

ST. VRAIN CREEK RESTORATION ASSESSMENT

4652 Ute Highway
Town of Lyons

INTRODUCTION



Lyons is a small town in northwest Colorado and is known for its thriving arts, music, & outdoor scene. In September 2013, a large flood devastated the Town, forcing hundreds of people to evacuate and permanently altering the flow of the St. Vrain Creek. Recovery efforts started immediately following the flood and are still ongoing. Restoring the St. Vrain Creek is a key part of Lyons recovery efforts and are included in numerous Town documents and plans. In addition to reconfiguring the river in a way that is safe for people and infrastructure, Lyons wants to create a healthy, functioning, and resilient river for wildlife and the ecosystem.

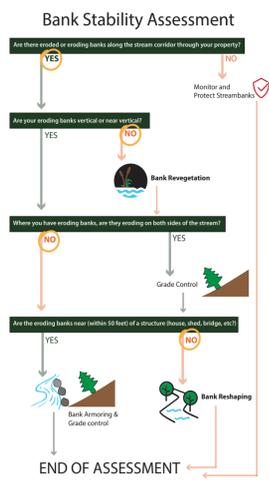
One of the many places that was affected by the flood was the site of the City of Longmont's former water treatment plant, located at 4652 Ute Highway, near the intersection of SH 66 and US 36, as seen in the map to the left. Generator Real Estate Development, LLC recently bought the site from the Town of Lyons. The site's river needs to be restored in a way that is compatible with future development.

METHODOLOGY

Seven different assessments were used to conduct a comprehensive assessment of the site's river reach, including:

- Desired Land & Stream Uses
- Vegetation
- Bank Stability
- Large Woody Material
- Aquatic Species
- Non-Aquatic Species
- Flood Risk Management

One assessment is seen to the right. Yellow circles designate the chosen path. These assessments identified 12 restoration strategies most suitable for the site, seen below. The information found in the assessments were provided by Left Hand Watershed Center.



EXISTING CONDITIONS

Lyons is a small, well-educated, older, and majority white town. The Town's population is growing as well as its boundaries. It is home to Longmont's former water treatment plant and the federally threatened Preble's Meadow Jumping Mouse and has recently been annexed into the Town's municipal boundaries. The 2013 flood washed away over a third of the site's developable land, creating difficult development conditions. A hospitality use is currently planned for the site which will take advantage of the site's location along a major thoroughfare and enhance the local economy.



Top Industry:
Educational services,
health care and social assistance

70%

of residents commute to work by car

\$92,000

Annual household median income



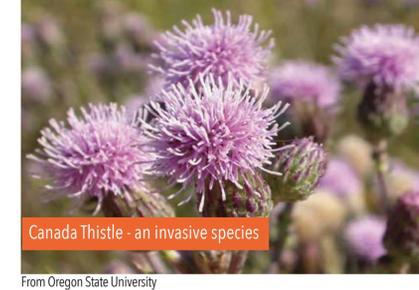
70% of residents own their home

EFFECTS OF THE 2013 FLOOD ON THE SITE



SITE RESTORATION RECOMMENDATIONS

The matrix below displays the approximate cost range, difficulty of install, and permit information for all 12 restoration strategies. The matrix results were identified using information provided by the Left Hand Watershed Center and interviews with restoration experts. There are multiple ways to achieve each restoration strategy; therefore, matrix results are dependent on how each strategy is achieved. The cost ranges do not correspond to exact costs, but rather, provide a cost estimate of one strategy compared to another; same can be said of the Difficulty to Install attribute. The matrix can be used as a starting point for assessing restoration strategies throughout the development process.



Restoration Strategies Cost and Implementation Matrix

12 Restoration Strategies	People Places	Stream Access	Bank Revegetation	Bank Reshaping	Wildlife Habitat	Fish Habitat	Undesirable Wildlife Management	Invasive Plant Management	Increase Floodplain	Channel Complexity	Bank Armoring	Sediment Removal
Cost Range	\$\$	\$\$	\$\$	\$\$	\$	\$\$	\$\$	\$\$	\$\$\$	\$\$	\$\$\$	\$
Difficulty to Install	●○○○	●●○○	●●○○	●●○○	●○○○	●●○○	●●○○	●●○○	●●○○	●●○○	●●○○	●○○○
Permit(s) Required?	Maybe	Maybe	Maybe	Yes	No	Yes	Maybe	No	Yes	Yes	Yes	Yes

CONCLUSION

All restoration strategies are compatible with each other and any type of future hospitality use. The three strategies that should be prioritized first are **Increase Floodplain**, **Bank Armoring**, and **Sediment Removal**. Moving the floodplain further south, if possible, will provide more developable land. Also, bank armoring is crucial to protecting any structures from future floods. Lastly, sediment has collected along the banks and in the existing structures and needs to be removed. These three strategies are more expensive than others, but will be necessary in the long run. Afterwards, the remaining nine restoration strategies can be implemented over time, and as funding allows, to provide additional protection for the site's structures and enhance the stream's ecosystem for native flora and fauna.