

# Project Profile

## Truck Service Center, Portland, Oregon



Re-fueling area of the Jubitz Travel Center

Jubitz Corporation operates a major travel center in Portland, Oregon that is known nationwide for its wide range of services to truckers and tourists. Jubitz has long been a leader in environmental sustainability in the Pacific Northwest offering ultra-low sulfur biodiesel, recycling facilities, no-idle truck parking that reduces air emissions and now a state-of-the-art stormwater filtration system.

With 15 acres of paved parking, Jubitz Travel Center produces large quantities of stormwater during rainy periods. Road grit, residual phosphate detergent film, metals, oil and other potential pollutants from parked commercial vehicles can be carried by stormwater to local community waters. E.coli bacteria contamination from wildlife and customers' domestic pets may also be present.

To prevent the discharge of these pollutants to the adjacent Columbia Slough Watershed in Portland, Oregon, Jubitz Travel Center retrofit the site with a stormwater treatment train provided by StormwaterRx LLC including an Aquip® Enhanced Stormwater Filtration System and a Purus™ Bacteria Polishing System. Site engineering and permitting was performed by Aquarius Environmental and Robert D. Miller Consulting, Inc.



StormwaterRx Aquip and Purus systems

### Treatment System Descriptions

Jubitz Travel Center drainage area is split into two main sub-basins. Each main sub-basin drains to a dedicated stormwater treatment system consisting of an Aquip 210SBE and a Purus 210V. Aquip is an enhanced media filter specifically designed for the reduction of stormwater pollutants such as petroleum hydrocarbons, suspended solids, particulate and dissolved metals, particulate and dissolved phosphorus, and other pollutants. This Purus model is a modular upgrade to the Aquip that uses ultraviolet disinfection for bacteria and fecal coliform removal downstream of Aquip. The system has no moving parts and is designed for simple and reliable stormwater service.



Internal view of Aquip, adjacent to truck parking area

## Results

Untreated (inlet) and treated (outlet) water quality samples were collected during four storm events for permit compliance and to assess the level of treatment provided by the treatment systems. A summary of the sampling data is presented below.

The outlet water from the combined Aquip and Purus systems were measured to be below benchmark levels for all of the four storm events sampled at the facility (Tables 1 and 2). Inlet concentrations of phosphorus and E. coli were regularly found to exceed the permissible water quality benchmarks. Zinc, copper, and total suspended solids required treatment to meet the benchmarks on occasion. As seen by the inlet and outlet values, the Aquip and Purus systems consistently provided the necessary treatment for each of these pollutants commonly found at truck service centers.

Table 1. Performance data for the Aquip and Purus treatment train for drainage area #1

Drainage Area	Date Collected	Cu (mg/L)		Zn (mg/L)		Phosphorus (mg/L)		TSS (mg/L)		E. coli (#/100mL)	
		Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
#1	12/15/2009	0.018	0.007	0.161	0.053	0.23	0.09	140	30	>2420	ND
#1	12/31/2009		0.004		0.041		0.07		ND		ND
#1	3/12/2010	0.011	0.004	0.125	0.028	0.6	0.09	30	10	>2420	ND
#1	5/19/2010		0.002		0.023		0.09		10		ND
1200-COLS Benchmark			0.036		0.24		0.16		50		406
Laboratory Detection Limits			0.002		0.01		0.04		2		1

Table 2. Performance data for the Aquip and Purus treatment train for drainage area #2

Drainage Area	Date Collected	Cu (mg/L)		Zn (mg/L)		Phosphorus (mg/L)		TSS (mg/L)		E. coli (#/100mL)	
		Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet	Inlet	Outlet
#2	12/15/2009	0.011	ND	0.121	0.026	0.23	0.1	70	10	>2420	ND
#2	12/31/2009	0.038	0.007	0.291	0.05	0.22	0.09	160	30	ND	ND
#2	3/12/2010	0.016	0.006	0.14	0.04	0.27	0.12	100	30	>2420	32.3
#2	5/19/2010		0.008		0.044		0.12		10		2
1200-COLS Benchmark			0.036		0.24		0.16		50		406
Laboratory Detection Limits			0.002		0.01		0.04		2		1

During these four sampling events, all ten water quality constituents regulated by the Oregon Department of Environmental Quality 1200-COLS Industrial Stormwater General Permit were measured. However, only the constituents with inlet values above benchmark levels are reported.

Contact StormwaterRx LLC to find out how the Aquip and Purus can help you meet your stormwater quality requirements. More information is available online at [stormwaterx.com](http://stormwaterx.com).



StormwaterRx Aquip system near truck parking lot and fuel island



StormwaterRx doing a site walk