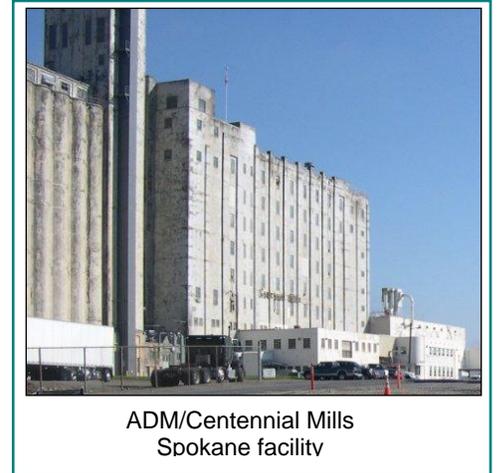


A Tale of the Swale

Getting turbid water off the streets

Introduction

An organization willing to step up and do the right thing always makes the job easier for Ted Hamlin, a stormwater specialist from the Department of Ecology's (Ecology) Spokane office. Archer Daniels Midland's (ADM) Spokane grain milling plant fits that bill perfectly. The facility, originally known as Centennial Mills, was built in 1939 as a state-of-the-art operation. In 1981, ADM purchased the plant. It is now one of only two operating flour mills in the state of Washington. The other is in Cheney, also owned and operated by ADM. The Spokane facility was a featured location in the 1993 movie "Benny and Joon," starring Johnny Depp.



ADM/Centennial Mills
Spokane facility

Problem

After 75 years of producing various types of flour for Northwest stores and bakeries the property, bordered by railroad tracks and the heavily trafficked Trent Avenue, had significant stormwater runoff issues. Turbid water was pooling on the sloping, unpaved lot after substantial rains or snow-and-ice melting events. The water would then flow down the street to a city of Spokane stormwater drain and was discharged directly to the Spokane River.

Project or Event Goals

During a site inspection in 2011, Hamlin discussed with local ADM staff the possibility of installing mitigatory swales. The swales could act as a stormwater management system by collecting and filtering the runoff, diverting it from entering the street drain and then the river. The goal was to manage and treat all stormwater on site. ADM agreed to fund, design and install such a system.



Before the swale project, turbid water
flowed into a city stormwater drain.

While ADM was preparing to go forward with this plan, the city of Spokane decided independently to cut the storm drain from the system and to install its own swale along a nearby street to catch the turbid stormwater. However, there was still the potential for runoff water to overflow this swale and go down the street to the next available storm drain.

ADM's proposed stormwater management plan was a more comprehensive project than what the city of Spokane had constructed. They hired the engineering firm James A. Sewell & Associates as a consultant to design a system that

would withstand a 25-year storm event. This would be the worst-case storm event expected in a 25-year period. Working together Ecology, ADM, and the consultant found that for a slight increase in cost, the system could be expanded to handle a 100-year storm event.



ADM agreed to the enhanced design and moved forward with it.

Milestones and Outcomes

By the fall of 2013, engineering plans, city permits, and funding were all in order. ADM hired a local landscaping company to construct five swales on their property, with a perimeter channel to collect and divert stormwater into the swales to prevent it from heading down the street into a storm drain.

Six months later, the new swale system is in place and functioning. Unfortunately, the grass seed planted in the fall to stabilize the swales was washed out before germination, and now ADM is reseeded these areas. If the facility can demonstrate that the swale system is effective in preventing offsite stormwater discharges over the next couple years, Ecology staff plan to allow them to opt out of their industrial stormwater general permit, since facilities with 100% on-site infiltration are exempt. They would be required to reapply for the exemption every five years.

Project highlights

“I wish everyone was so cooperative and proactive in their efforts,” Hamlin said. “This project helps ADM, the city of Spokane, the Spokane River, and the public.”

ADM’s future plans include seeking further city permitting and company funding to expand its operations at the Spokane flour mill, including bringing in soils to further stabilize the stormwater management system.

Partners

For their assistance and support of the project, Ecology would like to thank:

- **Kevin Payne**, ADM plant manager
- **Dean Hultman**, ADM safety and sanitation supervisor
- **Jackie Anderson**, ADM media relations
- **Tim McCrea**, Spokane Asphalt
- **James A. Sewell & Associates**, consulting engineers



One of the completed swales on the ADM property

Funding

The project funds, approximately \$180,000, were provided by Archer Daniels Midland Company.

For more information

For more information on this project, please contact:

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