



Strategic Planning Work Session Agenda
Tuesday, December 6, 2011
(Approximately 7:00 p.m. following City Council Meeting)

Welcome and Opening Comments

Mayor Burrows

Strategic Planning Process Connection
Quarterly Focus

Larry

Action Plan Status Review
CIP – Action Steps

Larry

Focus Topic: Long-Term Focus - CIP
(Capital Improvements Projects)

All Dept's

- [FY 2012 Status Report](#)
- [Review Long-Term CIP Plan](#)
- [Assess and include River Restoration work](#)

Special Projects and Issues:

Larry

- Sales Tax
- Organizational

(Next mtg. TBD will be in February, Focus Topic: Goals, Objectives, and Resource Priorities for Fiscal Year 2013.)



**Condition of the Treasury
Riverdale City and Redevelopment Agency
Report as of October 31, 2011**

	<u>Amount of Money on Hand</u>			<u>For the Month Reported</u>		<u>For the Fiscal Year To Date</u>		
	<u>Savings</u>	<u>Checking</u>	<u>Cash Drawers</u>	<u>Revenues</u>	<u>Expenditures</u>	<u>Revenues</u>	<u>Expenditures</u>	<u>Difference</u>
General Fund	\$116,602	\$713,203	\$2,000	\$492,115	\$529,571	\$2,069,039	\$2,210,794	(\$141,755)
Redevelopment Agency, RDA	\$2,897,986			\$19,006	\$12,371	\$81,363	\$69,192	\$12,171
Capital Projects Fund	\$2,004,819			\$993	\$0	\$103,980	\$100,338	\$3,642
Water Fund	\$1,839,293			\$65,560	\$49,227	\$493,736	\$230,420	\$263,316
Sewer Fund	\$1,573,980			\$75,879	\$22,155	\$303,984	\$195,047	\$108,937
Storm Water Fund	\$1,029,865			\$19,212	\$31,624	\$250,253	\$58,663	\$191,590
Garbage Fund	\$185,413			\$28,802	\$140,140	\$101,703	\$203,036	(\$101,332)
Motor Pool Fund	\$1,305,293			\$21,966	\$41,672	\$109,623	\$145,249	(\$35,626)
Information Technology Fund	\$385,556			\$4,764	\$7,245	\$18,278	\$30,540	(\$12,262)
Total	\$11,308,809	\$713,203	\$2,000	\$728,298	\$834,006	\$3,531,960	\$3,243,279	\$288,680

Lynn Fortle
Treasurer

Notes:

- 1) Savings are held in:
 - a) PTIF (Public Treasurer's Investment Fund), the most recent yield was .63%.
- 2) Checking consists of two accounts at Wells Fargo Bank: Accounts Payable and Payroll. Their balances are minimized daily through a managed 'sweep' investment account arrangement.
- 3) Cash Drawers are located at the Civic Center (\$600), Comm. Ctr.(\$400), Senior's (\$500), and Police (\$500).
- 4) Receipts for sales tax, property tax, road tax and liquor tax are deposited directly into the PTIF account by the paying agency of the State of Utah or Weber County.
- 5) Other receipts are handled through the counter cash drawers mentioned above.
- 6) All disbursements are paid through the checking accounts at Wells Fargo Bank except petty cash items.
- 7) Cash flow and all account balances are monitored daily, savings are transferred from the PTIF to the checking account to cover disbursements as necessary.
- 8) Check disbursements are normally made weekly through the accounts payable system.
- 9) A check register report is available for detailed review of each disbursement made by city and RDA funds.
- 10) Our independent auditors include their review of these accounts in their annual audit report.

Condition of the Treasury
Riverdale City Redevelopment Agency
Report as of October 31, 2011

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	<u>Savings</u>	<u>Checking</u>	<u>Cash Drawers</u>	<u>Revenues</u>	<u>Expenditures</u>	<u>Revenues</u>	<u>Expenditures</u>	<u>Difference</u>
RDA General Fund	\$251,777			\$739	\$2,505	\$2,777	\$9,042	(\$6,265)
Riverdale Road RDA Fund	\$996,437			\$1,795	\$4,985	\$6,157	\$13,705	(\$5,548)
1050 West RDA Fund	(\$904)			\$0	\$0	\$0	\$0	\$0
Weber River RDA Fund	\$2,760			\$0	\$0	\$0	\$0	\$0
550 West RDA Fund	\$101,685			\$1,312	\$0	\$5,743	\$0	\$5,743
West Bench RDA Fund	(\$41,876)			\$0	\$0	\$0	\$0	\$0
Statutory Housing RDA Fund	\$197,561			\$448	\$0	\$1,889	\$0	\$1,889
Housing RDA Fund	\$627,180			\$1,226	\$177	\$5,056	\$6,107	(\$1,051)
Senior Facility Fund	\$763,366			\$13,487	\$4,704	\$57,742	\$40,338	\$17,404
Total	\$2,897,986	\$0	\$0	\$19,006	\$12,371	\$81,363	\$69,192	\$12,171

Riverdale City
Capital Improvement Plan

Projects by Department

Department	Priority	2012	2013	2014	2015	2016	2017	2018	2019
Business Administration									
Phone System Replacement			\$85,000						
Generator for Civic Center				\$65,000					
Reserve for possible new City Offices		\$290,098	\$700,000						
Business Administration Total		\$290,098	\$785,000	\$65,000	\$0	\$0	\$0	\$0	\$0
CDBG									
CDBG Total		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
City Administration									
City Administration Total		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Community Services									
Building Expansion at Community Center	n/a			\$240,000					
Community Services Total		\$0	\$0	\$240,000	\$0	\$0	\$0	\$0	\$0
Fire									
Extraction Equipment	1				\$50,000				
Replace 1993 Brush Truck	3			\$75,000					
Replace E41 Fire Engine	3			\$450,000					
Ambulance Replacement	n/a				\$150,000		\$150,000		
Replace Chief's truck						\$35,000			
Addition to truck bay and parking								\$260,000	
Generator for fire/community center				\$70,000					
Fire Total		\$0	\$0	\$595,000	\$200,000	\$35,000	\$150,000	\$260,000	\$0

Riverdale City
Capital Improvement Plan

Projects by Department

Department	Priority	2012	2013	2014	2015	2016	2017	2018	2019
Parks									
Playfields south of Civic Center	n/a			\$500,000	\$500,000	\$500,000			
Skateboard Park	n/a								
Parks Total		\$0	\$0	\$500,000	\$500,000	\$500,000	\$0	\$0	\$0
Police									
Patrol Car	n/a								
Police Fleet Replacement, 10 cars, 1 truck	1			\$450,000					
Video File Server	1				\$90,000				
Replace Animal Control Truck	3					\$25,000			
Finish Police Dept. Basement	3			\$150,000					
Replace 2 Motorcycles	3					\$37,000			
Remodel Station	3						\$90,000		
Admin Vehicles	n/a		\$122,000			\$130,000			
Generator for Police Bldg				\$50,000					
Radio Upgrades				\$45,000	\$45,000				
Police Total		\$0	\$122,000	\$695,000	\$135,000	\$192,000	\$90,000	\$0	\$0

Riverdale City
Capital Improvement Plan

Projects by Department

Department	Priority	2012	2013	2014	2015	2016	2017	2018	2019
Sewer									
CFP Project 7 - Riverdale Road - Check City - Wasatch Front Bldg, Pipe Liner		\$76,000							
CFP Project 8 - 4375 S 800 W - Spot Liner		\$9,700							
CFP Project 9 - South Weber Drive - Pipe Liner		\$138,400							
CFP Project 10 - 575 W to end of Cul-de-sac on 5350 S. Street			\$23,900						
CFP Project 11 - 564 W 575 W on 5400 S, Pipe Liner			\$20,400						
CFP Project 12 - 575 W to end of Cul-de-sac on 5300 S Street			\$19,200						
CFP Project 13 - 561 W 5275 S Street, Pipe Liner			\$28,600						
CFP Project 14 - 575 W to end of Cul-de-sac on 5300 S Street			\$22,200						
CFP Project 15 - 5175 S to 5375 S on 575 W Street - Pipe Liner			\$107,400						
CFP Project 16 - 4865 S 600 W Street - Pipe Liner			\$27,100						
CFP Project 17 - 720 W to 700 W on 4350 S Street, New Piping				\$42,000					
CFP Project 18 - 720 W to 751 W on 4350 S Street, New Piping				\$23,600					
CFP Project 19 - 3860 S 700 W Street, Spot Liner					\$6,700				
CFP Project 20 - 4350 S 700 W Street, Spot Liner					\$5,800				
CFP Project 21 - 783 W 4300 S Street, Spot Liner					\$5,800				
CFP Project 22 - Interstate I-84, Pipe Liner					\$41,500				
CFP Project 23 - 775 W 4375 S Street, New Piping					\$14,400				
CFP Project 24 - 1241 W 4575 S Street, Spot Liner					\$5,800				
CFP Project 25 - 5109 S to 5100 S on 1200 W Street, New Piping						\$25,300			
CFP Project 26 - 1219 W 5050 S to 1150 W Intersection, New Piping						\$85,900			
CFP Project 27 - 1200 W 5100 S to 5116 S 100 W Street, New Piping						\$77,300			
CFP Project 28 - 5175 S 1200 W Intersection, Spot Repair							\$25,100		
CFP Project 29 - 950 W to 739 W on 4300 S Street, Pipe Liner							\$27,000		
CFP Project 30 - 739 W to 783 W on 4300 S Street, Pipe Liner							\$33,600		
CFP Project 31 - 827 W 4300 S Street, Spot Liner							\$5,800		
CFP Project 32 - 739 W 4300 S Street, New Piping								\$33,100	
CFP Project 33 - 4399 S to 4375 S on 950 W Street, Pipe Liner								\$29,600	
CFP Project 34 - 4374 S to 4377 S on 950 W Street, Pipe Liner								\$22,800	
CFP Project 35 - 4375 S to 4350 S on 950 W Street, Pipe Liner								\$31,300	
CFP Project 36 - 4362 to 4382 S on 900 W Street, Pipe Liner								\$28,600	
CFP Project 37 - 4382 S 900 W Street, Spot Liner									\$5,800
CFP Project 38 - 4396 S 800 W Street, Spot Liner									\$9,600
CFP Project 39 - 1190 W 5175 S Street, Spot Repair									\$5,800
CFP Project 40 - 5175 S 1200 W Street, Spot Repair									\$5,800
CFP Project 41 - 1571 West Ritter Drive, Spot Repair									\$5,800
CFP Project 42 - 5250 S 1250 W Street, Spot Repair									\$6,100
CFP Project 43 - South Weber Drive, Spot Repair									\$6,400
Sewer Total		\$224,100	\$248,800	\$65,600	\$80,000	\$188,500	\$91,500	\$145,400	\$45,300

Riverdale City
Capital Improvement Plan

Projects by Department

Department	Priority	2012	2013	2014	2015	2016	2017	2018	2019
Storm Water									
CFP Project 3 - 4350 S Street - Piping and Collection Improvements		\$6,700							
CFP Project 5 - 5175 S - 1200 W Intersection - Piping Collection Improvements		\$86,400							
CFP Project 6 - 4800 S - 1700 W Intersection - Piping & Collection Improvements		\$21,100							
CFP Project 7 - Cherry Drive, Piping Upgrade Improvements		\$163,700							
CFP Project 8 - 4300 S 700 W - Inter. - Piping and Collection Improvements		\$22,300							
CFP Project 9 - 1150 W - 5500 S Intersect & 1106 W 5475 S - Improvements		\$49,300							
Storm Water Total		\$349,500	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Streets									
Parker Dr. CG&S at 3950 S.		\$100,000							
Parker Dr. CG&S at 4190 S.		\$25,000							
Snowplow/Dump Truck	3						\$100,000		
Replace Front End Loader	4								
Roundabout 4400 S, 700 W. (RDA Funds)	n/a	\$350,000							
Ritter Drive - UDOT/STP	n/a			\$384,000					
Tank for generators (shop)				\$20,000					
Streets Total		\$350,000	\$0	\$404,000	\$0	\$0	\$100,000	\$0	\$0
Water									
CFP Project 1 - Tank Replacement - Two 1.5 million gallon tanks @1.7 million	2	\$2,000,000							
CFP Project 3 - 5400 S - 16" Transmission Pipeline Improvements									\$306,100
CFP Project 4 - 1700 W Street, Pipeline Upgrade Improvements							\$70,100		
CFP Project 5 - Waterline Connection with Weber Basin						\$84,800			
CFP Project 6 - 500 West Street, Pipeline Upgrade & Improvements	3					\$84,800			
Golf Well re-drilling and abandonment of old well	4	\$600,000							
Water Total		\$2,600,000	\$0	\$0	\$0	\$169,600	\$70,100	\$0	\$306,100

Table 1-Flood Damage Assessment Sites

Site #	Site Name
1	Weber River Parkway Collapse
2	Across From Riverdale Mobile Estates
3	Frisbee Golf Course Riprap Failure
4	Riverdale Play Park and Riprap Failure
5	54" RCP outfall @ W4400S & S Weber River Dr.
6	Two 36" RCP outfalls Downstream of Riverdale Road
7	Concrete Revetment at Les Schwab Tire
8	Riprap at 4600S and Weber River Dr. Bridge
9	Creekside Trailhead Path Erosion @ River Glen Subdivision
10	Failed J-Hooks
11	Failed J-Hooks and Riprap
12	Failed J-Hooks
13	Weber Rivertrail Bank Erosion Upstream of River Glen Subdivision
14	Failed Riprap at Riverdale Rd. Bridge



Figure 9-Flood Damage Sites

APPENDIX A-Flood Damage Assessments

Flood Assessment Point:	#1-Weber River Parkway Collapse						
GPS Coordinates:	Waypoints RC-10 to 29						
Direction to Assessment Point:	Approximately 5260ft upstream from Weber River Dr. on bike path.						
Project Priority:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; text-align: center;">High</td> <td style="width: 33%; text-align: center;">Moderate</td> <td style="width: 33%; text-align: center;">Low</td> </tr> <tr> <td style="text-align: center;">X</td> <td></td> <td></td> </tr> </table>	High	Moderate	Low	X		
High	Moderate	Low					
X							
Description of Issue:	Sever erosion of nearly 550 ft of bank resulting in collapse of 300' of asphalt pathway.						
Structures:	Bike Path						
Geomorphic Description:	<p>Aerial photographs from 1953, 1954, 1971, 1973, 1979, 1980, 1997, 2003, 2006, and 2009 were reviewed to understand the geomorphic evolution of this reach. This portion of the Weber River was channelized in the early 1970's for the construction of I-84. Prior to channelization this reach had meanders with a similar planform to the upstream DNR reach as it exists today. Aerial photography from 1953 shows that the reach length has been reduced by over 20% (7500 feet to 5800 ft). In addition to decreasing the length and a subsequent decrease in slope the construction of the highway also narrowed the effective floodplain of the river. Historic channel patterns are also evident in the 1953 photo. These patterns indicate that the Weber River may have had a meander belt width in excess of 1500ft. Aerial Photographs from 1999 and 2009 show that virtually all of the meanders have been eliminated through channelization and the riparian corridor is less than 150 ft wide. In addition to the channelization a water main crossing was placed just upstream of the failed bike path (RC-9) creating a large drop structure. The river has responded to these changes by cutting into the right bank as it attempts to adjust its flow path length. The river was cutting at this bank prior to the construction of the path in 2009. Between 1997 and 2006 the bank eroded a horizontal distance of approximately 55-60 ft. Some of this bank loss was reclaimed with the construction of the path in 2009. The 1971 photo shows a mid-channel bar formed immediately across the river from the area of the failed bike path. Portions of this bar were left unaltered during the construction of the highway. It is likely that during high flows this mid channel bar become inundated and provided extra conveyance. During the extended drought period that ended in 2008 riparian vegetation was established on this bar thus closing off any significant conveyance. The lack of overbank flooding and the establishment of mature riparian vegetation has effectively eliminated any overbank</p>						

	<p>conveyance through this reach. Additionally there is evidence of bank toe erosion throughout this reach, indicating that the river is down cutting. Evidence of overbank flooding at downstream end of bank failure. Large amounts of driftwood caught in overgrown understory may have decreased overbank conveyance.</p>
Habitat Considerations:	<p>Throughout this reach there is a lack of habitat diversity. Channelization has created uniform flow patterns and in portions the riparian vegetation is sparse. There is little evidence of deposition through this reach. Eroded bank material is likely transported through the reach and deposited downstream of Riverdale City.</p>
Flood Damage Repair	<ul style="list-style-type: none"> • \$250,000-\$350,000
Measures:	<ul style="list-style-type: none"> • Option 1 (Flood Damage Improved Project): <ul style="list-style-type: none"> ○ Reconstruct Bike path further northeast. ○ Biostabilize Bank ○ \$50,000-\$100,000 + Lands • Option 2 (Flood Damage Improved Project): <ul style="list-style-type: none"> ○ Reconstruct bike path in new alignment ○ Stabilize Toe ○ Lay river bank back at 3:1 and biostabilize ○ Thin out overgrown riparian vegetation on river left to open up flood conveyance channels. ○ \$200,000 to \$300,000 + Lands
Photographs:	



	evidence of deposition through this reach. Eroded bank material is likely transported through the reach and deposited downstream of Riverdale City.
Flood Damage Repair	<ul style="list-style-type: none"> • \$30,000-\$64,000
Measures:	<ul style="list-style-type: none"> • Option 1 (Flood Damage Improved Project) <ul style="list-style-type: none"> ○ Lay back right bank ○ Offset Bike path and allow some bank erosion ○ \$50,000-\$100,000
Photographs:	<ul style="list-style-type: none"> • IMG0096 • IMG0098



	<p>Aerial photographs show evidence of historic flow paths in the floodplains on either side of the current alignment. The open field just to the east of this rip-rap failure appears to contain one of these old river alignments. These alignments are visible because they have differing vegetation and stand out. The difference in vegetation is due to the different soils that the river deposits as it alters its alignment. Often these old channel alignments contain deposits of gravel and small cobbles that are easily mobilized during flood events.</p> <p>Just downstream of this rip-rap failure a mid channel bar has become vegetated, the J-hooks have caused aggradation around this bar decreasing capacity on the right of the vegetated bar. At low flows this mid channel bar becomes connected to the right bank and functions as a large vegetated point bar. A riffle has formed at the head of this point bar, just downstream of the failed riprap. These morphologic changes have altered the local hydraulics and put greater stress on the right bank. Lastly there is less riparian vegetation along this portion of the river. The increased bank stress combined with the adverse hydraulics created by the non systemically planned J-hooks, the lack of bank stabilizing vegetation and the easily erodible channel deposit resulted in the bank failing between 2006 and 2010. The riprap was placed between two of the J-hooks to prevent further damage of the bank. It's likely that while the rip-rap failed it succeeded in preventing further damage to the path. However, the rip-rap installation was not extensive enough to truly address this situation. An engineered riprap design for this location could extend over 300 ft.</p>
<p>Habitat Considerations:</p>	<p>Throughout this reach there is a lack of habitat diversity. Channelization has created uniform flow patterns. There is some evidence of deposition in this reach. Eroded bank material is likely transported through the reach and deposited downstream of Riverdale City.</p>
<p>Flood Damage Repair:</p>	<ul style="list-style-type: none"> • \$25,000-\$50,000
<p>Measures:</p>	<ul style="list-style-type: none"> • Option 1(Flood Damage Replacement Project) <ul style="list-style-type: none"> ○ Move Path to East (City Owned Land) ○ Lay back right bank ○ Bio stabilize right bank. ○ Remove J-hooks. Use as Toe Boulders ○ Place Excess J-hook boulders in River as habitat/squirt boat features. ○ Construct overbank relief channel ○ \$50,000-\$100,000
<p>Photographs:</p>	<ul style="list-style-type: none"> • IMG0099 • IMG0221 • IMG0222

Flood Assessment Point:	#4-Riverdale Play Park, Grade control and Riprap Failure
GPS Coordinates:	8-16-11: Pts 9 & 10
Direction to Assessment Point:	Approximately 600 ft downstream on the bike path from the South Weber River Dr. trailhead.
Project Priority:	High Moderate Low X
Description of Issue:	GROUTED Riprap appears to be failing and as a result the whitewater wave no longer functions. Probing indicates 8' deep hole upstream of the grouted grade control and an 8' deep hole downstream of the structure. Design drawings indicate that the cutoff wall above the lower drop is only 5' deep; it is likely that the grouted riprap has been undercut. Additionally the grouted grade control on the left bank between the two structures has also failed and there is significant erosion in the viewing area on the left bank at the lower drop. This erosion extend downstream over 350 ft. This is a High Priority project for a number of reasons: 1) the Riverdale Whitewater Park is a world class whitewater feature that brings tourism \$ into Riverdale, 2) <u>Potential significant entrapment hazard to boaters/swimmers (There is a popular rope swing just upstream of the lower structure)</u>
Structures:	Sewer Line, Kayak Wave, Bike Path
Geomorphic Description:	<p>This grouted grouted grade control structure was constructed in 2005. The primary goal of this structure is to protect the sewer line crossing. The structure was also designed to create a whitewater wave. Based on design drawings there is a 5' concrete cutoff wall upstream of the lower drop structure.</p> <p>Like much of the Weber River through Riverdale City, this reach has been channelized during the urbanization of Riverdale in the 1970s. Historically, this reach of the river was more similar to the upstream reaches that pass through the DNR property; it was a dynamic, aggrading system. The modified channel has a greater sediment transport capacity and is capable of transporting most of the alluvium supplied by the upstream reaches. As a result of this excess transport capacity the Weber river is degrading through much of Riverdale City. This is evidenced by bank toe erosion and little evidence of sediment deposition throughout the Riverdale reach. While it is difficult to assess the condition of the structure due to high flows, the presence of 8' deep holes upstream and downstream of the structure indicate that the 2011 flood flows were sufficiently large, and of a sufficient duration that they may have undercut the 5 foot cutoff wall and eroded under the grouted grade control. It is</p>

	not uncommon for grouted grade control structures to be undercut. Additionally, the downstream hydraulics have caused significant bank erosion on the right bank of the river. General channel degradation is likely downstream of the grade control structure. Due to the excessive channel scour the structure no longer functions as designed.
Habitat Considerations:	This structure provides better fish passage than the upstream drop structures.
Flood Damage Repair:	<ul style="list-style-type: none"> • \$250,000-\$350,000
Measures:	<ul style="list-style-type: none"> • Option 1 (Flood Damage Lower Structure Improved Project) <ul style="list-style-type: none"> ○ Re-Grout riprap ○ Fill voids under structure with Flowable Fill ○ Replace Cutoff Wall (sheet pile) ○ Biostabilize Left Bank ○ Repair downstream grade control ○ \$200,000-\$300,000 • Option 2- (Replace Lower Structure, Alternate Project) <ul style="list-style-type: none"> ○ Remove grouted rip-rip ○ Construct new structure out of large boulders embedded below scour depth ○ Install pre-cast "Wave Blocks" to create play wave ○ Install Sheet pile cutoff. ○ Protect viewing area with boulder and flagstone ○ \$350,000-\$650,000
Photographs:	<ul style="list-style-type: none"> • IMGP0159 • IMGP0160 • IMGP0161 • IMGP 2796

Flood Assessment Point:	#9 & #13-Creekside Trailhead Path Erosion @ River Glen Subdivision
GPS Coordinates:	8-16-11 Point 39, 40, 41, 42
Direction to Assessment Point:	At the junction of the Creekside trail and the Weber River Pathway. Approximately 1000ft on the bike path upstream from north trail head.
Project Priority:	High Moderate Low X
Description of Damage:	The path that leads from the River Bend Subdivision was completely eroded by overbank flooding. This path was reconstructed immediately after the 2011 flood event. 275 ft of split rail fence destroyed, 275 ft path destroyed. There are also issues with the stormwater conveyance at this location. There is a drainage channel that discharges at the west end of the Creekside trail. During high flow events this structure backs up, causing flooding in the River Bend subdivision.
Structures:	Path, Fence, stormwater return channel, homes.
Geomorphic Description:	<p>This portion of the Weber River Floodplain has historically been very active. Historic aerial photos from prior to 1971 show that the active channel of the Weber River flowed through this area. The historic channel passed directly across the junction of the two paths, continued northwest directly through what is now Wildcat Storage and the trailhead facility. The construction of I-15 and Parker Drive has encroached on the active channel at this point, forcing the river east, into its current, channelized location. The river overbanks approximately 500 ft south of the trail junction on the Pathway. FEMA mapping indicates that the trail junction is in ZONE AE and the majority of the Creekside Trail is in the 500 year floodplain. During 2011 runoff this area was inundated by a 10-year flood, indicating that the FEMA information May need updating.</p> <p><u><i>It's important to note that the DFIRM identifies most of this area as 100-year and 500-year floodplain. This was a ten year event; this area should be remapped.</i></u></p> <p>Also we may want to separate this into two damage sites.</p>
Habitat Considerations:	None
Flood Damage Repair:	<ul style="list-style-type: none"> • \$5,000-\$15,000

<p>Measures:</p>	<ul style="list-style-type: none"> • Option 1(Flood Damage Replacement) <ul style="list-style-type: none"> ○ Repair path ○ Repair fence ○ Biostabilize left bank at location of overbank. ○ \$30,000-\$64,000 • Option 2 (Flood Mitigation Project) <ul style="list-style-type: none"> ○ Rebuild path to handle overbank flows ○ Remove fence to facilitate overbank flows ○ Create overbank flow path between Weber Parkway and Riverbend Subdivision ○ Reconstruct Weber Pathway to have boardwalk to allow overbank flows ○ Biostabilze overbank area ○ Construct return flow channel upstream of North trailhead and downstream of trail junction. ○ Build offset levee along property lines ○ Install pump station at trailhead to pump stormwater against floodflow head, discharge downstream in Weber River. ○ \$250,000-\$500,000
<p>Photographs:</p>	<ul style="list-style-type: none"> • IMG0192 Trailhead • IMG0193 Looking upstream flood channel • IMG0195 Bank failure at overbank area • IMG0196 Looking downstream at overbank area, flood flow path.

Flood Assessment Point:	#10-Failed Bank Stabilization
GPS Coordinates:	8-16-11 Points 46
Direction to Assessment Point:	This specific location is at the Junction of the Hunter Creek Trail and the Weber Parkway See also Failed J-Hooks Point 50 (8-16-11)
Project Priority:	High Moderate Low X
Description of Damage:	Non systemically planned constructed J-hooks and localized erosion
Structures:	J-hooks, Path
Geomorphic Description:	Similar to other location along the Weber River, these structure were placed to prevent bank erosion and the subsequent migration of the river channel. Installed in the 1980s or early 1990, these structures may have been intended to reduce shear stress on the bank by forcing the flow towards the centerline of the channel. Many of these structures were designed without consideration of systemic response. Other stabilization methods may be more appropriate for this location
Habitat Considerations:	j-hooks cause erosion which contributes to non-point source sediment pollution.
Flood Damage Repair:	<ul style="list-style-type: none"> • \$20,000-\$40,000
Measures:	<ul style="list-style-type: none"> • Option 1 (Flood Damage Replacement Project) <ul style="list-style-type: none"> ○ Remove J-hook structures ○ Use boulders for toe protection/Stabilization ○ Biostabilize bank ○ Toe Stability ○ \$35,000 - \$64,000
Photographs:	<ul style="list-style-type: none"> • IMG0203 • IMG0205 • IMG0206

Flood Assessment Point:	#11-Failed Bank Stabilization
GPS Coordinates:	8-16-11 Points 50, 51
Direction to Assessment Point:	Upstream end is approximately 330ft downstream of the Riverdale Kayak Park on the Pathway
Project Priority:	High Moderate Low X
Description of Damage:	Numerous failed J-hook structures, failed rip-rap and eroded banks and resulted bank failure is approximately 700' long and 10' high.
Structures:	Path, Homes, Land
Geomorphic Description:	These structures (rip-rap and J-hooks) were installed in response to the rivers channelized flow path to protect land and the Parkway. The residential areas to the west of this location were constructed in the late 1970s and early 1980s. Aerial photography from the 1950s shows that the location of the River Valley Subdivision was a historic flow path for the Weber River. Prior to the subdivision development the Weber Rivers geomorphically active floodplain was more than 1000ft wide. The historic photos also show a large oxbow flood channel located in the exact location of 4300 S (A.K.A. Oxbow Dr.) and River Valley Dr. Presently the River is constrained to a corridor that is 100 to 150 ft wide.
Habitat Considerations:	Source of non-point source sediment pollution.
Flood Damage Repair Measures:	<ul style="list-style-type: none"> • \$100,000-\$200,000 • Option 1-(Flood Damage Replacement) <ul style="list-style-type: none"> ○ 700 ft of bank stabilization ○ Remove J-Hooks and use boulders for toe protection ○ Import material to protect bank. ○ \$200,000-\$350,000 • Option 2-(Flood Improvement, Improved Project) <ul style="list-style-type: none"> ○ Remove upper bank boulders and riprap and place 150' D.S. to connect left bank levee (100' Long) ○ Improving D.S. flood overflow channel. ○ \$64,000 • Options 3-(Flood Mitigation Project) <ul style="list-style-type: none"> ○ Remove upper bank boulders and riprap and place 150' D.S. to connect left bank levee (100' Long) ○ Improving D.S. flood overflow channel. ○ Realign Bike Path away from River. ○ Biostabilize Left Bank ○ \$85,000-\$120,000
Photographs:	<ul style="list-style-type: none"> • IMGPO211

	<ul style="list-style-type: none">• IMG0212• IMG0213• IMG0214• IMG0215
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