CEEn-2016CPST-001

Development Accommodation Realignment Study – Riverton City

X-Stream Engineers

Brad Mason

Tavin Griffeth

Kevin Woolf

Introduction

- The City of Riverton wants to realign 3500 feet of a natural stream to support future development.
- Determined the best possible path to realign the stream.
- Goals

1. create the necessary space for new development
2. improve the conditions of stream flow

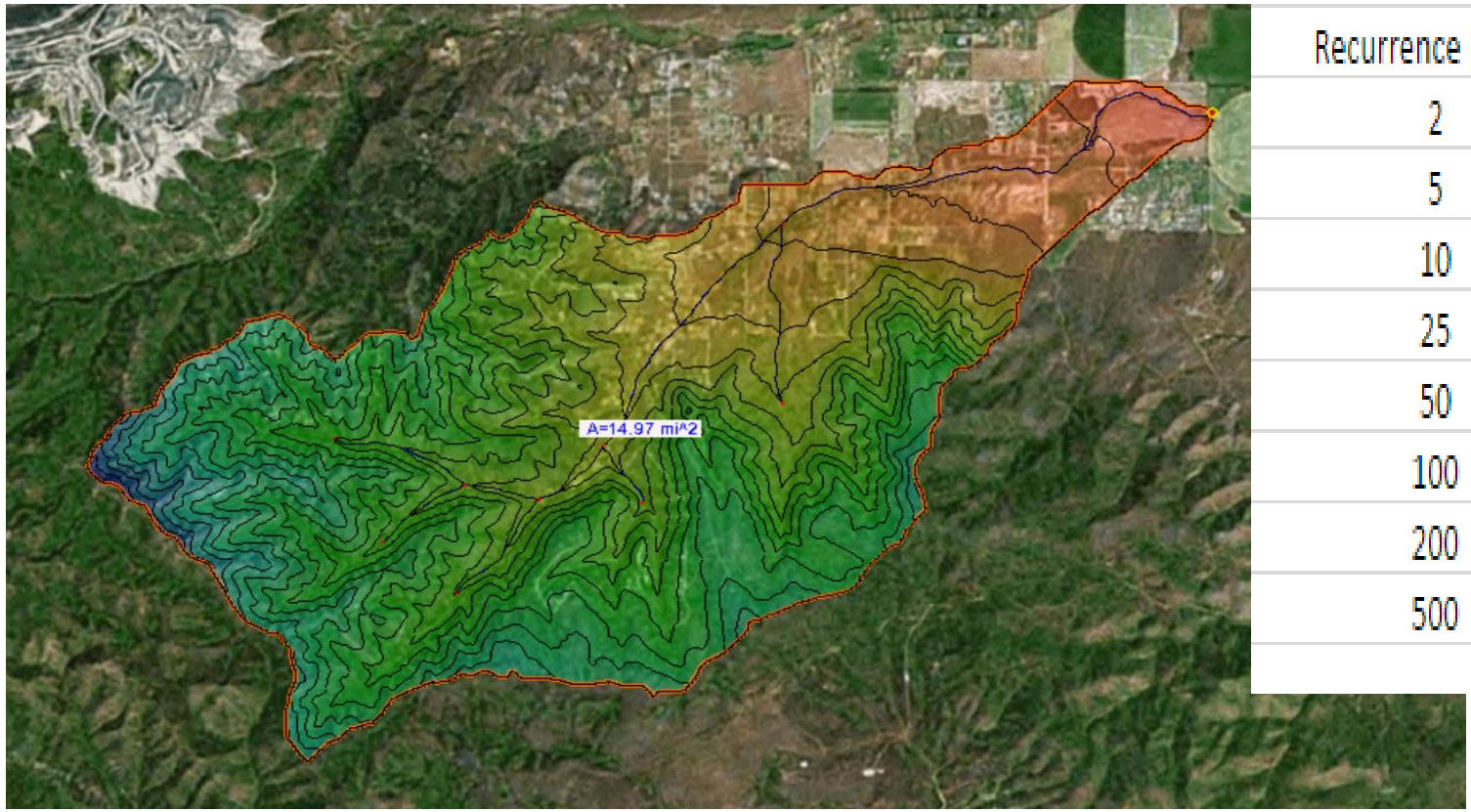
- Problems include heavy erosion, minor flooding, and super critical flow.

Rose Creek Current Path

Photos of Current Problems

Watershed Analysis Photos

- Watershed using WMS modeling



Recurrence [years]	Rural Peak [cfs]	Urban Peak [cfs]
2	32	106
5	56	175
10	75	232
25	95	300
50	118	364
100	138	413
200	158	N/A
500	190	547

Design, Analysis & Results

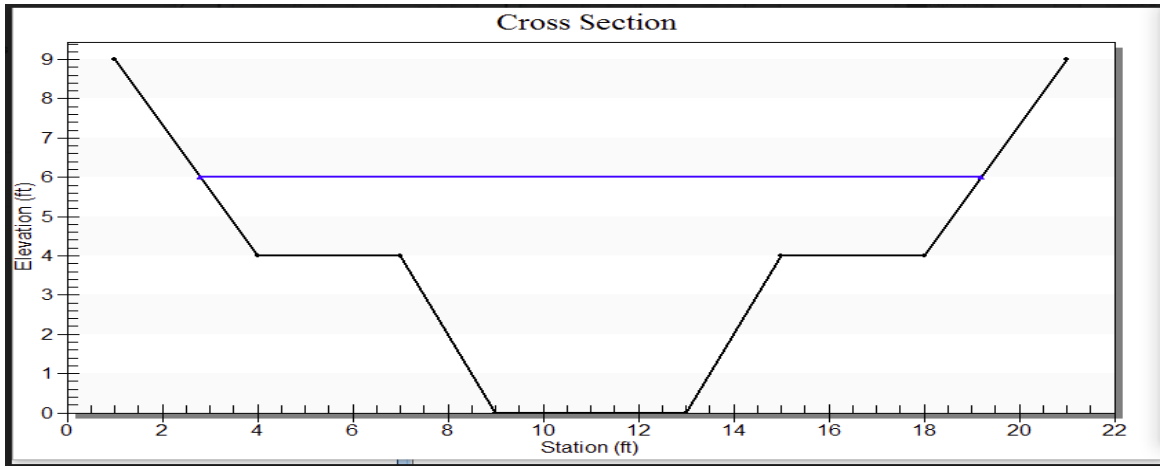
- Verified 500 cfs flow used for design
- The new path of the stream

1. Close to the layout of the natural stream.
2. Improved cross section.

-lower trapezoid capacity= 200 cfs.

-total capacity=500 cfs

3. Minimized relocation cost/natural base
4. Improved channel flow and slope



New Proposed Path

Conclusions & Recommendations

- Rose Creek restored to its original path
- Design slope maintains sub critical flow to prevent erosion.
- Rose Creek will be returned to natural state and prevent further maintenance.