AN UNPALATABLE COCKTAIL OF PFAS AND ASBESTOS

Bridget Derham

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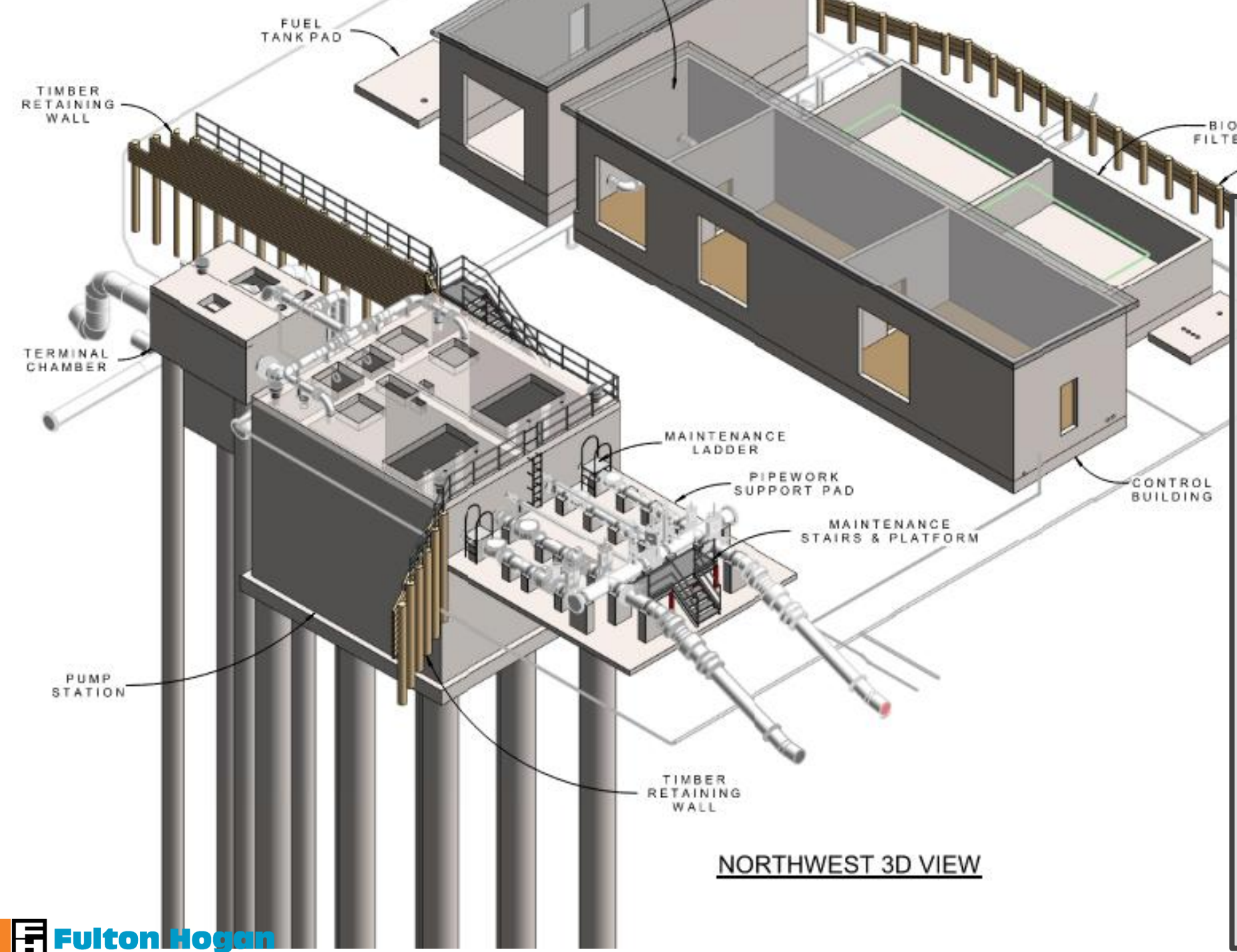
PROJECT OVERVIEW



- Contracted by TCC to construct wastewater pumpstation
- Key features: Excavations, earthworks, installation of new storage tanks and pump infrastructure
- Soil disturbance and removal to 8mbgl
- Tender documents: PSI, DSI. No CSMP
- Even innocuous contaminants can have an impact on cost

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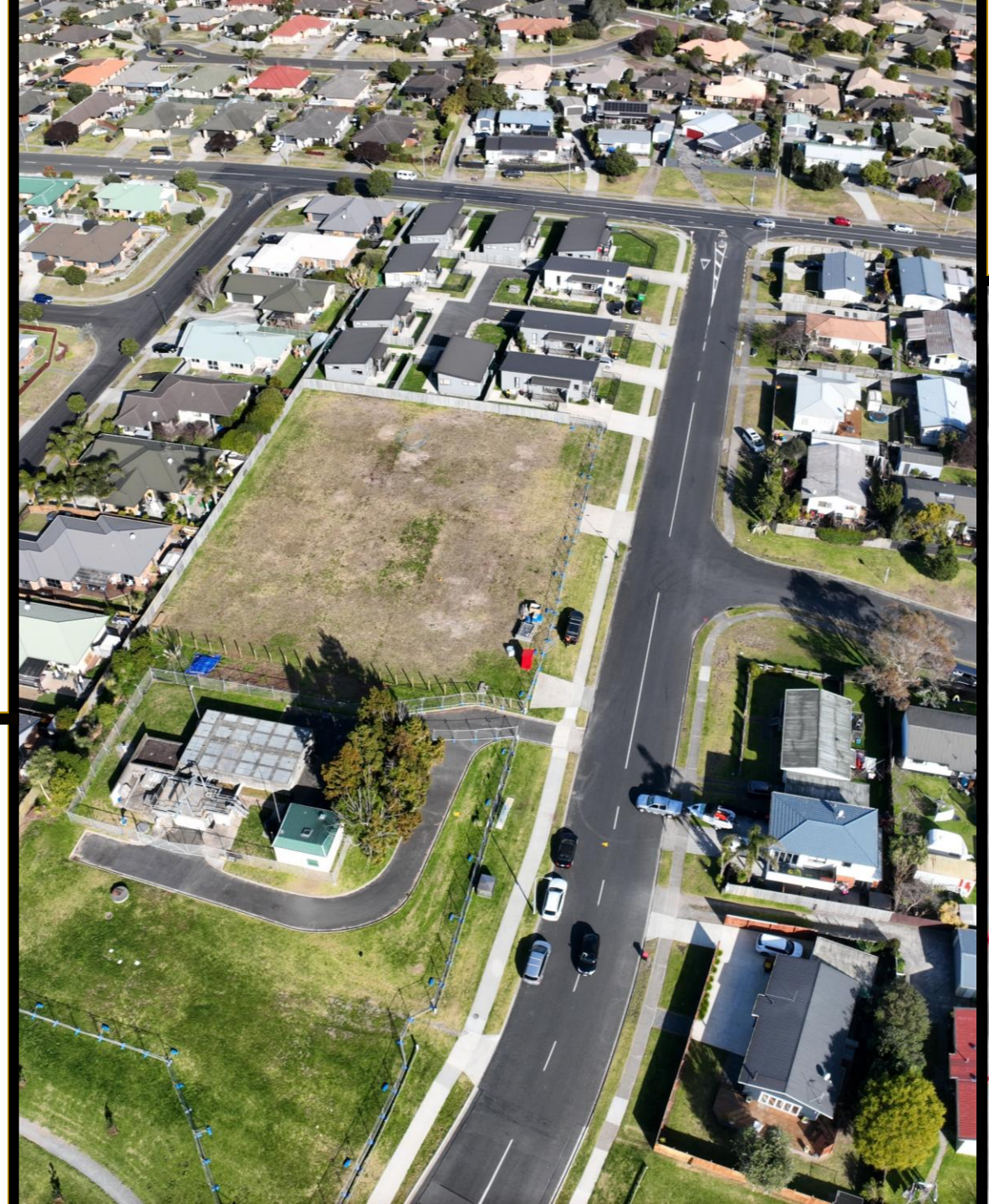
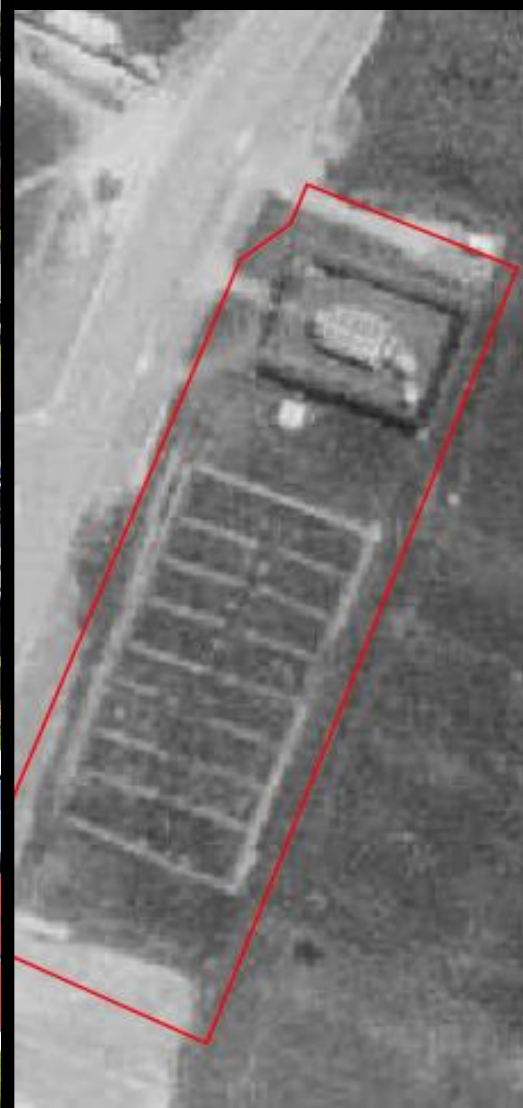
- 2,800m^2 piece of land in a suburban residential area of Papamoa, south of an existing pumpstation
- Stream 100m to North
- Limited development history. Social housing; former wastewater irrigation field
- DSI – PFAS
- DSI prepared for regulatory purposes





PROJECT LOCATION

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IMPLICATIONS

- Earthworks anticipated to 8m bgl. PFAS tested to maximum depth of 1.2 m bgl
- Groundwater table anticipated to be present at 2m bgl.
  No groundwater investigations.
- Despite evidence in property files AC pipe utilised, no asbestos investigated.
- DSI – NESCS ✅
- DSI – Design of Project ❌
- Design – Contaminated Land Risks ❌

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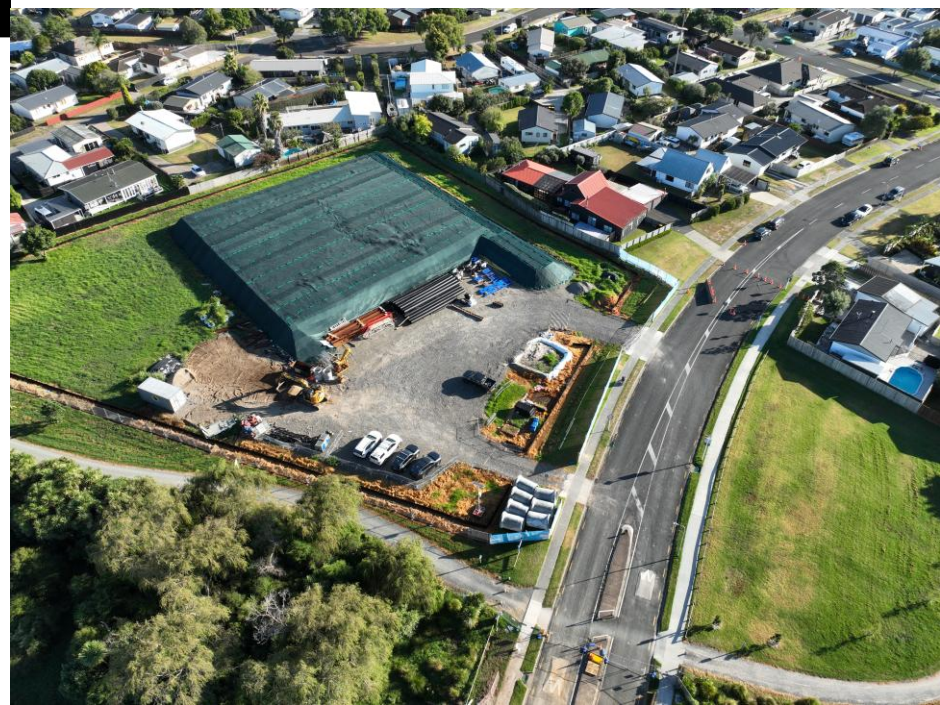
RISKS – PFAS IN SOILS



- Temporary storage area for PFAS contaminated soils
  - No economically feasible disposal route for PFAS contaminated soil
- Additional PFAS sampling
  - Maximum concentration of Total PFHxS and PFOS 0.004mg/kg

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RISKS – PFAS IN GROUNDWATER

- Dewatering likely required for 6-9 months
- Sampling undertaken post project commencement
- Total PFOS present
- Exceeds LOR, below the ANZG 95% species protection level for freshwater.
- Further challenges for PFAS contaminated water disposal
- Only option – Re-injection spears boundary of site

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- Asbestos unexpected discovery during subsoil removal
- Bulk analysis of ACM- Amosite and Chrysotile asbestos
- Asbestos in soils maximum concentration ACM 0.4179 w/w% and maximum concentration AF/FA 0.0016%
- Additional regulatory compliance and mitigation measures

ASBESTOS – UNEXPECTED DISCOVERY

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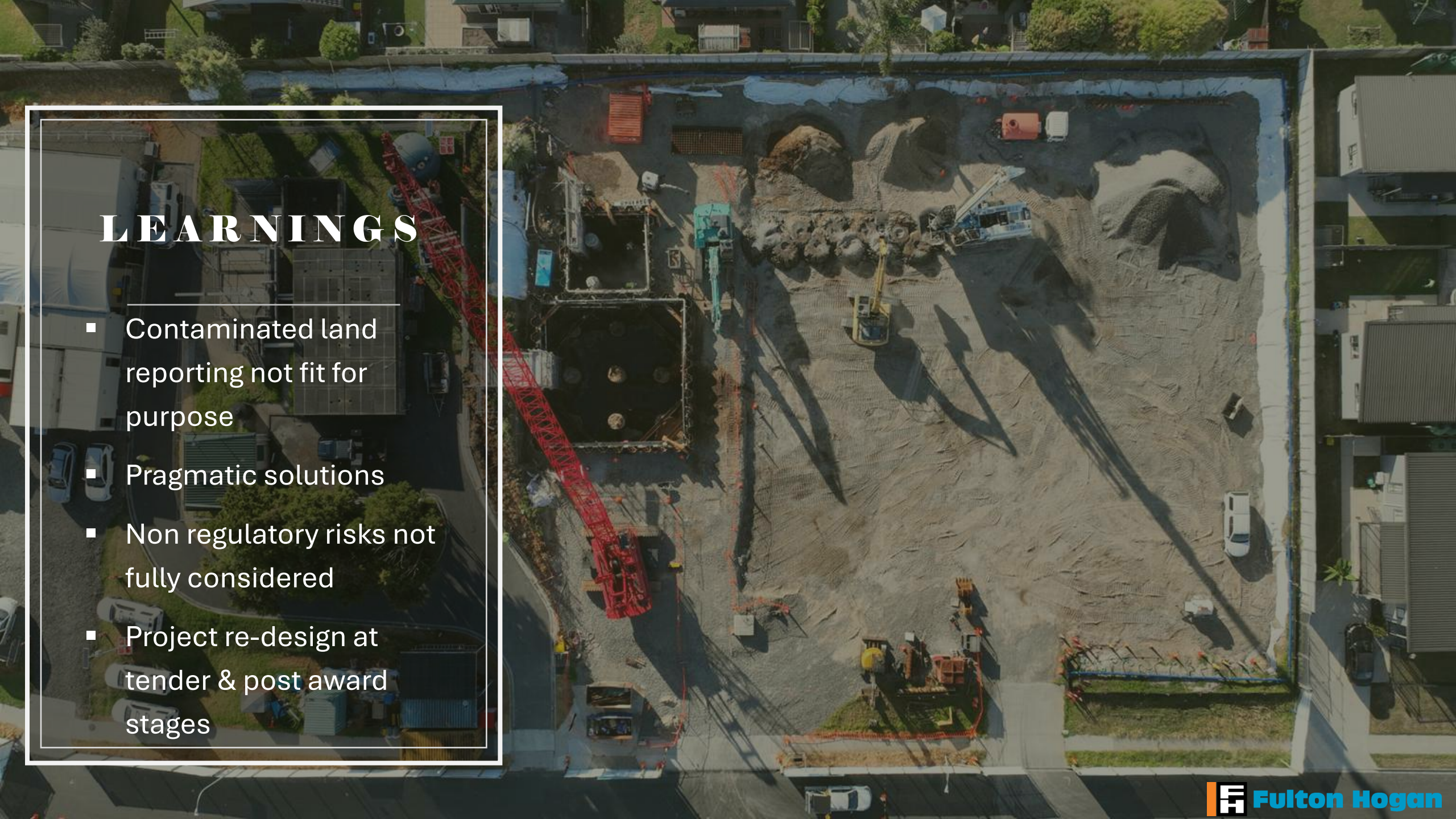

LEARNINGS

- Contaminated land reporting not fit for purpose
- Pragmatic solutions
- Non regulatory risks not fully considered
- Project re-design at tender & post award stages

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OBSTACLES

- Lack of regulations on PFAS in NZ
- Inconsistency with Regulators
- Disposal to landfills in N Island
- Disposal to water bodies in BOP

Thank you

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