

# Butte Area One BSB Tree Planting Site Improvement Plan

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**Site Name:** Caledonia Triangle and Scown Field Area

**Date:** March 17, 2015

**Site Location/Size:**

Caledonia Street between Alabama and Crystal.

**BRES Site #/Name:**

BRES Site 172/Caledonia Triangle and Scown Field Area

**BSB Zoning Classification(s) at Site:**

The site is currently zoned Two Family Residential. Caledonia Triangle is a lot of irregular shape and small area and therefore would not allow for the residential development characteristic of this neighborhood's zoning. Therefore, an investment in trees and shrubs at this site would not be compromised by development in the future.

**Vegetative Deficiencies/Problems at this Site:**

The site was evaluated in 2014 revealing an adjusted live percent of just 38% live cover vegetation and approximately 5% of undesirable species. The site currently has infrequent presence of Spotted Knapweed, Dalmation Toadflax, Cheatgrass, and other weeds on site.

Vegetation has caused both excess litter and plant pedestalling and sees rock movement as well as the presence of rills that are augmenting flow patterns of stormwater through the site that will lead to extensive soil erosion that may compromise the protective vegetated cap, if not corrected. The site has less vegetation than desired, more weeds, and increased erosion due to substandard vegetation. The site is planned to be revegetated in 2015, but native plants would significantly help this particular site by creating root zones that will keep soils in place and minimize erosion.

**Proposed Efforts to Improve the Site:**

In response to requests for better erosion prevention measures, BSB proposes the installation of one large tree pod and multiple smaller shrub pods. In addition to smaller tree pods, native plants and grasses will prevent soil erosion.

*Scope of Work:*

The project scope of work is as follows:

- A. Prepare one large and several small Tree Pod Root Zones
  - a. Excavate tree pod root zones and dispose of mine waste contamination at the Mine Waste Repository.

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Site Improvement Plan**

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- b. Line bottom of root zones with 2 inches of limerock per the EPA's Butte Hill Revegetation Specifications.
- c. Backfill root zones with topsoil (blended) and amended with organic compost.
- B. Procure Vegetation
  - a. Caledonia Triangle & Scown Field
    - i. 5 B&B Aspen
    - ii. 6 Containerized Aspen
    - iii. 3 Douglas Fir
    - iv. 2 Lodge Pole Pine
    - v. 10 Mountain Ash
    - vi. 10 Choke Cherry shrub or similar
    - vii. 10 Potentilla
    - viii. 10 Woods Rose
  - C. Install irrigation water taps and drip-line irrigation systems to drip irrigate the portion of Caledonia Street 'Caledonia Triangle' tree pods at all four pods.
  - D. Plant and anchor trees, where necessary.

**Efforts to Coordinate with other Entities:**

As evidenced in our past projects, collaboration is essential to project success. Residents in areas of plantings have been very happy with the tree planting success. To that end, residents will continue to be the eyes and ears monitoring the security of the tree pods, and the final execution of the project will rely on Butte-Silver Bow Planning, Parks and Public Works departments, the Montana State University Extension Agency, and representatives from the Montana Tech Native Plant Diversity Project.

**Materials and Labor Estimate and Estimated Cost:**

See Page 4.

**Proposed Start Date:** Spring 2015

**Proposed Evaluation Date:** Spring 2017

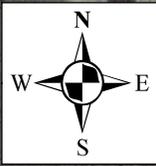
**Submitted by:** Julia Crain, Butte-Silver Bow Special Projects Planner

**Butte Area One  
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BNRC Butte Hill Tree Program  
Scown Field Area Tree Planting Budget Estimate  
Tree & Shrub Planting  
Irrigation  
3/1/2015

Description	Volume	Number	Cost	Total	PRP Share	BNRC Share
<b>Supplies &amp; Materials</b>						
<b>Vegetation</b>						
B&B Aspen	5		172.00	\$860.00		
Containerized Aspen	6		59.00	\$354.00		
Lodge Pole Pine	2		170.00	\$340.00		
B&B Douglas Fir	3		200.00	\$600.00		
Other Species						
B&B Mountain Ash	10		100.00	\$1,000.00		
B&B Choke Cherries	10		100.00	\$1,000.00		
Woods Rose	10		100.00	\$1,000.00		
Potentilla	10		100.00	\$1,000.00		
	<b>total</b>			<b>\$6,154.00</b>	0.00	6,154.00
<b>Soils</b>						
Limerock	10		30.00	\$300.00		
Pod Excavation & Disposal	100		5.00	\$500.00		
Tree Pods	100		16.00	\$1,600.00		
	<b>total</b>			<b>\$2,400.00</b>	800.00	1,600.00
<b>Watering System</b>						
Water Tap Installation	1		1000.00	\$1,000.00		
Drip Line Installation	1		1000.00	\$1,000.00		
	<b>total</b>			<b>\$2,000.00</b>	1,000.00	1,000.00
<b>Labor</b>						
Tree Planting & Anchoring (100% of Plant Cost)				\$6,154.00		
	<b>total</b>			<b>\$6,154.00</b>		6,154.00
<b>Project Total</b>				<b>\$16,708.00</b>	<b>1,800.00</b>	<b>14,908.00</b>

# Caledonia Triangle Tree Planting 2015



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# Butte Area One BSB Tree Planting Site Improvement Plan

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**Site Name:** Clark Mill Tailings (Copper Mountain Park)

**Date:** 17 March 2015

**Site Location/Size:**

The site location is a large park of several acres. Approximately 5 pods will be placed within the property adjacent to the park, and each will be approximately 400 square feet.

**BRES Site #/Name:**

BRES Site 155/Clark Mill Tailings (Copper Mountain Park)

**BSB Zoning Classification(s) at Site:**

The site is Zoned Open Space – Developable.

**Vegetative Deficiencies/Problems at this Site:**

The Copper Mountain Park area (BRES Site No. 155 - Clark Mill Tailings) is a destination for many visitors to Butte, particularly as sports activities such as baseball, football, softball are moved to the site. The area has substantial observer seating, and the area is prone to extremely high winds and unmitigated summer sun resulting in a cold, uncomfortable experience for those attending games in the spring and heat in the summer.

Recently, Butte-Silver Bow has installed a golf course around the outer perimeter of the fields. It was also recently announced that Copper Mountain will be the location for Butte's new Legion Baseball Field. As additional investments are made throughout this recreation complex, a greater share of visitors are expected. Regular use of park facilities will require both wind buffer, shade from summer sun, and adequate institutional control to minimize erosion on the site from use. To temper the unpleasantness of wind and sun, we propose planting both deciduous and conifer species to provide a wind-break and shade from the sun. The trees and shrubs will contribute to vegetative cap longevity and minimize migration of sediments from the site to Grove Creek and onward toward Blacktail and Silver Bow Creeks.

**Proposed Efforts to Improve the Site:**

In response to requests for better soil erosion prevention measures, BSB proposes the installation of tree pods and native plant dispersal islands within Copper Mountain recreation area.

During 2015, BSB proposes to plant trees and shrubs in the outer perimeter of the park facility, which is currently vegetated with the EPA Approved 1997 Butte Hill Seed Mix. These grasses are the taller wheat grasses not those grasses used for athletic uses. The outer perimeter is the location of the new BSB golf course. The utility of this course will be enhanced by the addition of natural components such as trees and shrubs. During 2016, BSB proposes to

## **Butte Area One BSB Tree Planting Site Improvement Plan**

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plant similar trees and shrubs within the athletic field areas of the facility including the new Legion Baseball Field.

The plantings will retain stormwater run-off, minimizing loading to Blacktail and Silver Bow Creeks and the presence of the trees and plants will anchor sediments in the area. The project will create root zones for the trees (AKA Tree Pods) and support several of native trees including Douglas Fir and Lodge pole Pines, and Quaky Aspen.

Scope of Work:

The project scope of work is as follows:

- A. Prepare five 400 square foot Tree Pod Root Zones
  - a. Excavate tree pod root zones and dispose of mine waste contamination at the Mine Waste Repository.
  - b. Install layer of geotextile fabric per site As-Built descriptions.
  - c. Line bottom of root zones with 2 inches of limerock per the EPA's Butte Hill Revegetation Specifications.
  - d. Backfill root zones with topsoil (blended) and amended with organic compost.
- B. Procure Vegetation
  - a. 15 B&B Aspen
  - b. 20 Containerized Aspen
  - c. 20 Douglas Fir
  - d. 15 Lodge Pole Pine
  - e. 12 Mountain Ash
  - f. 50 Choke Cherry shrub or similar
  - g. 50 Potentilla shrubs or similar.
- C. Install irrigation water taps and drip-line irrigation systems to drip irrigate the tree pods at all four pods.
- D. Plant and anchor trees, where necessary.

### **Efforts to Coordinate with other Entities:**

As evidenced in our past projects, collaboration is essential to project success. Residents in areas of plantings have been very happy with the tree planting success. To that end, residents will continue to be the eyes and ears monitoring the security of the tree pods, and the final execution of the project will rely on Butte-Silver Bow Planning, Parks and Public Works departments, the Montana State University Extension Agency, and representatives from the Montana Tech Native Plant Diversity Project.

### **Materials and Labor Estimate and Estimated Cost:**

See Page 4.

**Proposed Start Date:** Spring 2015

**Proposed Evaluation Date:** Spring 2017

**Submitted by:** Julia Crain, Butte-Silver Bow Special Projects Planner

**Butte Area One  
BSB Tree Planting  
Site Improvement Plan**

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BNRC Butte Hill Tree Program  
Copper Mountain Tree Planting Budget Estimate  
Tree & Shrub Planting  
Irrigation  
3/1/2015

Description	Volume Number	Cost	Total	PRP Share	BNRC Share
<b>Supplies &amp; Materials</b>					
<b>Vegetation</b>					
B&B Aspen	15	172.00	\$2,580.00		
Containerized Aspen	20	59.00	\$1,180.00		
Lodge Pole Pine	15	170.00	\$2,550.00		
B&B Douglas Fir	20	200.00	\$4,000.00		
Other Species					
B&B Mountain Ash	12	100.00	\$1,200.00		
B&B Choke Cherries	50	100.00	\$5,000.00		
Potentillas	50	50.00	\$2,500.00		
	<b>total</b>		<b>\$19,010.00</b>		19,010.00
<b>Soils</b>					
Limerock	30 cyds	30.00	\$900.00		
Pod Excavation & Disposal	300 cyds	5.00	\$1,500.00		
Tree Pods	300 cyds	16.00	\$4,800.00		
	<b>total</b>		<b>\$7,200.00</b>	2,400.00	4,800.00
<b>Watering System</b>					
Water Tap Installation	5	1000.00	\$5,000.00		
Drip Line Installation	5	1000.00	\$5,000.00		
	<b>total</b>		<b>\$10,000.00</b>	5,000.00	5,000.00
<b>Labor</b>					
Tree Planting & Anchoring (100% of Plant Cost)			\$19,010.00		
	<b>total</b>		<b>\$19,010.00</b>		19,010.00
<b>Project Total</b>			<b>\$55,220.00</b>	<b>7,400.00</b>	<b>47,820.00</b>

# Copper Mountain Park Tree Planting



# Butte Area One BSB Tree Planting Site Improvement Plan

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**Site Name:** Missoula Ball Fields

**Date:** March 18, 2015

**Site Location/Size:**

Missoula Ball Fields 3-5 pods of approximately 200 square feet each and several smaller native plant or shrub-species plantings.

**BRES Site #/Name:**

BRES Site Numbers 159 & 160/North West Syndicate Pit and North East Syndicate Pit Dump

**BSB Zoning Classification(s) at Site:**

The site is Zoned Open Space – Developable and Conservation.

**Vegetative Deficiencies/Problems at this Site:**

The area has rather hearty vegetative cover and the most recent evaluation of the protective cap at this location denotes the site has 50% live cover at the site. The site is also not showing substantial erosion issues at this time. However, the site does show evidence of exposed waste, land slumps, barren areas and gullies.

The site is seeing exposed waste in some areas of the site, particularly near the parking lots and informal driving paths created throughout the park complex. This is causing destruction of vegetation and subsequently a gully which could lead to larger soil erosion issues. Because this site has substantial stormwater infrastructure, particularly in Missoula Gulch, it is imperative the sediments on site are maintained.

On the eastern edge of the site, near the concession and bathroom facilities, a retaining wall was placed and is seeing significant stormwater runoff and sediment entry to the recreation complex. In an effort to minimize sediment erosion and subsequent sediment deposits to the stormwater infrastructure, we believe plantings are necessary.

**Proposed Efforts to Improve the Site:**

In response to requests for better erosion prevention measures, BSB proposes the installation of tree pods and native plant dispersal islands at two locations in the site.

Boulders have been used to deter motorized access throughout the recreational complex, but trees and shrubs will act as natural barriers as well as a stormwater runoff and soil erosion control measure. The pods will be strategically placed in areas with evidence of substantial soil erosion.

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Vegetation within the complex will help retain stormwater run off and provide ample root zones to anchor the sediments in the area. The project will create root zones for the trees (AKA Tree Pods), fill those zones with clean fill dirt and will proceed with the planting of several species of trees including Douglas Fir and Lodge pole Pines, and Quaky Aspen.

### *Scope of Work:*

The project scope of work is as follows:

- A. Prepare 4 Tree Pod Root Zones
  - a. Excavate tree pod root zones and dispose of mine waste contamination at the Mine Waste Repository.
  - b. Line bottom of root zones with 2 inches of limerock per the EPA's Butte Hill Revegetation Specifications.
  - c. Backfill root zones with topsoil (blended) and amended with organic compost.
- B. Procure Vegetation
  - a. Missoula Ball Field Pods
    - i. 10 B&B Aspen
    - ii. 7 Containerized Aspen
    - iii. 3 Douglas Fir
    - iv. 2 Lodge pole Pine
    - v. 10 Mountain Ash
    - vi. 10 Choke Cherry shrub or similar
    - vii. 10 Woods Rose
    - viii. 10 Potentilla
- C. Install irrigation water taps and drip-line irrigation systems to drip irrigate the tree pods at all four pods.
- D. Plant and anchor trees, where necessary.

### **Efforts to Coordinate with other Entities:**

As evidenced in our past projects, collaboration is essential to project success. Residents in areas of plantings have been very happy with the tree planting success. To that end, residents will continue to be the eyes and ears monitoring the security of the tree pods, and the final execution of the project will rely on Butte-Silver Bow Planning, Parks and Public Works departments, the Montana State University Extension Agency, and representatives from the Montana Tech Native Plant Diversity Project.

### **Materials and Labor Estimate and Estimated Cost:**

See Page 4.

**Proposed Start Date:** Spring 2015

**Proposed Evaluation Date:** Spring 2016

**Butte Area One  
BSB Tree Planting  
Site Improvement Plan**

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BNRC Butte Hill Tree Program  
Missoula Ball Fields Area Tree Plantings  
Tree & Shrub Planting  
Irrigation  
3/1/2015

Description	Volume	Number	Cost	Total	PRP Share	BNRC Share
<b>Supplies &amp; Materials</b>						
<b>Vegetation</b>						
B&B Aspen		10	172.00	\$1,720.00		
Containerized Aspen		7	59.00	\$413.00		
Lodge Pole Pine		2	170.00	\$340.00		
B&B Douglas Fir		3	200.00	\$600.00		
Other Species						
B&B Mountain Ash		10	100.00	\$1,000.00		
B&B Choke Cherries		10	100.00	\$1,000.00		
Woods Rose		10	100.00	\$1,000.00		
Potentilla		10	100.00	\$1,000.00		
	<b>total</b>			<b>\$7,073.00</b>	0.00	7,073.00
<b>Soils</b>						
Limerock	10		30.00	\$300.00		
Pod Excavation & Disposal	100		5.00	\$500.00		
Tree Pods	100		16.00	\$1,600.00		
	<b>total</b>			<b>\$2,400.00</b>	800.00	1,600.00
<b>Watering System</b>						
Water Tap Installation		3	1000.00	\$3,000.00		
Drip Line Installation		3	1000.00	\$3,000.00		
	<b>total</b>			<b>\$6,000.00</b>	3,000.00	3,000.00
<b>Labor</b>						
Tree Planting & Anchoring (100% of Plant Cost)				\$7,073.00		
	<b>total</b>			<b>\$7,073.00</b>		7,073.00
<b>Project Total</b>				<b>\$22,546.00</b>	<b>3,800.00</b>	<b>18,746.00</b>

# Missoula Avenue Tree Planting 2015



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**Butte Area One  
BSB Tree Planting  
Site Improvement Plan**

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**Site Name:** 11<sup>th</sup> Avenue Triangle

**Date:** March 18, 2015

**Site Location/Size:**

The 11<sup>th</sup> Street Triangle is not a reclaimed BRES Site, rather it is an unreclaimed lot that is not conducive to residential development and a primary contributor of sediment to the Butte-Silver Bow stormwater system.

**BRES Site #/Name:**

N/A

**BSB Zoning Classification(s) at Site:**

The site is Zoned R2 Two Family Residential.

**Vegetative Deficiencies/Problems at this Site:**

The 11<sup>th</sup> Street Triangle has no vegetation with the exception of undesirable weedy species. The sediments from this lot frequently erode from the site and cause substantial loading to the stormwater system, which drains to Silver Bow Creek.

**Proposed Efforts to Improve the Site:**

In response to requests for better erosion prevention measures, BSB proposes the installation of a tree pod and native grasses throughout the site. The promulgation of native species will create substantial root zones to prevent erosion of sediments from the site.

The project will create root zones for the trees (AKA Tree Pods), fill those zones with clean fill dirt and will proceed with the planting of several smaller species and grasses including lupine, silver sage brush, choke cherry and rocky mountain juniper.

*Scope of Work:*

The project scope of work is as follows:

- A. Prepare 4 Tree Pod Root Zones
  - a. Excavate tree pod root zones and dispose of mine waste contamination at the Mine Waste Repository.
  - b. Line bottom of root zones with 2 inches of limerock per the EPA's Butte Hill Revegetation Specifications.
  - c. Backfill root zones with topsoil (blended) and amended with organic compost.
- B. Procure Vegetation
  - a. 11<sup>th</sup> Street Triangle

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BSB Tree Planting  
Site Improvement Plan**

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- i. 3 Mountain Ash
  - ii. 3 Rocky Mountain Juniper
  - iii. 17 Potentilla
  - iv. 7 Choke Cherry
  - v. 115 Silver Sage Brush
- C. Install irrigation water taps and drip-line irrigation systems to drip irrigate the tree pods at all four pods.
- D. Plant and anchor trees, where necessary.

**Efforts to Coordinate with other Entities:**

As evidenced in our past projects, collaboration is essential to project success. Residents in areas of plantings have been very happy with the tree planting success. To that end, residents will continue to be the eyes and ears monitoring the security of the tree pods, and the final execution of the project will rely on Butte-Silver Bow Planning, Parks and Public Works departments, the Montana State University Extension Agency, and representatives from the Montana Tech Native Plant Diversity Project.

**Materials and Labor Estimate and Estimated Cost:**

See Page 4.

**Proposed Start Date:** Spring 2015

**Proposed Evaluation Date:** Spring 2016

**Submitted by:** Julia Crain, Butte-Silver Bow Special Projects Planner

# Butte Area One BSB Tree Planting Site Improvement Plan



**Butte Area One  
BSB Tree Planting  
Site Improvement Plan**

BNRC Butte Hill Tree Program  
11th Street Triangle Tree Plantings  
Tree & Shrub Planting  
Irrigation  
3/1/2015

Description	Volume	Number	Cost	Total	PRP Share	BNRC Share
<b>Supplies &amp; Materials</b>						
<b>Vegetation</b>						
B&B Aspen		0	172.00	\$0.00		
Containerized Aspen		0	59.00	\$0.00		
Lodge Pole Pine		0	170.00	\$0.00		
B&B Douglas Fir		0	200.00	\$0.00		
Other Species						
B&B Mountain Ash		3	100.00	\$300.00		
B&B Canada Red Choke Cherries		7	100.00	\$700.00		
Rocky Mountain Juniper		3	100.00	\$300.00		
Potentilla		17	100.00	\$1,700.00		
Silver Sagebrush		115	50.00	\$5,750.00		
	<b>total</b>			<b>\$8,750.00</b>	0.00	8,750.00
<b>Soils</b>						
Limerock		10	30.00	\$300.00		
Pod Excavation & Disposal		100	5.00	\$500.00		
Tree Pods		100	16.00	\$1,600.00		
	<b>total</b>			<b>\$2,400.00</b>	800.00	1,600.00
<b>Watering System</b>						
Water Tap Installation		1	1000.00	\$1,000.00		
Drip Line Installation		1	1000.00	\$1,000.00		
	<b>total</b>			<b>\$2,000.00</b>	1,000.00	1,000.00
<b>Labor</b>						
Tree Planting & Anchoring (100% of Plant Cost)				\$8,750.00		
	<b>total</b>			<b>\$8,750.00</b>		8,750.00
<b>Project Total</b>				<b>\$21,900.00</b>	<b>1,800.00</b>	<b>20,100.00</b>