Glossary of Terms – Seal Team Fix

Apparatus / System
A combined physical device or configuration of components designed to seal a large **conduit** under emergency conditions. This includes sealing, conveyance, anchoring, and removal elements.

Conduit
The interior water passage within a Reclamation dam facility. It channels water between the upstream and downstream sides of a structure and may be round, rectangular, or transitional in shape. Conduits are typically concrete- or steel-lined.

Deployment
One of the four core engineering functions. Describes how the sealing system is transported from the surface (e.g., dam crest, vessel) to the **inlet** of the **conduit**.

Differential Pressure
The difference in water pressure between the upstream (US) and downstream (DS) sides of a sealing solution. Effective solutions may/could harness this pressure differential to help seat or anchor the sealing device against the flow.

Downstream (DS)
The outlet end of the conduit, where water discharges after passing through the structure. This side typically has lower pressure during an uncontrolled release.

Gate
A closure device in which a leaf or closure member is moved across the fluidway from an external position to control the flow of water.

High-Head Condition
A scenario in which the pressure exerted on the conduit (measured as feet of water head) is significant, typically defined as **up to 200 ft** in this challenge. Some Reclamation sites may experience even higher head pressures (e.g., 250–300+ ft).

Inlet
The entrance of the conduit on the upstream side. The inlet may differ in shape from the conduit itself (e.g., square or rectangular inlet leading to a round conduit) and serves as a potential mating surface for sealing devices. It may be equipped with **trash racks**.

Installation Time
The time required to position and fully deploy the sealing system once it arrives on-site. Measured in **hours**. Distinct from total deployment time, which includes transport or logistics.

No Diver Intervention
A challenge requirement indicating that human divers must not be required for any phase of the system's deployment or removal.

Obstructing Flow
One of the four core engineering functions. Refers to how the proposed solution physically stops or reduces the flow of water through the conduit during an uncontrolled release.

Seal Effectiveness
A measure of how well a system reduces flow through the conduit during an emergency. The target is **95–98% reduction** of uncontrolled flow, typically evaluated by total conduit capacity less the measured leakage in the conduit.

Sealing Performance
One of the four core engineering functions. Describes how the seal is maintained in place for the required duration, resisting forces from flow and pressure without shifting, degrading, or dislodging.

System Removal
One of the four core engineering functions. Describes how the system is deactivated or extracted after its temporary use.

Temporary Seal
A sealing solution that is designed to remain in place for a limited duration, typically several months, long enough to allow safe upstream isolation or repair. It is not a permanent fixture.

Trash Rack
A structural grate at the conduit inlet designed to block large debris from entering the conduit, which could interfere with sealing system placement and adherence/bearing load. Trash racks have some offset from the inlet opening, typically several feet or more.

Upstream (US)
The intake side of the conduit. This side typically has higher water pressure and is the origin point of flow during normal operation or gate failure.

Valve
A mechanical component (distinct from a “gate”) that regulates, controls, or stops water flow. Valve types include cone valves, sleeve valves, and needle valves. In some Reclamation facilities, conduit sealing is required when valves cannot isolate flow.