



Community Consultative Session

PFAS Investigation and Management Program

RAAF Base Townsville and Lavarack Barracks
PFAS investigations, remediation and monitoring update
Tuesday 31 October 2023





Acknowledgment of Country

We respectfully acknowledge the Bindal and the Wulgurukaba people, the traditional custodians of the land on which this meeting takes place, and also pay respect to Elders both past and present.

We would also like to pay our respects to the Indigenous men and women who have contributed to the defence of Australia in times of peace and war.





Outline



- What are PFAS?
- How PFAS moves in the environment
- RAAF Base Townsville
 - Findings from the investigations
 - Remediation
 - Ongoing Monitoring Plan update
 - Next steps
- Lavarack Barracks
 - Findings from the investigations
 - Remediation
 - Ongoing Monitoring Plan update
 - Next steps
- Questions

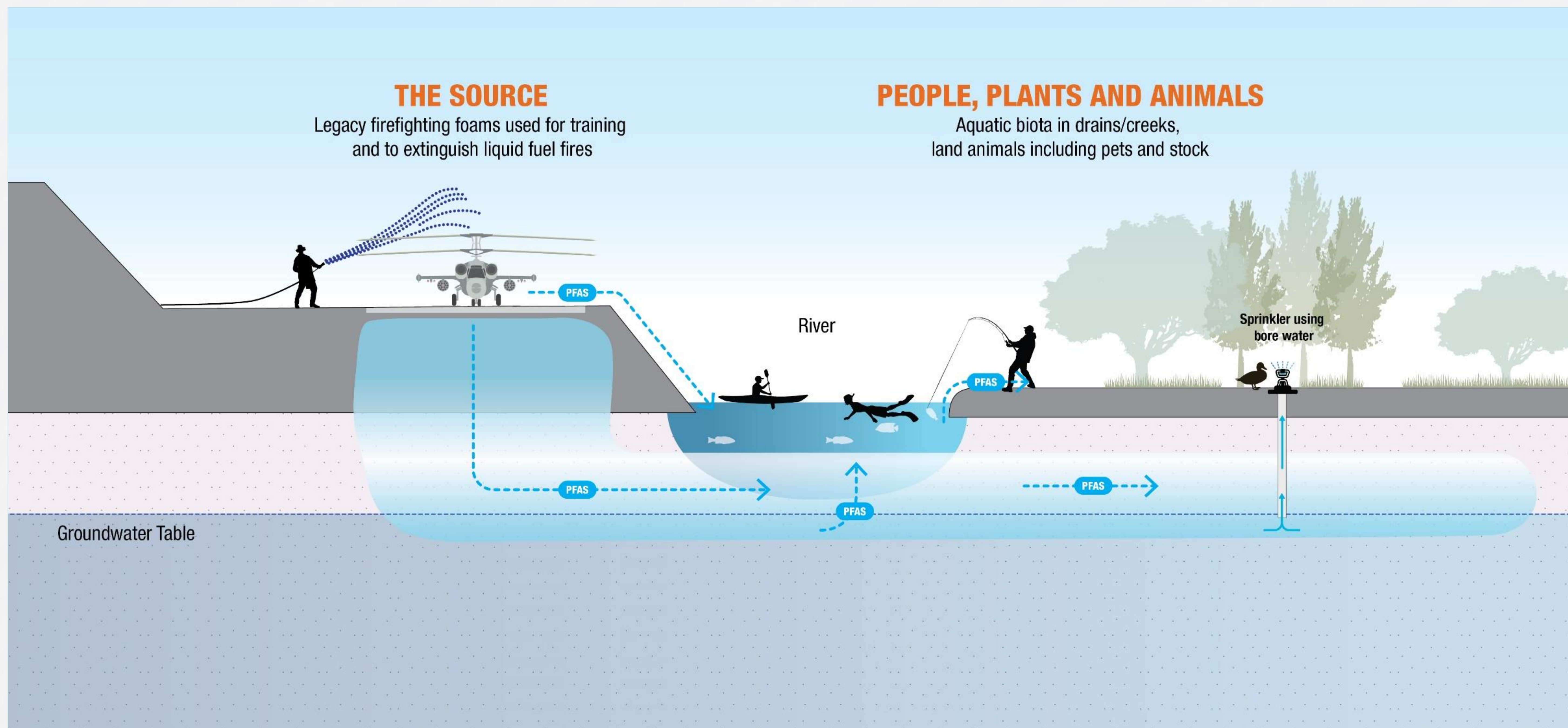


What are PFAS?





How PFAS moves in the environment








RAAF Base Townsville investigation findings



Legend

	Base boundary
	Source area
	Monitoring area



PFAS Management Area Plan recommendations



Remediating on base
source areas



Diverting surface
water away from
source areas.



Recent progress at RAAF Base Townsville

2022

Remediation Action Plan prepared for Former Fire Training Area

2022

Remediation of Former Fire Training Ground commenced

2023

Mass Flux Assessment completed

2023

Remediation Action Plan prepared for Fuel Farm and Fire Station

2023

Remediation of Former Fire Training Area to be completed



Image: RAAF Base Townsville Fire Station



Soil remediation at the Former Fire Training Ground



7,500 m³ of soil
excavated for treatment,
or destruction off base.



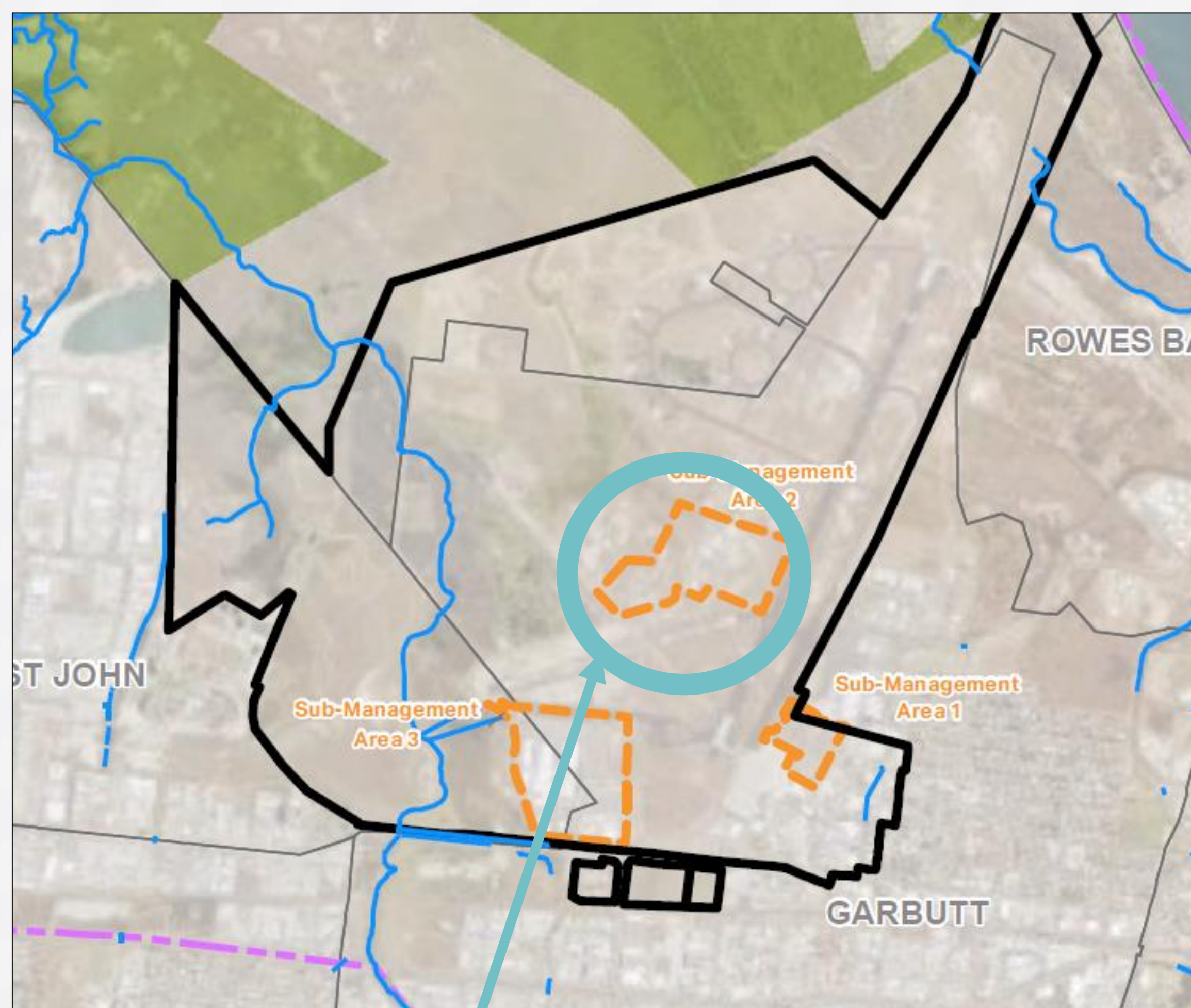
Drainage remediation,
soil compaction to
reduce migration.



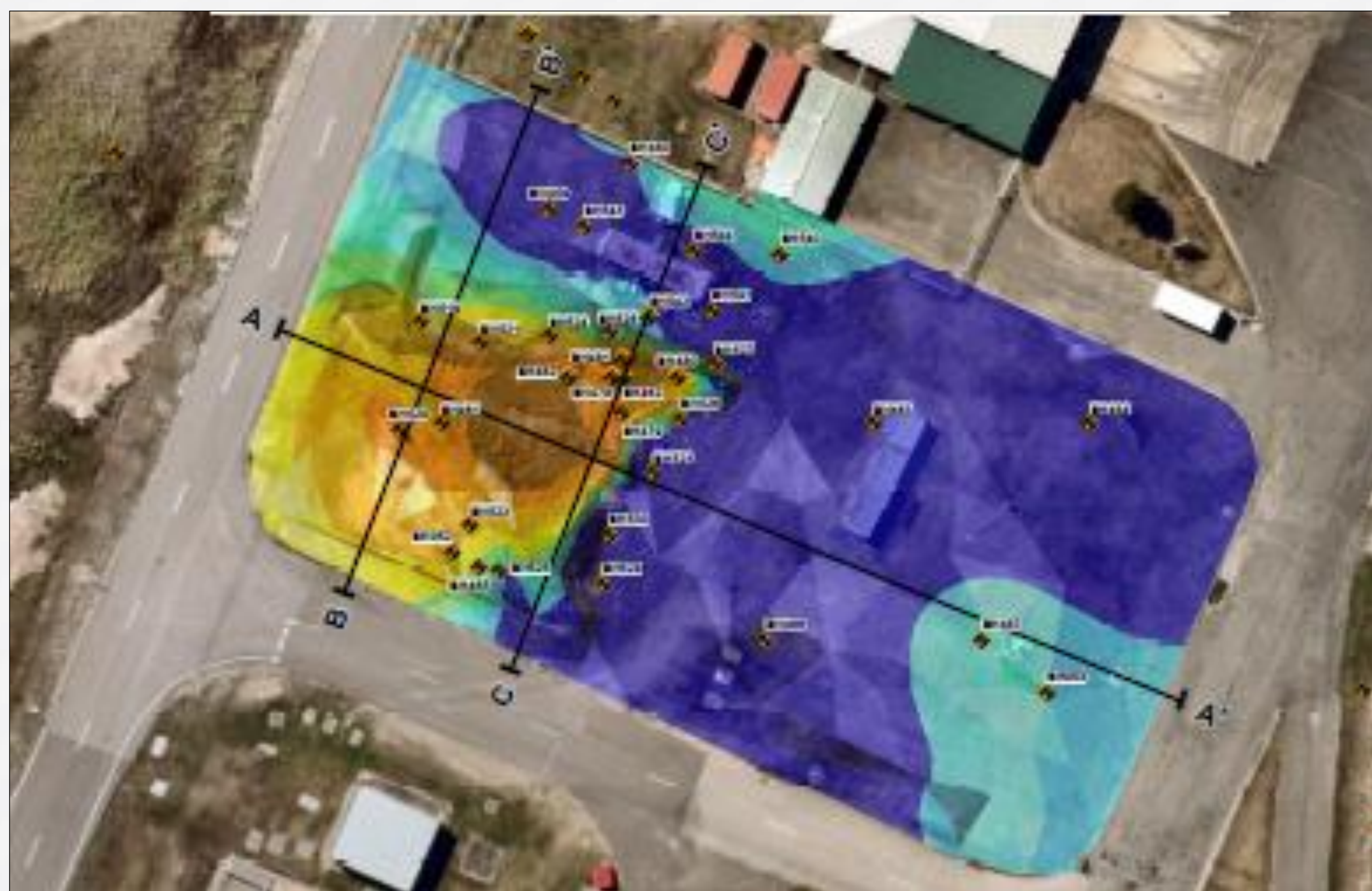
PFAS migration from
this source area
reduced to the extent
practicable.



Proposed remediation at the Fuel Farm and Fire Station



Fuel Farm and Fire Station



4,000 m³ of soil to be treated or removed for thermal destruction.



Drainage improvements, and compaction to reduce PFAS movement



PFAS moving off base from this source area expected to reduce by more than **80%**.



Ongoing Monitoring Plan

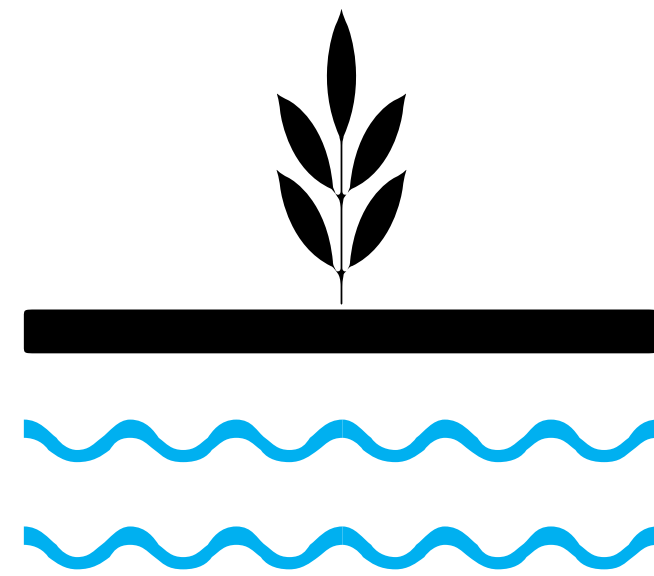


Legend

- Watercourse
- ▭ Management Area
- ▭ Sub-Management Area
- ▭ Monitoring Area



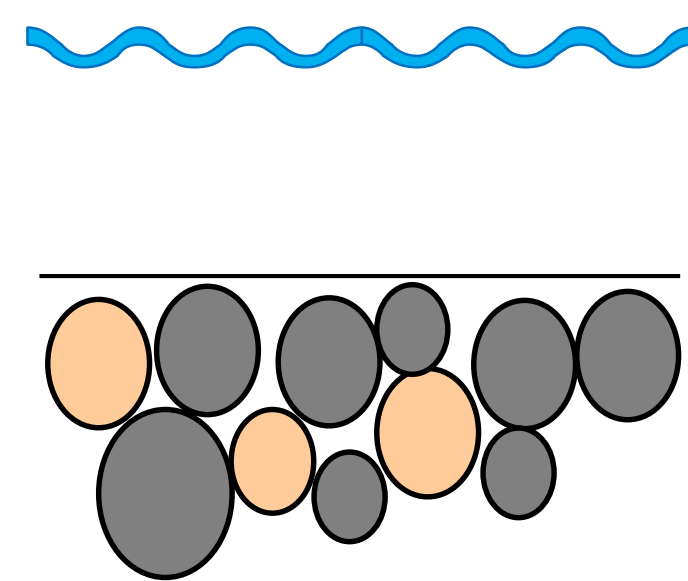
Recent sampling



489 groundwater samples from 109 monitoring locations.



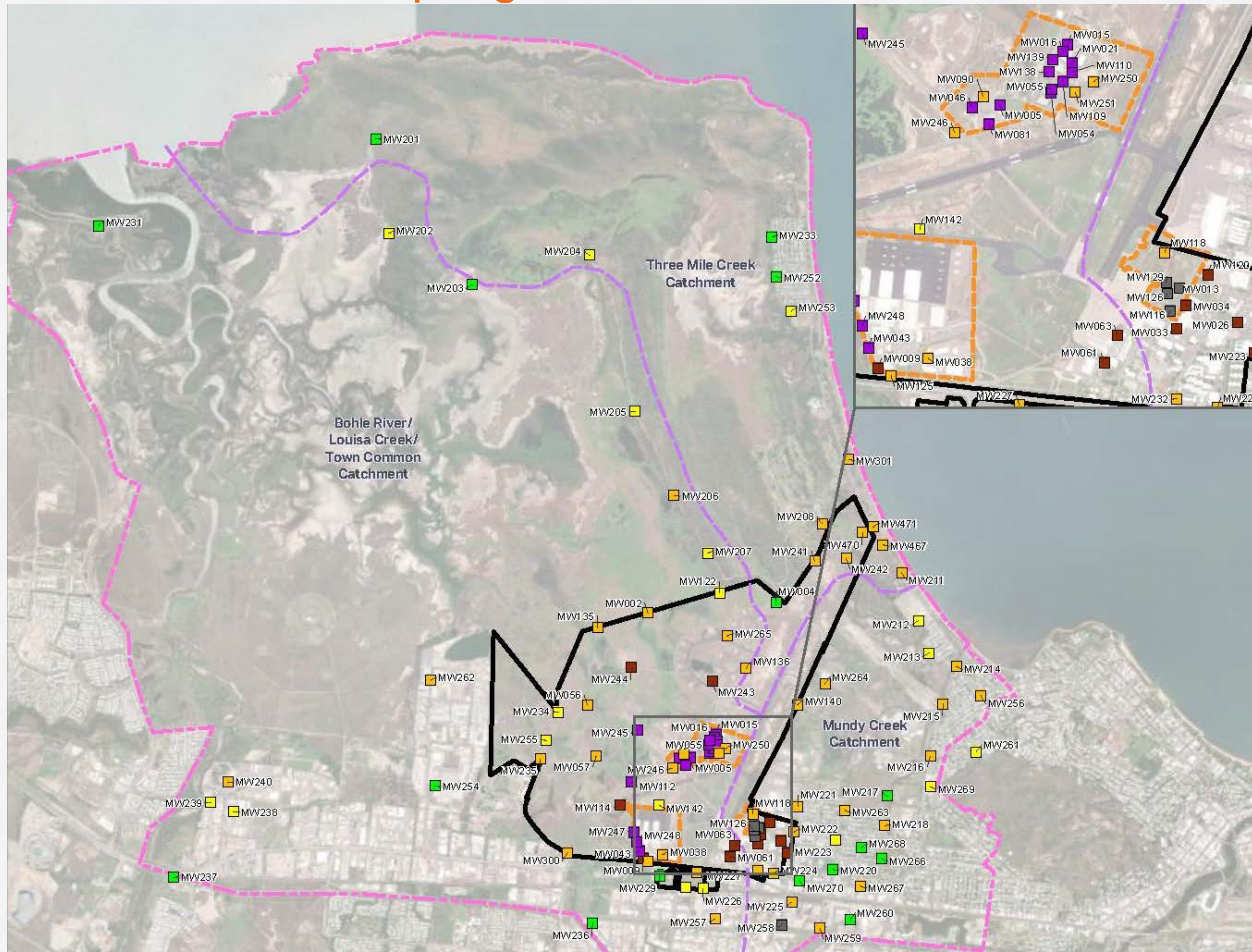
547 surface water samples from 42 locations, including Bohle River, Louisa Creek, Three Mile Creek, Mundy Creek and drainage channels.



204 sediment samples from 42 locations, where surface water was collected.



Groundwater sampling results



Legend

- Investigation Area
- Management Area
- Sub-Management Area
- Catchment boundaries

Concentration of PFHxS + PFOS (µg/L)

- ≥ 50 µg/L
- 10-50 µg/L
- 0.07-10 µg/L
- LOR - 0.07 µg/L
- < LOR
- Location not sampled



2023 Ongoing Monitoring Interpretive Report Findings



- Human Health Risk:
No changes to risk profile.
- PFAS Plume:
No significant changes.
- PFAS in groundwater:
Largely stable. Decreasing at Former Fire Training Area.
- PFAS in surface water:
Generally consistent, with seasonal variation.
- Higher-than-average rainfall may affect the presence of PFAS in surface water.



Next steps at RAAF Base Townsville

Begin remediation works at key PFAS source areas.



Complete further studies to assess how much PFAS is leaving the base.



Continue monitoring.

Continue keeping the community updated.

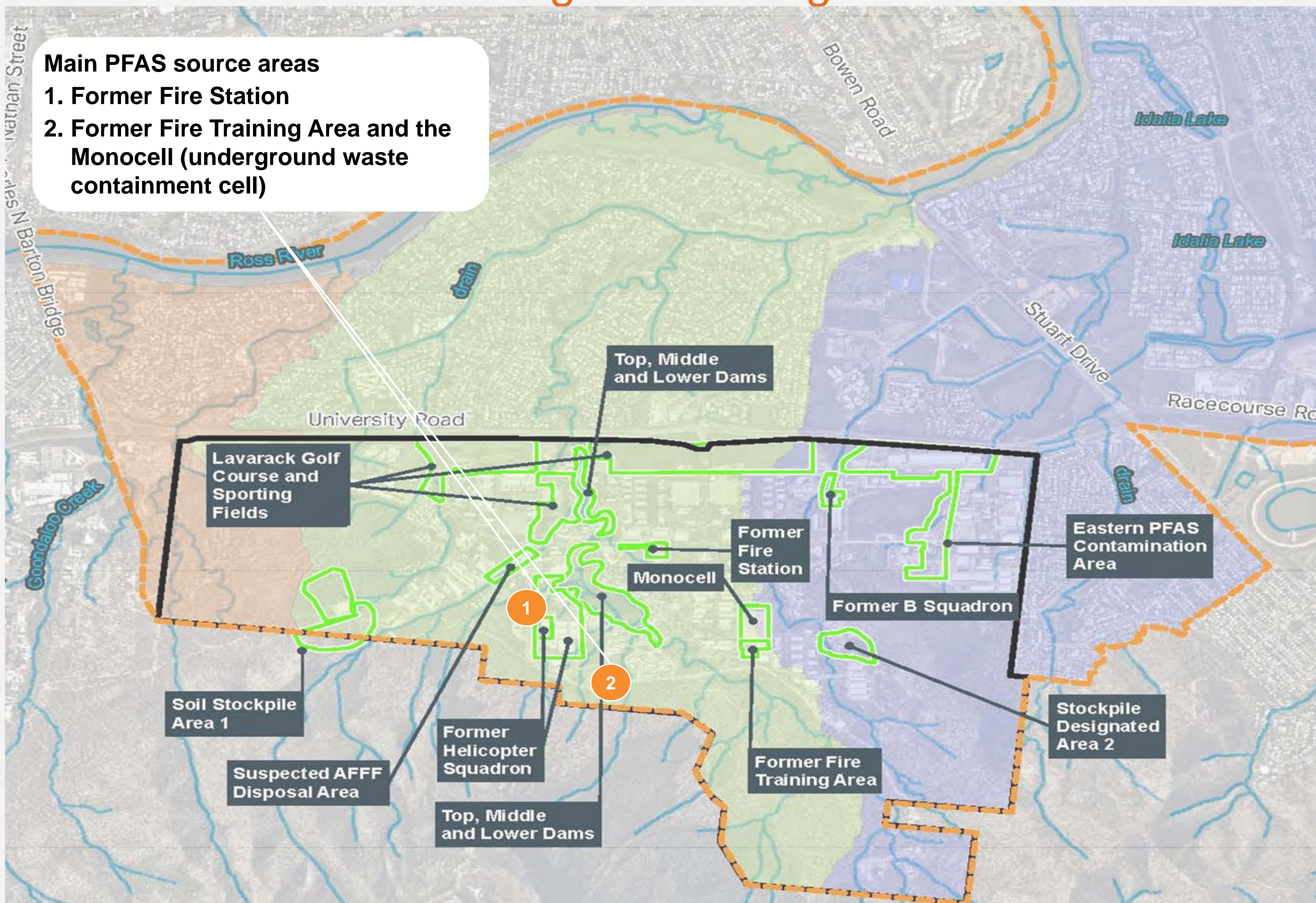




Lavarack Barracks investigation findings

Main PFAS source areas

1. Former Fire Station
2. Former Fire Training Area and the Monocell (underground waste containment cell)



Legend

- Base Boundary
- Management Area
- Aplin's Weir
- Source Areas
- Sub-catchments
 - A and West
 - G and Central
 - J/K and East
- Watercourse



PFAS Management Area Plan recommendations



Remediating on base
source areas



Undertake further studies
to understand groundwater
and surface water
interaction between 2
known key source areas.



Investigation to
understand the
movement of PFAS
from on-base source
areas to off site
locations.



Recent progress at Lavarack Barracks

2022

Remediation data gap analysis completed.

2022

Mass Flux Assessment completed.

2022

Fire Training Area / Monocell assessment completed.

2023

Remediation Action Plan prepared for: Former Fire Station.

2023

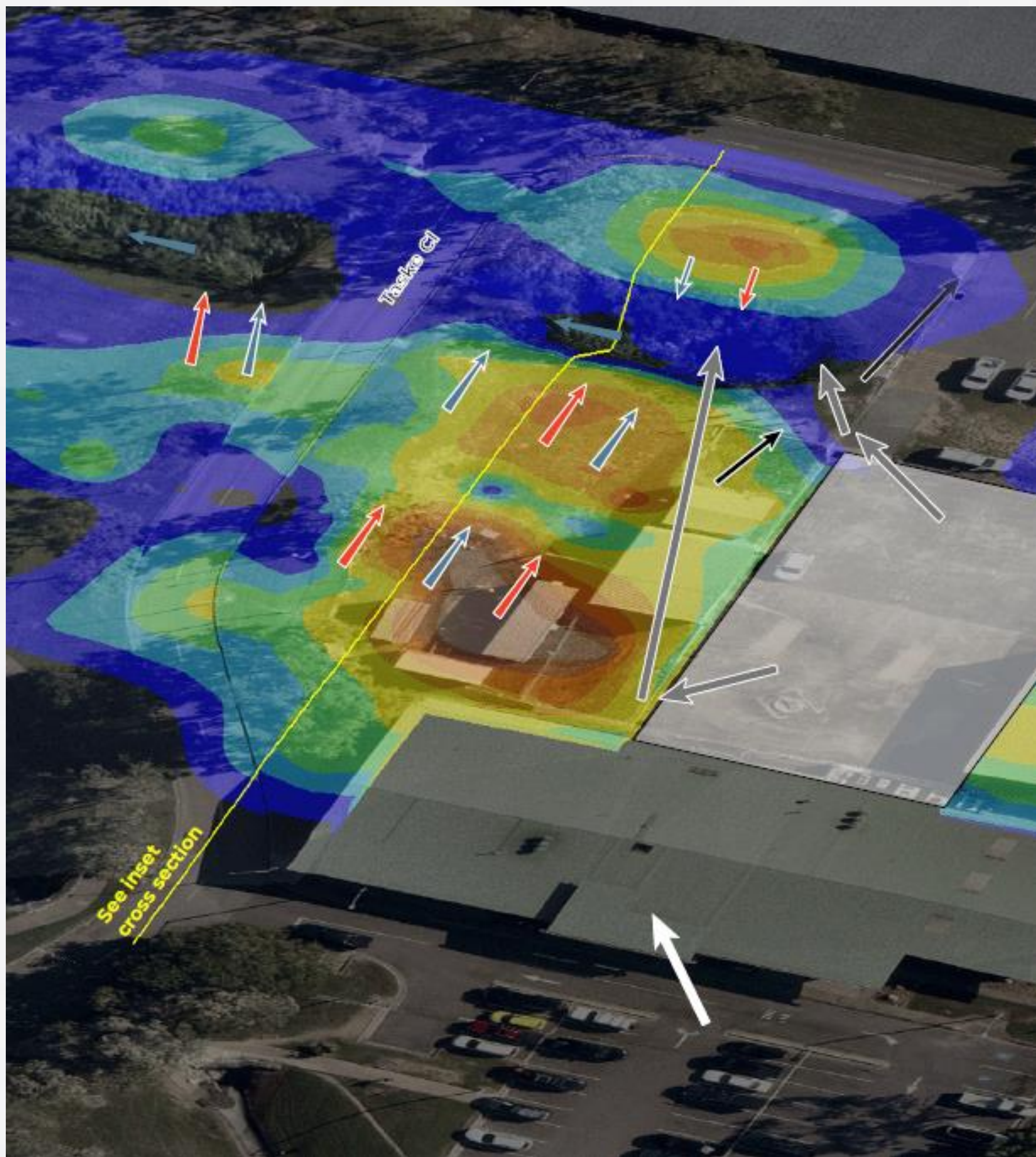
Eastern catchment source area assessments commenced.



Image: Fire Training Area and Monocell



Proposed remediation at the Former Fire Station



3,100 m³ of soil to be treated or removed for thermal destruction.



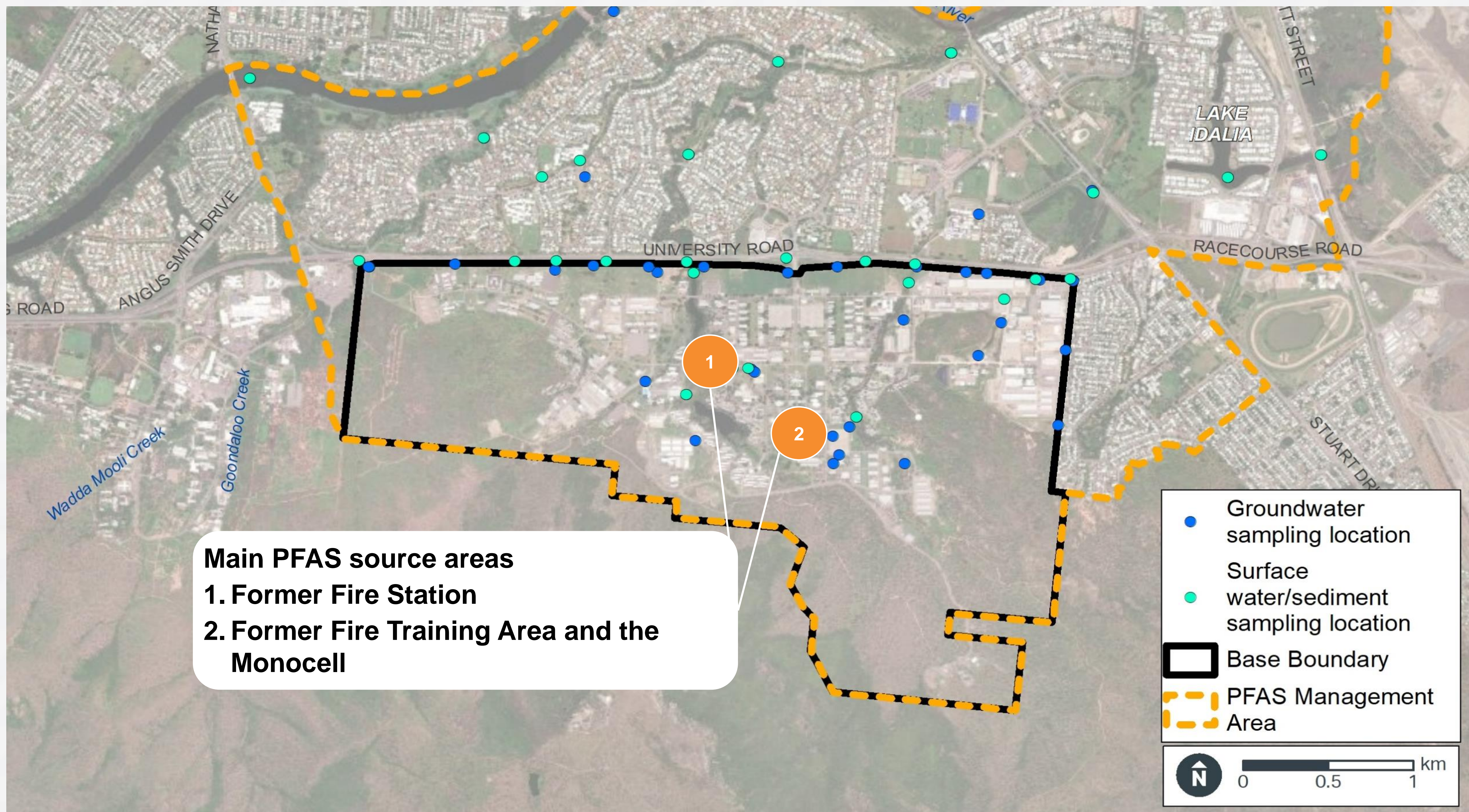
Compaction and grading to improve drainage and reduce PFAS movement.



PFAS migration off base from this source area reduced by greater than **75%**.

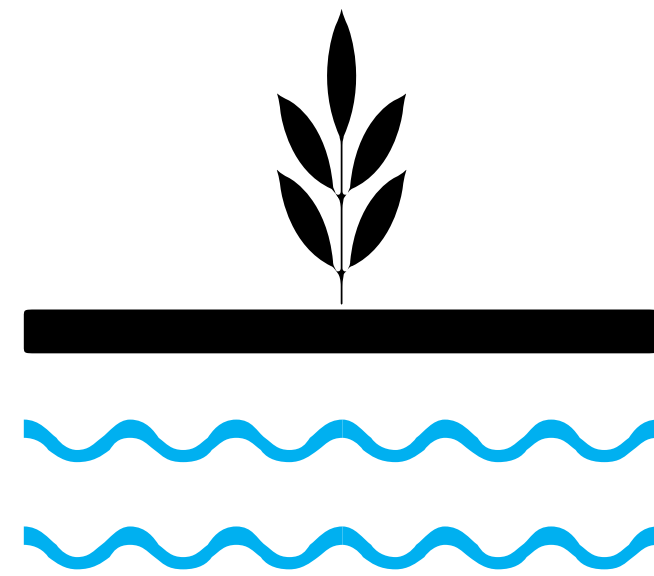


Lavarack Barracks sampling locations





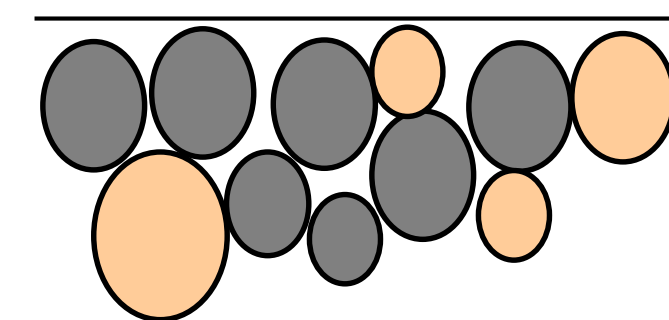
Lavarack Barracks Ongoing Monitoring Plan update



238 groundwater samples from 40 monitoring locations.



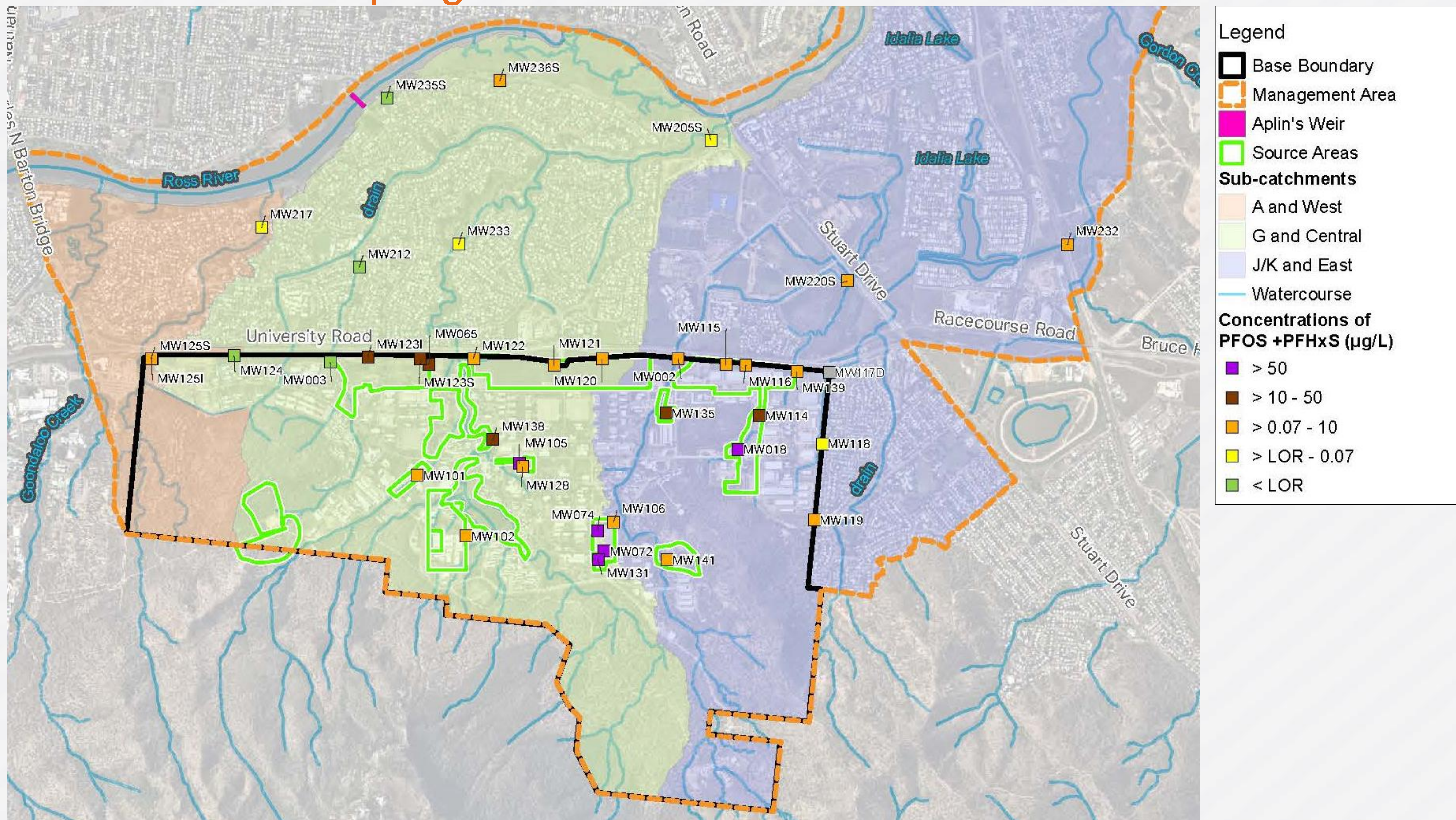
161 surface water samples from 31 locations, including Ross River, Idalia Lakes and drainage channels.



190 sediment samples from 31 locations where surface water was collected.



Groundwater sampling results





2023 Ongoing Monitoring Interpretive Report findings



- PFAS plume:
No significant changes
- PFAS in groundwater:
Largely stable. Some temporary increases.
- PFAS in surface water:
Generally consistent. Typically below recreational guidelines
- Continue following Queensland Health advice about consuming fish from Idalia Lakes.



Next steps at Lavarack Barracks

Begin remediation works at key PFAS source areas.



Complete further investigations of the known source areas.



Continue monitoring.



Continue keeping the community updated.





Thank you

Contact us

-  **Phone:** 1800 333 362 free call (business hours)
-  **Email:** pfas.enquiry@defence.gov.au
-  **Website:** www.defence.gov.au/pfas

