

Nichols Brothers Boat Builders Sets New Standards In Protecting Puget Sound From Copper in Stormwater

Since 1964 Nichols Brothers Boat Builders has been operating a ship fabrication facility on the south end of Whidbey Island adjacent to Holmes Harbor. Nichols Brothers specializes in building commercial passenger ferries, tug boats, barges dinner cruise boats and fishing boats. They work almost exclusively with vessels that are constructed of steel and/or aluminum. Depending on the number and production rate of vessels, the company employs up to 350 people. Recently, Nichols Brothers was a sub contractor on the three 64 car ferries for the Washington State Ferry System.

Environmental compliance is an increasingly important part of Nichols Brothers' business, and in 2007 the company set a goal of revamping its stormwater management system to minimize release of copper and other metals in to Puget Sound. This ambitious goal required the company to undertake several studies and ultimately commit to spending over \$1million on stormwater system upgrades to protect Holmes Harbor. Nichols Brothers stormwater-related activities over the past four years has included:

- Conducting hydrogeologic (groundwater) and wetland studies
- Implementing new source controls to minimize stormwater contamination
- Evaluating alternative water quality treatment technologies
- Applying for a new NPDES Permit through the Washington Department of Ecology
- Installing new pipes and pumps, and constructing new detention tanks that can hold up to 180,000 gallons of stormwater
- Purchasing a state-of-the art, multi-stage water quality treatment system that includes electrocoagulation (passing electricity through water to aggregate smaller particles into larger particles), multi-media filtering, and additional treatment using a 5-ton granular activated carbon system
- Preparing a Stormwater Engineering Report and Stormwater Pollution Prevention, Spill Control, and Solid Waste Control Plans

Today Nichols Brothers is proud that stormwater discharged from its site is now cleaner than any other shipbuilder in the state, and probably is the cleanest of any shipbuilder in the world. Recent tests have shown copper levels in stormwater at <1 ppb (parts per billion). Other noteworthy accomplishments of Nichols Brothers include:

- Nichols Brothers is the only ship builder in Washington to achieve State marine water quality criteria (5.8 ppb total copper and 95.1 ppb total zinc)
- Copper and zinc levels in stormwater have been reduced by over 95% relative to the former stormwater management system
- 100% of stormwater runoff from Nichols Brothers' 6-acre fabrication facility is infiltrated to an adjacent shoreline wetland that is hydraulically connected to Holmes Harbor
- Stormwater discharged from the site contains less copper than the local groundwater

In recognition of these outstanding stormwater accomplishments, Washington Department of Ecology staff are currently moving towards nominating Nichols Brothers for an Environmental Excellence Award, and Nichols Brothers' stormwater system has received the American Council

of Engineering Companies' Silver Engineering Excellence Award in the "Future Value the Profession" category.