

Tennessee Pollution Prevention Partnership Success Story



B&W Y-12
(formerly BWXT Y-12)
P.O. Box 2009, MS 8286
Oak Ridge, TN 37831-8286
865-241-2567

www.y12.doe.gov



1-800-734-3619

www.tdec.net/ea/tp3

Y-12 Preserves Natural and Cultural Resources

The Member

The Y-12 National Security Complex is a high-precision manufacturing assembly and inspection complex comprised of more than 20 facilities located on 800 acres near Oak Ridge, Tennessee. Operated by Babcock & Wilcox Technical Services Y-12 L.L.C. (B&W Y-12) for the National Nuclear Security Administration, Y-12 plays a vital role in the Department of Energy's (DOE) Nuclear Weapons Complex.

The Story

B&W Y-12 is committed to balancing the needs of the built and natural environments by seeking innovative solutions to conserve resources. In 2006, B&W Y-12 completed projects to divert soil excavated during construction from landfill disposal by filling a 'hollow' adjacent to one construction site while establishing native grassland and wetland areas, and contouring an area near the New Hope Cemetery to return it to its original appearance prior to construction of Y-12. The excavated soil could not be sent off-site for disposal or reused as 'clean spoil' due to its location and historical use. The project employed extensive erosion controls (e.g., up-slope diversion, sediment basins, and temporary seeding of disturbed areas) to protect and preserve storm water and surface soils; used native soils and seed species to establish and revitalize wetlands; and established a large stand of native grasses (Little Blue Stem, Annual Ryegrass) and an assortment of native wildflowers.

B&W Y-12 also completed a project to open up the view to the historic "Guard tower" at the top of Pine Ridge which employed techniques to preserve wildlife habitat in the cleared visual corridor. This historic guard tower used to guard the northeast entrance to Y-12 and the historic "Midway Gatehouse" following the Manhattan Project was one of the first permanent guard towers erected during the early years of the Cold War era (circa 1948). Over the past 6 decades, the tower had become engulfed in the surrounding forest, and was no longer visible. The project was conducted to allow visitors and the public to view and understand the importance of the Guard Tower and its relation to the historic Midway Gatehouse.

While clearing the visual corridor, Y-12 used several techniques to ensure damage to habitat was minimized, and habitat was enhanced where possible: Following an extensive environmental impact evaluation, limited tree cutting was conducted at an optimal time to avoid the bird nesting season; no heavy equipment was used during clearing to avoid disturbing the land and to prevent future erosion of the steep slope of Pine Ridge; fallen timber was left in place to provide habitat, cover and food sources for small mammals, birds, reptiles and amphibians; a protective zone was established to ensure vegetative cover will continue to grow in order to provide a travel corridor for wildlife; and a plan for periodic selective pruning and maintenance of the visual corridor was developed. Maintenance of the visual corridor and protective zone is an ongoing initiative coordinated through Wildlife Manager and Forester of the Oak Ridge Reservation.

The Success

The **guard tower project** provides habitat for ground dwelling species and a wildlife travel corridor. The **soil diversion project** diverted several thousand tons of soil to increase landfill longevity, preserved storm water quality, enlarged wetland areas, and established



the largest stand of native grassland on the Oak Ridge Reservation. This resulted in a cost avoidance of more than \$3.3 million.

The Pollution Prevented

These projects conserved more than 86,000 cubic yards of landfill space; established 3.5 acres of native grasses; preserved more than 0.55 acres of wetland with native species, added 0.1 acres of wetland; established a 0.25 acre protective zone to provide viable wildlife habitat and travel corridor; and enhanced 1 acre of wildlife habitat.

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