



Sustainable Trail Design, Construction, Training & Consulting

Christine Byl & Gabe Travis, PO Box 618, Healy, AK 99743 (907)-952-3517 or (907) 347-3419
interior.trails@gmail.com

The 9 Elements of Sustainable Trails

What is a Sustainable Trail?

A sustainable trail is one that conforms to and interprets its terrain & environment, is capable of handling its intended use without serious degradation, and meets the needs of its users with regular but minimal maintenance. Strive for all relevant elements in new construction. Use the list as a template for identifying problems and implementing improvements on existing trails.

1. Planned & Designed: The planning process is guided by agency design documents & specs; local knowledge, stakeholder input & formal public comment processes; EIS, NEPA, Section 106 and other compliance processes; map work, drone & aerial study; field reconnaissance; and professional alignment design & layout by field experts.

2. Contour Curvilinear Alignment: Trail alignments are based on sidehill construction following topography. Contour alignments enable full bench construction, which promotes sheet flow drainage. Avoid fall line tread. Conforms to, not imposed on terrain.

3. Controlled Grade: Grade choices are designed and deliberate, not just responding to terrain as encountered. Follows the “half-rule” regarding sideslope (trail grade not more than half the steepness of the sideslope it crosses. In Alaska soils, “one-third rule” is more realistic.) Vary grades to create interest and promote drainage.

4. Integrated Water Control: Drainage is designed and constructed into initial alignment (via grade reversals and sheet flow). Reduces dependence on drainage structures, which can fail. Post-construction drainage incorporates rolling grade dips, topo-mods, lateral drains, open or closed culverts. All tread either outsloped (toward drainage point) or crowned (on flat ground).

5. Full Bench Construction: 100% of tread surface is excavated from native undisturbed ground. Avoid $\frac{3}{4}$ to $\frac{1}{2}$ bench (tread on cut & fill or retained sections.) Disperse cast material.

6. Durable Tread Surface: When bench cut isn't possible or soils are fragile, use trail hardening methods: on-site material, imported material, structures, geo-textiles, etc. Implement simplest solution first. Always begin with drainage structures before tread structures.

7. Regular Maintenance: Even the most sustainable trail needs maintenance. This should be accounted for in trail planning documents and land owner funding. New trail requires a long-term commitment to be sustainable.

8. Integrates Well into the Environment: Trail does not destroy the feel, aesthetics or ecological integrity of the environment. It enhances natural features & draws users into their surroundings. Trail is an interpreter of landscape.

9. Satisfies the Intended User: If a user's needs are not met, or a community's priorities are not taken into account, they won't use the trail or are more likely to use it in a way that degrades it. A good trail makes a user happy!

(Based on IMBA's Sustainable Elements with modifications by Interior Trails LLC)