

Flambeau Industrial Outlot Reclamation

Frequently Asked Questions and Answers

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Q. What is the Flambeau Industrial Outlot?

A. At the request of the local community, in 1998 Flambeau received approval from the Wisconsin Department of Natural Resources (DNR) to modify the mine reclamation permit to include retention of on-site buildings and a rail spur on 32 acres to provide for long-term economic benefit from future commercial uses by the local community. This area became known as the Industrial Outlot assigned under a long-term lease to the Ladysmith Community Industrial Development Corporation (“LCIDC”). The Industrial Outlot is fully occupied and generating taxes, income, jobs, and opportunities for the local communities. Tenants include the Wisconsin Department of Natural Resources (WDNR), Xcel Energy and the Copper Park Equestrian Trails/Flambeau Riders, Inc.

Stormwater from the Industrial Outlot is managed by Best Management Practices approved by the WDNR when the mine reclamation plan was ended.



Flambeau Industrial Outlot: Former Water Treatment Facilities now Occupied by WDNR & Xcel Energy generating important economic development for the community.



Recently constructed Equestrian Trailhead in foreground and Industrial Outlot facilities in background.

Q. What is Stream C?

- A. Stream C is an intermittent stream that flows only during and immediately after precipitation events; namely rainfall and snow melt. The intermittent stream originates in wetland areas east of State Highway 27 and flows across the southeastern tip of Flambeau property near the Industrial Outlot eventually draining into the Flambeau River. Due to its intermittent nature, the stream has poor aquatic habitat and is very limited in biota in all aspects including aquatic vegetation, macroinvertebrates and fish populations. Stormwater from the Flambeau Industrial Outlot flows into an engineered biofilter, designed to collect and passively treat stormwater runoff to improve water quality prior to flowing into Stream C.



Upper Intermittent Stream C channel near the Industrial Outlot without flow



Lower Steam C channel with minimal flow near the confluence with the Flambeau River

Q. How is stormwater managed at Flambeau?

- A.** Stormwater is managed at Flambeau through use of Best Management Practices. These are the same practices that are used by municipalities and industrial sites across the state to ensure good water quality. At Flambeau, all surface runoff is managed within separate and distinct drainage areas. The construction of wetlands and biofilters are used to treat stormwater runoff by retention, settling and biological mechanisms. One of the many functions and values of constructed wetlands and biofilters is natural water quality improvement.



8.5 Acre High Quality Wetland at Flambeau

Biofilters provide diverse habitat for fish, aquatic organisms, frogs, etc. as well as naturally filtering the water. Each wetland and/or biofilter at Flambeau is designed to handle stormwater runoff from the drainage area it serves. In addition to an 8.5 acre wetland, there are two biofilters on the site. A 1.7 acre biofilter manages drainage from the reclaimed mine site and a 0.9 acre biofilter manages the stormwater runoff and drainage from the Industrial Outlot.



0.9 Acre Industrial Outlot Biofilter at Flambeau

Both biofilters and the wetland provide improve water quality and provide an abundance of aquatic habitat and biodiversity to the area.



Biofilter at Flambeau supporting diverse wildlife habitats

These biofilters are managed in accordance with standards and practices widely used through out the state. Flambeau will continue to monitor and maintain the biofilters which will be minimal because of the success of revegetation efforts that have prevented erosion and the need for sediment controls. Both biofilters were established under the mine reclamation permit and a specific water management plan.



0.9 Acre Industrial Outlot Biofilter at Flambeau

Q. What is a biofilter and how does it differ from a wetland?

- A.** A biofilter is a man-made wetland constructed in such a way to effectively improve water quality by naturally filtering incoming waters just as natural wetlands do. Biofilters are designed and engineered to accommodate major storm events when runoff is greatest. At Flambeau, there are two biofilters and an 8.5 acre wetland. The wetland was constructed as part of Flambeau's reclamation plan. In addition to their use for stormwater management, the biofilters and wetland provide high quality wetlands supporting an abundance of aquatic organisms. The wetland and biofilters bring biodiversity to the reclaimed mine site and local area.

The biofilter that receives storm water runoff from the Industrial Outlot was specifically designed to manage runoff events from the 32 acre site. Since the completion of reclamation, monitoring of surface water at the site has indicated that this biofilter is working extremely well in improving water quality of storm water flowing from the Industrial Outlot area.



WDNR Official collecting water sample from Industrial Outlot Biofilter at Flambeau

Q. Why did Flambeau reclaim the West Rail Spur?

- A. In the fall of 2003/spring of 2004 the former west rail spur was reclaimed to eliminate small amounts of residual ore mixed within the ballast rock. To further improve storm water management at the Industrial Outlot, Flambeau proposed additional work which is planned to remove gravel from the unreclaimed parking lots that still contain small amounts of residual granules of copper ore from past mining activities. The parking lots will be paved to serve commercial occupants and direct runoff to a collection ditch flowing to the biofilter.



Reclaimed West Railroad Spur in foreground (Second year growth) in the Industrial Outlot at Flambeau

This work plan addressing these additional measures was initiated by Flambeau and submitted to the DNR for approval. The work plan is an action plan that will involve the combination of grading, removal of old granular road bed and parking area material, asphalt paving and replacement of the drainage channel to the biofilter. Stormwater management practices at the site will continue. Flambeau is committed to ongoing management of the site as part of our promise to protect the Flambeau River.

As noted above, the biofilter that treats runoff from the Industrial Outlot is functioning extremely well. The levels of copper in the water flowing out of the biofilter into Stream C are equal to or lower than background concentrations along State Highway 27. This is important information that has been submitted to the WDNR. Opponents of the Flambeau Mine have chosen to ignore this information in their press statements.

Is Flambeau violating its mine permit?

A. No, Flambeau is in full compliance with its mine permit. The Flambeau Mine has consistently been in compliance with all permits during construction, operation, reclamation and post-reclamation. There have been no negative environmental impacts at the site. The Flambeau River remains fully protected as required by the mine permit and Local Agreement.

Samples are taken from the Flambeau River both upstream and downstream from the reclaimed mine site.



Surface Water sampling sites along the Flambeau River

Q. Will the Flambeau River remain protected?

- A.** As promised by Kennecott, the Flambeau River has been and will remain fully protected. Monitoring data from the mine site shows that groundwater and surface water conditions at the site, and within the Flambeau River, are in line with predictions that were made when the project was permitted. Flambeau continually assesses groundwater and surface water data to verify that the Flambeau River is and will be protected. Flambeau will continue to monitor groundwater and surface water to ensure this promise is kept. Kennecott has also offered to preserve the river frontage along property it owns to prohibit future private development up to the immediate river bank.



Sampling macroinvertebrates within the Flambeau River

Flambeau will continue to ensure compliance through a long-term monitoring and maintenance program addressing best management practices for stormwater runoff from the Industrial Outlot.

Q. Will reclamation of the parking lot control runoff into the biofilter?

- A.** Kennecott will continue to monitor the performance of Best Management Practices to naturally filter runoff water from the Industrial Outlot through the biofilter. Water quality improvements from the removal of the rail ballast material have been measured and planned removal of the parking lot gravel should eliminate the only known contributors of copper to the storm water runoff from this area, other than the naturally occurring background concentrations and levels from the runoff along State Highway 27. The monitoring will determine if additional work is required. This approach is common practice throughout the state of Wisconsin.



Reclaimed West Rail Spur (Second Year Growth)



Reclaimed West Rail Spur (Second Year Growth)

Q. Mine opponents have claimed that there is stressed vegetation in the Industrial Outlot and on the reclaimed mine site. Is this a sign that there is contamination?

A. For the past four years Kennecott has conducted aerial color infrared photography of the reclaimed mine site, Industrial Outlot, and immediate surrounding area. The photographs are evaluated each year by ecological experts and the DNR to determine if there are any areas of stressed vegetation and what caused that stress. DNR's determination to date is that there has not been any vegetation stress that can be associated with past mining activities.



Vegetation in the Industrial Outlot

How does the Flambeau Mine compare to the proposed Eagle Mine?

- A. Other than both of the deposits having metallic minerals, the two mine designs are very different from each other. The Flambeau Mine was a surface open pit mine; while the proposed Eagle Mine will be an underground mine having less surface disturbance, reduced exposure of ore to the elements and small rock stockpiles. The common link for both of these projects is the need to recognize, manage and control the generation of Acid Rock Drainage (ARD). This was successfully accomplished at Flambeau having no permit violations. Based on this success, site specific plans have been developed for the proposed Eagle Mine for the total removal of all metal containing residual material; with all material being properly managed at the surface and any residual material being placed back underground as a cemented backfill material.



Flambeau Mine Site before mining.



Flambeau Mine Site during construction.



Flambeau Mine Site during mining.



Flambeau Mine Site after mining. (Note Industrial Outlot mid/upper left corner).