

"New Bulk Fuel Storage Facility Addison Airport - Addison, Texas"

With 133,000 operations in 2005 Addison Airport (ADS) is located in a close-in suburb of Dallas, TX. With a 7,200-foot runway, Addison is the preferred choice among owners of private aircraft and corporate jet fleets because of its convenient access to downtown Dallas, the Telecom Corridor and other large employment centers. With its emphasis on a business-friendly atmosphere and recognition of the needs of the aviation community, Addison Airport has set industry standards for safety, economy and convenience. Initially developed by a group of flying enthusiasts in 1957, Addison Airport has been owned by the Town of Addison since 1976 and is the second busiest general aviation airport in Texas.

With the increasing numbers of aircraft making their home at Addison and a higher frequency of daily flights, airport officials determined that it was time to replace the ageing underground fuel storage facility. Their concept was to design and build a state-of-the-art refueling facility using the best available aboveground storage technology. The result is a sweeping wing-like canopy covering twenty-one Fireguard® aboveground steel storage tanks.



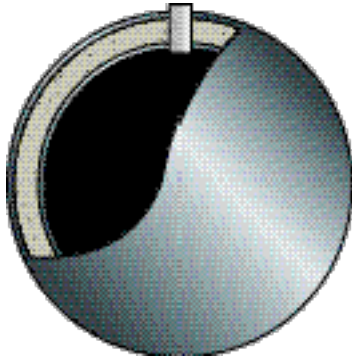
The Washington Group was the lead engineering firm on the design of the new aboveground Bulk Fuel Storage Facility at the airport. The fuel storage facility design required 330,000 gallons of aboveground storage capacity. The Washington Group determined that Fireguard® Fire-Rated, double-wall steel tanks were the best available technology for the application. Washington engineers specified (9) 25,000-gallon, (6) 15,000-gallon, and (5) 300-gallon Fireguard® cylindrical tanks. The facility is designed to store Jet A, Diesel and AVGAS fuels for the many types of aircraft operating from Addison. The project specifications also included a 10,000-gallon high-performance, Highland oil/water separator. The oil/water separator was installed to remove any hydrocarbons that may contaminate the storm water runoff from the tank farm dike drainage system. The Thielsch Company was selected to complete procurement and installation of the project. They chose Highland Tank because of our ability to provide a high-quality product, service, and competitive pricing on the Fireguard® Tanks and the HTC-10,000 gallon double-wall oil/water separator. Highland Tank also met the challenge of a very aggressive eight-week delivery schedule, utilizing our own fleet of delivery trucks.



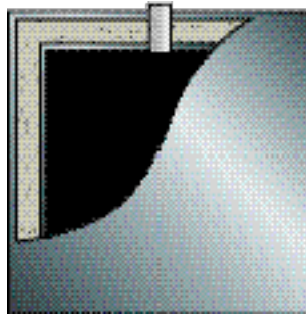
The Washington Group engineers selected the Fireguard® thermally protected double-wall Aboveground tanks because they utilize the best available technology and are UL-2085 and UL-142 approved. The Fireguard® has passed every test used in the U.S. to determine aboveground storage tank safety and is considered state of the art in the tank industry. Fireguard® is used where a fire-protected tank is needed because of setback limitations and / or regulatory requirements for the storage of flammable and combustible liquids. The Fireguard® Tank is a double-wall steel tank with a minimum of three inches of high efficiency insulating material between the inner and outer steel tanks and is available in cylindrical design from 300-30,000 gallons and rectangular design from

500-12,000 gallons.

Fireguard Aboveground Double-wall Steel Storage Tanks



Cylindrical Design



Rectangular Design

The insulation provides thermal protection for the inner tank in the unlikely event of a pool fire or other extreme heat. The insulation material is porous and allows fluid migration through the interstice to the monitoring sensor. Unlike outdated concrete encased tanks, the Fireguard[®] steel outer wall protects the insulation eliminating the problem of cracking concrete. The insulation material is lightweight- on average 75% lighter than concrete costing less to ship and install. The double-wall design allows a pressure testable primary and secondary tank per the NFPA 30 requirements. The Fireguard[®] design also has emergency vents on the primary and secondary tank. This advanced tank design has been tested and approved to meet the UL 2085 requirements for a 2-hour fire rating and has completed the Uniform Fire Code (UFC) AST testing procedure which requires four tests to be completed before they designate a tank as "protected" for use. The tests include:

1. Ballistics test- tank must withstand five rounds of 150 grain M-2 ball ammunition without having the primary tank penetrated.
2. Impact test- the protected tank must withstand a blow by a 12,000-pound mass traveling 10 mph. without penetrating the primary tank.
3. Two-hour Pool Fire test- the internal temperature of the tank during the two-hour test cannot exceed 260 degrees F average temperature rise, or 400 degrees F maximum temperature at a single point in the tank.
4. Hose stream test- the tank must withstand the impact, erosion and cooling effects of a hose stream without penetrating the primary tank.

Fireguard[®] had previously passed a battery of tests required by Underwriters Laboratories (UL) to receive the UL 2085 listing for "Insulated Secondary Containment Aboveground Tank for

Flammable and Combustible Liquids". The UL testing also included a two-hour fire test (see figure 2 above), interstitial communication test and proof of emergency venting capabilities. Fireguard® is now approved for motor fuels storage under every National fire code including Uniform Fire Code (UFC), NFPA 30, NFPA 30A, Southern Building Code Congress International (SBCCI), Standard Fire Prevention Code (SFPC), Steel Tank Institute F941 "Standard for Thermally Insulated Aboveground Storage Tanks", and 1993 Building Officials and Code Administrators (BOCA).

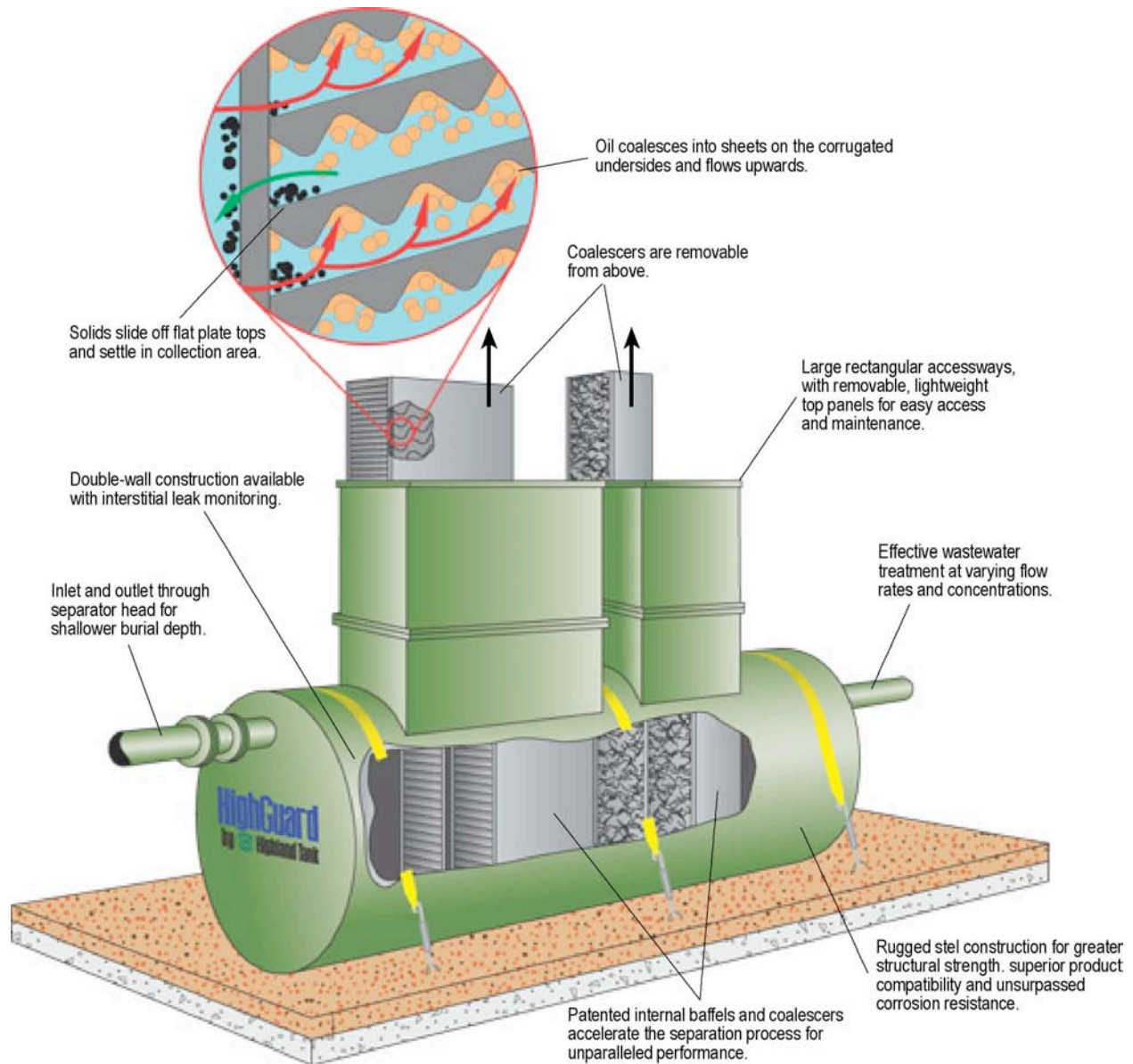
The oil/water separator tank selected for the project to treat the tank farm dike drainage was also state-of-the-art. The Highland Tank Oil/Water Separator system was installed to satisfy the Airport's National Pollutant Discharge Elimination System (NPDES) permit. The EPA requires facilities that engage in regulated industrial activities to obtain NPDES permits before discharging to storm water. The Airports deicing and fueling facilities are specifically identified as industrial activities subject to the NPDES regulations.

Highland Tank's HTC-10000 Oil/Water Separator is designed for the treatment of contaminated storm water runoff at 0-1000 gallons per minute discharging with a qualified / certified effluent quality of 10ppm of free oil and grease. Highland separators meet the new Underwriter's Laboratories, Inc. SU2215 design, construction, and performance standards for engineered Oil/Water Separators rated at 10-ppm oil and grease. Currently, code enforcement officials consider UL-SU2215 certification as being the preeminent national consensus standard for oil/water separator construction and performance.

In the image below, bulk deliveries arrive on the near side of the fuel farm and are pumped into the tanks. On-airport vehicles operate on the opposite side of the fuel farm, adding an additional element of safety by separating bulk delivery trucks from aircraft fueling vehicles. The entire area is contained in a concrete containment dike. Delivery and loading apron area drainage is collected and processed through the 10,000 gallon underground oil/water separator in the foreground.



The Highland Tank HTC-10000 separator is designed for gravity separation of free oils (hydrocarbons and other petroleum products) along with some settleable solids from the wastewater. The unit has an oil/water separation chamber containing the new Corella™ inclined parallel plate coalescer, which is the newest edition to Highland Tank's existing patented oil/water separator product line. It combines the features of both a flat plate top coalescer and a corrugated bottom plate coalescer into a new "self-cleaning" design that performs better than traditional plate separators. Highland's Corella™ plates greatly reduce the level of oil, grease, and oily coated solids discharged by petroleum marketing and transportation facilities with vehicle maintenance, fueling, and washing facilities.



The parallel plates coalescer with removable, corrugated plates, are sloped toward the sediment chamber, and built in accordance with API-421 sizing calculations. The parallel plates direct the flow of the separated oils to the surface of the tank and separated solids to the bottom. A sectionalized removable screen, polypropylene impingement coalescer designed to intercept oil globules of 20 microns in diameter or larger is located at the effluent end of the oil/water separator tank for further treatment of the wastewater.

The vessel was built with Double Wall Type -1 construction (360 degree) steel secondary containment. The inner steel tank is completely contained within the outer tanks and equipped with a leak detection system. The tank was fabricated in strict accordance with Highland Tank's HighGuard™ Corrosion Control System with a 30 -year warranty and meeting UL standards. The Highland Tank HTC-10000 gallon Oil/Water Separator was supplied with a hi-oil level

alarm (audio/visual). The design utilizes Manways located above the corrugated plates and Petro-Screen™ allowing personnel to inspect and maintain the unit from grade level.

The design engineers and the installer have made every effort to ensure that the new bulk fuel storage facility at Addison Airport will offer no threat to the surrounding community. The Highland Tank Fireguard® and high performance HTC-10000 oil/water separator equipment supplied exceeds all current Federal, State and local Regulations.

Presented by:

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For more information on the above referenced project or about Highland Tank's products and services please call me at (631) 473-0598 Ext. 11 or email tschoendorf@highlandtank.com

Please visit us at www.highlandtank.com to learn more about the Highland Tank Company and our offering of products and services. The oil/water separator and interceptor designs are available from Highland Tank in Cylindrical from 350-60,000 gallons and Rectangular from 100-20,000 gallons. We offer a full range of aboveground and underground storage tanks and wastewater treatment systems.