

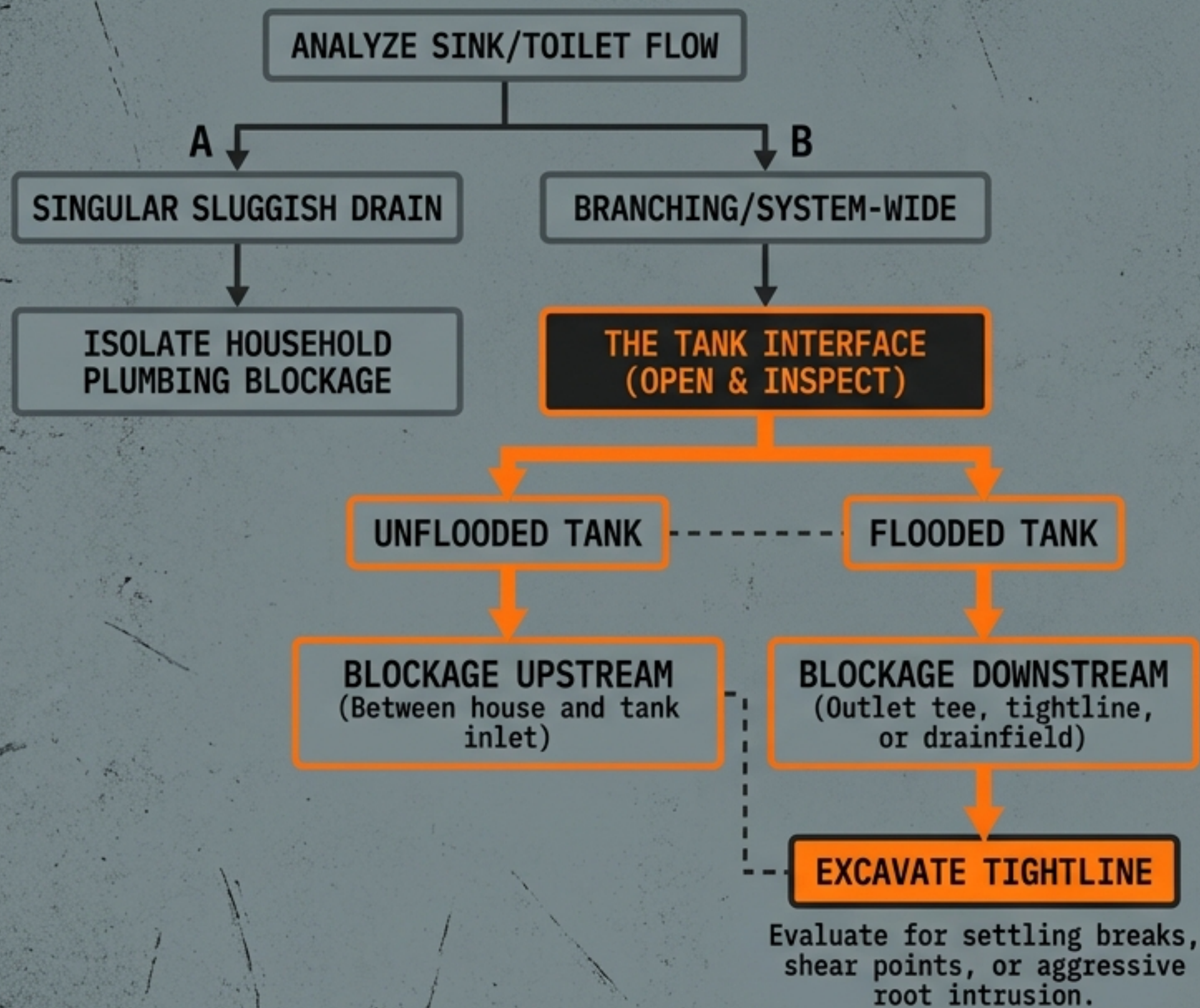


SEPTIC SYSTEM FAILURES: ADVANCED REMEDIATION, PIPE CLEARING, AND REGULATORY SITING

**THE TROUBLESHOOTING DISCOVERY
PROTOCOL AND ENGINEERING
SOLUTIONS FOR CLOGGED SOILS**

**INCLUDES EN12566 &
CAN/BNQ 3680-600
COMPLIANCE METRICS**

The Diagnostic Tree



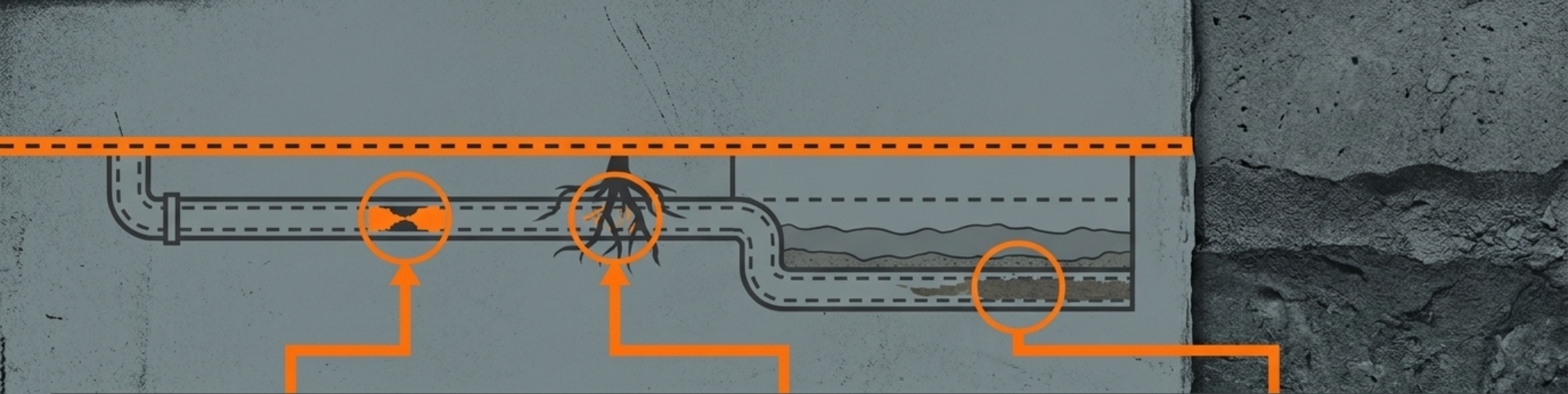
Diagnostic Sampler



THE "NEVER PUMPED" FALLACY

Homeowners often neglect pumping, allowing sludge and scum to lower the tank's effective capacity.

When sludge reaches the outlet pipe, solids enter and permanently plug the drainfield pipes.



MECHANICAL CLEARING

Target: Localized hard blockages inside 1- to 10-inch pipes.

Solution: Plumber's snake or water-expanding pulsators (e.g., Drain King).

ROOT MITIGATION

Target: Invasive root intrusion.

Solution: Mechanical Roto-Rooter.

HAZARD: Copper sulfate ("bluestone") chemical root-killers destroy beneficial tank cultures and pose severe local water table contamination risks.

BIOMAT TREATMENT

Target: Accumulated organic biomat solids in the soil.

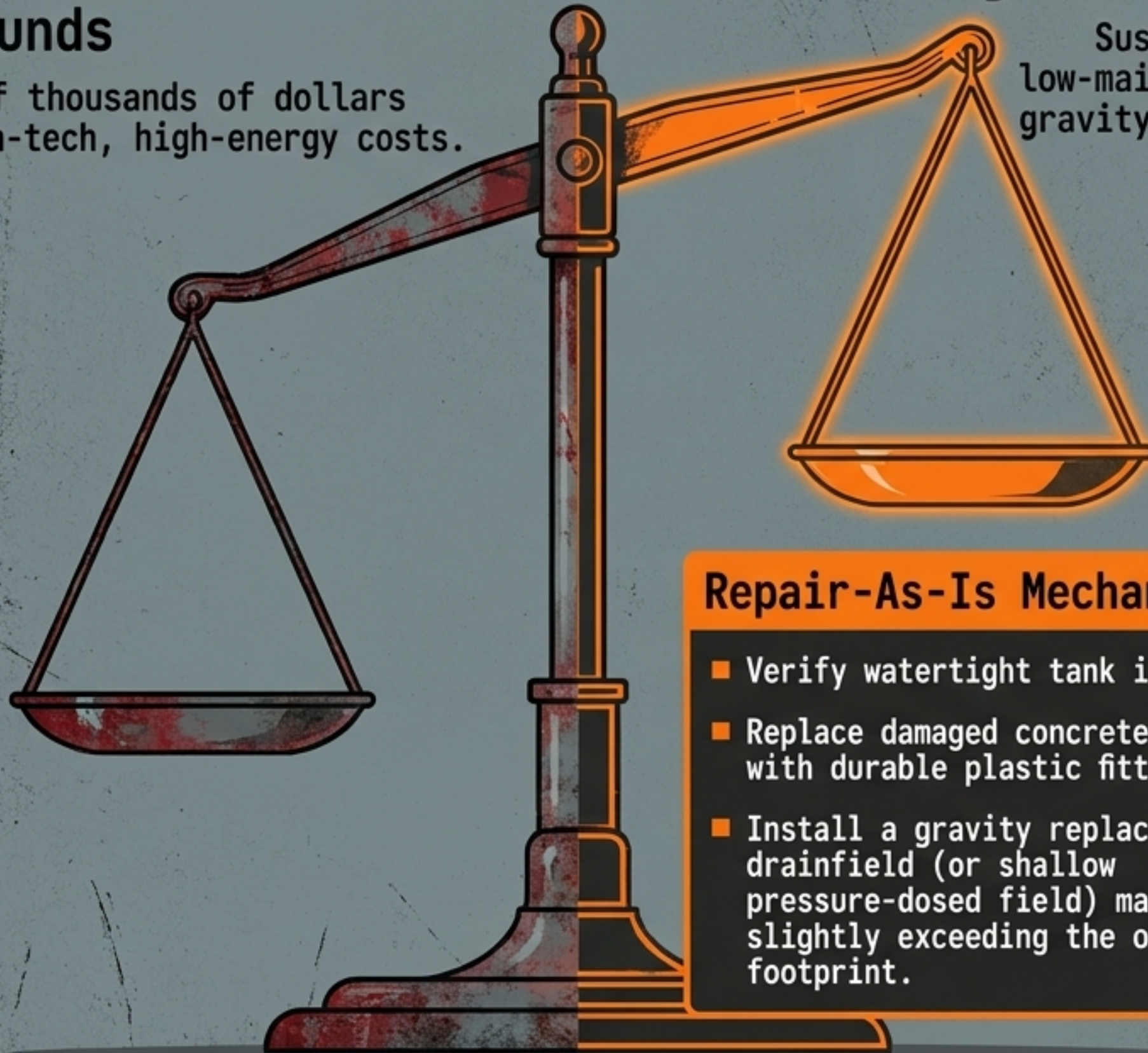
Solution: Deploy advanced aerobic microbial bio-remediation systems (e.g., SludgeHammer) to digest solids and restore soil permeability without excavation.

Mandated Alternative Treatment Units (ATUs) & Mounds

Tens of thousands of dollars in high-tech, high-energy costs.

The "Repair-As-Is" Legal Pathway

Sustainable, low-maintenance, gravity-powered.



Repair-As-Is Mechanics

- Verify watertight tank integrity.
- Replace damaged concrete tees with durable plastic fittings.
- Install a gravity replacement drainfield (or shallow pressure-dosed field) matching or slightly exceeding the original footprint.

Engineering Reference

Dosing Systems

Freeboard Volume =

$$[Q_{inf}] + [Q_{dose}] - [Q_{eff}] \times [T]$$

Application: Critical for designing shallow pressure-dosed fields.

Nutrient Targets (If ATU mandated)

NSF/ANSI Standard 245:
Requires >50% Total Nitrogen reduction.

CAN/BNQ 3680-600 Class III:
Requires ≤ 15 mg/L CBOD5 and ≤ 15 mg/L TSS in severe climates.

FDEP/FDOH and EPA-Aligned Permanent Abandonment Protocols

