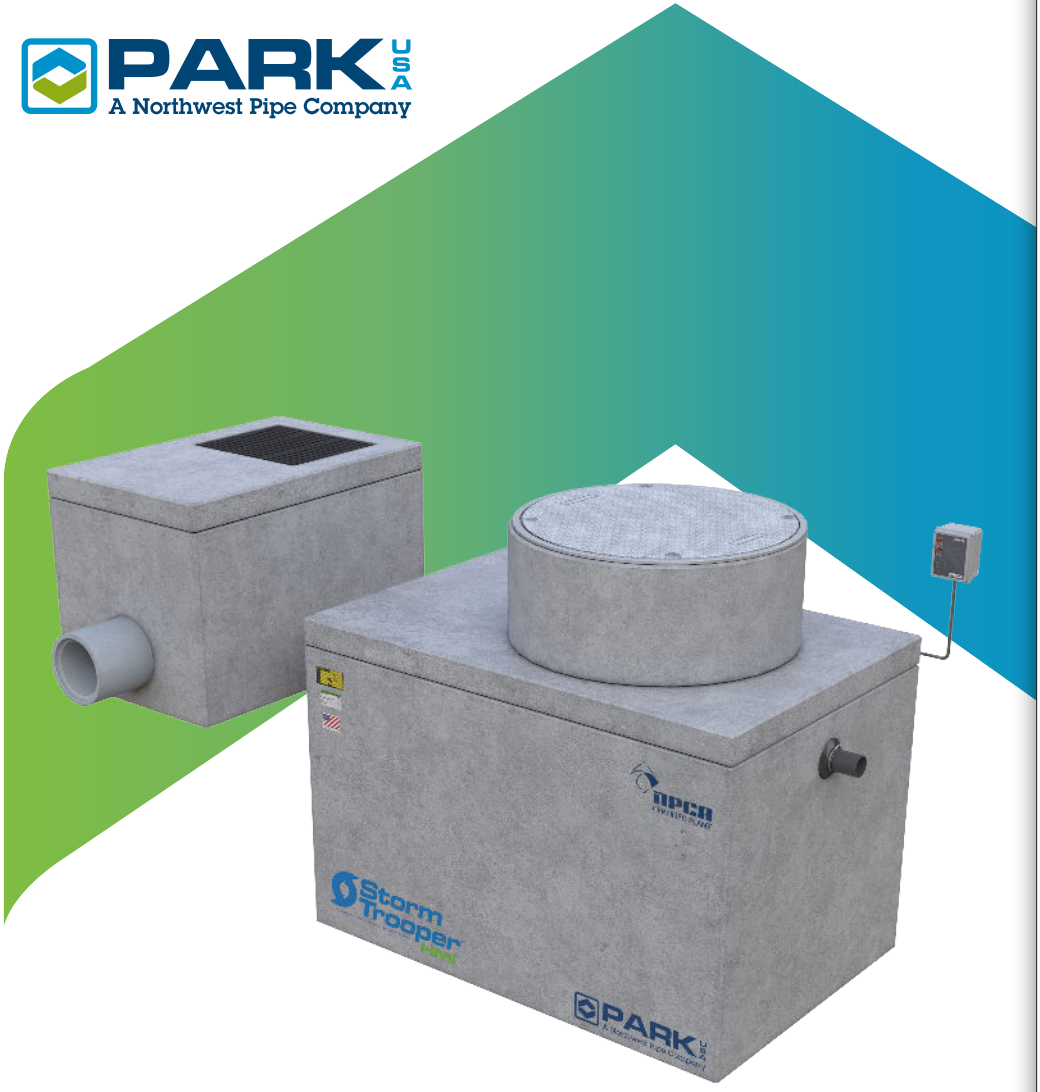
PARK USA
A Northwest Pipe Company

Storm Trooper® HMI

Hazardous Material Interceptor



Features

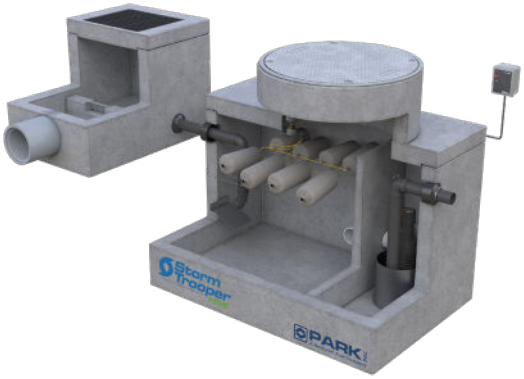
- Best Value BMP
- Larger Effective Area (EA) Treatment
- Accommodates spills up to 3,800 gallons
- Includes diversion structure to bypass flows exceeding the design Water Quality Volume (WQv)
- Enhanced Gravity Separation utilizing CMP Technology
- Texas Manufactured
- Third Party Tested by SwRI

Stormwater Treatment

Sustainable management of water quality is imperative if future generations have access to clean water. Stormwater runoff collects pollutants like trash, debris, oil and gasoline and washes it directly into the stormwater drainage system.

At gasoline stations there is a great risk of pollutants being washed into the stormwater. A spill of only one gallon of gasoline can contaminate 750,000 gallons of water. Many municipalities require spill containment measures around gasoline fueling stations to address this. The City of Austin, Texas specifically requires that a business with a gasoline fueling station have a hazardous material interceptor with the ability to accommodate spills up to 750 gallons in addition to the ability to treat stormwater runoff.

The StormTrooper® HMI is part of the StormTrooper® product family of patented technology that is designed to intercept free oil, grease, TSS, debris and other pollutants found in stormwater. In addition, the HMI system can accommodate fuel spills up to 3,800 gallons.



#BUILDING AMERICA!

SW | STORMTROOPER HMI Standard

LEED® COMPLIANT · NPCA · Steel Tank Institute · ASPE American Society of Plumbing Engineers · ASTM · BMP® BEST MANAGEMENT PRACTICE · IPC® INTERNATIONAL PLUMBING CODE · UPC®

How it works

The function of the StormTrooper® system is to intercept free oils and sediments from stormwater runoff and retain them for periodic removal. Each system is designed for a rated flow rate capacity of stormwater, known as the initial "first-flush" flow of a storm event. This first-flush will contain the majority of the pollutants washed from the catchment areas. Runoff can range from low to very high flow rates. High flows can be detrimental to stormwater treatment devices in that excessive flows tend to scour and resuspend the existing retained pollutants left from the previous storm event. The StormTrooper® utilizes engineered bypass features to handle excessive flows, permitting only the design flow through the interceptor while bypassing high flows to the storm sewer.

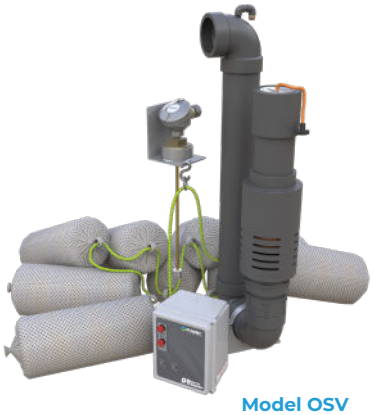
Normal Runoff Flow

Stormwater enters the StormTrooper® through the control manhole with one or multiple inlets and/or a grate inlet. The inlet invert guides the treatment flow into the interceptor's first chamber where the water velocity is significantly reduced, creating non-turbulent conditions. Here, buoyant materials rise to the surface and heavy solids start to settle. As the water flows to the second compartment, it must travel through coalescent media where hydrodynamic coalescence occurs. During this laminar flow period, hydrocarbons separate and rise to the upper region of the interceptor. Sediment particles do the opposite, as they are separated and sink to the interceptor bottom region. All pollutants remain in these lower and upper regions, where they are securely detained until they are removed during maintenance. The water exits the interceptor to the control manhole's outlet compartment and then continues to the storm sewer.

High Runoff Flow

The StormTrooper has a flow limiter which ensures that the rated flow capacity is not exceeded through the interceptor. During high flow, runoff enters the control manhole where water builds and rises in the control manhole's inlet compartment. The excess runoff that does not flow into the interceptor will flow through a trash screen and over the bypass weir. In the control manhole's second compartment, the bypassed flow and the treated flow from the interceptor merges and then exits to the storm sewer.

Visit **www.parkusa.com** for more information and design assistance.



Model OSV

OilStop Valve is protected by US Patent #9,963,358

Peak WQq (cfs)	Spill Capacity (gal)	Total Volume (gal)	StormTrooper Model
0.282	750	1,500	HMI-100
0.352	1,600	3,200	HMI-125
0.422	2,000	4,000	HMI-150
0.493	3,000	5,900	HMI-175
0.563	3,200	6,400	HMI-200
0.634	3,800	7,600	HMI-225

Water Quality Flow is:

WQq = (qu) (A) (WQv)

WQv = Rv * i (inches)

A = area (impervious area in sq miles)

qu = unit peak discharge for NRCS Type III storm distribution

Rv = volumetric runoff coefficient =(0.05 + (0.009 (% impervious))

i = rainfall intensity

Example: A 2.75 acre gas station, in Austin TX, with 0.75 acres drainage basin of 100 percent impervious cover needs a treatment device that will hold a minimum of 750 gallon fuel spill during dry conditions and the ability to treat the Water Quality Volume (WQv) for the drainage basin. The StormTrooper is sized using a flow rate. Using the above methodology converts the required Water Quality Volume to a discharge rate for sizing purposes. The calculated WQq of 0.33 cfs is the controlling factor for sizing the unit. The StormTrooper model HMI-125 is recommended.

Where:

i = (0.5 + ((A impervious / A total) - 0.2)) = 0.57 inches*

Rv = 0.05 + (0.009 * 80) = 0.77

WQv = 0.77 * 0.57 = 0.439 watershed inches

qu = 677 cfs/mi^2/watershed inches

WQq = (qu) (A) (WQv)

WQq = (677) (0.001172) (0.439) **=** 0.33 cfs

*25-8-213 (B) Water Quality Control Standard, City of Austin

APPLICATIONS

- Good to use in BMPs
- Fueling Depots
- Industrial
- Parking Lots Streets & Highways
- Low Impact Development
- Green Infrastructure