



InfoBrief: IB01

Sediment Removal

Stormwater runoff at construction projects commonly contains undesirably high levels of suspended sediment from earthmoving operations. This suspended sediment must be removed from runoff prior to discharge into local surface waters in order to protect water quality and aquatic ecosystems. This is not only a good management practice, but is required by law according to NPDES (National Pollution Discharge Elimination System) rules, which impose strict standards on allowable sediment discharges, as well as local regulations. ProTech Services has developed a high performance Sediment Removal System (SRS) that meets the most stringent discharge criteria, using the most efficient, environmentally-friendly technology available.

ProTech's SRS design offers the industry's highest sediment removal efficiency. The three chamber and weir design is engineered to maximize sediment settling by gravity, with a final filtering stage that removes any remaining suspended particles. ProTech designs each SRS installation based on project-specific flow rates and water quality data, to assure that optimum filter media and sizing is employed.

Typical sediment removal efficiency is at least 90% removal of particles greater than 25 microns in diameter. The ProTech SRS meets the standards of Best Management Practices and Best Available Technologies by CALTRANS and other regulatory agencies, and has been demonstrated to meet strict discharge requirements in numerous projects. ProTech always works directly with clients to assure that all local regulatory and permit requirements are met.

The ProTech SRS can be engineered to meet virtually any water quality requirement and flow rate. Stormflows or high peak flows can be accommodated by adding holding tanks or constructed retention basins. The SRS can be equipped with remote sensors and alarms to minimize risk and reduce labor requirements. Online flow meters, turbidity meters and remote sensing units that detect overflow, high pressure, and other system malfunctions are also available. Remote sensors can be designed to page the operator and report system problems, and visual alarms are available for onsite personnel.

The ProTech SRS is the basis for a complete modular water treatment system. Depending on project specific water quality and flow rates, it is sometimes necessary to use supplemental water treatment methods, such as coagulation/flocculation systems, carbon filters, or other specialized systems. This is most likely to be the case where water contains high levels of very fine grained or colloidal materials, such as some silts, clays, or iron oxides that cannot be removed by traditional gravity settling or filtration methods. These components are readily added to the SRS as required to maintain water quality.

As specialists in water treatment, ProTech recognizes that clean water and a healthy environment are the lifeblood of society. ProTech is committed to environmental stewardship, and conducts all of its operations in a manner that protects and preserves natural resources. ProTech has an ongoing research program evaluating environmentally friendly water treatment methods. For more information on water treatment and water quality issues, contact a ProTech representative.