# Value Study Ideas

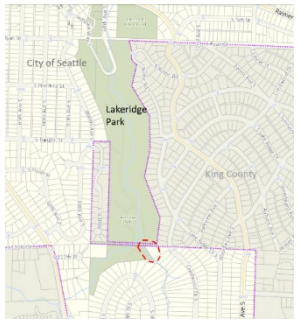
The Taylor Creek Value Study took place over the course of one week in mid-June. The Value Study team consisted of an expert panel recommended by the Value Study consultant firm and reviewed by SPU, SPR, and Friends of Dead Horse Canyon.

The Value Study expert panel focused their recommendations on accomplishing the project goals. These included community promoted goals of reducing impact to trees and vegetation as much as possible as well as SPU's goals of capturing as much sediment as possible in the creek to raise the creek bed, reducing erosion and landslide risk along the steep canyon walls, and restoring habitat for fish and other wildlife. The ideas from the value study are sorted into four categories: Control Erosion in Canyon, Minimize Construction Impact, Materials Delivery Logistics, and Retain Sediment in Canyon.

## Control Erosion in Canyon

**Idea CE-01: Place <u>only</u> timber frame structures strategically along banks of creek to help shore banks in areas without large wood structures.**

*This idea proposes to install timber frame structures along areas of the bank that are eroded regardless of whether there is a proposed large wood structure planned in the channel adjacent to the timber frame. The timber frame acts as a wall of sorts providing support to the bank and new vegetation. Without a corresponding wood structure in the channel, there is risk that high flows could undermine the timber frame and wash out vegetation.*




**Idea CE-05: Create constructed storage wetland at location of the historic wastewater treatment facility in the East Fork**

*This idea is intended to create some of the benefits of having a headwater wetland, similar to the one that is located upstream in the west fork of Taylor Creek. A wetland has many benefits such as treating stormwater, providing storage of both water and sediment, slowing flows and providing unique wetland habitat. A constructed wetland would also require periodic maintenance, complex permitting requirements and concerns regarding slope stability from surrounding neighbors.*

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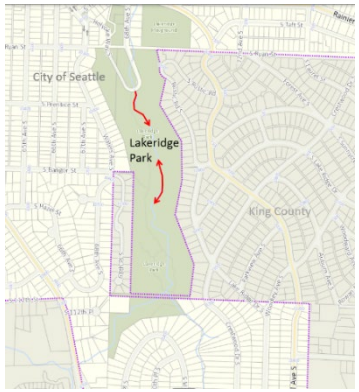
## Minimize Construction Impact




**Idea MC-02: Access only along channel from downstream and upstream directions as appropriate**

*This idea eliminates any need for a temporary road into the canyon by using the channel itself as the "road" by bringing materials and equipment directly up the channel. Currently, there is only one location to access the channel, near the trailhead at Holyoke Way S. so everything would come in and out from this point.*

**Idea MC-06: Assemble mechanical equipment in the canyon for use and disassemble to remove**

*This idea focuses on utilizing smaller equipment that can be hand carried up the channel, then assembled in place to assist with bringing in and placing materials (such as wood structures or boulders). This method would have less impact to surrounding vegetation than utilizing larger machines but be time consuming and significantly increase the duration of the work.*

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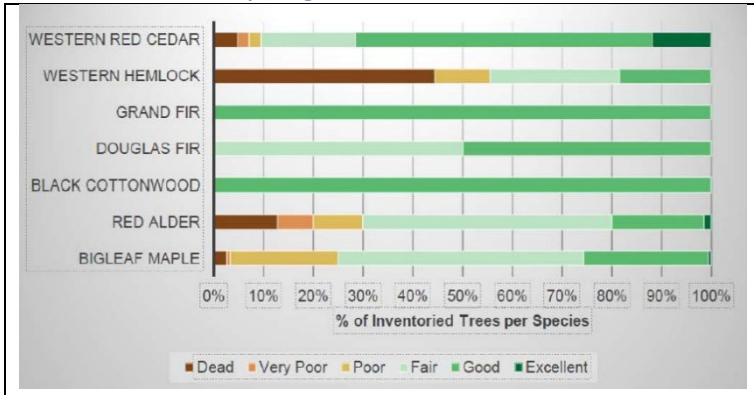
## Materials Delivery Logistics




**Idea MD-01: Use identified hazard trees on site as a source for logs and rootwads**

*This idea proposes to cut down trees that are viewed as hazards to users of the trail into the canyon, and to use those trees in (or as part of) the wood structures in the creek. Doing so would reduce risk to people on the trail and could be a cost savings (and convenience) by using onsite materials. This would result in removing a portion of the tree canopy and there could be additional vegetation disturbance.*

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**Idea MD-02: Use helicopter delivery for materials**

*Description: This idea proposes using a helicopter to get the large wood and other materials into the canyon during the winter. The helicopter would need to utilize the newly renovated Lakeridge Playfield for log staging and then fly the materials into the canyon where they would be stockpiled in several locations for later use. While the actual helicopter use is expected to be around one week, preparing and restoring the playfield could take up to 3 months.*

**Idea MD-06: Use small tracked vehicle (ATV) to haul logs and other materials along existing trail**

*Description: This idea proposes to use ATVs and carts to transport materials into the canyon on the existing trail. This could take advantage of the existing trail with minimal to no modifications but may present challenges with getting the materials from the trail to the creek, or taking longer to deliver because there would only be enough room for one way travel.*

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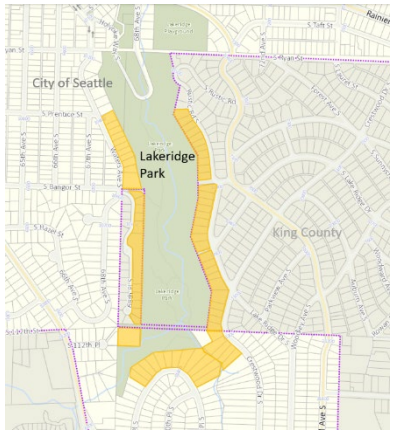


**Idea MD-08: Buy a property in the right location and install slide or highline for material delivery**

*Description: This idea involves purchasing a property along the rim of the canyon, tearing down any buildings, and using a slide or a highline to get materials from the top of the canyon to the channel. Property acquisition, permitting and demolition would take a minimum of 3 years.*

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**Idea MD-10: Use pack animal delivery for materials**

*Description: This idea proposes to use pack animals or draft horses to transport materials into the canyon on the existing trail. This could take advantage of the existing trail (with modifications) and may present challenges with getting the materials from the trail to the creek, or taking longer to deliver because there would only be enough room for one way travel. Extensive trail restoration would be required.*

Wallace 6-Ton H3-12141 Steel Adjustable Height

**Idea MD-12: Use winches and hoists to assist with material delivery**

*Description: This idea proposes to use winches and cables to move materials up the creek channel from Holyoke Way S. and then aid manual placement. This method may be suited to move smaller wood or logs into the channel and may increase the construction duration.*

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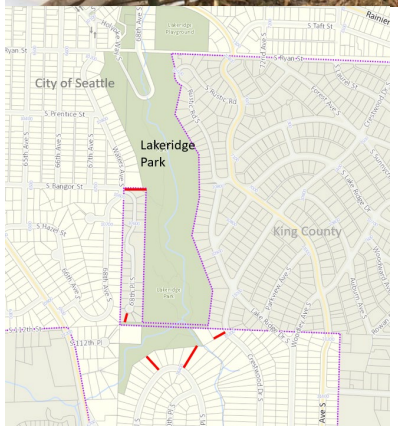


**Idea MD-21: Use existing easements to establish slide or highline to bring in material**

*Description: This idea involves using existing utility easements along the rim of the canyon and using a slide or a highline to get materials from the top of the canyon to the channel. While this idea does not require lengthy property acquisition, the location of the existing easements presents a challenge to getting materials throughout the canyon. The width of the easements presents another challenge for large equipment that would need to be situated at the top of the steep slope.*

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**Idea MD-22: Use logs spanning channel, built as you go, to move materials up the streambed**

*Description: This idea proposes constructing a skid road of logs up the channel, and spanning the channel, to act as a road to bring in materials with winches and a spider excavator would place the materials into the channel. This may be less labor intensive than hand carrying and could accommodate larger logs; the skid road would be difficult to construct and use within the 2-month required work window.*

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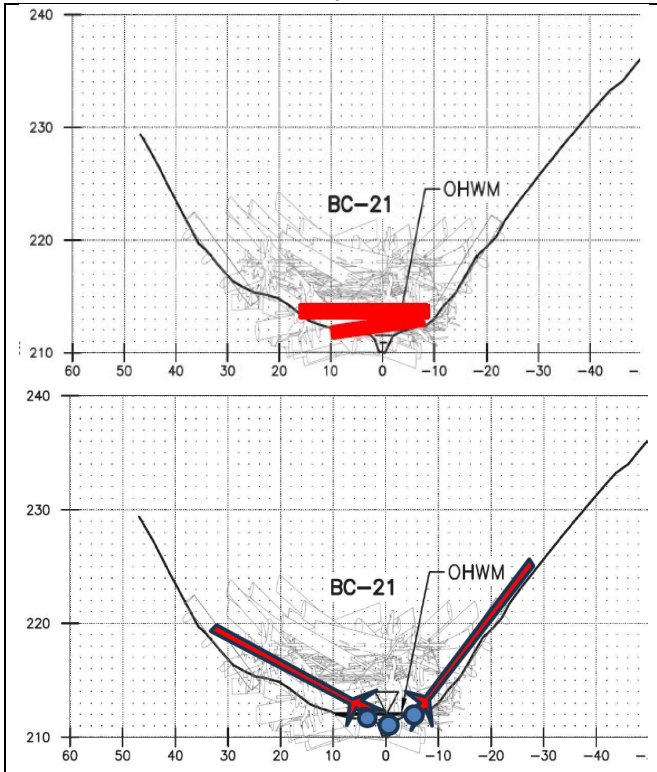
## Retain Sediment in Canyon




**Idea RS-06: Use smaller structures initially and return in future years to increase placements where required**

*Description: This idea proposes to install smaller accumulations of wood at more locations throughout the channel. Additional wood would need to be stockpiled on the channel banks for future installation after a period of monitoring. Several different wood configurations are possible, two are shown below. This idea would require ongoing monitoring and future construction efforts in the canyon within a few years.*

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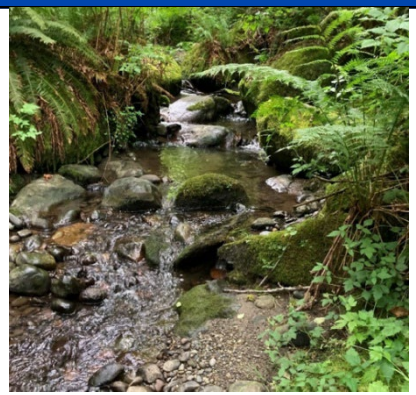
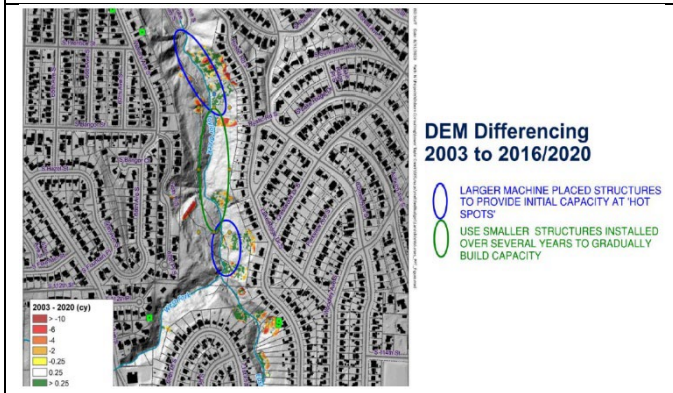
|  | **Idea RS-07: Use boulders or boulder clusters to help retain sediment**<br><br>*Description: This idea is to use large boulders as the sediment retaining structures in the channel. The boulders could be installed to form steps which may be better for upstream fish passage but could be difficult to deliver and install (each boulder between 1,000-3,000 pounds).* |
|  | **Idea RS-08: More strategic machine placement of log structures in fewer locations ("hot spots")**<br><br>*Description: This concept is to install wood structures only in the locations that appear to be experiencing the worst erosion (lower and mid-ravine). This would target the worst areas of erosion and provide support to the banks and channel for vegetation establishment and may require additional smaller structures to be installed over time to ensure that a lot of sediment isn't continuing to be deposited downstream.* |

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**Idea RS-13: Place dredged material from the delta back into the channel upstream**

*Description: This idea simply puts the excavated gravel from the delta (planned work) back in the channel in the canyon as far upstream as possible. This would improve fish passage into the lower channel from the lake but may be difficult to permit and reintroduces loose gravels to the channel upstream that could be easily eroded and transported downstream.*

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## Notes

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| Materials Delivery Logistics | **Idea MD-06** |
| | **Idea MD-12** |
| | **Idea MD-08** |
| | **Idea MD-21** |
| | **Idea MD-01** |
| | **Idea MD-02** |
| | **Idea MD-10** |
| | **Idea MD-22** |

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Seattle Public Utilities

# Taylor Creek Restoration Project

## Notes

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| **Retain Sediment in Canyon** | **Idea RS-06** |
| | **Idea RS-07** |
| | **Idea RS-08** |
| | **Idea RS-13** |
| **Control Erosion in Canyon** | **Idea CE-01** |
| | **Idea CE-05** |
| **Minimize Construction Impacts** | **Idea MC-02** |
| | **Idea MC-06** |

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