

Transforming Ash Ponds to Natural Wetlands

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For decades, state, federal and local partners have worked together to restore shoreline and coastal wetlands in the Muskegon Lake watershed along the eastern shore of Lake Michigan. This 4,150-acre freshwater lake in western Michigan and its wetlands are critical to the Great Lakes ecosystem, providing important native soils and wildlife habitat. Since the late 1940s, the B.C. Cobb generating facility, situated near Muskegon Lake, has been one of these partners. B.C. Cobb was owned and operated for 67 years by Consumers Energy (Consumers), Michigan's largest energy provider.

Remediating the existing ash ponds at B.C. Cobb was part of the post-closure regulation needs and

sustainability objectives for the site and community in order to further advance the wetlands along the eastern shore of Lake Michigan. In 2018, Charah Solutions approached Consumers with an innovative and cost-effective proposal to meet these goals and provide remediation of the ponds and repurposing of the site to natural wetlands. A comprehensive solution was offered for effectively managing the environmental aspects to safely close and enhance the site for the benefit of the community, while lowering the cost for Consumers and its customers as well as providing jobs for local workers and partnerships for local business vendor partners. The turnkey services for the project include environmental risk transfer services

that involve property acquisition, site remediation and redevelopment.

Environmental Risk Transfer

Charah Solutions' environmental risk transfer services are designed to meet the evolving and increasingly complex needs of utility partners. The acquisition of the site by its subsidiary, Muskegon Environmental Redevelopment Group (MERG), as well as responsibility for the environmental liabilities, permitting and compliance with state and federal regulations, are important to Consumers for three main reasons:

1. They lower the overall cost for completing a project of this magnitude, saving Consumers' customers money.
2. They allow Consumers to remove the environmental risk and insurance obligation related to the retired asset from their balance sheet.
3. They place control and oversight with a company that specializes in these complex remediation and reclamation projects.

Prior to purchasing the site at B.C. Cobb, Charah Solutions completed a review of the site's particular challenges and complexities. A plan was developed for safely recycling the existing ash materials, sustainable repurposing of the property and ongoing groundwater testing. Upon completion of the project, the B.C. Cobb ash ponds, including ponds 0-8 and the bottom ash pond on the property, totaling 62.8 acres, will be returned to natural wetland areas for the benefit of the watershed and for the community to enjoy.

In April 2020, Charah Solutions took ownership of the ash ponds, began equipment mobilization

Former B.C. Cobb Bottom ponds 0-8 and the bottom ash pond to be remediated and restored to natural wetlands.



Source: Charah Solutions

Straddle carriers will remove recycled ash from the rail cars.



Source: Charah Solutions

and started construction activity. Onsite dewatering, excavation and transportation of the existing ash pond materials will begin in the third quarter of 2020 and continue through the end of 2021. State approval of the final pond closure is targeted as early as the fourth quarter of 2022, in advance of the Federal Coal Combustion Residuals (CCR) rule compliance deadline of March 2023. This CCR regulation requires all CCR bottom ash to be removed from ponds by capping in place, closure by removal, retrofitting or a combination of these.

In order to support the local Muskegon community, Charah Solutions hired local talent and sourced local vendor partners to assist with the remediation work at the site. At full capacity, the project will employ over 25 local operators, and workers will all be trained specifically for this remediation and restoration project.

Sustainable Beneficial Reuse of Ash and Wetlands Restoration

In addition to the site remediation and repurposing as wetlands, Charah Solutions is implementing beneficial recycling practices for the existing pond ash. Approximately 650,000 cubic yards of ash materials from the site will be excavated and beneficially reused as fill material at Consumers' landfill in Essexville, Michigan, located at the

former J.C. Weadock generating facility site. By reusing the ash as necessary fill material it will be recycled, conserving approximately 650,000 cubic yards of virgin materials. Approximately 75 to 85 percent of the ash will be transported by a fleet of 150 covered, high-sided rail cars, with the remainder transported by covered trucks.

Repurposing this land as natural wetlands provides multiple environmental and community benefits, including:

- Critical habitat, breeding grounds and sources of food for shellfish, fish, birds, amphibians and other organisms.
- Feeding and resting grounds for migratory birds and habitat corridors for wildlife populations.
- Erosion and pollution control and limiting of flooding activities.
- Protection of drinking water sources and buffer from storm surges.
- Recreational activities including fishing, birdwatching and photography.

COVID-19 Safety Adaption of Operations

This project kicked off with the COVID-19 pandemic in full swing, and Charah Solutions quickly stepped up to the challenge as safety of employees and communities remains the number one priority.

COVID-19-specific safety protocols and real-time communications were promptly implemented across the entire company and its employees, and with customers and their employees, to keep teams safe and projects moving forward. In addition to following Centers for Disease Control and Prevention (CDC) and other federal and state-level guidance, a dedicated Safety Response Team was immediately established which implemented company-wide COVID-19 internal reporting procedures for sites and the Department of Health and Safety. This includes daily COVID-19 updates across every level of the company while also prohibiting all non-essential travel. Across the company, social distancing measures and increased sanitization practices were instituted. This included a minimum one-month supply of disposable surgical fill masks at all job sites, increased hand sanitizing supplies and protocols and temperature-taking stations for all employees, and stocking all offices/trailers, heavy equipment and trucks with disinfectant wipes/spray and hand sanitizer. The company also provided hand sanitizer and masks to anyone who needed them at home. Increased social distancing measures included staggered shift start/end times and break times with additional break spaces as well as safety meetings being held outside of the site trailer. To date, there have been no COVID-19 positive cases at the B.C. Cobb site.

This project is a great example of Consumers' ongoing focus on communities and the environment. Leveraging an innovative, turnkey approach to risk transfer, beneficially reusing the ash material and returning the ponds to natural wetland areas will result in cost savings and reduced environmental risk for Consumers and its customers while protecting and enhancing the environment for the Muskegon Lake community.

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