

To: Minnesota House of Representatives, Transportation Finance & Policy,
Chair Rep. Frank Hornstein

From: Bee Safe MPLS, 4549 41st Ave S, Minneapolis MN 55406, buzz@beesafempls.org

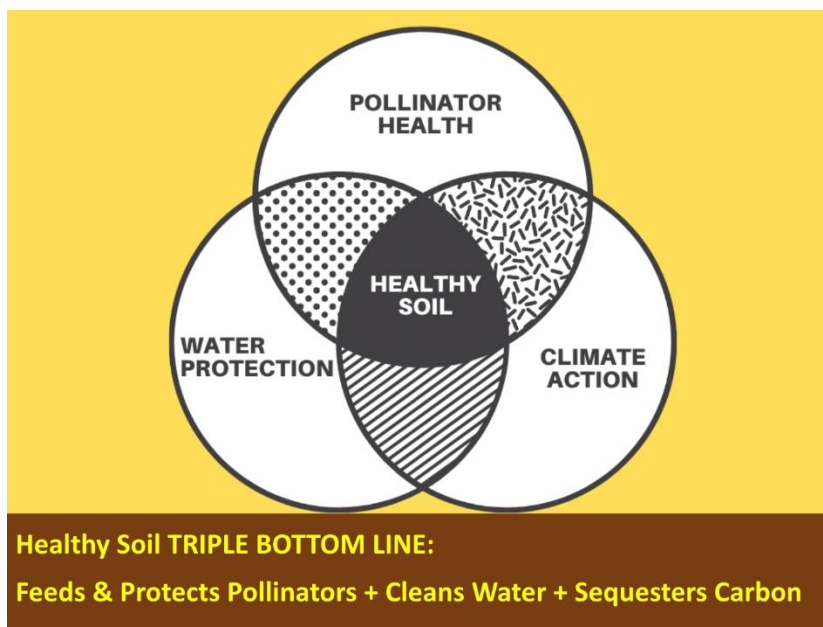
Date: April 5, 2022

RE: Support for HF4313 Highways for Habitat in Omnibus HF1683

Living roadside habitat programs across the United States demonstrate the vital relationship between healthy soil and pollinator health, water protection & climate action. With less than 1% of native MN prairie habitat remaining, anywhere and everywhere that deep living roots and plant communities are introduced to partner with soil microbes for sequestering carbon, filtering water, preventing erosion and supporting bird and pollinator habitat is critical to short- and long-term environmental sustainability and viability of human health.

Thank you for your support.

Chesney Engquist
Bee Safe MPLS



Soil Health = Pollinator Health

Pollinator lawns grow deep roots and healthy soil while supporting a wide array of native insects.

Soil Health = Clean Water

Healthy soil cools, cleans, filters, and stores rainwater.

The Rusty Patch Bumblebee, a ground nesting bee, has been placed on the endangered species list

80% of all MN bees nest in the ground

The entire landscape was (and can be again) covered in healthy soil, acting as a habitat for pollinators

Water accessibility and water quality are dependent on healthy landscapes.

Each 1 percent increase in soil organic matter helps soil hold 20,000 gallons more water per acre.

The entire landscape was (and can be again) a rain garden, infiltrating water.

Flowers within bee lawns have been shown to support at least 66 species of bees

Bee larvae consume microbes such as bacteria and fungi that grow in pollen. Plants growing in healthy soil have more bacteria and fungi in their pollen to feed bee larvae.

100% of healthy soil particles are surrounded by a thin layer of freshwater

Fungi and bacteria work with plants to create **soil structure** that holds water.

Soil Health = Climate Health

Soil is the largest, most effective, lowest cost, and most co-benefit producing carbon sinking technology available.

40,000,000,000 tons of CO₂ are pumped into the atmosphere every year

¼ of all greenhouse gas emissions come from **conversion of healthy forest soils** into ag / crop land, roads, cities, and lawns.

The entire landscape was (and can be again) covered in healthy soil, acting as a carbon sink.

Enhanced carbon storage in soils could reduce atmospheric carbon by **50-80%**

The Earth's soils contain 2,300 gigatons of carbon. That's more than **three times the amount of carbon in the atmosphere** and four times the amount stored in all living plants and animals.



Pollinator Pocket Garden: For small and medium spaces, heavy on blooming plants.



Bee Lawn: Walkable, mowable, bee friendly. Reduces maintenance. Feeds over 50 bee species.



Food Forest: Native food producing plants for wildlife and people, trees, shrubs, perennials. Strong carbon sequestration.



Prairie Meadow: Native habitat, excellent for large scale efforts.

Landscapes That Grow Healthy Soil