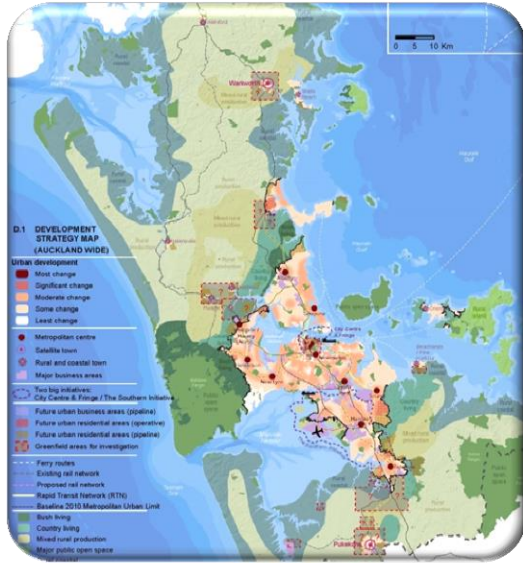


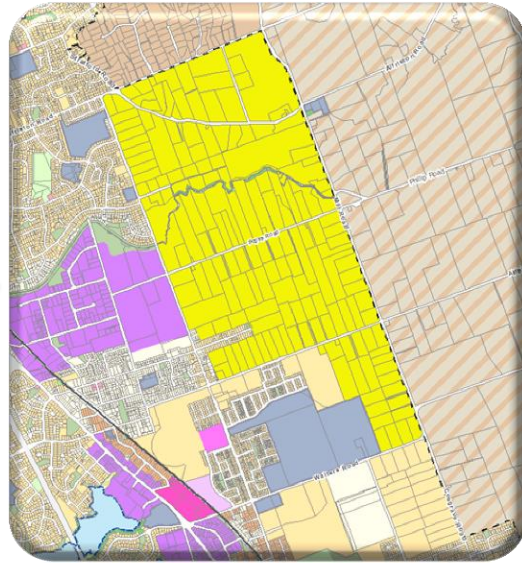
# Planning to Reduce Flood Risk – Takanini North

Lisa Dowson – Auckland Council  
Thomas Nikkel - Technikkel





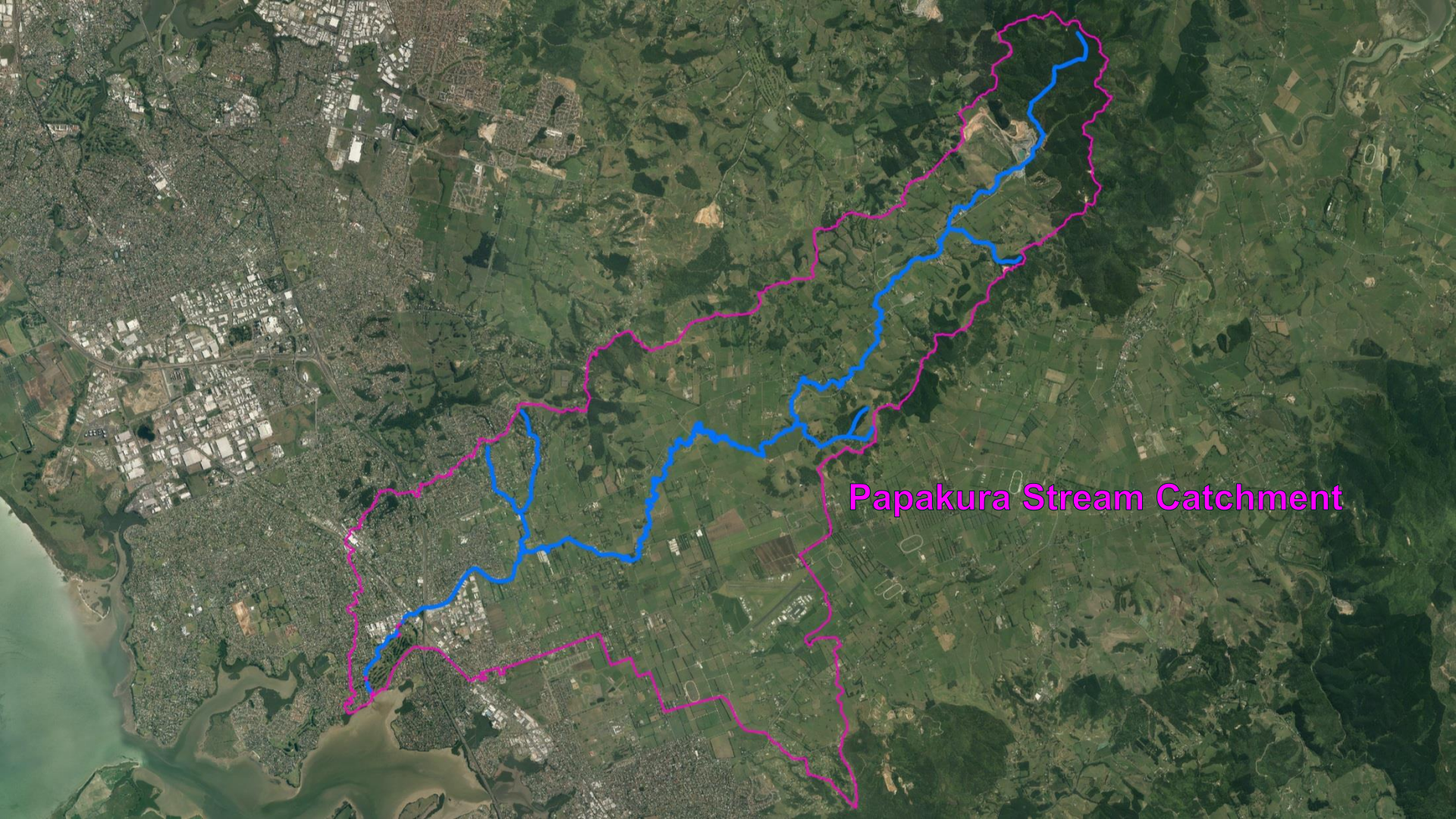
Auckland Plan



Unitary Plan

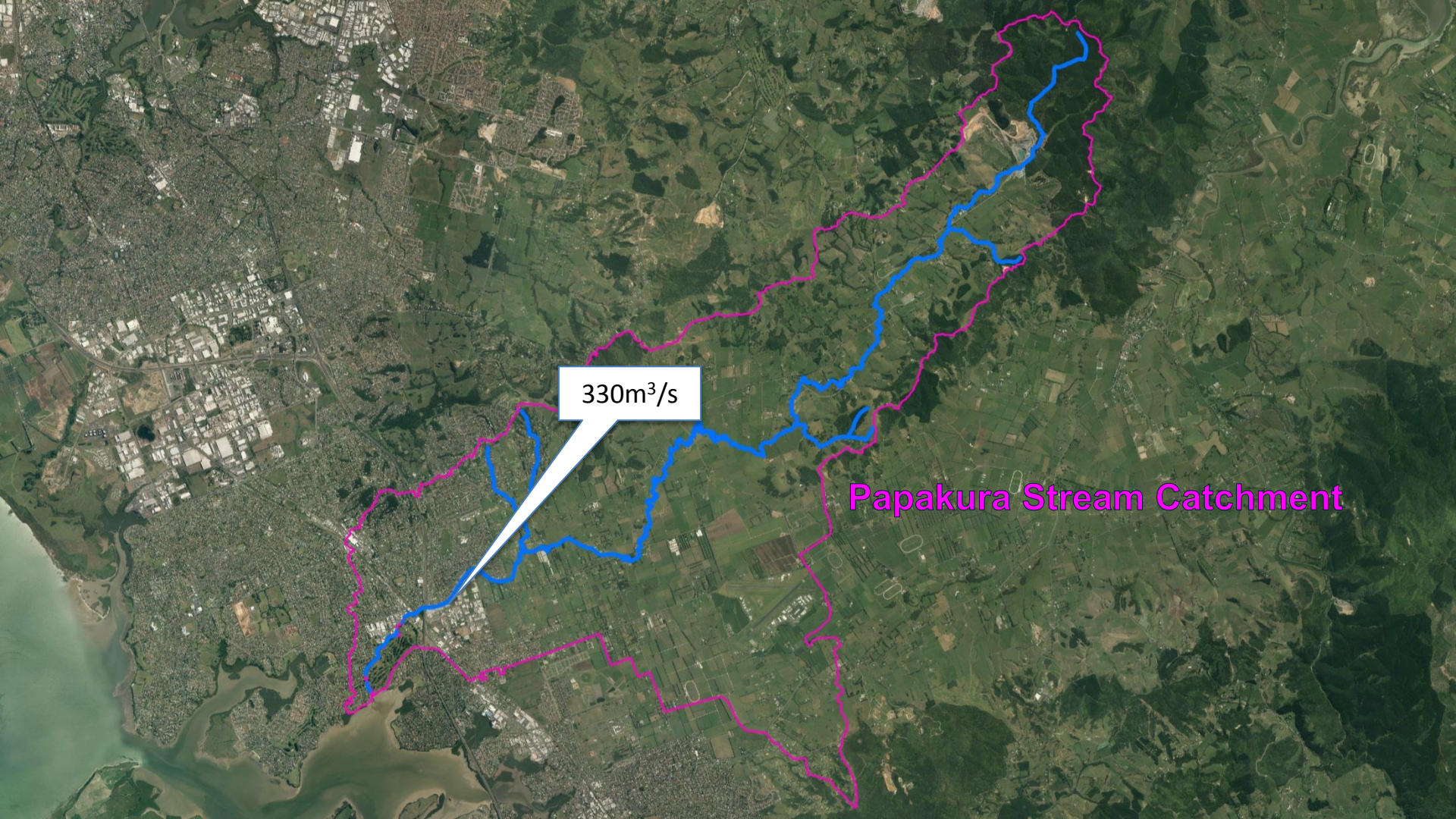






Papakura Stream Catchment

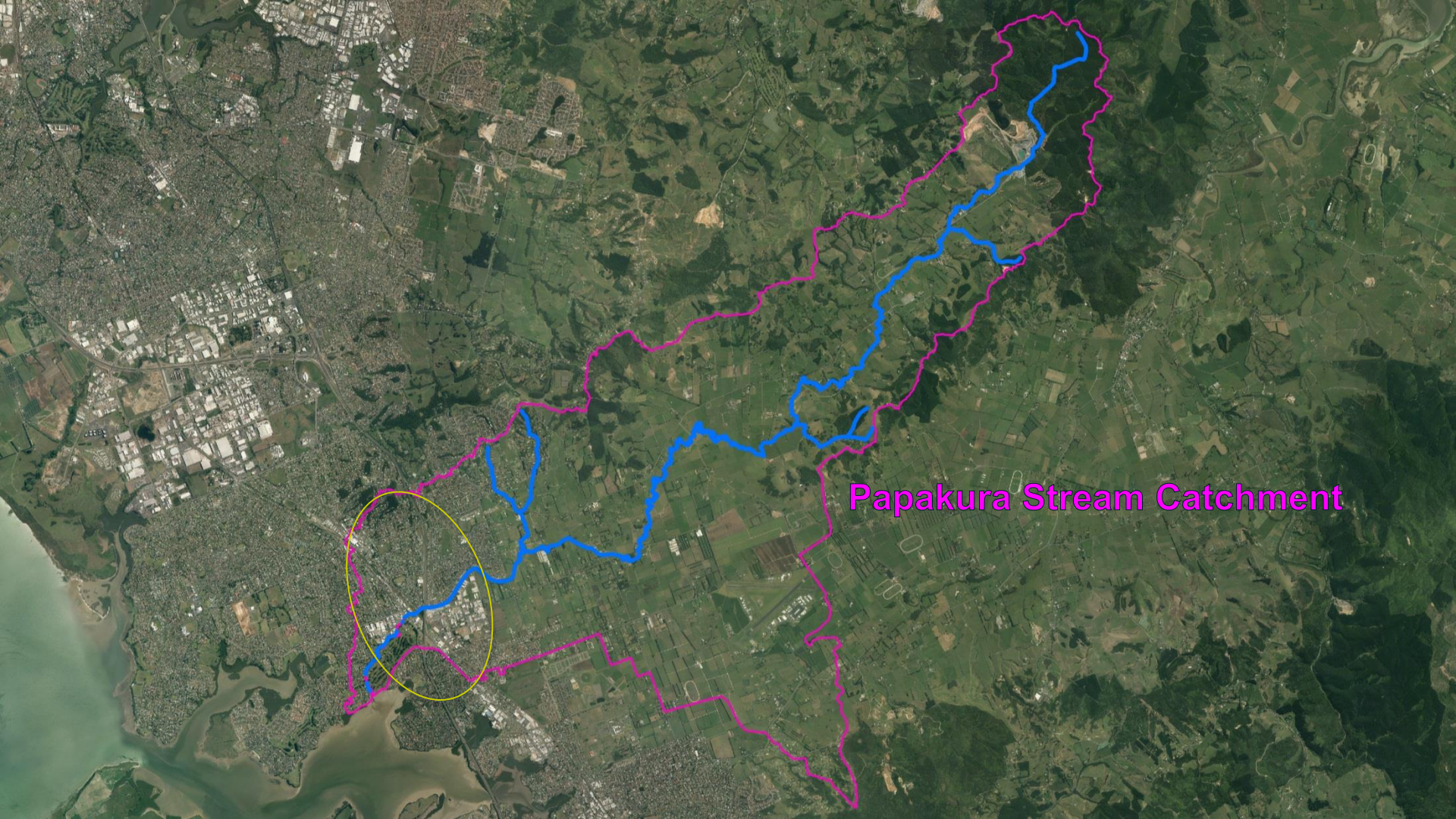




330m<sup>3</sup>/s

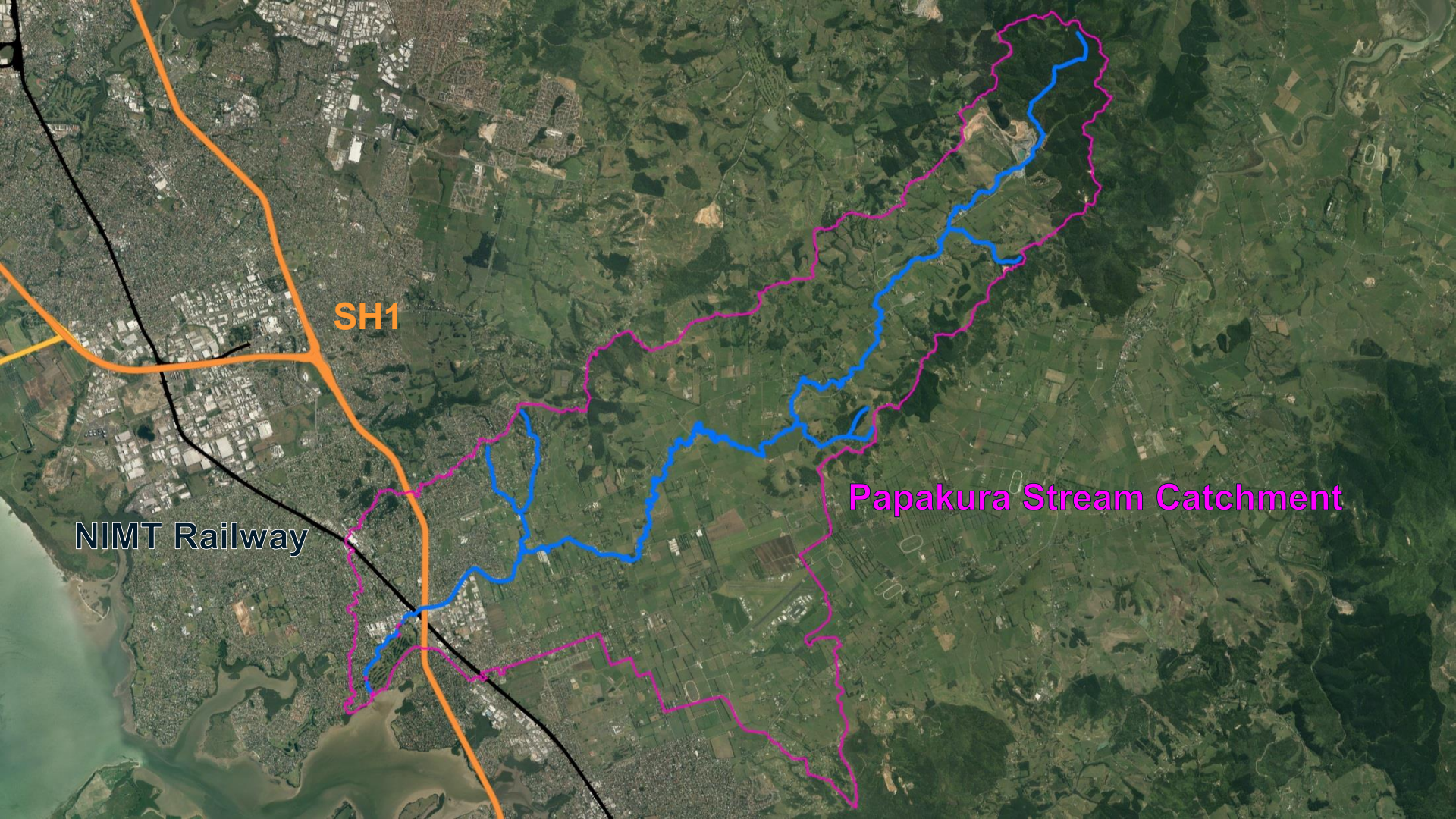
Papakura Stream Catchment





Papakura Stream Catchment



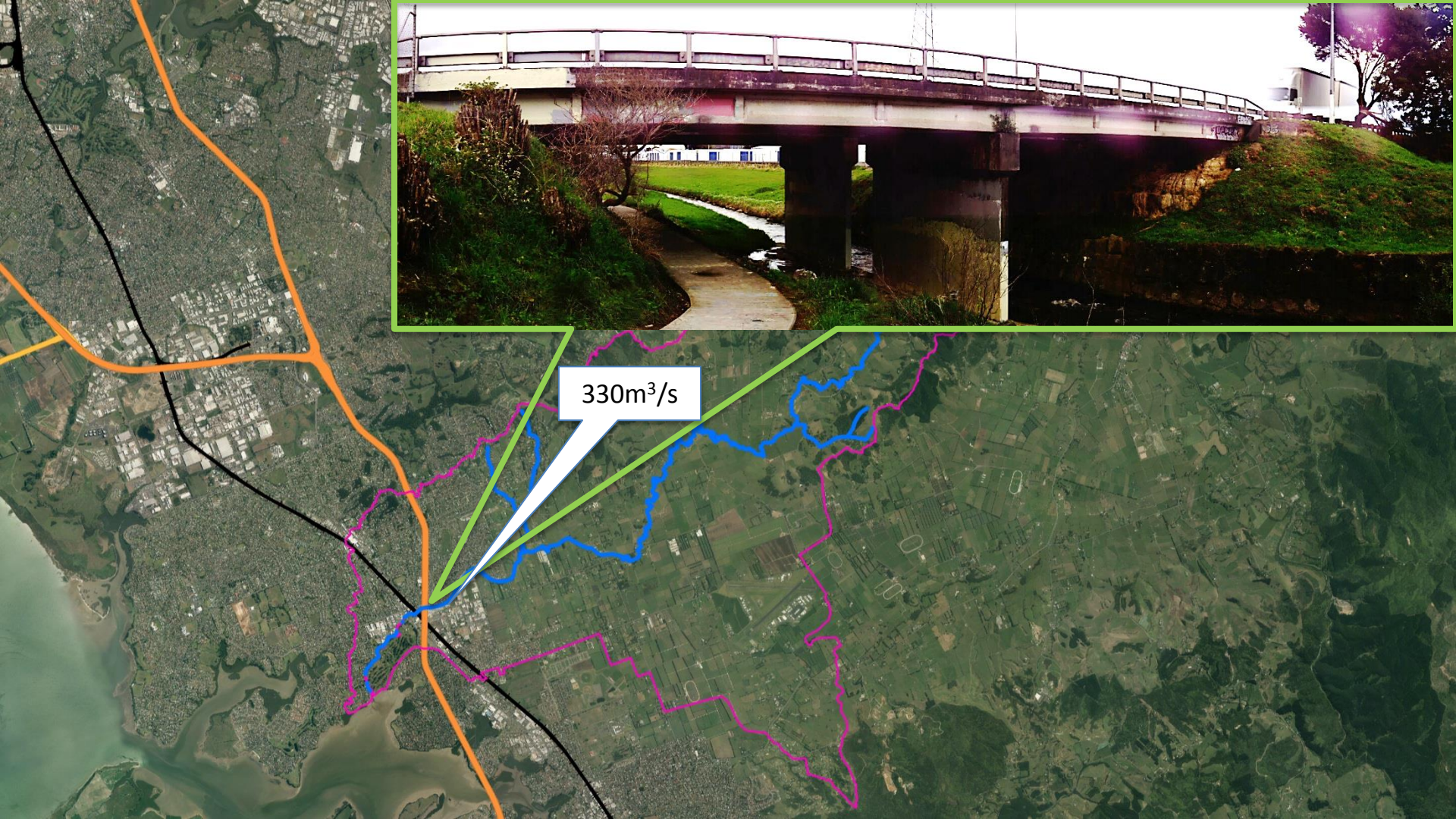


SH1

NIMT Railway

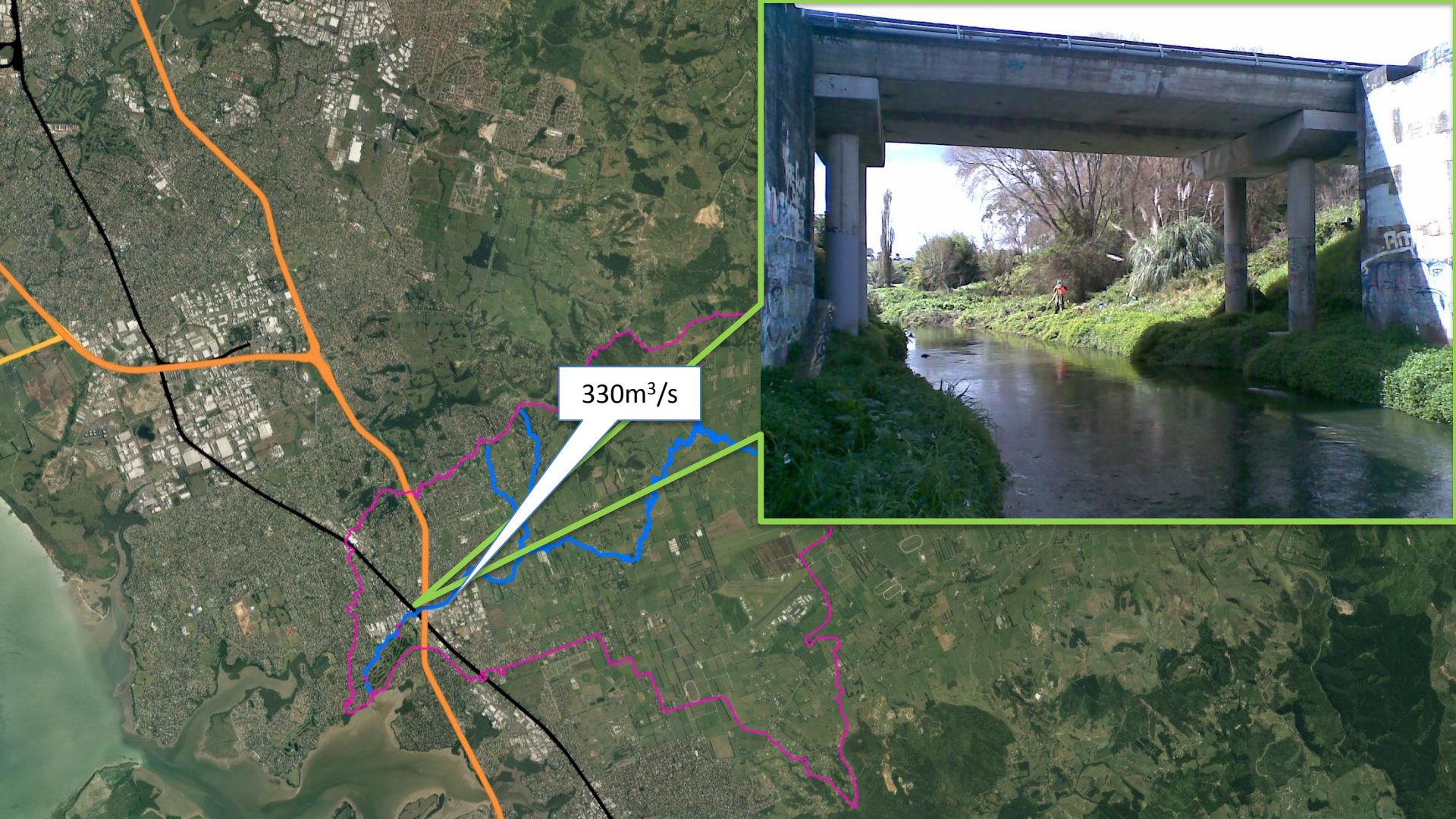
Papakura Stream Catchment



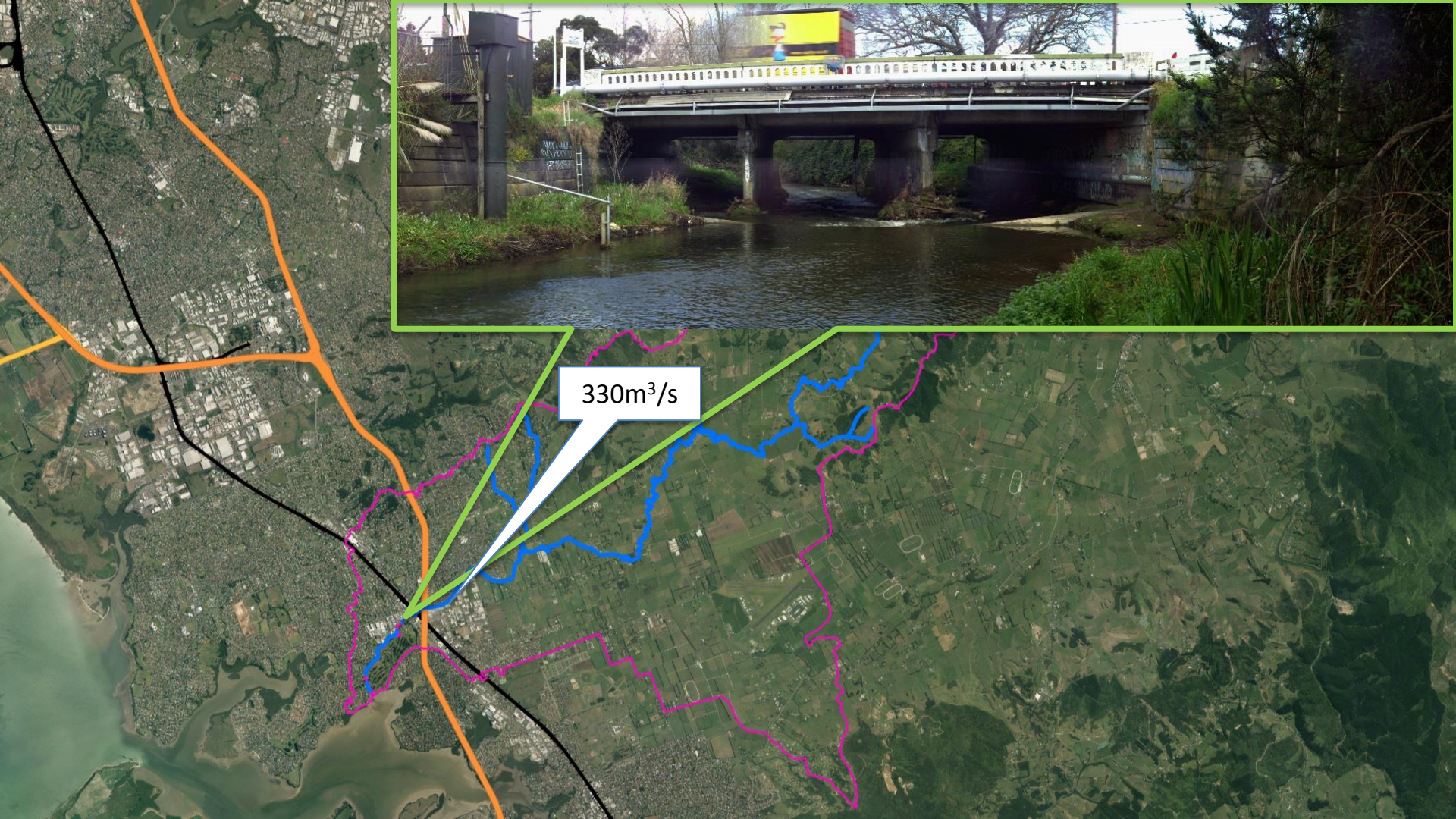


330m<sup>3</sup>/s





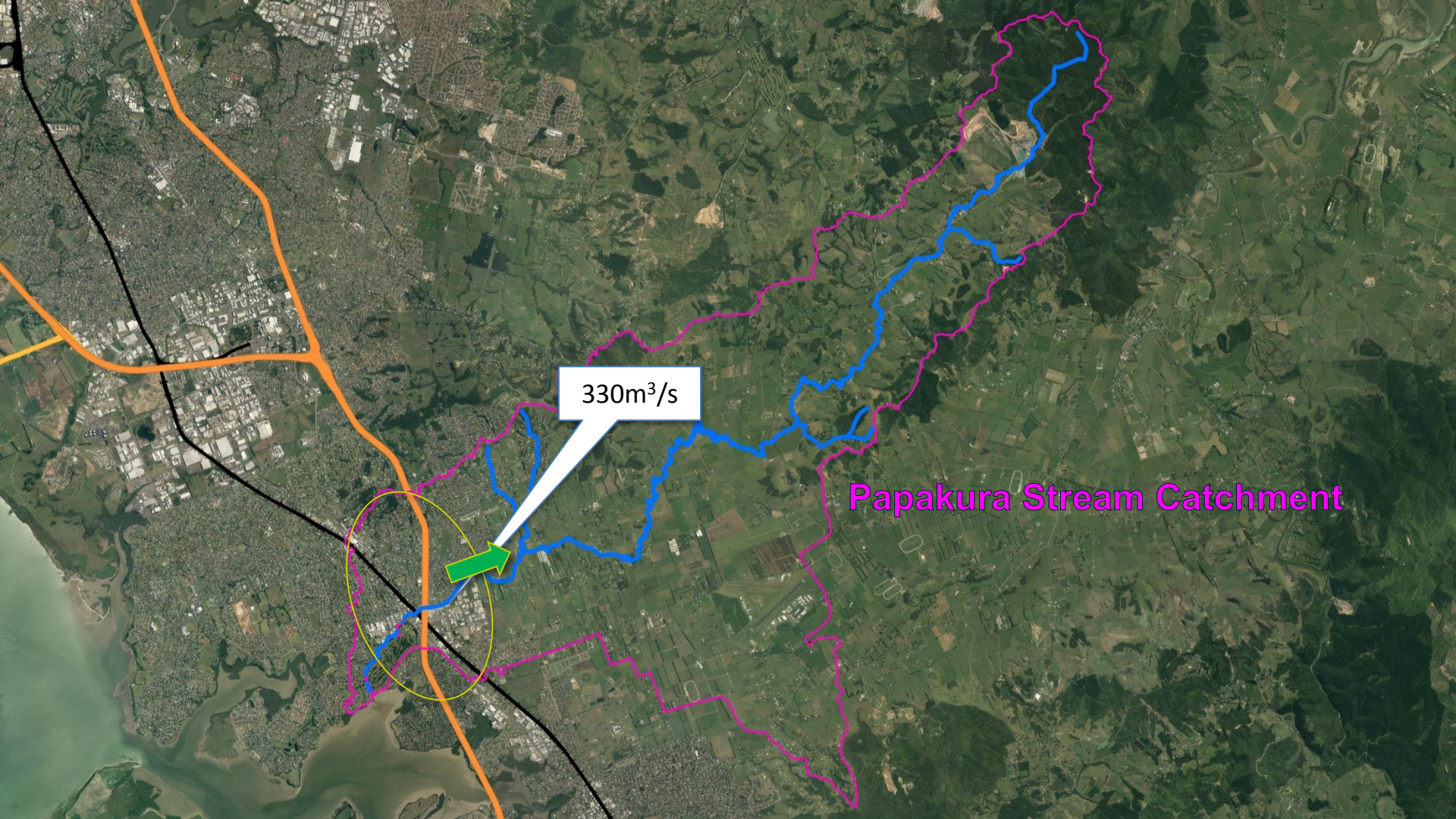




330m<sup>3</sup>/s



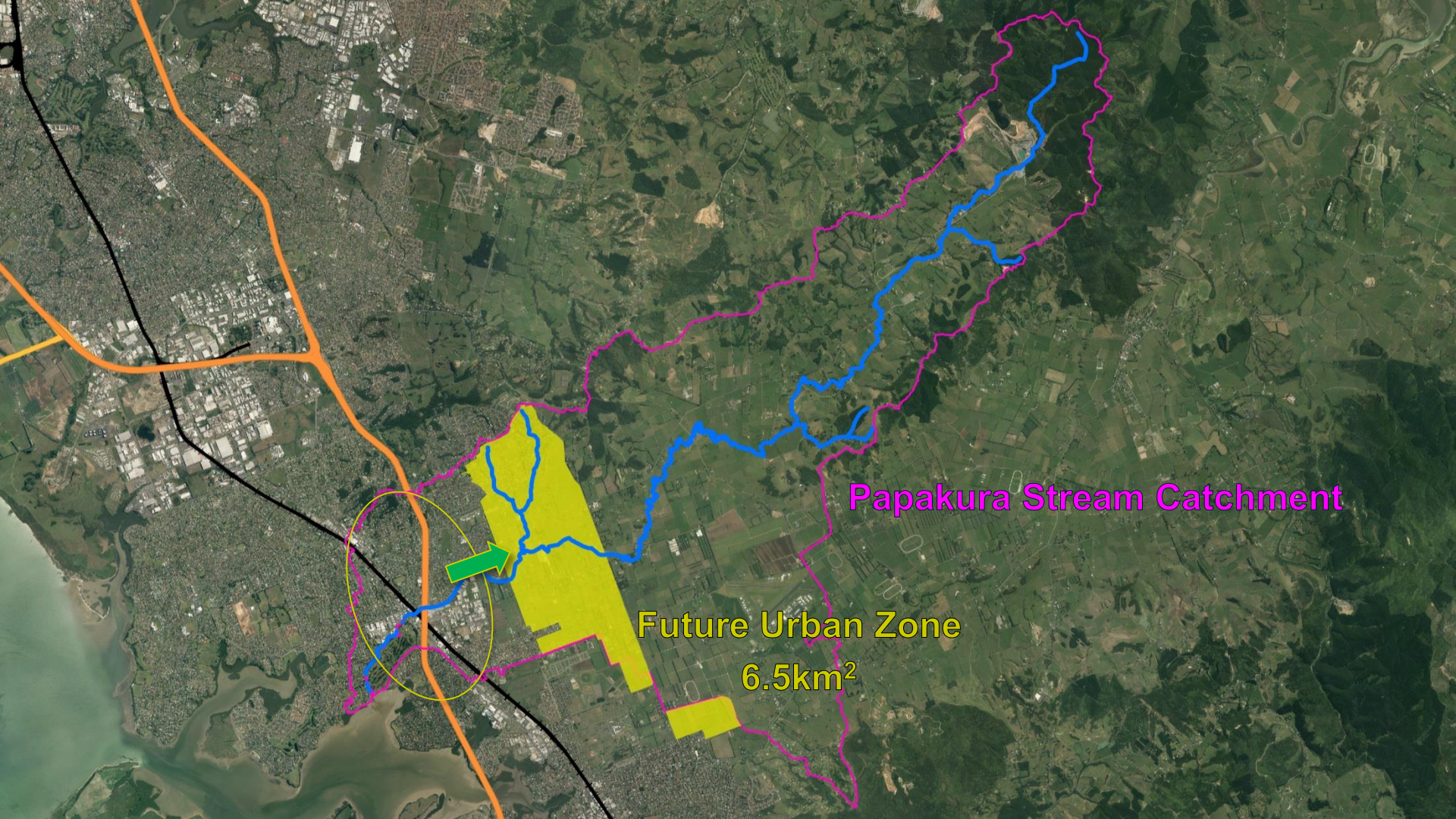




330m<sup>3</sup>/s

Papakura Stream Catchment

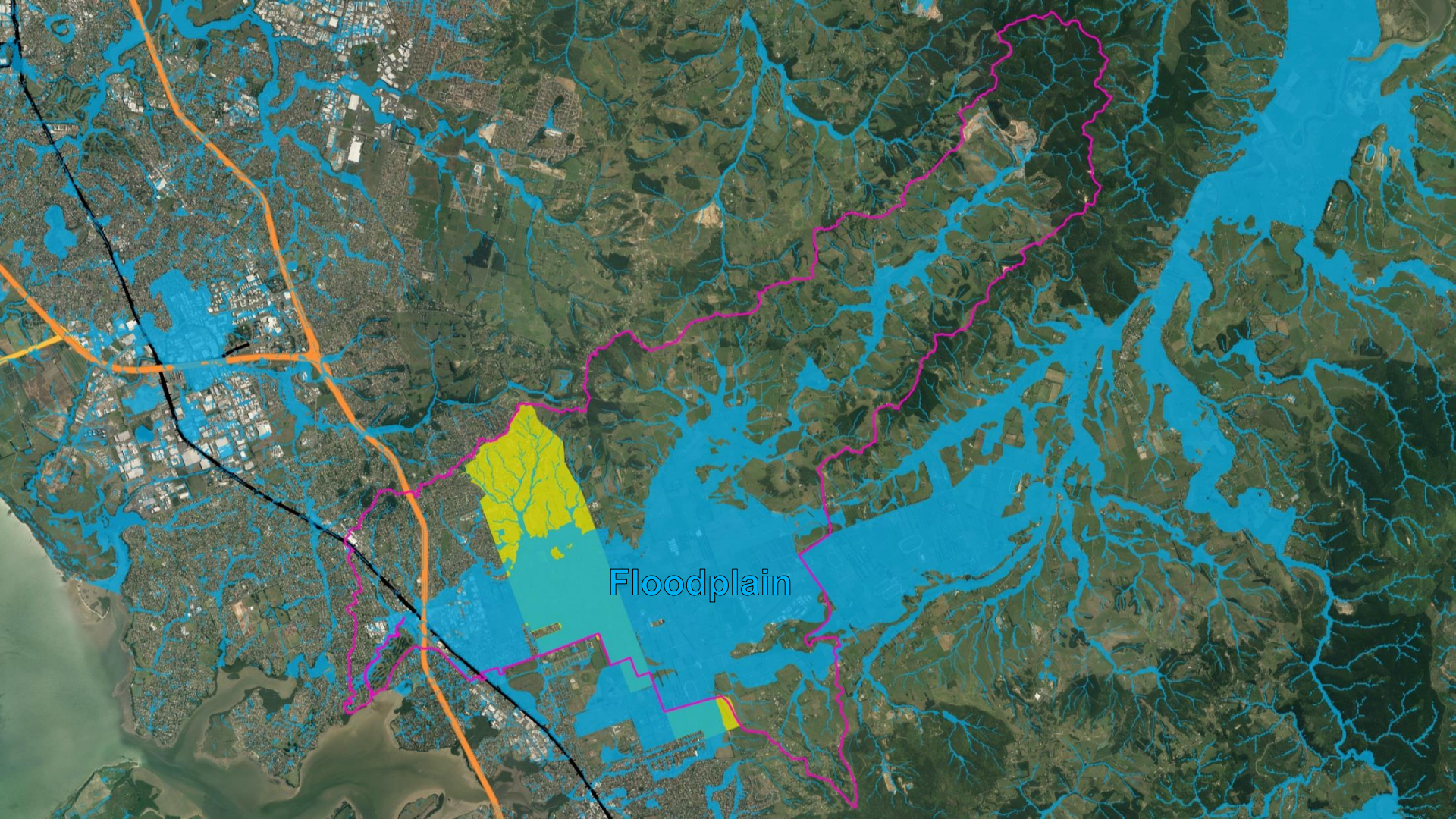




Papakura Stream Catchment

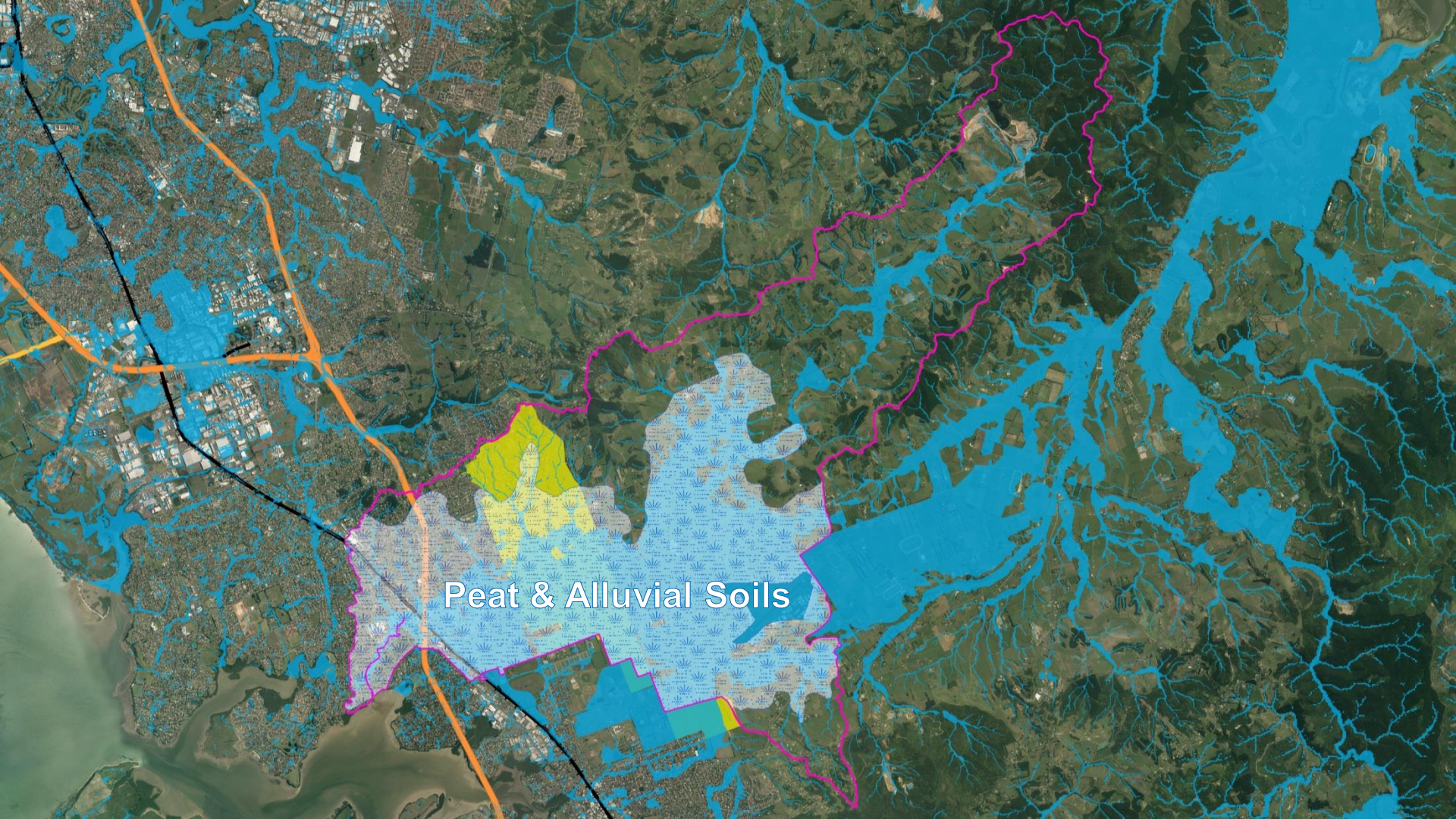
Future Urban Zone  
6.5km<sup>2</sup>





Floodplain





Peat & Alluvial Soils





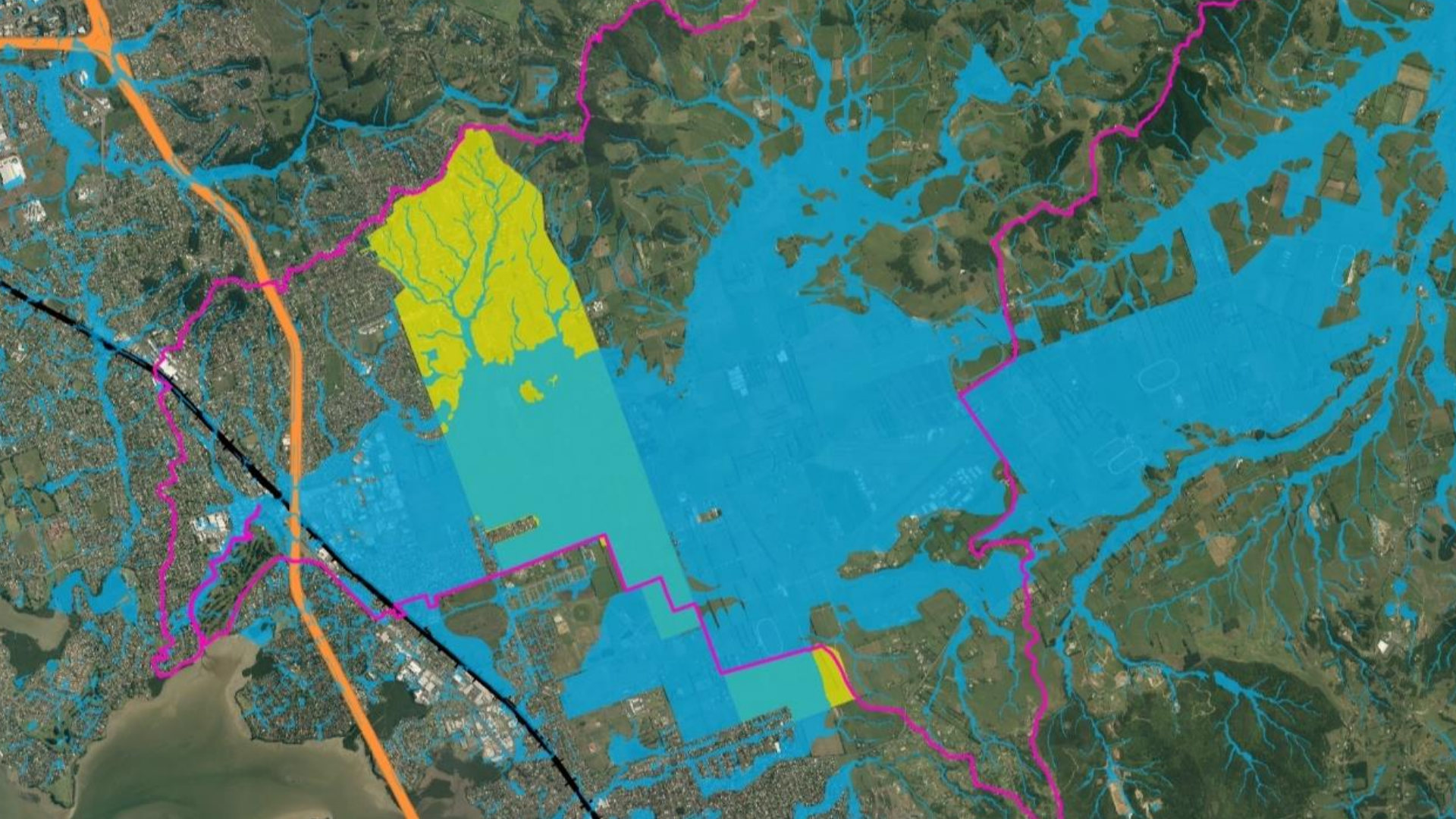
## Peat & Alluvial Soils





## Peat & Alluvial Soils

















Stormwater







Stormwater



A Drop in a Bucket?

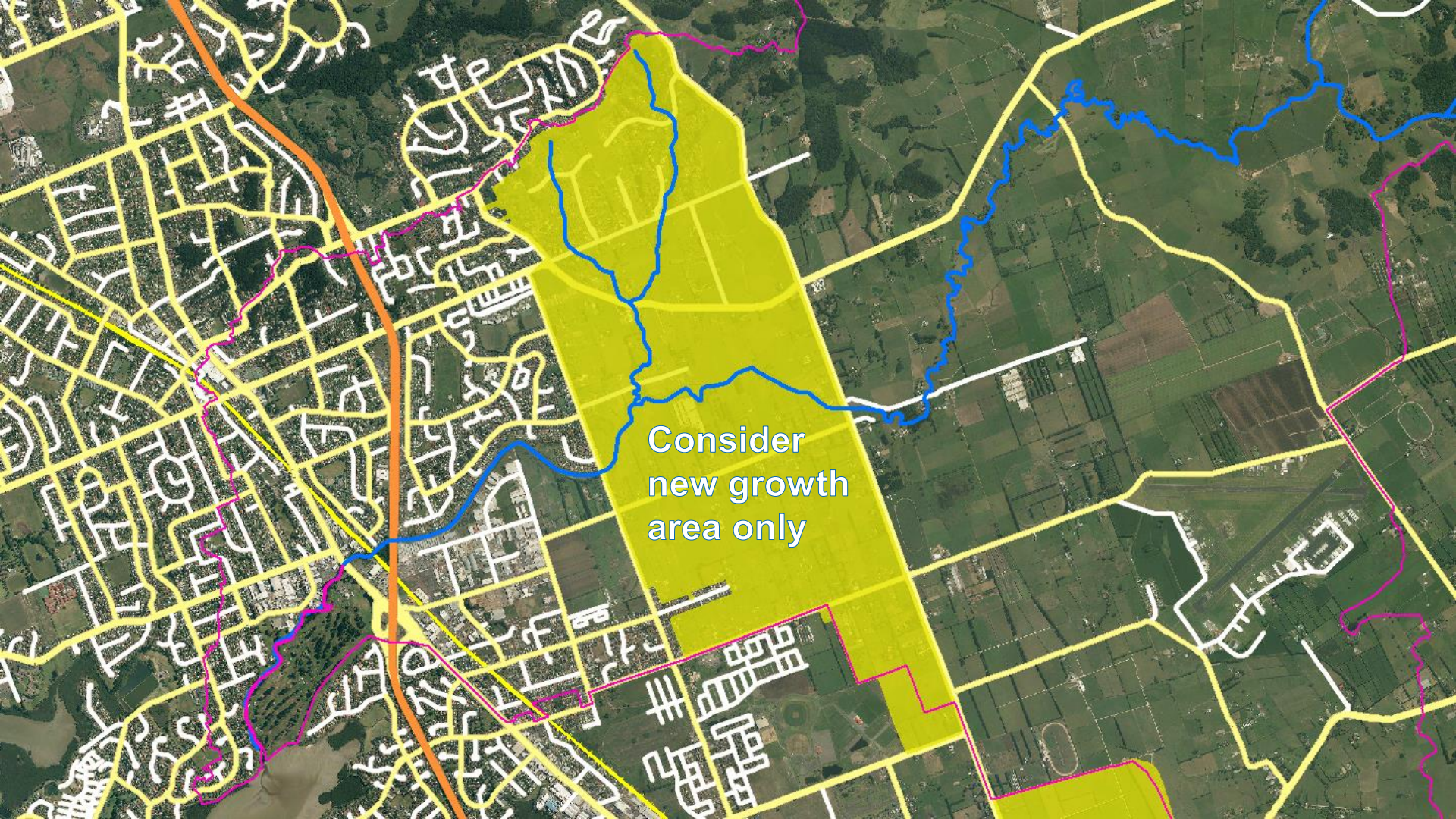


A Drop in a Bath?



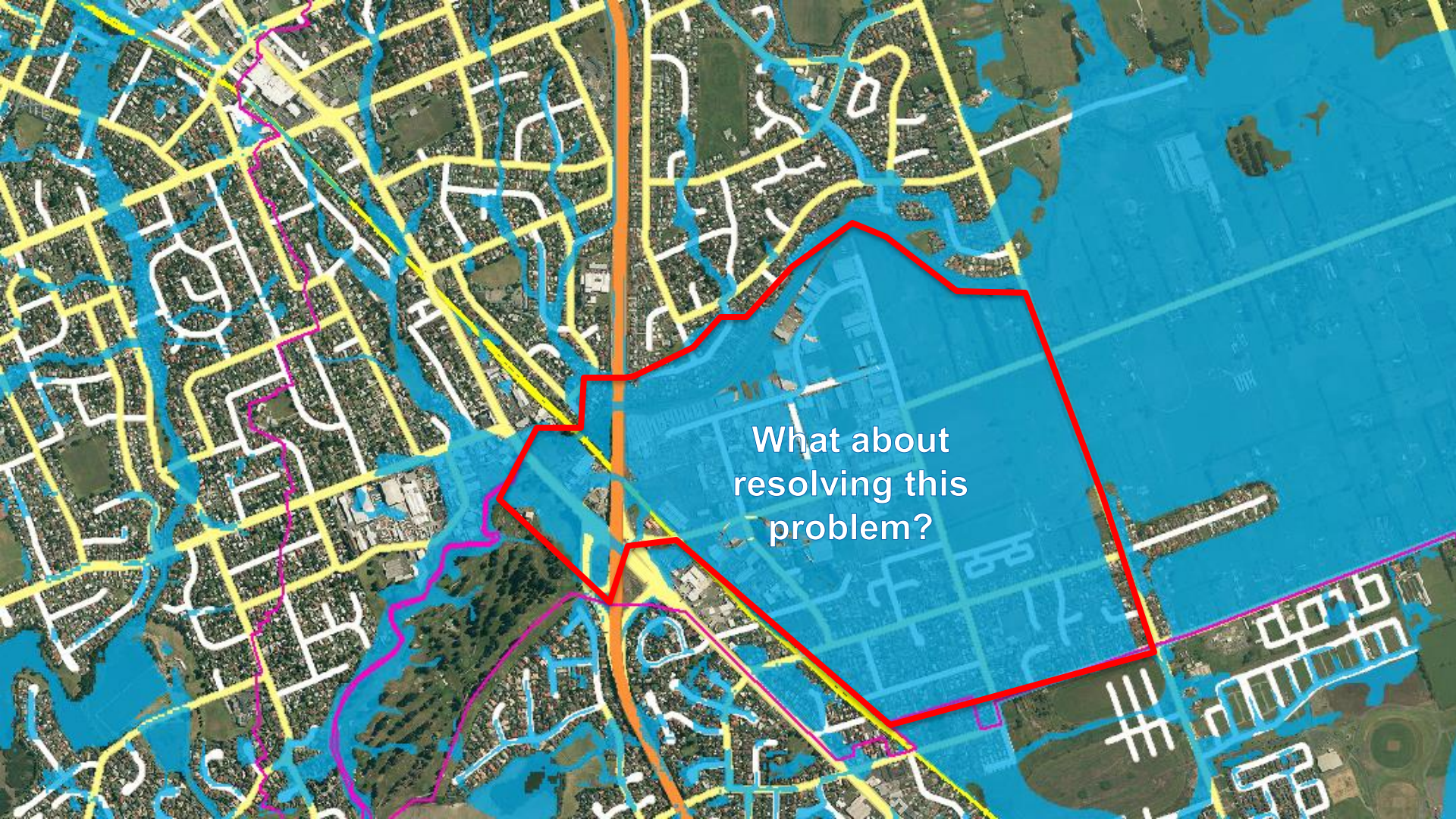
A Drop in the ***Ocean?***





Consider  
new growth  
area only





What about resolving this problem?



**OPPORTUNITY MY FRIEND**



**OPPORTUNITY EVERYWHERE**









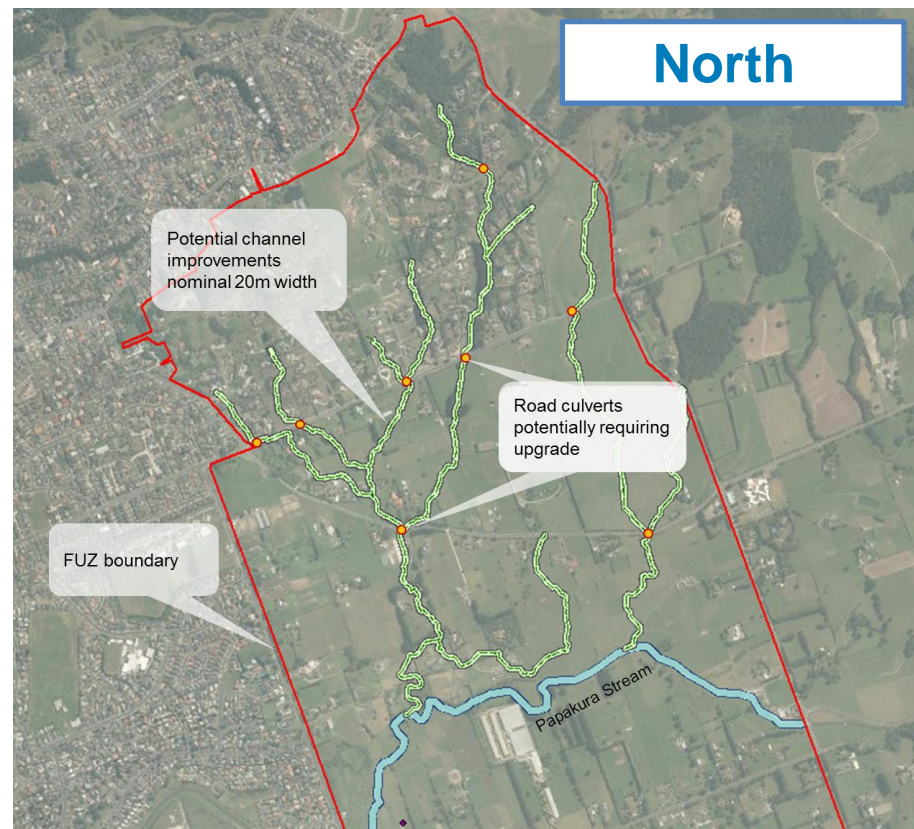
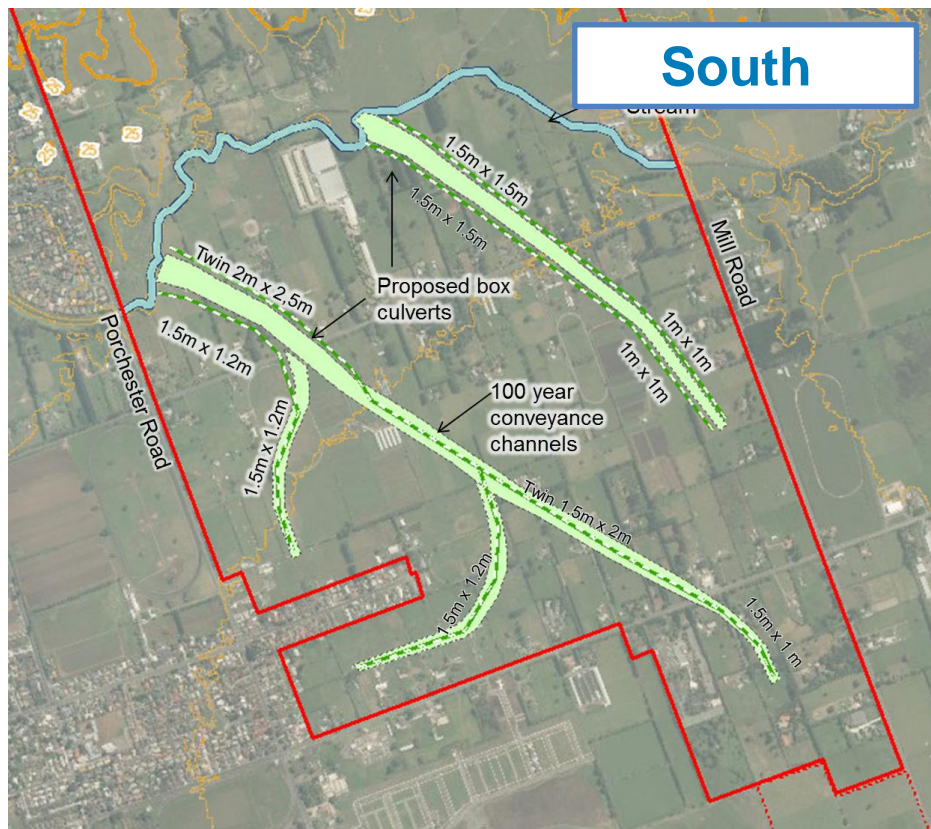
## Takanini Conveyance Channels





Waatarua wetlands







Replace / Upgrades SH1, Kiwirail and Great South Road bridges.

Replace / upgrade Porchester Road bridge.

Formalise overtopping of Mill Road.

Excavated area to reduce peak flows At SH1 to 270m<sup>3</sup>/s

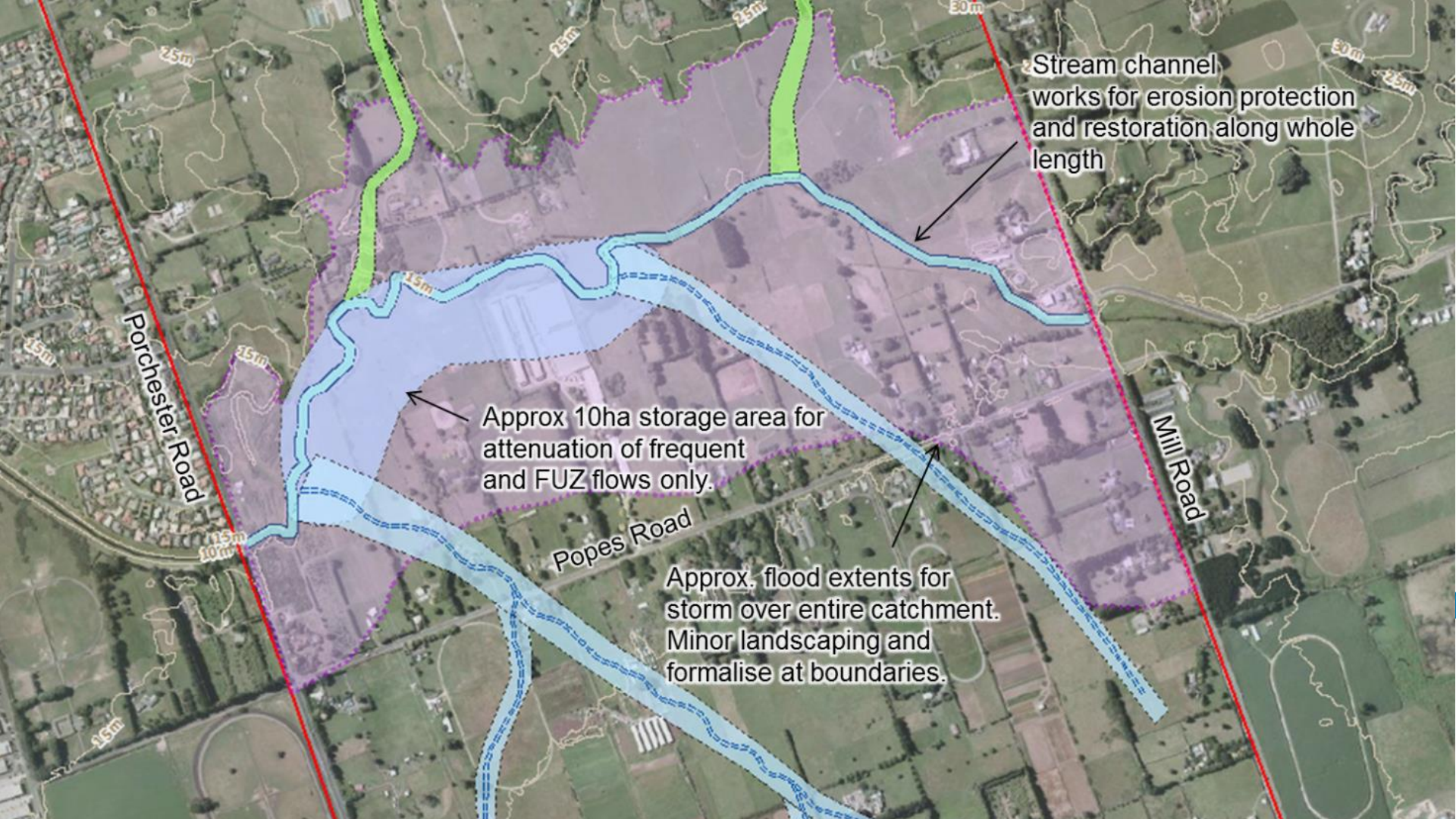
Channel upgrades approx. 60m wide to convey flows

FUZ boundary

Channel excavation and additional land acquisition approx 15 to 20m width of currently developed land.







Stream channel works for erosion protection and restoration along whole length

Approx 10ha storage area for attenuation of frequent and FUZ flows only.

Approx. flood extents for storm over entire catchment. Minor landscaping and formalise at boundaries.

Porchester Road

Popes Road

Mill Road



Local mitigation for FUZ assumed to be still required (refer to Option 2 for details) to mitigate localised effects.

Indicative area of 1.5-2m increase in 100yr MPD flood levels.  
Note: effects likely upstream due to the increased tailwater condition.

Mitigated 100y MPD floodplain

Upgrade to Mill Road bridge and approx. 2km stretch of road



Local mitigation for FUZ assumed to be still required (refer to Option 2 for details) to mitigate localised effects.

Mitigated 100y  
MPD floodplain

Existing 100y  
MPD floodplain

Nominal 1M m<sup>2</sup>  
excavated area to  
improve storage.  
Assumed excavation to  
RL 18.5m (typically  
1.5m deep with up to  
4m at upper boundary)



Approx 400m wide, shallow floodway  
(typically 1m deep flooding outside of main channel).

The image is an aerial photograph overlaid with technical planning information. A central waterway is highlighted with a light blue solid line, flanked by a light purple shaded area representing the floodway. A dashed blue line indicates the 'Approximate previous extents of floodplain'. A red dashed line runs parallel to the waterway, with arrows pointing to it from the text 'Formalise overtopping of Mill Road'. A green dashed line follows the waterway's path. A dotted purple line outlines a specific area. A red line on the left side is associated with the text 'Assumed existing bridge to remain...'. A blue line on the far left is labeled 'Popahua Stream'. The background shows a mix of green fields and grey buildings.

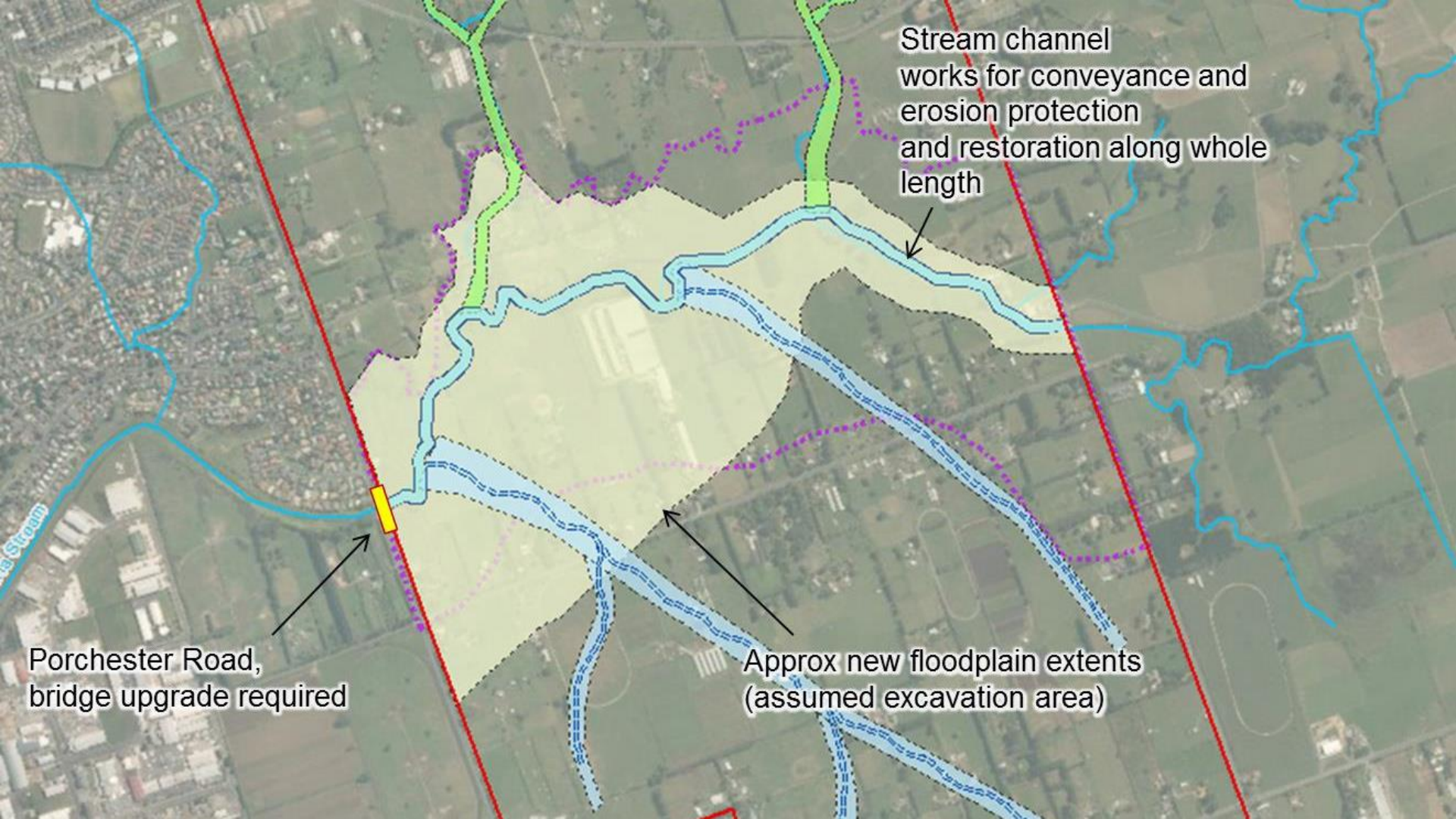
Assumed existing bridge to remain. Potential to formalise overtopping location to the South to mitigate Sheriff Place flooding.

Formalise overtopping of Mill Road.

Channel profile designed to ensure no increase in conveyance in final sections.

Approximate previous extents of floodplain





Stream channel works for conveyance and erosion protection and restoration along whole length

Porchester Road, bridge upgrade required

Approx new floodplain extents (assumed excavation area)









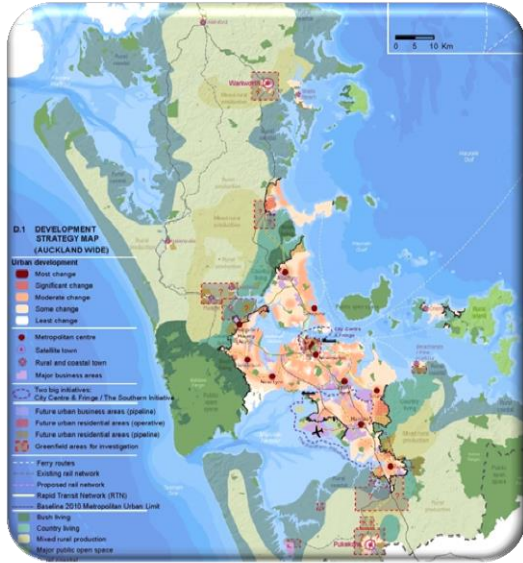
Finance



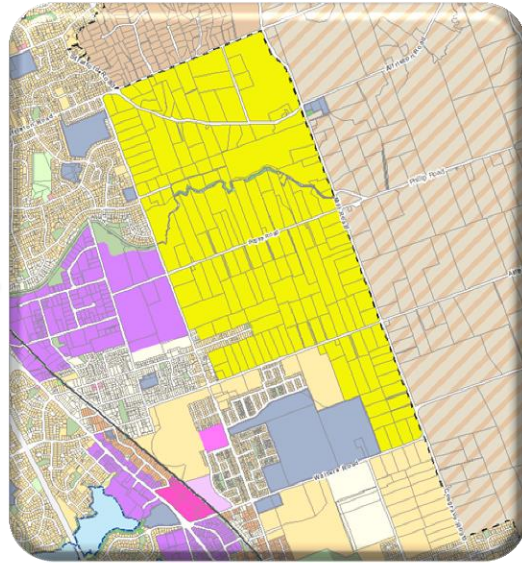
Projects



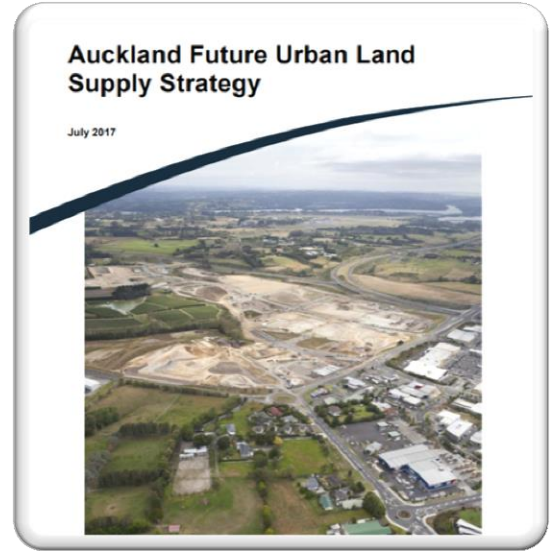




Auckland Plan



Unitary Plan



Future Urban Land Supply Strategy



OUR FIRST ATTEMPT  
AT CROWD FUNDING  
ISN'T GOING VERY  
WELL!





# Questions?