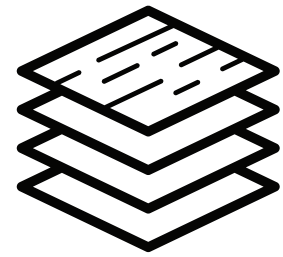


Sustainable Exhibit Design Practices

This document is a reference for the sustainable materials & processes that were used in OMSI's 2000sf *Creatividad silvestre / Wild Creativity* exhibition.



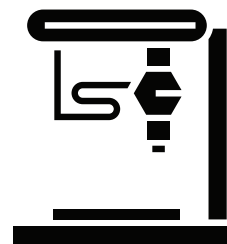
Local Formaldehyde-Free Plywood

Where possible FSC certified wood is used. *Wild Creativity* uses locally sourced PureBond® with formaldehyde-free, soy-based assembly technology. <https://www.columbiaforestproducts.com/product/purebond-hardwood-plywood/>



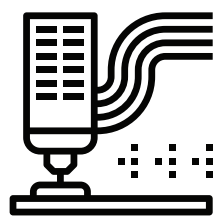
Water-based & Low VOC Finishes

Traveling exhibits require highly durable finishes. Oil-based finishes traditionally were used in high wear areas. OMSI exhibits use only low VOC and water-based finishes. OMSI's standard finish for exhibit components is three coats of Varathane water-based floor polyurethane.



Direct Print-to-Ply Graphics

Direct print-to-ply graphics use soy based inks & a low VOC clear-coat. The graphics are recyclable at the end of life. Marketcraft.net



Additive Manufacturing

Wild Creativity is the first exhibit from OMSI using 3D printed parts in final exhibits. Using additive manufacturing can cut down on the waste and tooling of traditional manufacturing.



High Density Polyethylene

While plastics are not ideal, the durability & ability to clean are very desirable for museum environments. HDPE is recyclable; and is a much better option than PVC and many other plastics.



Durable materials...?

As OMSI's exhibits often have a 8-10 year lifetime w/ 3-year refurbish cycle there is an acknowledgment of the sustainable aspects of longevity and low-maintenance of an exhibit. In some cases a less durable 'green' option requires a greater number of repairs. For traveling exhibits, this often requires a technician flying to the location – which has a large environmental impact.



Key Sustainable Strategies

- Reduce new material consumption
- Use local resources
- Reduce waste
- Reduce energy consumption
- Reduce products with toxic emissions
- Innovative/creative solutions to reduce environmental impacts

OMSI's museum-wide *Environmental and Climate Impact* statement helps guide OMSI's Sustainability Exhibit Design:

Environmental and Climate Impact



We advance practices and policies to reduce harmful emissions, and educate and support communities to succeed in sustainability/climate action planning. We endeavor to achieve net zero carbon emissions.

What Can We Improve On?



Improve material end-of-life

Scrap plastics sometimes go in the dumpster even though some are recyclable, because it's hard to recycle a small amount.



Substitute for recyclable materials

As an example, in the theatre world there's a shift from woodwork to metalwork, due to end of life recycle ability.



Explore sheet good efficiency

Explore use of intelligent joins, to use fewer sheets of plywood when CNC cutting.

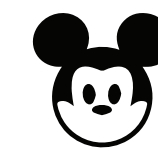


Exhibit end-of-life

Not having I.P. assets associated with exhibit helps to sell exhibits after touring finishes, and gives the exhibit more longevity rather than being retired/trashed.



Use more post-consumer/post-industrial materials.

- Explore post-consumer HDPE.
- Metro paint primer is 100% recycled & could be worth looking at further.