

WATER RECLAMATION SYSTEMS

by Broadway Equipment Company



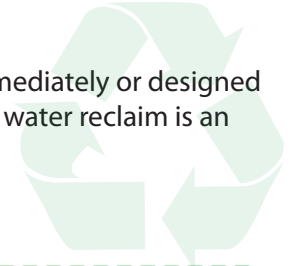
BROADWAY
EQUIPMENT
COMPANY

WATER RECLAMATION...

In today's world, water is becoming a very finite and expensive resource. Whether it is the upfront costs of tap fees and sewer access charges or the ongoing expense of disposing of water, the price of water continues to rise. All of these added costs are sure to hit your bottom line. Besides cost, the environmental impact of water usage is becoming more prevalent every day. The "Green Initiative" to conserve water is a popular choice in both the public and private sectors of life.

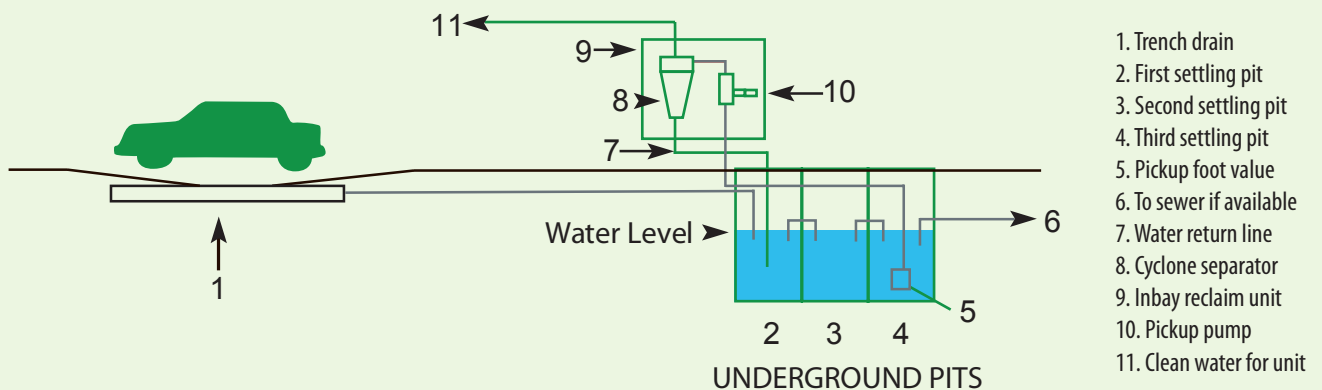
A car wash can be the largest single point of water consumption and discharge you will have at your business. Water reclamation (or water recycling) is a way to reduce upfront costs, reduce ongoing discharge costs, and/or meet requirements to reduce water consumption. A properly designed water reclaim system can be very efficient in its use of water without a great deal of maintenance and ongoing costs. The days of using "dirty" water to wash cars are gone. Today's reclaim equipment provides filtered and treated water that can be used in almost every application in the wash bay. The reclaim system can be designed to meet the needs of the wash and provide the right quality and quantity of water to best suit the needs of the site.

Water reclamation is something to consider on every project. It can be integrated immediately or designed into future plans, but some thought should be put into the design. Planning today for water reclaim is an important step for the future success in every car wash project.



HOW IT WORKS...

A properly designed reclaim system is critical for the proper functionality of the system. The drainage, piping, storage and filtration all need to be designed with a professional to make sure the system is capable of meeting the intended needs of the project. Many steps go into designing a reclaim system that will be effective at providing recycled water without any issues.



The water reclaim process starts with the floor drainage. The wash bay floor trench drain should be designed as the first step in water filtration. Sand weirs placed in the trench provide a settling point for sand/silt to collect prior to entering the tank system. These weirs provide an easy point of removal without much labor. The trench drain should lead to the storage tank.

Water storage can be done in 2 ways: inground tanks or above ground tanks. Inground tanks comprise of a 3-compartment tank sized properly for the system (approx 2000-4000 gallons). This 3-compartment tank allows the water to settle and spillover, letting gravity pull suspended solids to the bottom and any floating material (debris, oil, etc) to stay at the top. In the 3rd compartment, the water is removed by the pick-up pump system for reuse in the car wash. In an above ground setup, a sump pump is placed in a catch basin in the floor to pump the water to large, above ground tanks (3 tanks, approx 750 gallons each). The settling/spillover process works the same in the above ground setup.

SYSTEM PACKAGES...

Hydro 70

WRS70

Basic Package

Broadway Equipment's "Hydro 70" water reclaim system is designed for automatic car washes that handle up to 75 cars per day. The cyclonic separation used to clean the water removes particles up to 70 microns in size and produces approximately 35 gallons per minute. The unit is wall mounted for minimal space and is pre-plumbed and pre-wired for easy installation. This low volume, low maintenance system is perfect for end users looking to reduce water consumption and lower upfront access fees enforced by local municipalities.

Water Clarity: 70 microns
Separation Method: cyclone separator
Water Volume: 35 gallons per minute at 35 p.s.i.
Designed for: inbay automatics
Wash Volume: 1-75 cars per day

Hydro Filter 25

WRS25

Upgrade Package

Broadway Equipment's "Hydro Filter 25" water reclaim system is designed for automatic car wash bays that handle up to 150 cars per day. Filter bags have been added to the system to improve the water filtration, removing particles up to 25 microns in size. The pump is larger to provide 55 gallons per minute at 40 psi, allowing this reclaim system to be used on both rollover setups and drive thru tunnel setups. The removable, disposable bag filters provide an easy and cost effective means of water filtration. This unit is designed for an inbay installation or an equipment room setup. Simple maintenance makes this system easy to operate while producing the quality of water needed for higher volume car wash systems.

Water Clarity: 25 microns
Separation Method: cyclone separator and bag filters
Water Volume: 55 gallons per minute at 40 p.s.i.
Designed for: inbay automatics, drive-thru tunnel systems
Wash Volume: 50-150 cars per day

Hydro Filter Plus Ozone

WRS-O

Premium Package

Broadway Equipment's "Hydro Filter Plus Ozone" water reclaim system is designed for high volume wash situations where 150+ cars per day are expected. The water filtration consists of the cyclone separator and bag filtration to remove particles up to 25 microns. The reclaim pump is capable of 100 gallons per minute at 40 psi to provide water to multiple components at any given time, mainly in a large tunnel or conveyor setups. The reclaim unit also incorporates an ozone generator. Ozone is used to treat the water, removing any odors that are present due to bacteria and algae growth. Ozone is a safe and effective means of treating recycled water to provide the quality of water needed in top of the line systems. An equipment room is highly recommended for installation to keep the high-tech components in a controlled environment. This unit provides the highest possible water reduction with minimal maintenance on the unit.

Water Clarity: 25 microns
Separation Method: cyclone separator and dual inline bag filters
Water Volume: 100 gallons per minute at 40 p.s.i.
Designed for: drive-thru tunnel systems, conveyor systems
Wash Volume: 150+ cars per day
Water Treatment: Ozone injection for odor / algae control

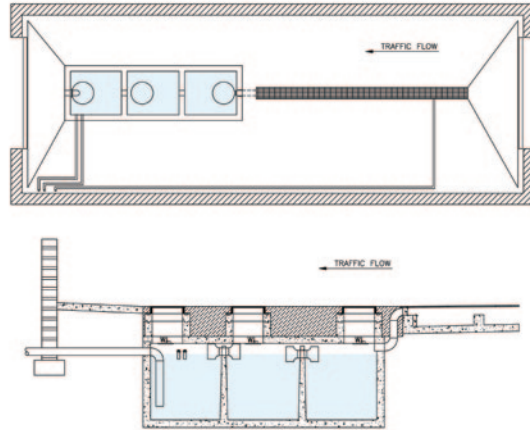


SYSTEM SPECS...

Underground Reclaim Tank System

- Dimensions: 2000-4000 gallon 3-compartment tank (tank size depends on system design)
- Electrical service: 3 hp motor, 20 amps, 3 phase, 208/230 or 480 volt
- Plumbing: 2" inground suction line, discharge pressure at 40 psi / 1" city water line at 40 psi, usage rate 25 gpm

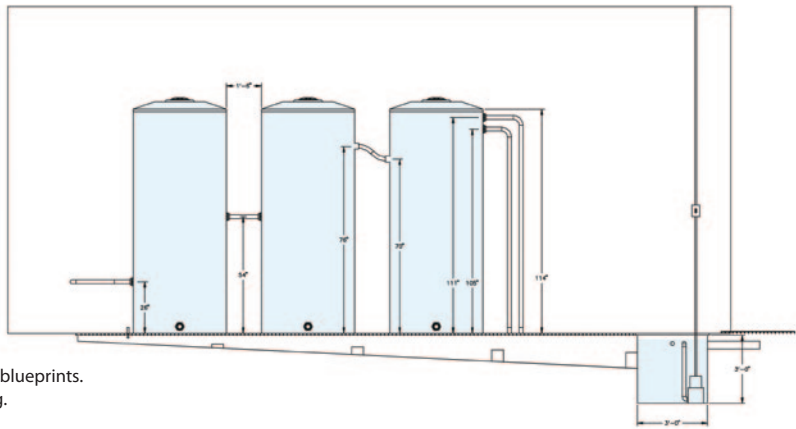
Note: Requires underground water trap system. Contact Broadway for blueprints. Local contractor will need to provide, install and plumb underground holding tanks.



Above Ground Reclaim Tank System

- Dimensions: 118" H x 46" D (each tank)
Set-up consists of 3 or 4 tanks depending on system design
- Electrical service: 3 hp motor, 20 amps, 3 phase, 208/230 or 480 volt.
Sump pump: 20 amps, 120 vac.
- Plumbing: 2" suction line, discharge pressure at 40 psi / 1" city water line at 40 psi, usage rate 25 gpm

Note: Requires underground water trap system. Contact Broadway for blueprints. Local contractor will need to provide and install all inground plumbing.



Hydro Filter 25 & Hydro Filter Plus Ozone

Broadway's "Hydro Filter 25" and "Hydro Filter Plus Ozone" Reclaim Systems incorporate multiple filtration methods for the cleanest water possible. The water is first pulled through a strainer basket to remove large debris (i.e. leaves, garbage, etc). The next stage is the cyclone separator that filters out sediment up to 70 microns in size. The water is then sent through two filter bags, (1) 50 micron bag, and (1) 25 micron bag, before being sent to the car wash.

1. Strainer Basket
2. Reclaim Pump
3. Cyclone Separator
4. 50-micron filter
5. 25-micron filter
6. Control Box

