

# FY 18 LVP Minescape Grant Applications - \$131,600 Available

1. City of Cohasset (Tioga Mt. Bike Rec. Area) - \$25,000
2. City of Chisholm (Red Head Mountain Bike Park) -- \$28,900 for planning and design
3. Iron Range Tourism Bureau (Bridge View Park) - \$14,500

# Eveleth - United Taconite - LVP Grant Project - Completed 2017

- ▶ Spruce Stockpile - Reshaping and vegetation planting
- ▶ Truck Shop Embankment - Vegetation planting
- ▶ Grant award: \$98,000
- ▶ Project cost: \$158,285

# FY 17 Virginia/United Taconite Grant Award

- ▶ Two landscape berms to mitigate mine operations from Midway and 2<sup>nd</sup> Ave. neighborhoods
- ▶ Salvage wetland top soil for top-dressing the berms
- ▶ Includes replanting of trees located on to be mined area
- ▶ Document successes from nearby plantings on stockpile 1406 from 2009 LVP grant to create a blue-print of best practices
- ▶ Grant Amount: \$112,250
- ▶ Total Project: \$353,725
- ▶ Project Contributors: United Taconite LLC, City of Virginia, RGGGS, Short Elliott Hendrickson Inc. (SHE), Prairie Restorations, Inc. (PRI), MN DNR LAM




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Project: U-TAC P142239  
 P141 Date: 01/16/2017  
 Date: 01/16/2017  
 Prepared by: [Name]  
 Checked by: [Name]  
 Reviewed by: [Name]

**Barrier Berm Innovation Grant Proposal**  
 United Taconite Thunderbird Mine  
 St. Louis County, Minnesota

**Figure 1**

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# Scram Mining Tails LVP Minescapes Grant - Mining Engineering Publication

## Reclamation of iron ore tailings; Innovations in establishing native vegetation

by Allyz Kramer, Natalie White and Joel Asp

Minnesota has robust reclamation standards and has proven results in the taconite mining industry. Reclamation of overburden spoils, lean ore spoils and fine tailings from taconite production has generally been successful on the Iron Range, using a low input standard reclamation practice. Success at reestablishing vegetation on these landscapes is likely due to fairly favorable chemical and physical properties (e.g., few limitations due to acidic generating materials, metal toxicities and water and nutrient holding capacities). However, coarse tailings reclamation has proven more difficult, presumably due to lower nutrients and challenges with moisture holding capacities. Research efforts conducted since 1990 have struggled to develop a reclamation strategy for coarse tailings that meets the Minnesota Mine/land Reclamation Rules, Chapter 6130.

However, new breakthroughs in scram mining technologies are producing fine and coarse tailings that have not been encountered nor reclaimed in northern Minnesota. Scram mining in Minnesota is defined as those mining operations that produce natural iron ore concentrates.

Innovative research is underway to investigate and determine successful reclamation strategies to reclaim scram mining tailings from these scram mining operations. The research program is conducted through collaboration with SEH, Prairie Restorations, Inc. (PRI) and Mining Resources, LLC with

Allyz Kramer, SME member and Minnesota section chair, Natalie White and Joel Asp are biologist and ecologist and restoration ecologist, respectively, Short Elliott Hendrickson Inc SEH, Duluth, MN, email akramer@sehinc.com.



funding support from the Iron Range Resources and Rehabilitation Board Laurentian Vision Partnership minescape grant program.

The research program was divided into three phases:

**Phase I.** Bench-scale testing to identify successful treatments to reclaim and restore scram tailings through evaluating surface soils amendments, viable seed mixes and plant germination, growth and densities. Phase I was completed in early 2015.

**Phase II.** Field-scale pilot trial to test larger scale effectiveness of the treatments defined

# LVP Strategic Action Plan for 2018-2023

- ▶ Last updated in 2011 - [lvpmn.org](http://lvpmn.org)
- ▶ Working group consists of: Julie Marinucci, John Fedo, Doug Learmont, Curt Antallia, Jim Swearingen, Chris Carlson, Pete Kero, Linda Johnson and Jim Plummer
- ▶ Current plan is being updated for 2018-2023
- ▶ Completion date: prior to next LVP meeting
- ▶ Comments, ideas, priorities....