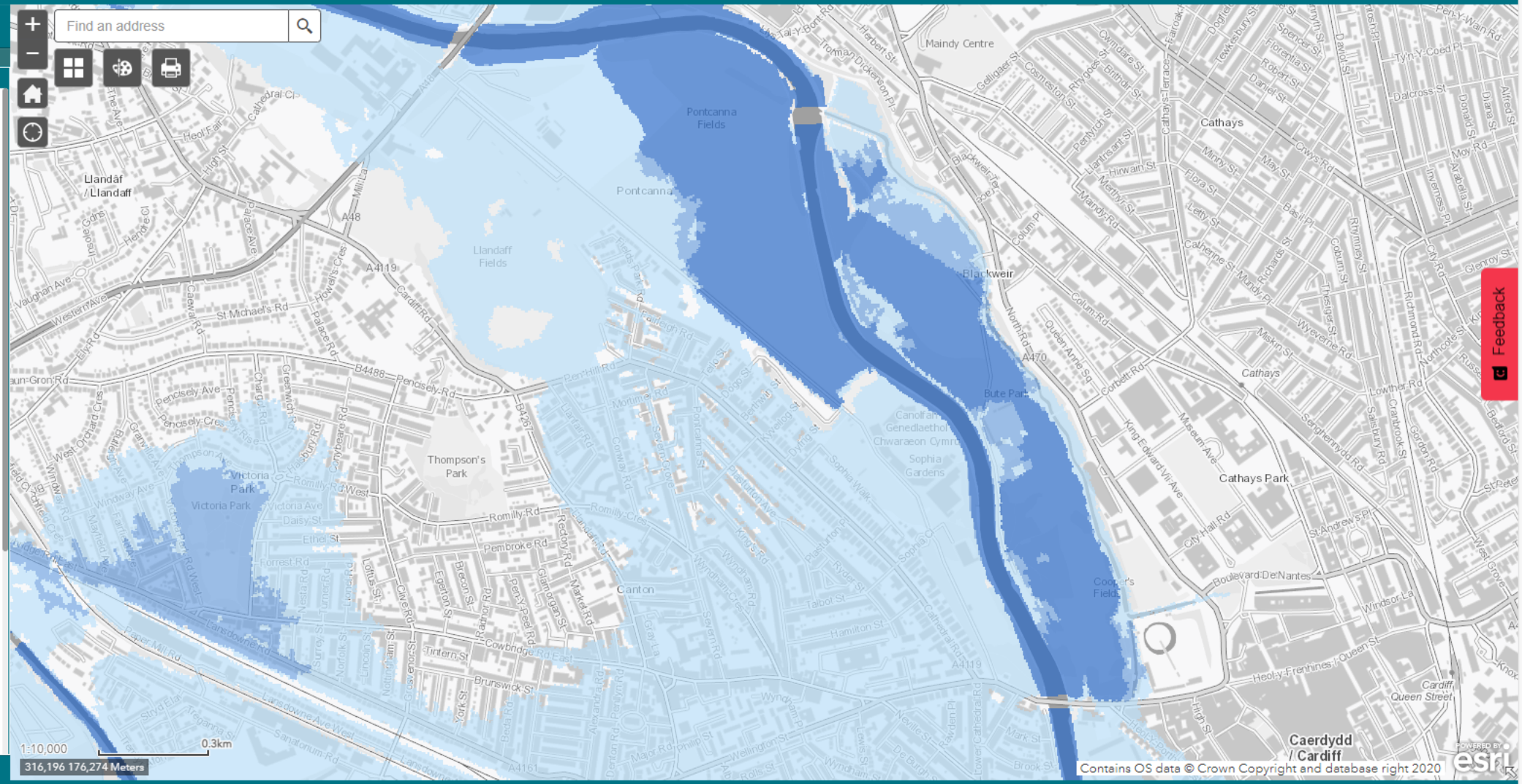

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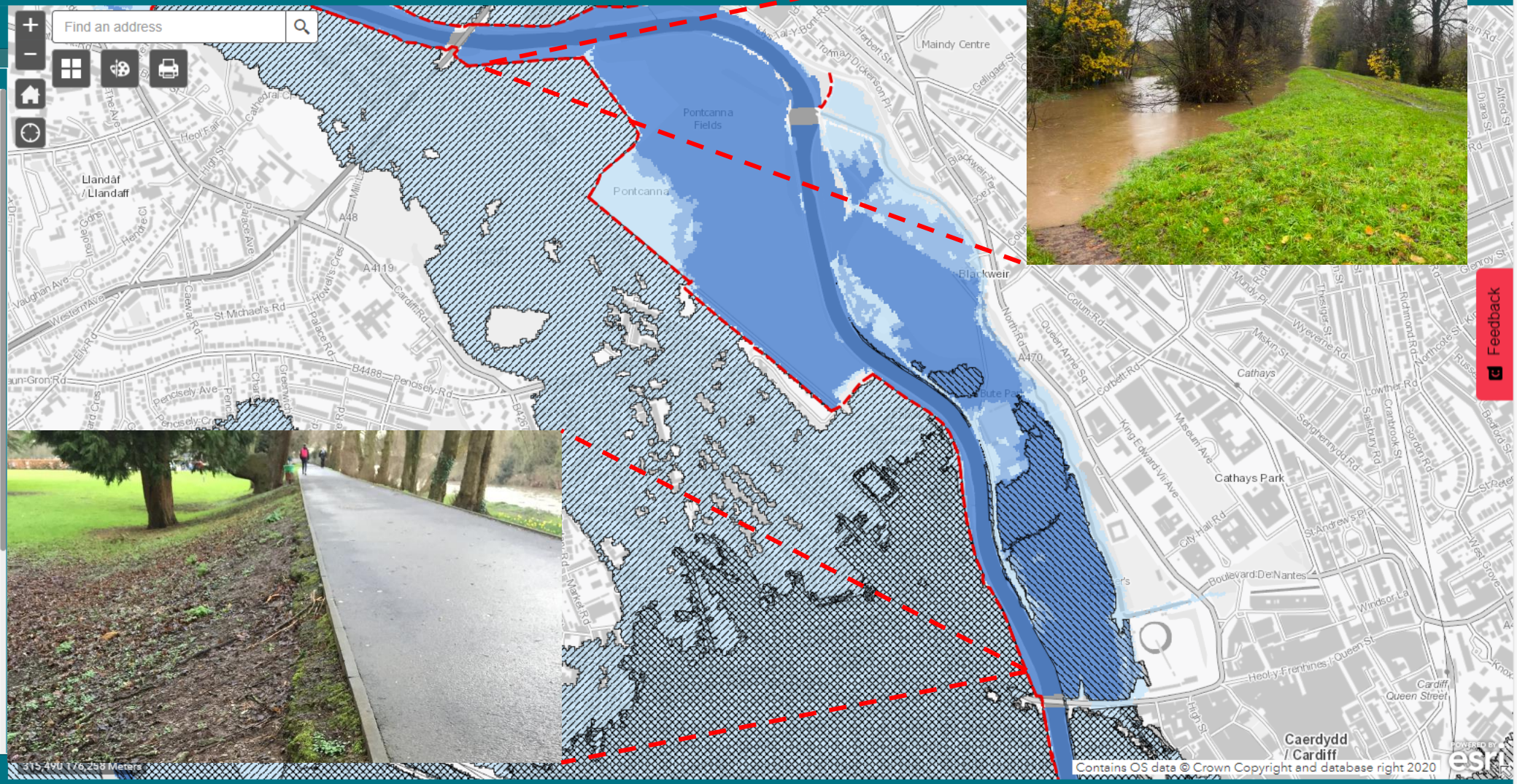
Find an address



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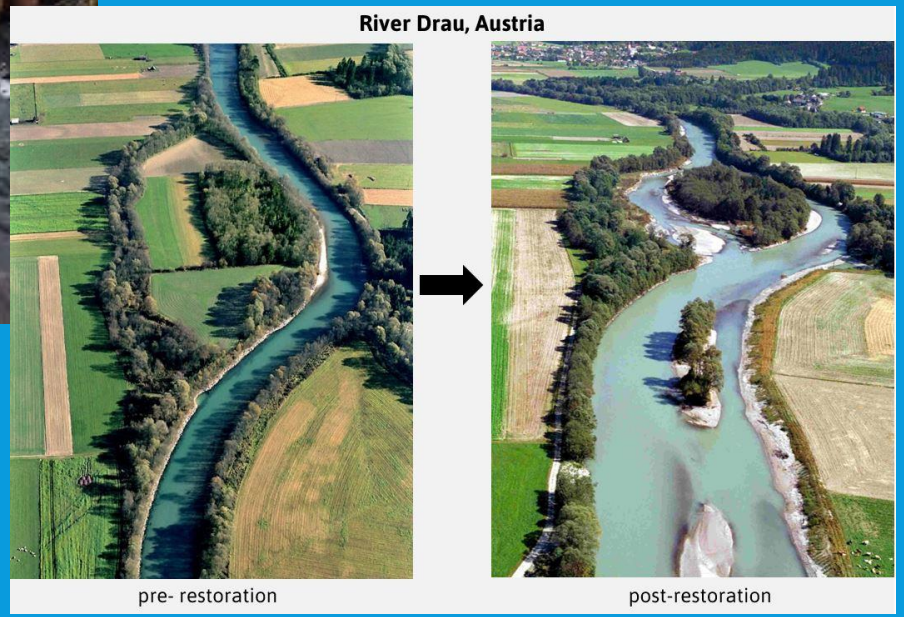
RIVER FLOOD RISK IN PONTCANNA

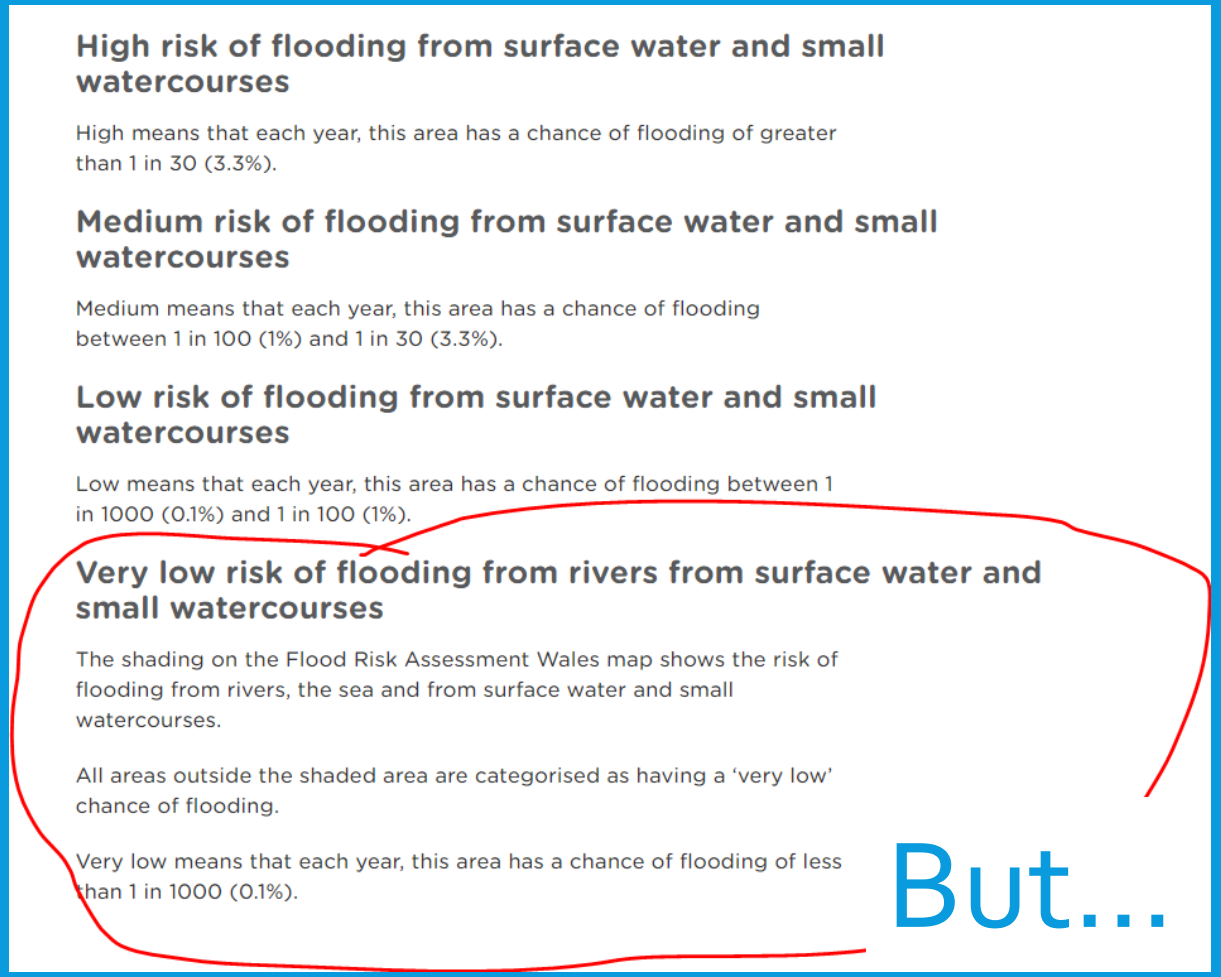
- Protected by flood defences built around 30/40 years ago protect up to a 1% annual chance flood.
- River flood risk on Kings Road between 1% and 0.5% annual chance.
- As climate change impacts on rainfall emerge, flood risk might change.
- Deforestation, river straightening and sealed surfaces hasten the flow, and increase flood risk.
- Catchment scale forestry, bog restoration and natural flood management can help reduce river flood risk, slow the flow and improve biodiversity.

NATURAL FLOOD MANAGEMENT



SURFACE WATER FLOOD RISK ON KINGS ROAD

Source:
https://flood-risk-maps.naturalresources.wales/



High risk of flooding from surface water and small watercourses

High means that each year, this area has a chance of flooding of greater than 1 in 30 (3.3%).

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Low means that each year, this area has a chance of flooding between 1 in 1000 (0.1%) and 1 in 100 (1%).

Very low risk of flooding from rivers from surface water and small watercourses

The shading on the Flood Risk Assessment Wales map shows the risk of flooding from rivers, the sea and from surface water and small watercourses.

All areas outside the shaded area are categorised as having a 'very low' chance of flooding.

Very low means that each year, this area has a chance of flooding of less than 1 in 1000 (0.1%).

But...

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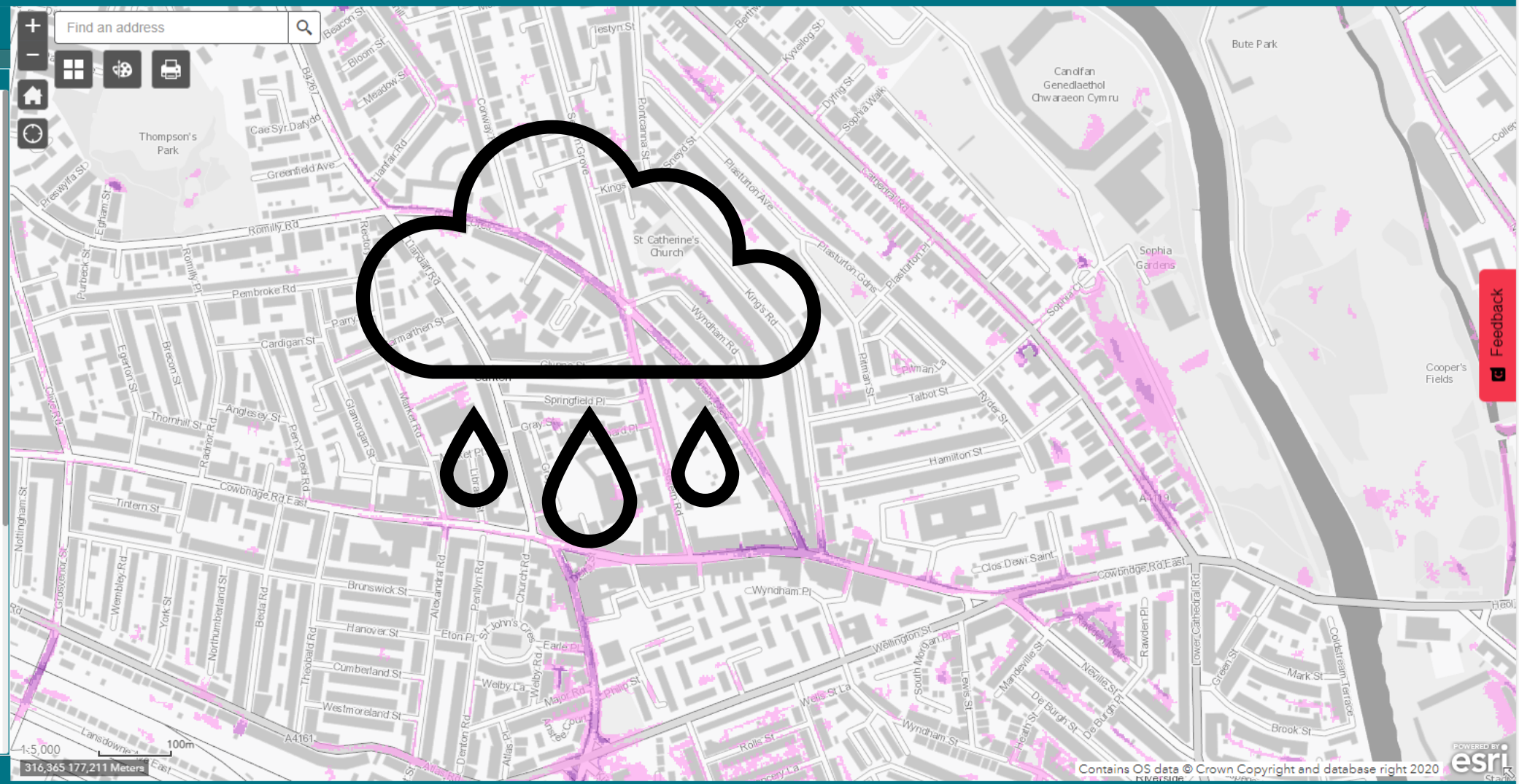

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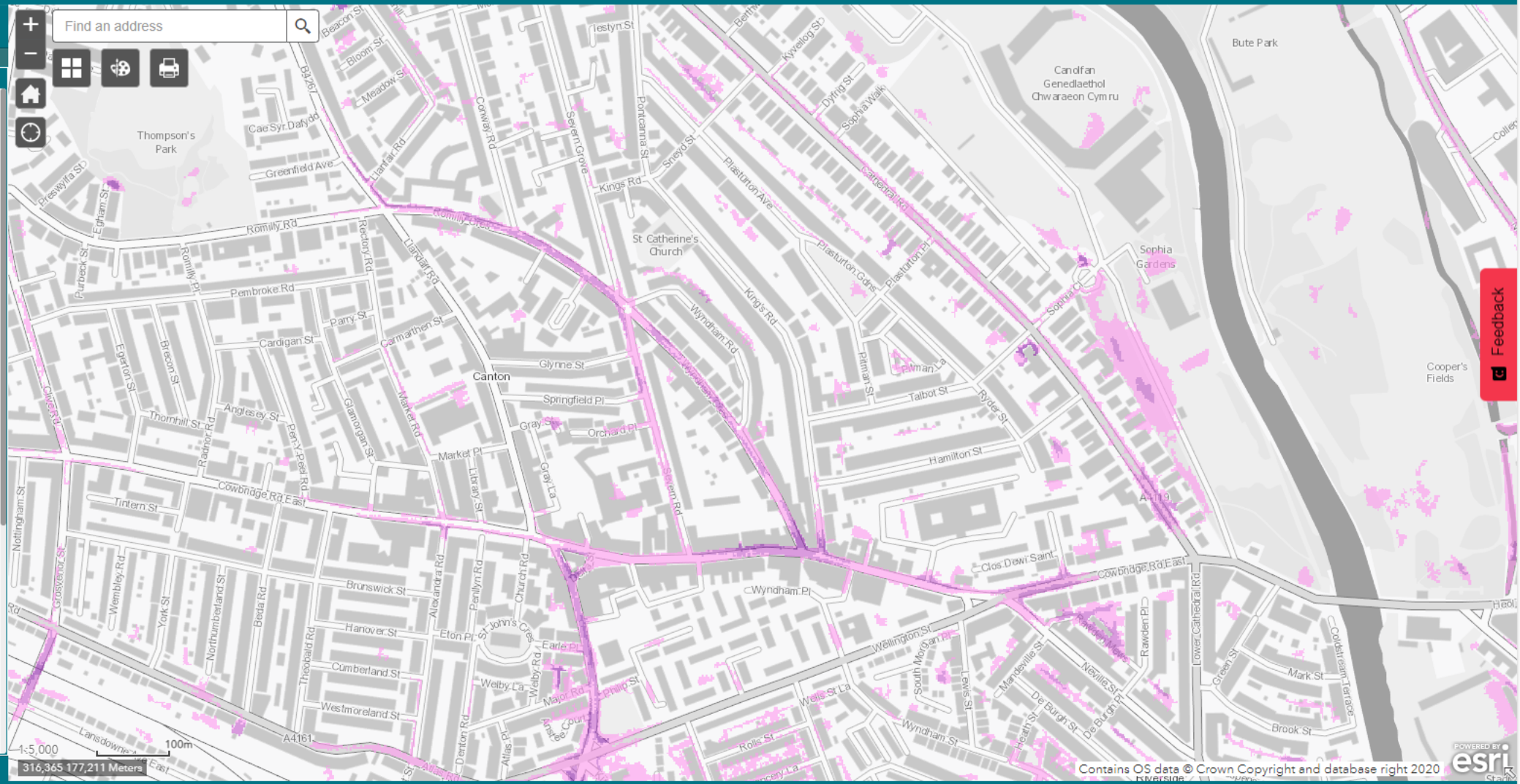

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1:5,000 100m

316,365 177,211 Meters

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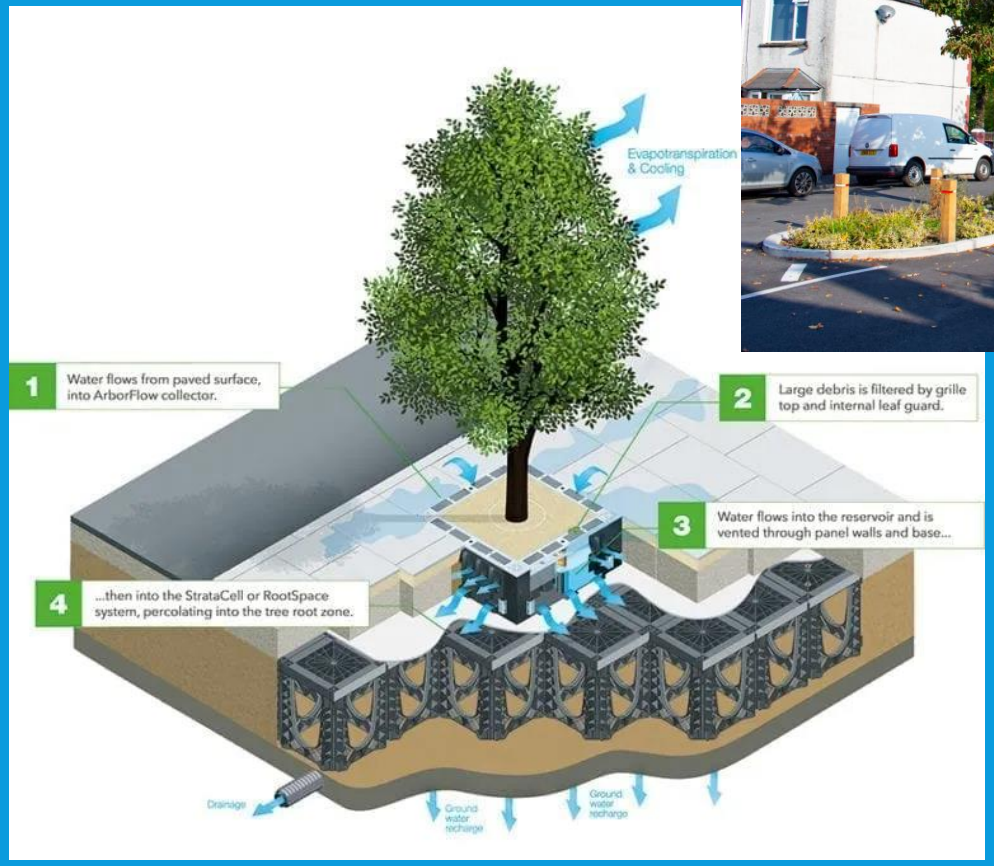
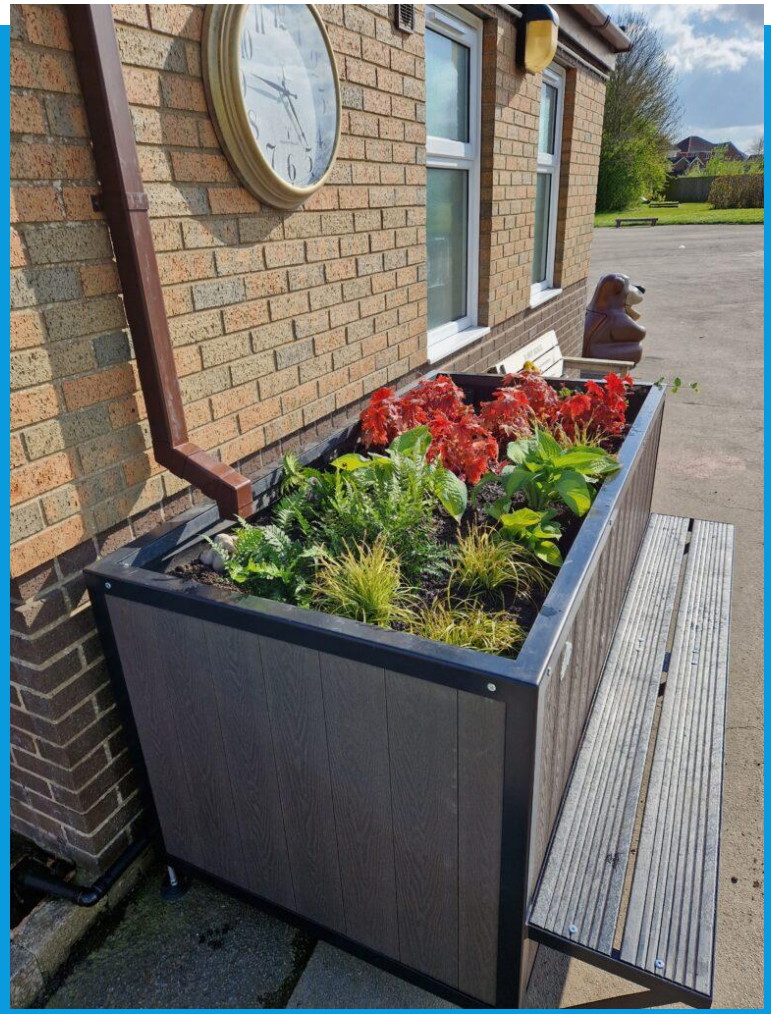
SURFACE WATER FLOOD RISK ON KINGS ROAD

- Very low risk (assuming all the street's drainage system works!!!)
- Surface Water Flood risk on Kings Road of less than 0.1% annual chance.
- BUT our street is a major source of surface water flood risk on Cowbridge Road…
- To reduce flood risk on Cowbridge road we could use rain gardens, rainwater butts, removing hard surfaces on our street…. Slow the flow!
- Requires collaboration between Dwr Cymru and the Local Authority, and could also improve our cracked and dangerous footway/pavement.

RAIN GARDENS, TREE PITS AND 'SUDS'





WHAT CAN WE DO TO PROTECT OURSELVES?

Natural Resources Wales have a REALLY GOOD website to help with all of this.

1. Check your home insurance covers you for flooding (more advice on NRW's Website)
2. Sign up for flood warnings - Natural Resources Wales / Sign up to receive flood warnings
3. Create a Community Flood Plan (kind of why we are here!)
4. Store irreplaceable possessions off the ground floor (especially lower shelves!)
5. Consider flood risk resilience when you renovate your property's ground floor; e.g. tiled floors and rugs, not carpets (more advice on NRW's Website)
6. Property level protection against flooding (like flood boards on your front door) is not usually recommended for situations like ours. They would be unlikely to work in any case, due to porosity between neighbouring buildings.