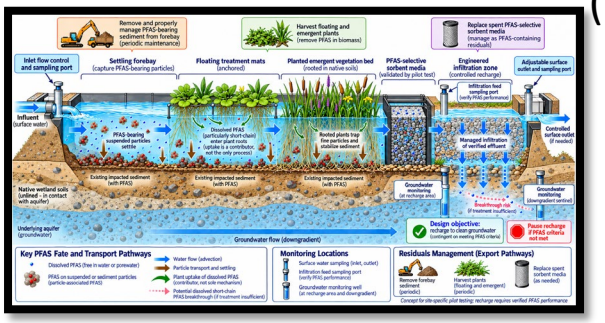
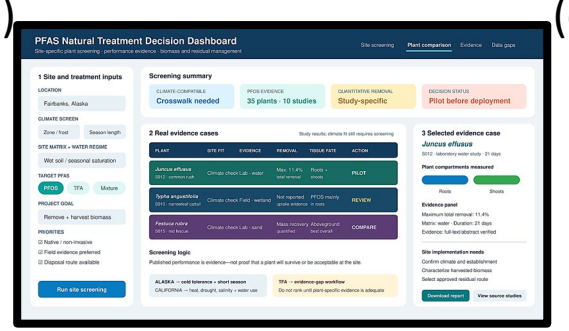
Nature-Based Management Framework for PFAS – Impacted Sediment

- **Strategic Fit:** Nature-based PFAS retention systems offer potential to decrease PFAS transport and exposure while simultaneously restores habit, improves water quality and enhances biodiversity that supports long-term environmental stewardship.
- **Program Goal:** The project will evaluate the feasibility of utilizing nature and engineered wetland processes to retain and manage PFAS[(a)]. The project will identify dominant retention factors, quantify limitations, optimize solution and build technical criteria to evaluate treatment performance.
- **Value Proposition:** The value of projects include to: (1)Evaluate lower energy, passive management approach for reducing large dilute PFAS impact in surface water and sediment. (2) Support sustainable risk reduction with ecosystem restoration objectives. (3) Advance understanding of PFAS mass flux within sediment-vegetation-water phases
- **Brief Program Description and Expected Deliverables :** The testing framework includes (1) site information gathering to assess natural retention evidence (2) functionalized PFAS-retention plant selection dashboard[(b)] (3) hydroponic and PFAS retention batch experiments (4) mesoscale continuous-flow tank study comparing PFAS retention under control, plant, and hybrid plant+organoclay conditions[(c)] (5) a predictive model and sensitivity test for governing factors' determination
- **Deliverable(s)**: (1) work plan (2) Pfas-retention plant selection dashboard (3) progress reports (4) analytical model platform (4) final report
- **Total estimated budget**: $200k-$300K

(a)



(b)



(c)

