Project:

Minnesota Municipal Power Agency

North American Wetland Engineering

LOCATION
Failbault, MN

PROJECT TYPE
Industrial Water Reuse

WASTE TYPE
Cooling Water Blowdown

COMPLETION DATE
Under Construction

SYSTEM SIZE
6 Acres

TREATMENT
Surface Flow Wetlands

NEED

The Minnesota Municipal Power Agency's (MMPA) Faribault Energy Park is an on-demand, natural gas energy production facility in south central Minnesota. The facility uses large quantities of water in its cooling towers. MMPA wanted to reuse this cooling water and collect stormwater runoff to reduce withdrawals from the Jordan Aquifer. The agency also wanted to create a natural park setting to provide an amenity in the community for visitors.

SOLUTION

NAWE partnered with civil engineers and landscape architects to create a working landscape. The resulting wetland park system will provide stormwater treatment, storage and blending with high salt content water from the cooling towers. A series of three surface flow wetlands are followed by a six million gallon storage basin where water is withdrawn for reuse in the cooling towers. Pumps continuously circulate water back to the beginning of the system to maintain a high water quality. The system is landscaped with trails, gazebos and renewable energy exhibits.

BENEFIT

The wetland park system will be beneficial to both the surrounding community and environment. The reuse of cooling tower blowdown in combination with stormwater collection will reduce draws on the Jordan Aquifer and limit the discharge of salty water into the adjacent ditch.

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