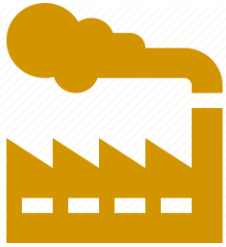


# ***How the Environment Agency respond to flooding***

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# What does the Environment Agency do?



Pollution



Flooding



Environment &  
Landscape



Wildlife



Air Quality



Drinking Water

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# Flood Warning Service – Greater Manchester Merseyside and Cheshire



180 Flood  
Warning Areas



Over 87,000 properties  
at flood risk from  
rivers and sea



Over 300 incident  
response staff

Working with over  
50 Communities



19 Flood Alert Areas

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# Flood Alerts/Warnings Manchester City Council Area



**2 Flood Alert  
Areas**



**21  
Flood Warning  
Areas**



**9629 properties  
in Flood  
Warning Areas  
in Manchester  
City Council  
area**

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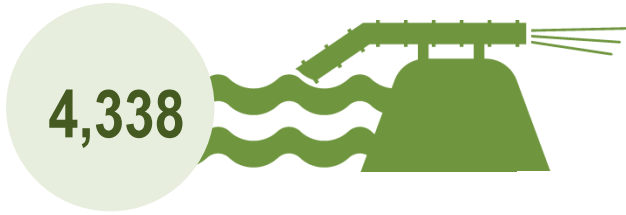




# Asset maintenance programme: Greater Manchester, Merseyside and Cheshire



In GMMC in we maintain & operate:



Number of EA maintained assets  
4,338



of open channels



of raised embankments



Properties at risk of flooding  
from rivers and blockages



of culverts; 84km via CCTV  
and 57km via man entry



structures, including;

- 272 outfalls
- 203 debris screens,  
protecting over 8000  
properties



Pumping Stations (Dog Kennel,  
Jennets Lane, Bradley Orchard,  
Ince Marshes, Frodsham,  
Pennington, Pendlebury, Dog Clog,  
Bedford)



Flood Storage Areas (Sale Ees,  
Timperley, Salford, Castle Irwell,  
Didsbury, Lilford, Finchetts Gutter,  
Knoll's Bridge)

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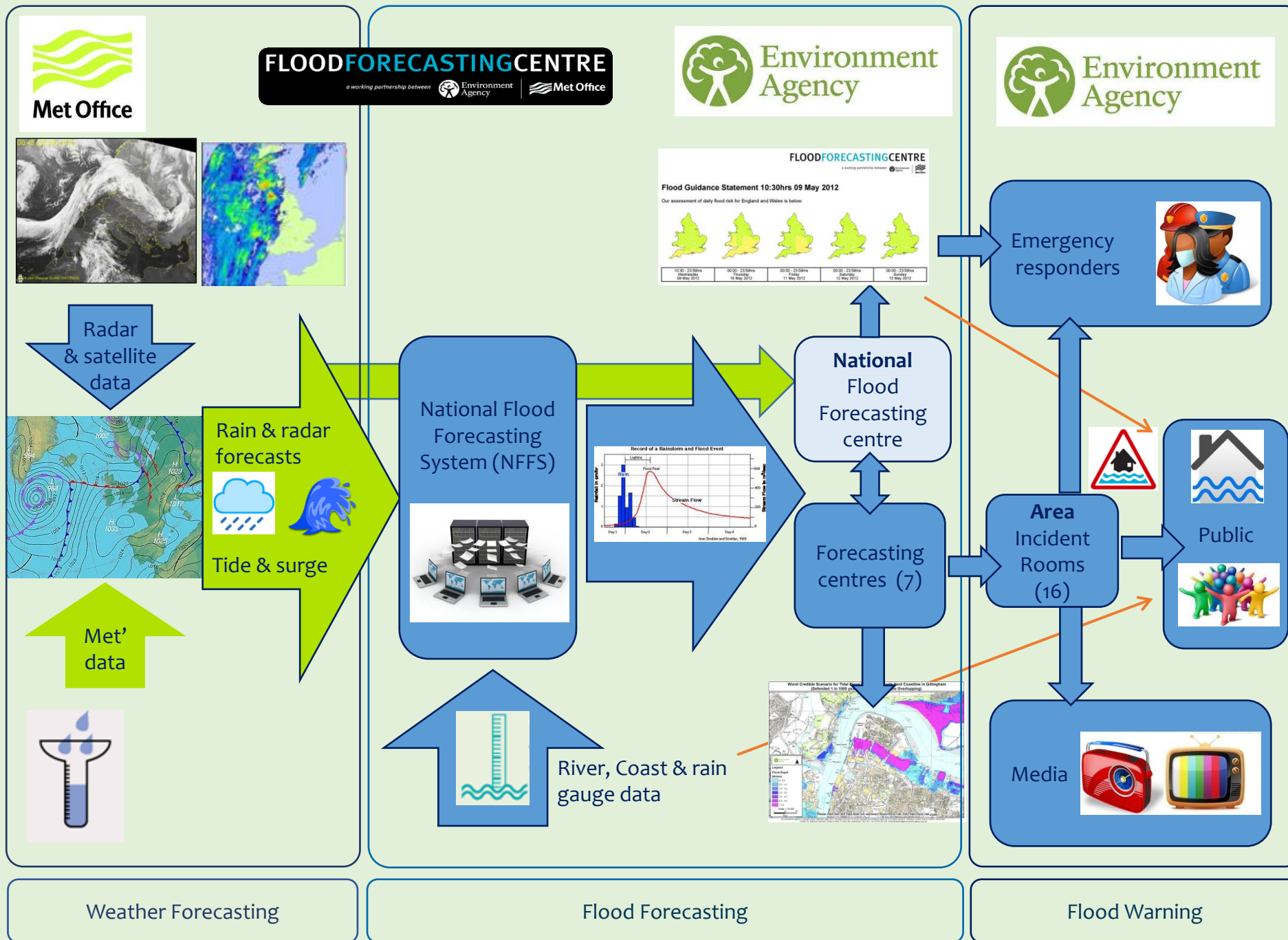
# Flooding: What we do



- Hold Flood Advisory Service (FAS) Telecoms
- Attend command structures and give technical advice on Flood Warnings and operational response and potential impacts
- Issue Flood Alerts & Warnings using Flood Warning System - telephone system, text and internet, partners, media etc
- Operate flood control structures and pumping stations
- Clear debris from channels, screens and culverts on main rivers and monitor/repair stressed defences



# where it all begins





## Environment Agency Flood Alerts/Warnings

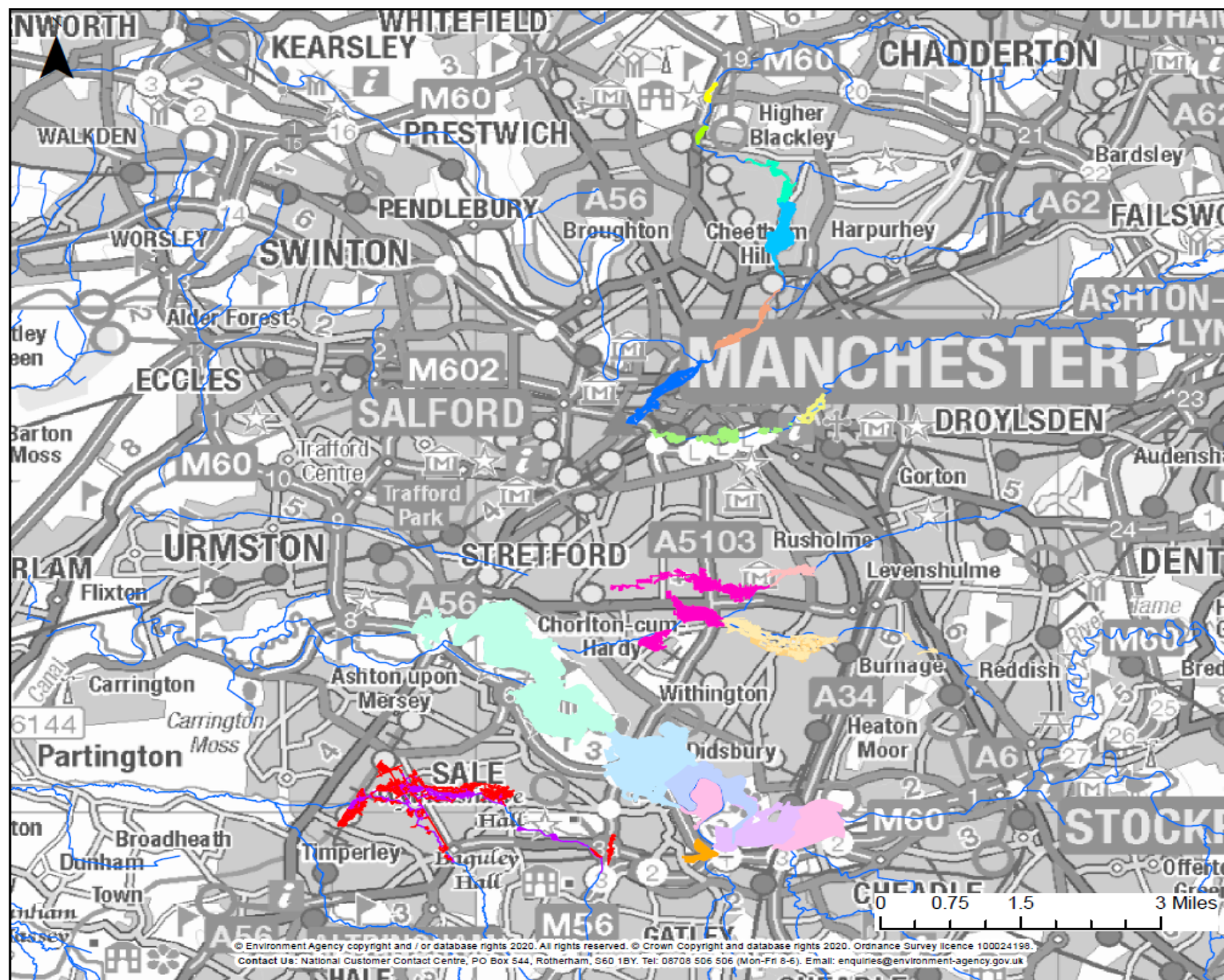
**Floodline 0345 9881188**

Severity  
level



 <p><b>FLOOD ALERT</b></p>	<p><b>What it means:</b> flooding could occur to low-lying land and roads. Flooding is not expected to affect homes and businesses at this stage.</p> <p>Don't panic but keep an eye on the situation—stay alert and check weather forecasts.</p> <p>Flood alerts can occur quite often and do not necessarily lead to flooding of homes and businesses so please do not be alarmed.</p>
 <p><b>FLOOD WARNING</b></p>	<p><b>What it means: Flooding is expected. Immediate action required.</b> We mainly target Flood Warnings at specific communities that are at risk from flooding. Some Flood Warnings may apply to stretches of coast and river.</p> <p>It will indicate that flooding is expected and that people should take more direct impact actions e.g. move belongings upstairs.</p>
 <p><b>SEVERE FLOOD WARNING</b></p>	<p><b>What it means: Severe Flooding. Danger to life.</b> All customers who receive a Flood Warning will receive a Severe Flood Warning if conditions are met.</p> <p>It will be used in extreme circumstances to tell people that flooding is posing significant risk to life or significant disruption to communities which could also cause risk to life. Depending on the circumstances it would indicate that people should evacuate the area or take shelter within safe buildings.</p>
<p><b>Warning No Longer In Force</b></p>	<p>We issue a message to tell people that the flood threat has passed and includes useful advice on what to do next.</p>

## Manchester Flood Warning Areas



### Legend

- GM12
- GM13
- GM14
- GM16
- GM17
- GM18
- GM19
- GM32
- GM33
- GM34
- GM35
- GM37
- GM47
- GM48
- GM75
- GM78
- GM91
- GM92
- GM93
- GM94
- GM99
- Main Rivers

# Flood Storage Reservoirs

- The River Mersey is 70 miles long from Liverpool bay to the Confluence with the River Tame and River Goyt in Stockport.
- We have two Flood Storage Reservoirs; Didsbury which has a capacity of 778,000cm<sup>3</sup> and Sale Ees which has a capacity of 1,585,000cm<sup>3</sup>. These work in tandem with each other with Sale Ees operating first. The aim of the Flood Storage Reservoirs is to manage/balance the flows in the River Mersey. Excessive flood water is sluiced into the Reservoirs to maintain the river at optimum capacity.
- Before the basins are operated all pedestrian access points have to be closed down and restricted to prevent public access and reduce the danger to life.
- Sale Sluice Station is located off Rifle Road Sale just downstream of the Jackson Boat Pub, M33 2LX, This Sluice Station has two large steel sluices that are operated at 150mm intervals.
- The excessive water that is sluiced out of the River Mersey flows down the inlet channel and into the lake of Sale Water Park with the lake increasing in capacity.
- Approximately 1 mile downstream of Sale Ees Sluice is Barfoot Bridge aqueduct. This structure carry's the Bridge Water Canal over the River Mersey and is the restriction/throttle on the River Mersey.
- Once river levels have dropped, Sale Ees empties through the tower at the far end of the lake, transporting the water underneath the Metrolink, the canal and the M60 embankment and dropping back into the Mersey.

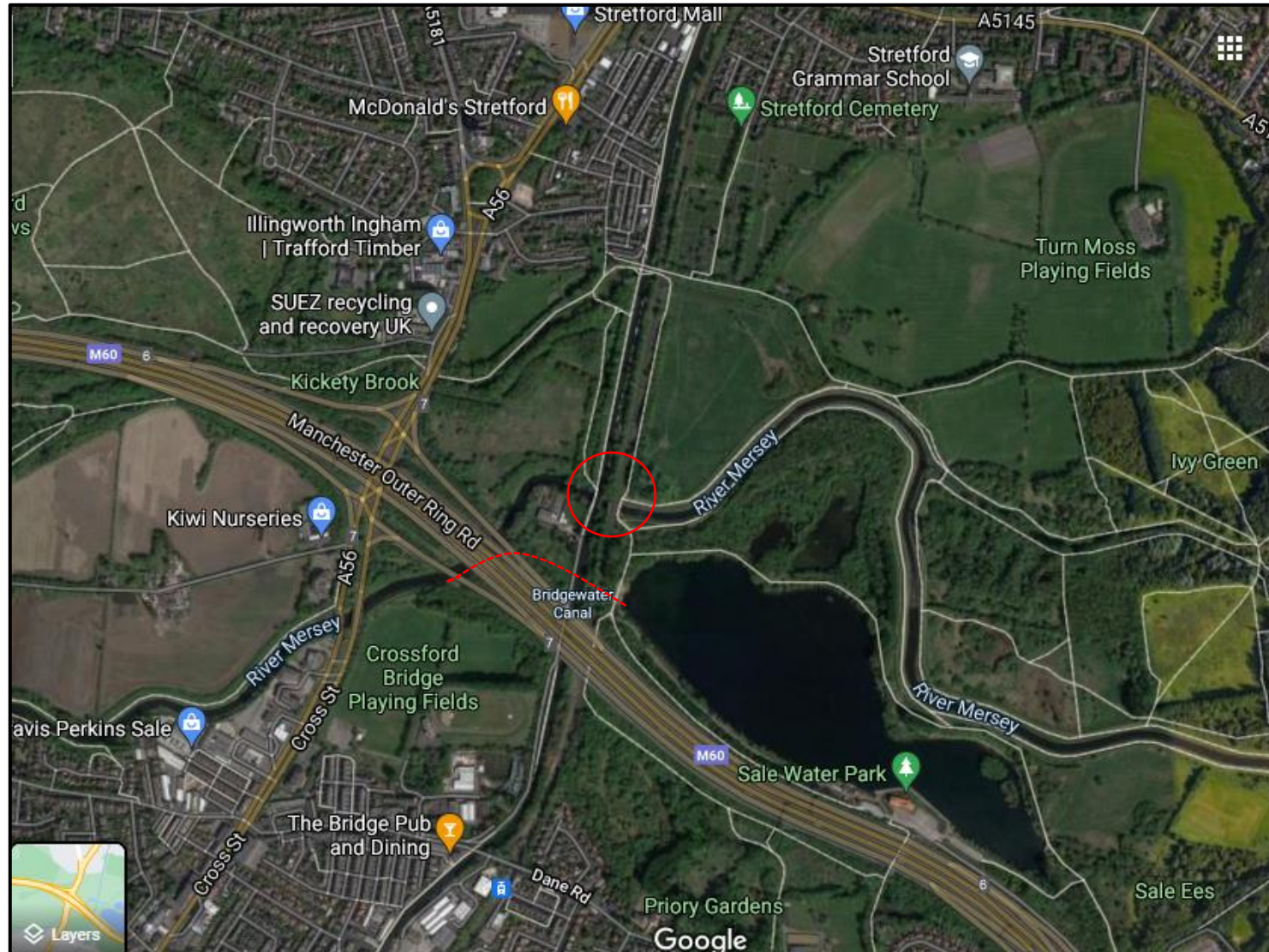


# Didsbury Flood Storage Reservoirs

- Didsbury Flood Storage Reservoir is located off Millgate Lane Didsbury M20 5QX. The sluice station has one large sluice and again is operated at 150mm intervals.
- The excessive water that is sluiced out of the River Mersey flows down the inlet channel and into the Fletcher Moss Park area across the Rugby fields across Ford Lane and onto Withington Golf Course.
- When the River Mersey reaches 6.9m the Sluice Gate is operated at 150mm intervals. We balance the River at 6.85m. Bank full over topping of the Didsbury Reservoir occurs above 7.2m.
- A Flood Gate is situated at the end of Stenner Lane which has to be closed prior to opening the Sluice to prevent flooding to the cottages and block pedestrian and vehicle access.
- The Didsbury Flood Reservoir empty's by sluices. One is located on the River Mersey right bank at the end of Stenner Lane and the second sluice is located on the right bank downstream of the Tatton footbridge Northenden. Fielden Park brook also helps to drain the flood basins.
- The Flood basins working together balance the river reducing flooding to nearby areas and enabling the river to flow more easily through Barfoot bridge.

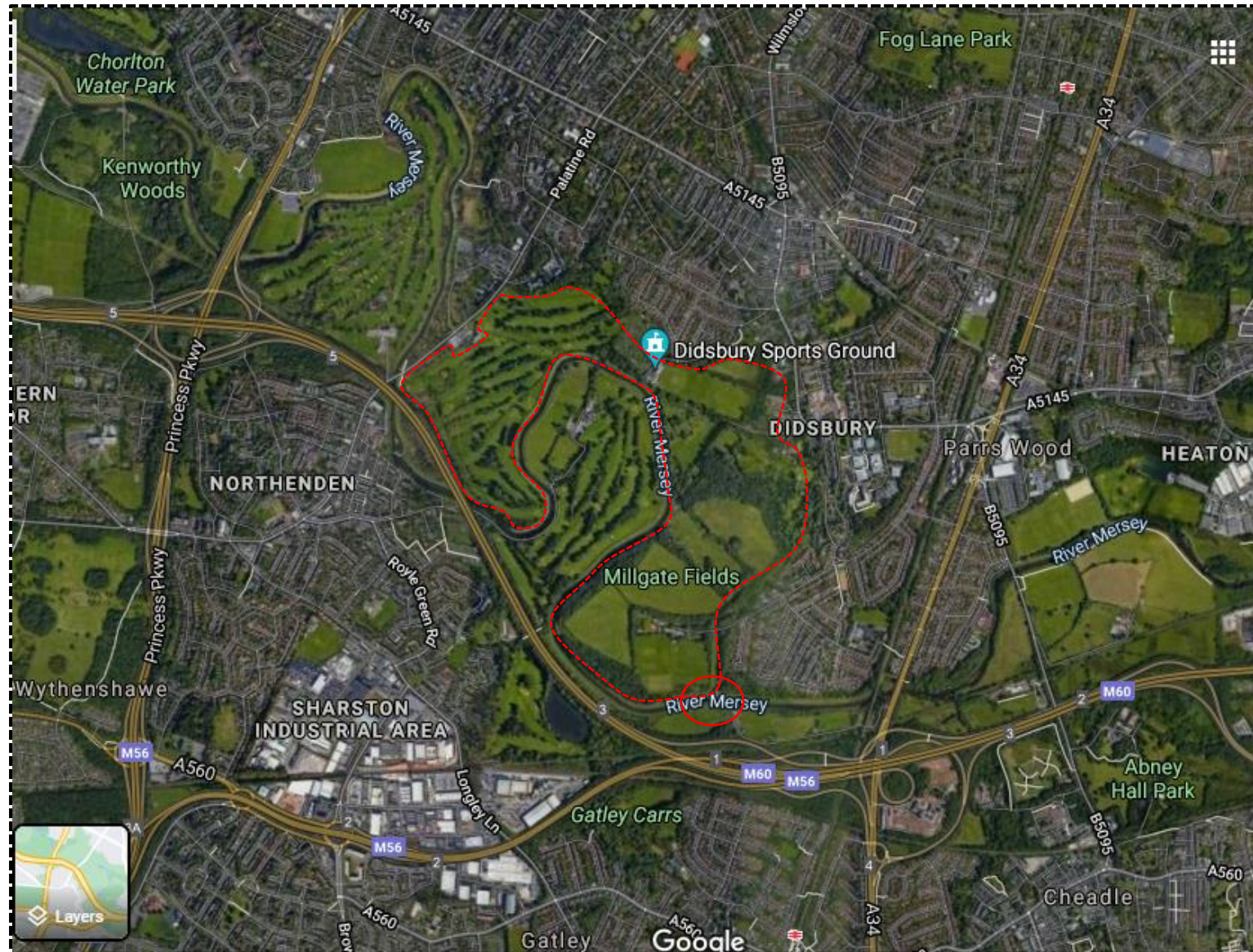


# Flood Storage Reservoirs – Sale Ees





# Flood Storage Reservoirs – Didsbury







Didsbury Inlet



Didsbury Inlet Channel



Flood Gate Stenner Lane

# Working Towards a Flood Resilient Future

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# Next Steps for Manchester



- **River Mersey Strategy (South Manchester Catchments)**

This two year study will look to establish an approved Strategy for the whole- life sustainable management of EA maintained flood defence assets. A programme of interventions along with the funding mechanisms will be established. Projects developed from this study will look to incorporate key partner and/or local stakeholder opportunities, (flood risk reduction or environmental enhancement related).

- **Cringle Brook**

This project will appraise whether further interventions to flood risk in Withington, Fallowfield and Burnage (from Cringle Brook) are viable and what they might look like, ensuring that they will also assess environmental opportunities. This project is currently at Strategic Outline Case, with the next step being to develop an Outline Business Case (preferred option) over the next 2 years. Construction start date likely around 2025 if a scheme is viable.

- **Sinderland Brook Strategy – Timperley and Brooklands**

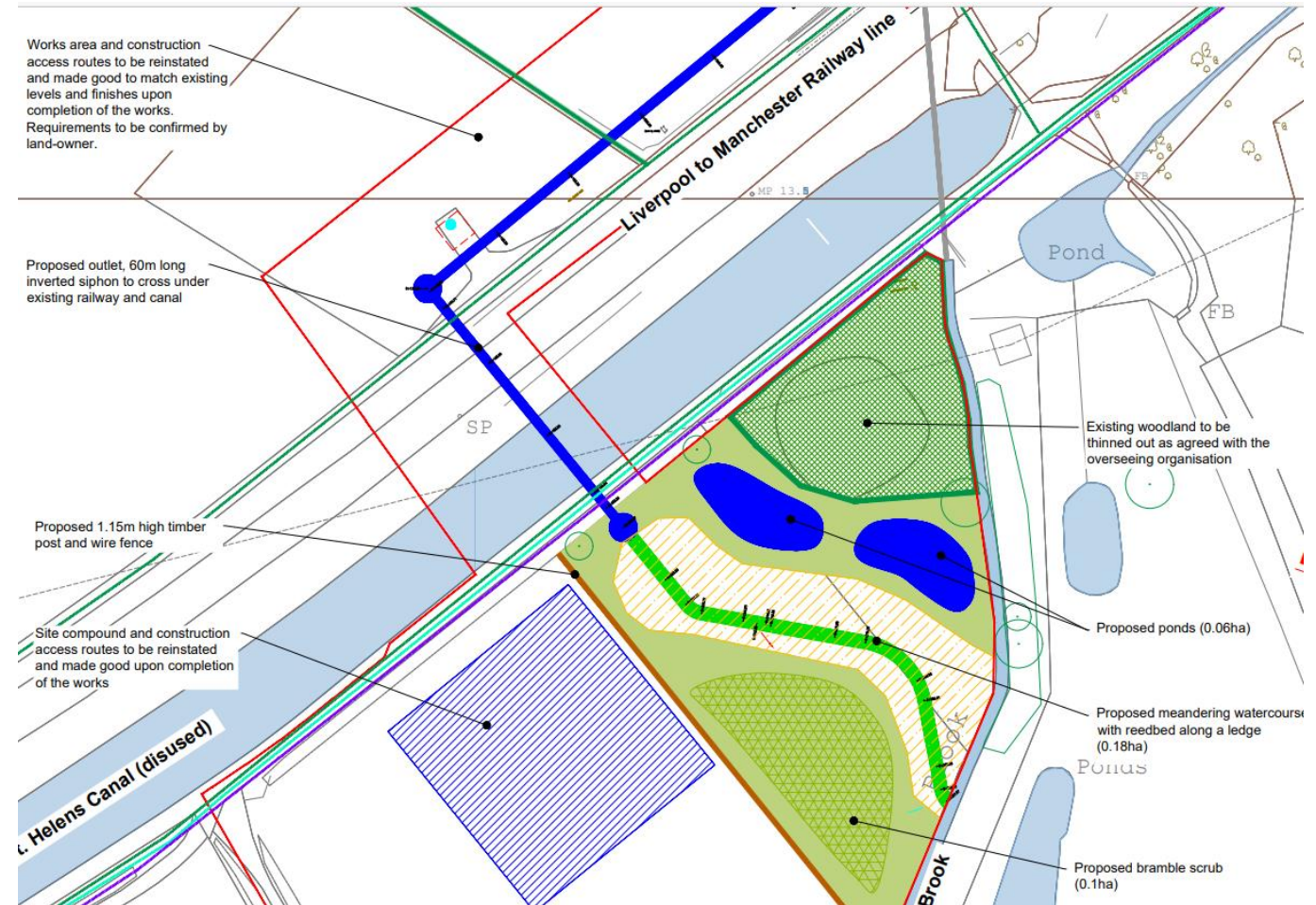
This project is predominantly in Trafford but does cross into Manchester in the Baguley/Wythenshawe area and seeks to take a strategic approach to understanding flood risk along Sinderland/Baguley and Timperley Brooks. It will identify whether projects to reduce flood risk are required and where those interventions are necessary.

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# Diversifying the Programme

- **25 Year Environment Plan (25 YEP):** Legally-binding, long-term environmental targets must be set every 5 years
- **Government 'legacy' of environmental improvement including:**
  - delivery of more Natural Flood Management solutions
  - embed biodiversity net gain
  - restore (Sites of Special Scientific Interest)
  - support landscape-scale Nature Recovery Areas
- **Biodiversity Net Gain (BNG)**
  - Developments must have at least 10% BNG by 2023.
  - EA committed to 20% BNG by 2023 for EA led FCRM schemes to support our E:mission sustainability and carbon net zero goals



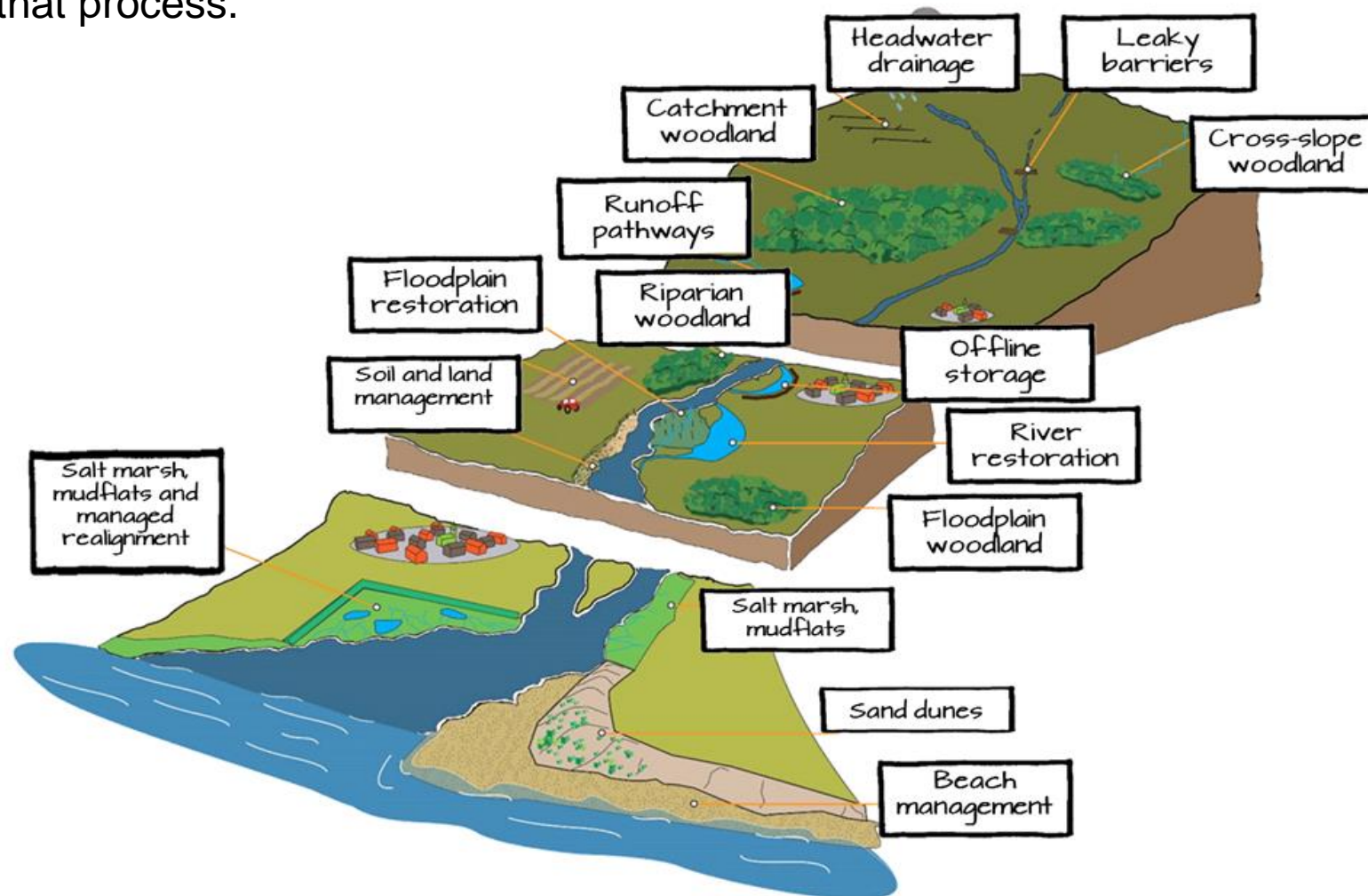
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# Natural Flood Management (NFM)

Anything that holds or slows the flow of water naturally in the catchment, or mimics that process.



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# NFM in Action



Leaky Dams, Smithills, 12,000 m3 volume, 66 Hectare Habitat



River restoration, Bickershaw, 17,000 m3 vol, 30 Hectare habitat



Headwater drainage 'Stone dams', Stalybridge, 3,000 m3 vol,

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# NFM in Action



As part of the NFM work, the joint moorland restoration project is underway with Moors for the Future at Holcombe Moor. Below is a link to the Moors for the Future web page for more info and some photos from site:



# The future for NFM

Currently NFM is landowner dependent. We prioritise best fit upstream of communities at risk, with landowners who want to undertake NFM.

## Challenges

- Availability of land / landowner incentives
- Evidencing the benefits
- Climate Change (50- 70% increase in flows by 2100)

## Opportunities

- Environment Land Management (ELM) schemes
- Biodiversity Net Gain and Habitat Creation
- Carbon Sequestration



A large green circular graphic on the left side of the slide. Inside the circle are white stylized clouds and a white silhouette of a person with arms raised. The text "Any Questions ?" is centered over the person silhouette.

# Any Questions ?