

**Prototype Restoration of Mine Covers  
for the BA&P Walking Trail**

**A Grant request to the BNRDC**

**December 1, 2014**

**For an amount of \$ 100,000.00**

**Submitted by:  
Landscapes of Montana  
Norman DeNeal  
2001 Porter Avenue  
Butte, Montana 59701-6243  
(406) 723-6656  
normanjdeneal@gmail.com**

# Prototype Restoration of Mine Waste Cover for the BA&P Walking Trail

Submitted by:  
Landscapes of Montana  
Norman DeNeal  
2001 Porter Avenue  
Butte, Montana 59701-6243  
(406) 723-6656  
normanjdeneal@gmail.com

**The idea:** A prototypical native restoration of a mine cover to illustrate what a mine cover could naturally look like 50-100 years from now.

**Location:** The preferred site is the Clear Grit Property, a 2.65 acre property immediately north of the present aspen grove on the Cellar Dirt Dump site (see map on page 4). It was reclaimed twice and has a particularly good soil cap. Presently it is zoned as R-2 (family homes as large as a duplex) [see map on page 3]. That zoning would have to be changed to "Open Space Developed or Undeveloped". A rezoning process would take about 4-5 months and would need confirmation by the BSB Council of Commissioners. There is likely less than a 50% chance that the citizen rezoning committee would agree to the rezoning. Thus an alternative site is suggested here. It is a corridor walking trail enhancement across the street (east) of the Clear Grit Property (see map on page 6). It too is about 2.65 acres.

**Project type:** Waste cap second generation of plant growth improvement, soil retention improvement, storm water control, and possible later recreation, and historic interpretation. This would be an 8 year project.

**Project benefits:** (More details on page 4)

1. Restoration of the native landscape that existed before mining in Butte
2. A refuge for browsing animals that move through the corridor from the Pilot of Butte Mine through to Montana Resources (presently there are deer, moose and fox that travel this corridor, most poached, though a few legally hunted)
3. This is a prototype of how other mines covers could be further vegetated at less than 10% of the cost of other planting schemes on the Butte Mining Hill.
4. When established the landscape would provide better water retention and less runoff than the present (though largely successful) grass cover.
5. Ensured success in that plantings would be done over a 3 year period. One third of the area would be left untouched for pathways. The experience of restoration at the Cellar Dirt Dump shows a guaranteed success on this site.
6. This location could possibly later be used to interpret the ethnic legacy of Butte's Corktown, an Irish ethnic community which was in this exact area.
7. Though this is proposed as an 8 year project with the use of city water, at the end of the 8 years the additional water will not be needed. The landscape would be self sustaining as is the native landscape north of Walkerville

**Matching money:** At present there is no matching funds for this project.

**Estimated cost:** \$ 100,000

## PROJECT NARRATIVE

Again, this site is the most visible reclamation project in Butte. And though it was earlier planted as a greenway, that effort did not have much visible impact. There is no reasonable anticipation that a true future greenway would ever result on this grassed land without the appropriation of this grant.

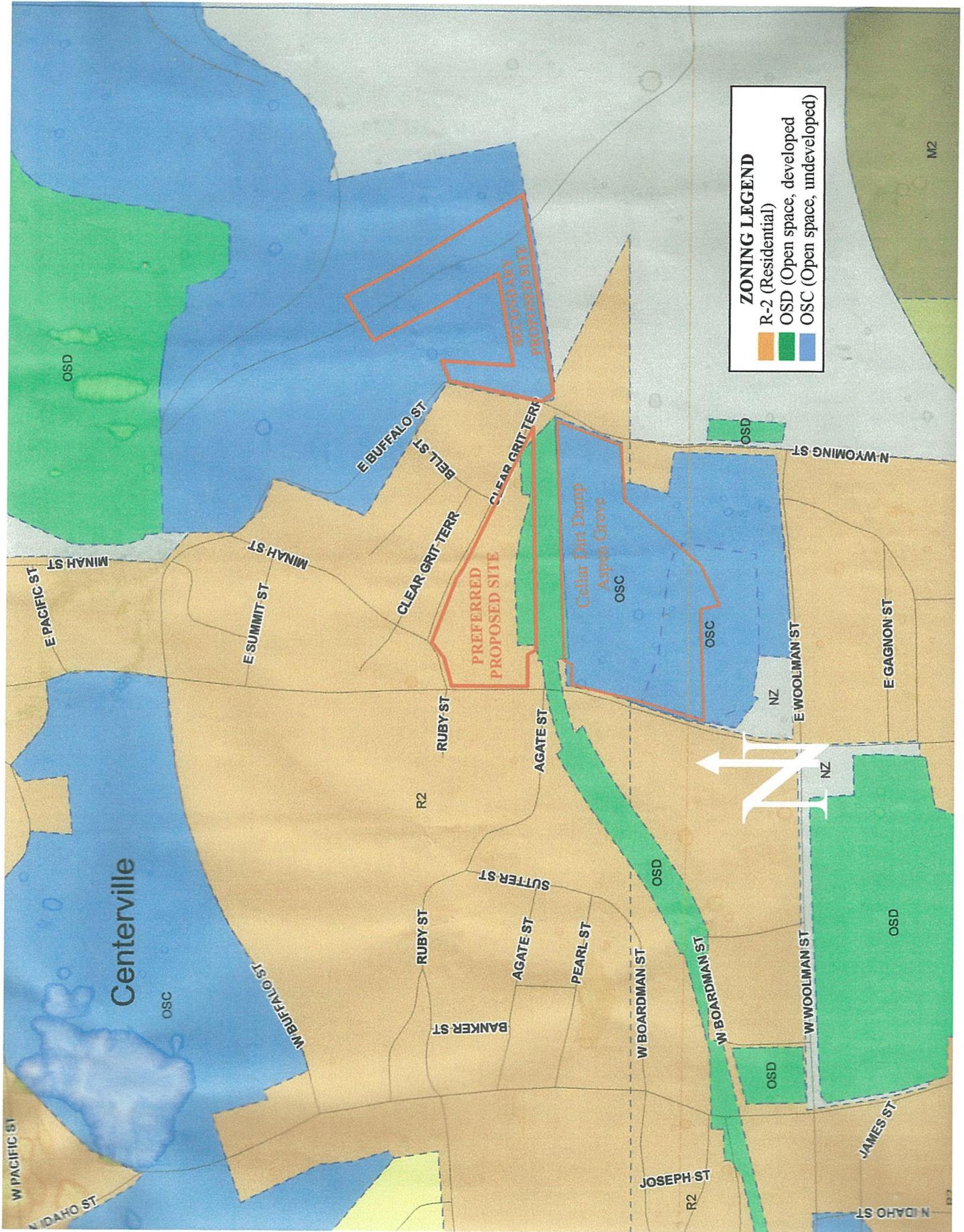
Planted would only be native trees (2,000 aspen), native shrubs (Wood's rose, currants, and rabbit rubber brush) along with ornamental native flowering plants (lupin, blue flax, sunflowers, Rocky Mountain bee plants, purple coneflowers, fireweed, etc.). In the planting areas the present grasses would be eliminated to prevent competition to the newly planted trees, shrubs, and flowers. Once the newly planted material is firmly established, the grasses would be allowed to grow back. City water would be provided through a poly pipe dispersal system. The irrigation system would be removed at the end of this 8 year contract period. The area would be protected from deer predation for its first 5 years with a deer fence. Aspen would only cover 2/3rds of the site leaving fields of grass for broad pathways. This is similar to the way any native landscape would look like after a recovery from a natural disaster such as a forest fire (or in this case mine reclamation). What is proposed here is basically how the Butte reclaimed landscape would look if Nature were to reclaim the land in 50-100 years. The project is very similar to the very successful reclamation effort at the Cellar Dirt Dump begun in 2012.

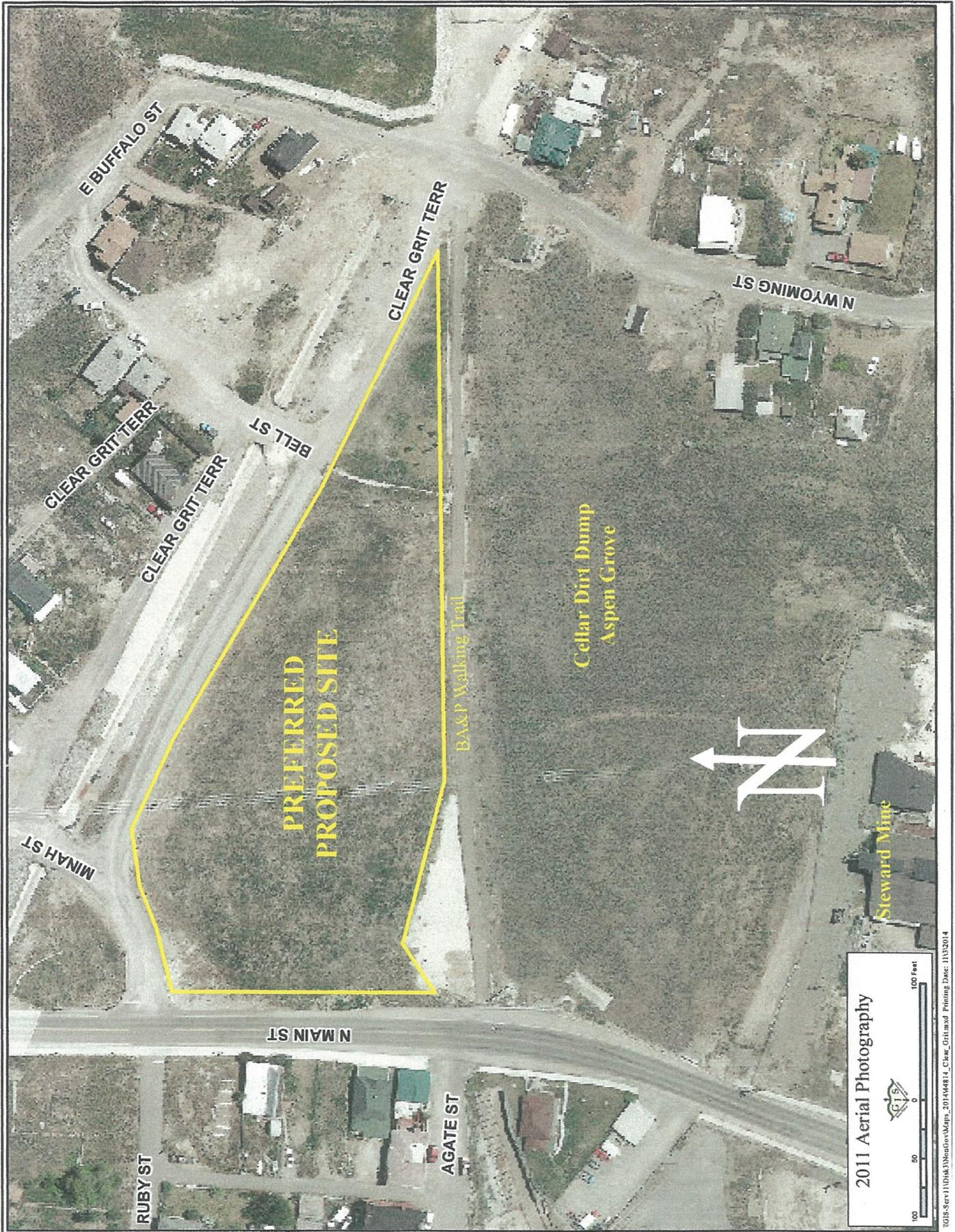
The area is large enough (2.65 acres) to be an actual self-sustaining ecosystem unlike smaller trees pods and native forb islands presently planted on the Butte Mining Hill that cannot possibly be a self contained ecosystem because of their small size.

## BUDGET

### BA&P WALKING TRAIL REVEGITATION PROJECT 2015-2022

Category	Cost
1 Topsoil	0
2 Soil prep and amendments	0
3 Tree stock and plant material	5,200
4 Temporary irrigation system	14,400
5 Supplies, materials & rental equipment	4,000
6 Labor	35,000
7 Deer fence	5,400
8 Evaluation	2500
9 Irrigation water	33,500
<b>TOTAL</b>	<b>100,000</b>



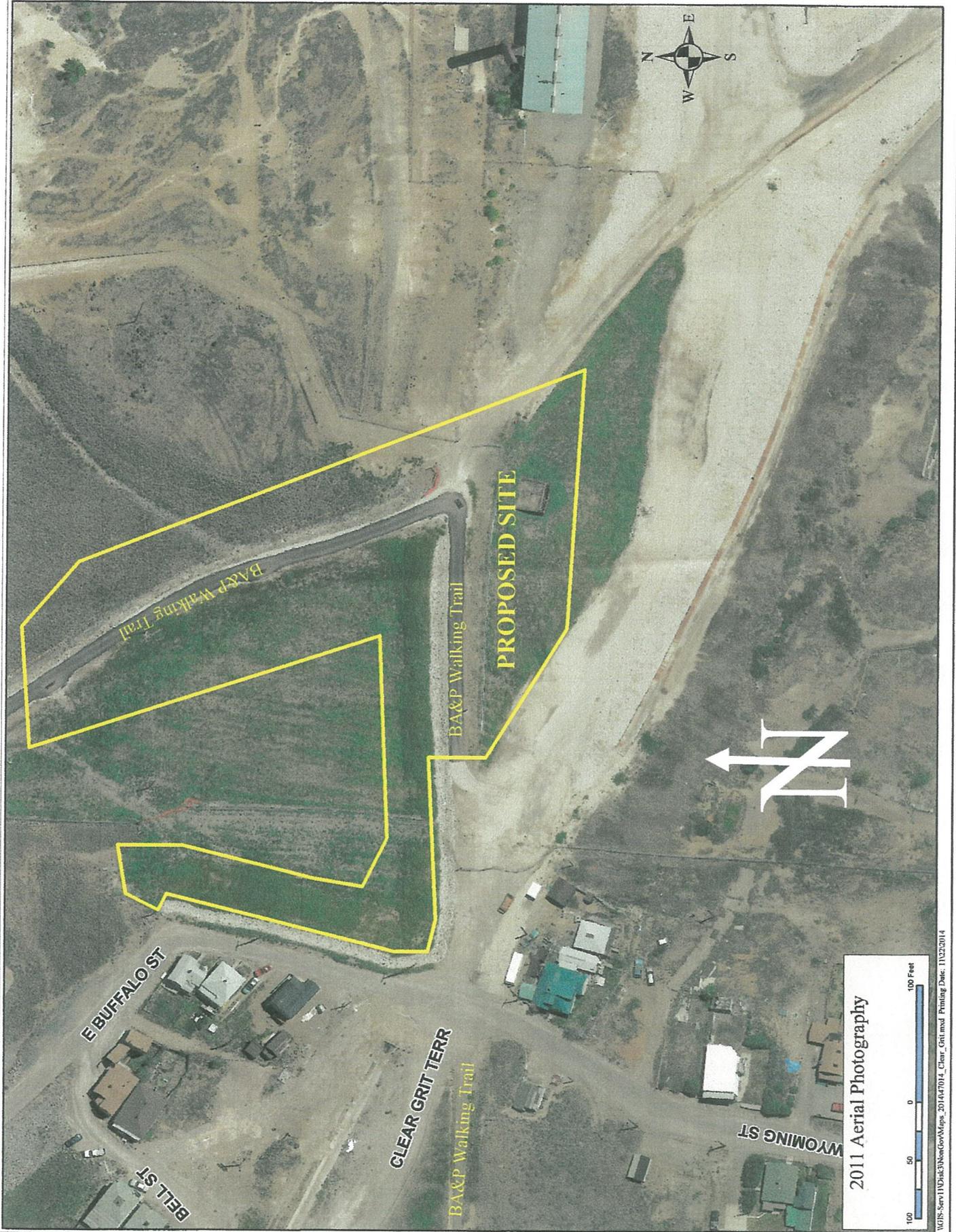


2011 Aerial Photography



100 50 0 100 Feet

\\GIS-Srv1\10\Disk1\Work\Maps\_2014\44814\_Clear\_Grit.mxd Printing Date: 11/3/2014



2011 Aerial Photography

100 50 0 100 Feet

AGIS-Server\UDak3\NewGov\Maps\_2014\47014\_Clear\_Grit.mxd Printing Date: 11/22/2014