

SUMMARY OF ALTERNATIVE PLAN  
Friends of Mary Hall Park

## **The Friends of Mary Hall Park Alternative Plan**

### **What is the Proposal?**

The alternative proposal is different than the Kiwanis Organization in that this proposal restricts structures (Rapid City Municipal Code 15.32.060) in the 100 year Floodplain (See FIRM maps) as stipulated by the Rapid City Common Council (December 20, 1999). In addition this proposal emphasizes a more natural, less developed park (different from other Parks in Rapid City) that would provide the children of Rapid City a place to explore and learn about wetland ecosystems in an urban environment. This proposal is more scaled-down version of the original proposal based on the needs of wildlife and issues raised by the public. This proposal reduces the overall cost of implementation and maintenance of capital improvements.

### **Goals:**

- ✓ Provide for protection of unique natural area of Mary Hall Park
- ✓ Provide an educational resource for environmental and science educators
- ✓ Reduce tax burden to the City of Rapid City
- ✓ Provide a natural setting for park visitors.
- ✓ Encourage ownership in Rapid City natural resources by encouraging volunteerism, education and a new experience to the visitors of the Rapid City Park Systems.

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Differences in Proposals:

IMPROVEMENTS	NO ACTION	KIWANIS PLAN	FOMH PLAN	OTHER PLANS	COMMENTS
Bike Trail	Yes	Yes	Yes		
Miles of Interpretive Trail	~.5	~1.4	~.7		
Structures in 100 Floodplain	3	>6	4		
Park Like Setting	No	Yes	No		
Wild Like Setting	Maybe	No	Yes		
Provides Educational Setting	Yes	Yes	Yes		
Provides the best place to find Wildlife Diversity	Maybe	No	Yes		
Provides Park Playground	No	Yes	No		
Protects Stream Corridor/Buffer	No	No	Yes		
Provides for Wetland Expansion	Maybe	No	Yes		
ADA Accessible	Limited to B. path	YES	Limited to B.Path		
Proximity of Parking	.4 mi	.1mi	.4 mi		
Interpretive Stops With information	0	>7	4		
Access to Stream	Yes Limited	Yes - Unlimited	Yes Limited		
Safety for Disabled/Children	Yes Limited To trails	Yes	Yes Limited to trails		
Majority of Landowners Support the Action	Yes	No	Yes		
Total Construction Costs for Plan	55,000	>400,000	~119,000		
Maintenance Costs	2,000/yr.	>8,000/yr	4,000		

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# MARY HALL PARK

## AN ALTERNATIVE CONCEPTIONAL PLAN

December 2001

### INTRODUCTION

This report is designed to provide the Rapid City Parks and Recreation Department decision makers with an alternative to the Kiwanis Organization's Plan to develop Mary Hall Park. The plan features definitive goals, objectives and action statements for this plan. A Biological Review for the area was completed in November 2001 and is available upon request. A rough drawing of the alternative to the Kiwanis Organization's proposal is also attached.

#### Purpose

The purpose of this plan is to provide a conceptual plan to protect and enhance the utilization of the abundant natural resources in Mary Hall Park and meeting the stipulations of the Rapid City Common Council (December 20, 1999), while at the same time providing opportunities for natural resource education.

#### Project Boundary

The project boundary in its broadest sense can be described as the valley (from bluff to crest) that is the hydrological feature of the Rapid Creek Drainage. Most of the goals and objectives of this alternative plan relate to a much more restricted area known as Mary Hall Park.

#### What is the Proposal?

This alternative proposal is similar to the Kiwanis Organization's plan to provide an interpretive and educational trail for children of our community, local schools and organizations to learn about a natural island in an urban setting

This alternative proposal is different than the Kiwanis Organization Proposal in that this proposal restricts structures (Rapid City Municipal Code 15.32.060) in the 100 year flood plain (See FIRM maps) as stipulated by the Rapid City Common Council (December 20, 1999). In addition, this proposal emphasizes a more natural, less developed park that would provide the children of Rapid City a place to explore and learn about how wetland ecosystem exist in and urban environment.

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This proposal is a more scaled down version of the original proposal based on the needs of wildlife species and issues raised by some of the public, the Friends of Mary Hall Park during the last two years. This proposal also reduces the cost of implementation of developing Mary Hall Park and the maintenance cost usually associated with developed urban parks. This plan incorporates recent construction of the bike trail along with more long term goals and objectives for Mary Hall Park. The main objective of this proposal is to utilize the natural riparian vegetation and the natural spring that has existed in the area although urbanization has increased in the areas around this small park. Elements of this plan deals with concerns expressed by the public, the City of Rapid City and adjacent park landowners.

### **Whose ideas is it?**

Mary Hall Park became a part of the Rapid City Park complex when it was conveyed to Rapid City by the heirs of Mary Hall. Mary Hall and her husband William bought this area in 1892 as part of a 160 acre parcel. The park remained "un-developed" for a period of time until some of the area was cleared as a nature trail. The flood of 1972 destroyed most of the trail and the trail was abandoned for a period of time. During the early 1990's students at Stevens redeveloped a small nature trail, along with some interpretive material as part of a school project. In 1999, the Kiwanis Organization developed a conceptual plan for the park along with monetary support to the City of Rapid that would help develop the park. The Rapid City common council has approved the Kiwanis plan and partial implementation of this plan had begun. This alternative conceptional plan was developed as result of concerns about protecting the natural setting of the park and the issues that have not been resolved in the past two years prior to implementation of the Kiwanis Plan for a nature trail. This plan includes input from the Friends of Mary Hall Park, who have an interest in the development and maintenance of Mary Hall Park.

### **What are some of the specifics?**

**Goal 1:** Provide for protection of unique natural areas.

- Protect highly flood-prone open space.
- Develop voluntary guidelines for screening the developments in the area.
- Establish long-term protection guarantees for lime creek and the natural spring in the area.
- Encourage conservation measures for Lime Creek above the park and adjacent to the park.
- Increase public awareness through interpretive trail development.
- Encourage adjacent landowners to volunteer to monitor the park for vandalism, resource damage, water flows and trash accumulation.

**Goal 2:** Develop the park as an educational resource for city schools and other organizations.

- Develop interpretive material.
- Develop curriculum for local schools for the study of science and nature.
- Encourage volunteerism to help educate children during field trips to the park.
- Encourage new interpretive initiatives.
- Enhance partnerships with local natural resource agencies and organizations.

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**Goal 3:** Establish a continuous recreational trail from Rapid Creek to the west side of Rapid Creek.

- Utilize the existing bike trail along Rapid Creek and the new bike path in Mary Hall Park.
- Link this park with other trail systems, with potential expansion of the nature trail to other areas along Rapid Creek.
- Provide support facilities close to Mary Hall Park that would be more readily accessed by the public using the Rapid Creek bike path.

**Goal 4:** Provide a less costly alternative to the Kiwanis Organization's original plan while meeting all of the above goals.

- Reduce the amount of structures in the area.
- Reduce the amount of maintenance dollars needed for the area.
- Help develop a long-term maintenance plan along with potential funding sources.
- Encourage more public participation.

### **What are the benefits?**

- **Meets a majority of the concerns of the Friends of Mary Hall Park, heirs of John and Ida Hall-Reder, while still providing an opportunity for the Kiwanis Organization to provide educational opportunities to Rapid City area youth.**
- Meets federal, state and local laws, codes and regulations regarding protection of wetlands and construction in floodplains and floodways.
- **Meets the City of Rapid's common council stipulations when use on review was granted (December 20, 1999).**
- Meets all of the goals described above.
- Provides a greater learning environment for local educators.
- Greater potential for wildlife viewing and encounters especially to people with disabilities.
- Stabilization and restoration of natural water flow in the park that will protect water resources downstream.
- Protection of unique natural areas such as the natural spring and wetland characteristics in an urban environment.
- Coordination of interpretive services with natural resource agencies (state and federal).
- Enhancement of the public awareness of riparian areas and wetlands.
- Encourages volunteerism.

### **Who will be responsible?**

Ultimately the City of Rapid will be responsible for meeting all of the federal, state and local laws, codes and regulations and any unresolved issues from adjacent landowners. The Parks and Recreation Department will be responsible to maintain the facilities in the park to provide a natural setting, low maintenance costs and public safety. With this alternative plan for Mary Hall Park, the

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Kiwanis Organization and the Friends of Mary Hall Park will provide help with the development of the plan that could include financing, fund raising, volunteer work and development of educational materials that would incorporate local school's education programs.

### **New Facts**

#### **Natural Resources**

The following has occurred in addition to other resource materials provided to the City of Rapid by the Kiwanis Organization at the time of project planning.

- A biological review of the natural resources in the area, including recommendations for future development of the park that would enhance its natural interpretive characteristics. This report is available upon request.
- A review of existing permits by the Corp of Engineers has been completed.
- The Friends of Mary Hall Park group has made a request for wetland designation to the South Dakota Department of Natural Resources and an assessment will be completed in the next year.

#### **Findings**

The lower portions of Mary Hall Park are within the 100-year floodplain with a smaller area also in the floodway (FIRM maps). Wetland characteristics such as hydrophilic plants and hydrology are present in the area. However, to meet wetland criteria a wetland assessment must be completed by the Department of Environment and Natural Resources (DENR). However, the wetland assessment by the DENR would need to be completed during the summer months to determine if the soils meet the criteria. The current permits with the Corp of Engineers are still valid (see 404 permit requests by Rapid City Engineer) but Kiwanis' plans to place asphalt in the floodplain has not been approved. Discussions with representatives from the Corp of Engineers on site indicated that the asphalt material would not be acceptable in future permits. Fill was placed in the floodplain to construct the current bike trail.

The park offers a very good opportunity for wildlife viewing but it is very limited due to the size of the park and the construction of the bike trail. Further developments and trails will negatively impact the use of the area by wildlife. Thus, if a nature trail/interpretive site is the emphasis of any of the proposals for Mary Hall Park, a more natural setting is necessary.

The Kiwanis Organization's plan further degrades the wetland by construction of structures in the wetland area, natural spring and floodplain areas. Their plan does not provide for protection of natural resources, wetland characteristics nor has indicated the cost of the project, cost of maintenance of these structures. In addition, cost of interpretation material for the Rapid City School District has not been part of the planning process and input from the school system has not been given into educational needs.

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## **Interpretation**

As the biological review states, there are opportunities to educate the public in wetland ecology. Interpretation is important to help teachers, students and other interested parties realize the importance of managing their environment. Interpretive materials could be developed to enhance current science and technology studies in area schools.

## **Findings**

Many agencies currently are involved in natural resource interpretation. The results are an overlap of science and interpretive services, while some subjects are not interpreted at all. Funding constraints of most agencies, organizations and especially of the Rapid City Area Schools has affected further development of an organized educational and interpretive plan.

The story of Mary Hall Park in terms of design, construction and use is not thoroughly interpreted for the public. There does not appear to be a plan or funding to develop interpretive material to be used by local schools and agencies nor maintenance of interpretive structures or maintenance of park recreation facilities.

## **THE ALTERNATIVE PLAN**

**Principle 1:** Build upon existing commitments to the public and private sectors.

The Kiwanis Organization has started the process to implementation of this plan. With help from the Friends of Mary Hall Park, further commitments from the Rapid City community, partnerships with local resource agencies and grant funding from various sources could be available to greatly improve the parks natural resources, protect these natural components, develop an interpretive format for the park and school program development.

**Principle 2:** Identify practical strategies that would reduce the effect to the wetlands. In addition, reduce the Rapid City taxpayers' burden from further costs associated with development and maintenance of Mary Hall Park.

The plan format reflects the present circumstances of fiscal restraint. Many important steps to implement this conceptual plan can be initiated without a large financial investment to the City of Rapid City, the Kiwanis, the Rapid City School District and other organizations.

**Principle 3:** Utilize existing authorities for resource protection and enhancement.

Although some additional permits may be required, a majority of the federal and state permit process has been completed by the City of Rapid City for development at this point. The federal, state and local organizations will indirectly benefit from increased awareness of environmental issues. Therefore, there is an opportunity to develop partnerships with these groups that will help with biological, interpretive and other natural resource protection measures. Further developments, such as placing asphalt trails, would require additional permits.

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## HOW DO WE ATTAIN OUR GOALS?

### Goal 1: Provide for protection of unique natural areas of the park.

- Protect highly flood-prone open space by not placing any structures in the normal high flow areas. Remove the gravel placed in the wetland area that was to be used to stabilize the Kiwanis' interpretive trail. Allow natural vegetation to begin suckering and expansion. Control noxious weed infestations by more natural methods (e.g. pulling or wick method). Chemical control would degrade the wetland area and plant diversity.
- Reduce the amount of area disturbed by construction and potential disturbed areas by park users. This will enhance wildlife habitat, increase the wildlife viewing and learning potential for educators and people with disabilities.
- Develop voluntary guidelines for screening developments in the area (e.g. houses and businesses). Transplant native shrubs in the park adjacent to private land that would be conducive for wetland restoration and wildlife enhancement. Encourage planting of native trees on private land. Decrease the amount of mowing adjacent to landowners to allow natural vegetation screening and provide the public with a definitive delineation of private versus public land without adding structures in the floodplain.
- Create areas of seclusion for wildlife. Enhance natural vegetation through planting of native grasses and forbs especially plants that are part of wildlife life cycles. Limit the amount of disturbed areas for group gatherings to designated spots but allow for exploration of individuals.
- Establish long-term protection guarantees for Lime Creek and the natural spring in the area. A plan for recreation capacity needs to be developed, along with habitat protection measures, either through barriers to dispersal (vegetation) or through rules of the trails.
- Encourage conservation measures for Lime Creek above the park and adjacent to the park that would enhance stream health by asking the City to provide silt deposit areas for trash, salt, and chemicals that are a result of storm drainage flows into the Park. Develop a brochure to send to area residents regarding good resource management of the stream, things that landowners can do to protect their natural backyard.
- Encourage adjacent landowners to volunteer to monitor the park for vandalism, resource damage, water flows and trash accumulation. There is already a vested interest of most landowners adjacent to the park. Incentives can be established that would further enhance interest. Rapid City Clean Up Day would be a great time to get a neighborhood together to clean the park.

### Goal 2: Develop the park as an educational resource for city schools and other organizations.

- Increase public awareness through interpretive trail development. Newspaper articles, brochures and web site information can increase awareness and easy accessed educational materials. Adopt a Watershed Program, Earth Day, Migratory Bird Day, and other national programs can also be utilized to spread the word. Encourage the use of the area by natural resource specialists, educators, parents and grandparents.



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- Develop interpretive material. It would be really nice to have a guided self-tour that can be printed off of a web page. This would allow families to interact on a given day without having to wait for office hours.
  - Develop curriculum for local schools for the study of science and nature. The SDGF&P department has a "biosource" program that incorporates the national WET, WILD and PROJECT LEARNING TREE programs. Make materials available through the library (check out boxes) for educators.
  - Encourage volunteerism to help educate children during field trips to the park. Earth Day, National Backyard Bird Survey, Migratory Bird Day and other national citizen science programs can be utilized to help children understand the natural dynamics of the park (most of these have programs available on the web). Volunteers such as the Boy Scouts and classroom projects can build bat boxes, birdhouses etc that will help with providing wildlife homes in the area.
  - Encourage new interpretive initiatives that increase public involvement in Rapid City Parks and Recreation Programs. Encourage any other extensions of the Mary Hall Park Interpretive Trail throughout Rapid City.
  - Enhance partnerships with local natural resource agencies and organizations to provide funding and resource materials for use by the Rapid City area schools. There are several organizations such as Environmental Protection Agency, National Wildlife Fund, Nature Conservancy and National Wild Turkey Federation etc. that would be interested in funding small projects.
  - Establish summer nighttime guided tours by area specialists to talk about nocturnal wildlife.
  - Explore opportunities to provide an "interpretive mobile classroom" that would hold natural resource supplies, materials and equipment that would be available to Rapid City Area educators.

**Goal 3:** Establish a continuous recreational trail from Rapid Creek to the west side of Rapid Creek.

- Utilize the existing bike trail along Rapid Creek and the new bike path in Mary Hall Park. Instead of the interpretive center and parking lot being placed in the park, propose a plan to include interpretive materials that include more developed areas along Rapid Creek.
- Link this park with other trail systems, with potential expansion of the nature trail to other areas along Rapid Creek. This is a larger vision of interpretive project planning that has not been explored. Long term goals and objectives should be developed to help with future city planning and funding.
- Provide support facilities away from to Mary Hall Park but within a short walking distance to the park that would be more readily accessed by the public using the Rapid Creek bike path. Existing parking is available less than ¼ mile from the Park that includes the Canyon Lake Senior Citizen Center and the McKeage Field. This parking lot is usually empty during prime school periods or summer programs. Buses and a large number of vehicles can be accommodated near the City Park and Recreation Offices in the Ball Field Parking lot. This would reduce the cost of construction of a new parking facility and maintenance. The interpretive center can be incorporated into a new design for the Rapid City Parks and Recreation Offices (Future Plans).

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**Goal 4:** Provide a less costly alternative to the Kiwanis Organization's original plan while meeting all of the above goals.

- Reduce the amount of structures in the area as stipulated by the granting of the Use on Review. Reducing high maintenance structures such as parking lots, lighting, interpretive center (cooling in the summer and heating in the winter), playground equipment etc will reduce the initial costs of the project and reduce maintenance costs in the future.
- Reduce the amount of maintenance dollars needed for the area. Plant the area to natural vegetation and reduce mowing of the area, except near the bike trail. Do not place any structures or trails on areas where soil and water will provide an unstable base for a high use trail, especially when open to people with disabilities. Reduce the amount of structures in the 100-year flood plain and wetland to prevent damage from high water events and increased maintenance costs for the City.
- Help develop a long-term maintenance plan along with potential funding sources. Since the City of Rapid City or its taxpayers have not considered this, this would help sell the project to the public if costs are reduced. Rapid City has difficulty with maintaining their current commitments such as Story Book Island complex, Canyon Lake Complex and Robbinsdale Park Complex.
- Encourage more public participation, including small business and corporate donations. This will reduce costs of construction, implementation of the interpretive trail and maintenance costs. Free labor of love can produce good results and builds ownership with the park.

## **DEVELOPMENT AND MAINTENANCE COSTS**

The following table is a break down of costs would be part of the alternative plan. These cost figures are only a ball park estimate of costs associated with this plan and is above and beyond the normal costs associated with nearby park resources. Items in bold have been completed to date.

COST ESTIMATES FOR ALTERNATIVE PLAN FOR MARY HALL PARK <sup>1</sup>								
IMPROVEMENT	FY	PLANNING		CONSTRUCTION		MAINTENANCE		POTENTIAL SOURCES
		Direct	Donated	Direct	Donated	Direct	Donated	
Plan Development	1999	5,000	10,000	-	-	-	-	Kiwanis Organization Friends of Mary Hall
401 and 404 Permit Process	2001	5,000	-	-	-	-	-	Rapid City Engineer
Bike Path (includes reclamation)	2000-2001	7,000	2,000	50,000	5,000	>2,000	Potential	City of Rapid Kiwanis Org.
Removal of Gravel	2002	-	500	1,000	1,000	-	-	Kiwanis Org. City of Rapid Volunteers
Rehab in Wetland	2002-2003	-	500	1,000	5,000	-	1000	Kiwanis Org. City of Rapid Volunteers
Planting of Native Grasses and Forbs	2002	1,000	2,000	1,000	2,000	-	1,000	Kiwanis Org. Volunteers
Mowing along Bike Trail	2002	500	-	-	-	1000	-	City of Rapid
Interpretive Signing	2002	-	5,000	3,000	2,000	1,000	Potential	City of Rapid Kiwanis Org. Friends of Mary Hall
Interpretive Materials	2002-2003	5,000	10,000	5,000	5,000	-	5,000	Rapid City Schools, Kiwanis, Other Organizations
Construction of Viewing Platform and group Seating Area (above floodplain)	2003	5,000	Potential	5,000	Potential	1,000	Potential	City of Rapid Volunteers Kiwanis Org.
Web Site Development	2002	-	5,000	-	-	-	1,000	Volunteers Rapid City Area Schools Rapid City

<sup>1</sup>Costs are generalized and may not be a true reflection of actual costs.

**Friends of Mary Hall Park  
Alternative Plan Proposal  
12-04-01**

Intro: Friends of Mary Hall Park, In agreement with Kiwanis's idea and thank them for their vision. We would like to state again our interest in working with the Kiwanis on this project.

**Goals of the Friends of Mary Hall Park**

**Goal 1: Protect the natural setting of the park.**

- \*Protect highly flood prone open space by eliminating structures
- \*Allow natural vegetation to grow and begin expansion
- \*Reduce the amount of area disturbed by construction and recreationalists - which will enhance wildlife viewing and learning potential
- \*Create areas of seclusion for wildlife. Enhance natural vegetation through planting of native grasses and forbes
- \*Let this park be different from the other parks in RC. Let it have a focus of conservation and biological study rather than recreation

**Goal 2: Provide for protection of unique natural areas.**

- \*Establish long-term protection guarantees for lime creek and natural spring
- \*Encourage conservation measures for Lime Creek above the park and adjacent to the park. Provide for stream health by asking city to provide silt deposit areas for trash, salt and chemicals that are a result of storm damage.
- \*Encourage adjacent landowners to volunteer to monitor the park, Rapid City Clean up day could be easily utilized in the park

**Goal 3: Develop the park as an educational resource**

- \*Develop interpretive material
- \*Work with the public schools to develop our curriculum to match theirs
- \*Encourage volunteers to help educate children during field trips. Utilize boy scouts and school children to build bird houses and bat houses.
- \*Establish summer nighttime guided tours to talk about nocturnal wildlife.

Goal 4: Provide a less costly alternative to the Kiwanis's original plan, while meeting all of the above goals.

- \*Reduce the amount of structures
- \*Reduce the amount of maintenance dollars needed. Plant natural vegetation, reduce mowing, do not place paths in areas where soil cannot provide a stable base for high trail use.
- \*Develop a long term maintenance plan along with funding sources, which will limit unnecessary costs to the city of Rapid City and its taxpayers
- \*Encourage more public participation. Free labor of love can produce good results and builds ownership with the park.

### Recommendations:

1. Keep this area as natural and "wild" as possible
2. Eliminate nature interpretive trail from the wetlands  
Corps of Engineers prohibits use of recycled asphalt  
Wetlands - Roy Basoy  
Trail in the Floodway - costly high maintenance  
Destruction of riparian area = wildlife habitat
3. Protect natural spring, do not build crossing or observation deck in the wetlands
4. Maintain the park as a walk in or bike in area
5. Look for another location for interpretive center building therefore there would be no need for a parking lot.

### Goals

1. Protect natural Setting of the Park
2. Provide for protection of unique natural areas
3. Develop park as a educational resource
4. Provide a less costly alternative to the Kiwanis's original plan

# MARY HALL PARK BIOLOGICAL REVIEW

## **BACKGROUND**

Mary Hall Park was originally part of a large parcel that has since been converted to residential homes. Mary Hall deeded the land to Rapid City to be utilized as a park with stipulations on the deed that if the land was vacated by the city, that the land would revert to the heirs of Mary Hall.

Mary Hall Park is currently owned by the City of Rapid City, South Dakota. This park is located in the NE quarter of the NE quarter of Section 4, Township 1N and Range 7E of Pennington County, South Dakota BHM. Mary Hall Park is approximately 10 acres in size and is surrounded on all four sides by residential homes, state land and federal land. This park is within the limits of Rapid City. The city has designated this area as park land and has just recently constructed a bike path that connects the Rapid Creek bike path with Brookside and South Streets. Approximately two years ago, a proposal was submitted by the Rapid City Area Kiwanis Organization to develop an interpretive nature trail in this park to the Rapid City Public Works Department. The concept was similar to the Saratoma Organization's park in Sioux Falls. These plans for Mary Hall Park include approximately ¾ miles of trail, approximately 30 vehicle parking lot, restroom facilities, interpretive center building, playground area, and interpretive gathering areas near the stream and natural spring. Estimated cost of the Kiwanis Organization's proposal is not known but I would guess it is estimated to be over \$200,000.

The Kiwanis core group states that, after public review and city review, the Kiwanis Organization was given permission to proceed with their plans for this park. After starting construction of the interpretive trail, local landowners, and some of the heirs to Mary Hall raised issue with the Kiwanis' plans to develop this park area. This biologist was originally contacted by Wally Van Sickle, landowner, regarding alternative methods for construction of the interpretive trail and then by Russell and Joyce Payton regarding the development of Mary Hall Park. The Paytons asked that I meet with them to give some input into the Kiwanis Organization's plans and if necessary, provide input into an alternative to the Kiwanis Organization's original plans. I met with Russell and Joyce Payton, Randy and Mary Daughenbaugh on Saturday, November 10, 2001. Lori Root, who has experience in interpretive programs and fisheries, also attended the meeting.

## **FIELD REVIEW**

The Mary Hall Park is a small ten acre parcel of bottomland with approximately 4.5 acres considered wetland. This area is located directly below the confluence of three major drainages (See USGS Map with attachments) and is in the 100 year floodplain. The

major stream that flows through the area is Lime Creek. The area has been heavily influenced by high flow events most notably in 1962 and again in 1972 (personal communication with Dr. Gerti Janss, adjacent landowner) and annual spring/summer runoff from thunderstorms. These high flow events change the course of the stream along with depositing trash and debris into this wetland. Large woody debris is still evident along with old bridge workings and a cement water diversion structure. The area is fed by springs located near Lien Quarry, City Springs and a small spring located in the park itself. There is approximately 7040 acres within the Mary Hall Parks watershed with approximately 10% of the surface area developed residential area. A watershed analysis was completed in 1994, which helped delineate the 100 and 500 year flood levels for Lime Creek which included Mary Hall Park. Since a large portion of the watershed consists of the Nemo Road reconstruction, residential houses, residential streets and cleared drainages (e.g. mowed), it is not known what effect these unimpeded surfaces along with the remaining effects of the Westberry Trail Fire will have on drainage areas in this portion of west Rapid City if a high rainfall event occurs (e.g. >2"/hr.). A watershed analysis would need to be completed by a qualified hydrologist to determine specific risks to the Kiwanis plan but the park appears to be in the alluvial flow areas for these drainages.

The stream course is serpentine in nature and will continue to change course due to the nature of the drainage substrait (loam soil) and lack of willow vegetation to stabilize the banks in some areas. The very nature of the stream substrate may impact adjacent private land, especially where the stream course is restricted by high embankments and "improvements". The stream itself is showing signs of heavy sedimentation deposits which is affecting the macroinvertebrate populations in the stream in some areas. It was also noted that the stream has an active beaver dam which is being modified daily by one of the local landowners and could also causing the sediments to be heavy at times downstream. Although there appears to be a diverse group of hydrophilic plants, there are indications that there may be a potential problem with contaminants from street and private land (e.g. salts and chemicals). At the time of the review, sediment control structures (e.g. Silt fences) were not in place to protect the stream from runoff either from recently disturbed areas or from city streets and storm drains. Potential runoff from the disturbed areas will likely add sediments to this small stream.

Above the park, water has been diverted onto a channel that extends along several pieces of private land. This diversion channel affects the amount of water flowing in the stream and most likely will impact the wetland during drought. I was told that this channel will not be allowed in the future by the city. The removal of this diversion "stream" will most likely cause additional sediments and disturbance to the park while the stream course changes. This change will likely change the amount of flow in Lime Creek but will change the overall riparian area in the park. Landowners may be affected with changes in the stream course, impacting ornamental trees and backyard size. At the time of the field review, this diversion channel drains into the main stream around the natural spring area. An active beaver was noted adjacent to private land with numerous trees being cut down for dam construction. Reduced flows, natural wetland characteristics have made the park and ideal home for beavers. A beaver trap had been installed by the State Trapper due to

calls from the most affected landowners. Removal of the beaver dam materials was evident, especially by the use of heavy machinery (e.g. tracks noted). I was informed that this beaver had recently moved up stream due to the interpretive trail construction. However, there were indications that beaver had been present in its current location. The beaver is removing large trees and smaller trees to make its dams and home, which will cause problems with landowners within ¼ mile of the beaver complex.

The riparian shrub vegetation consists mostly of coyote willow, with a mix of ornamental crab trees, elm, boxelder and cottonwood over story. There appeared to be a healthy group of willows prior to construction of the interpretive trail and bike trail. At the time of this review, the park had been heavily impacted by construction of the bike path and interpretive trail. These impacts have removed approximately 30-40 % of the ground cover and approximately 10- 15 feet of willow vegetation adjacent to both the bike trail and the interpretive trail. The interpretive trail is approximately 6 feet in width and approximately 10-15 feet from the stream course. The trail is under construction and at this time, consists of 2-4 inch gravel that was showing signs of rutting and soil movement from motorized vehicle use. The soil under the gravel was moist and wet which is very typical of wetland soils and water flow through these soils. The interpretive trail appears to be lower than the creek in some areas.

The disturbed areas have been drill seeded with a mix of non-native sod forming grasses and native sod forming grasses which will mostly likely cause a shift in the vegetative ground cover in the future. Most of these species will out-compete most native grasses and forbs.

In the uplands away from the riparian area, a large area was disturbed and reseeded to connect the bike path to South Street. Therefore, the original slope and existing vegetation cannot be determined. However, based on other upland sites in the area, the vegetation could have been smooth brome and Canadian thistle since the bottomland below the park is almost exclusively smooth brome and alfalfa, which is typical for hay meadows. Since smooth brome is a highly competitive non-native sod forming grass, this vegetation would exclude most flowering species and trees thus decreasing vegetative diversity in the area.

At the spring area, there were indications of noxious weeds and organic debris being dumped in the area, especially grass clippings. Other trash and debris was evident with some areas of localized trash dumping, which could be a result of transients using the area. The area toward the northwest of the spring had been mowed periodically to maintain a "park-like" atmosphere for the public and a dog run area. This mowing has precluded any expansion of the riparian community, especially by willows, by removing the leader shoots.

The bike path has been paved by asphalt. Its location appears to be on the higher elevations of the wetland but will most likely be an area of high maintenance in some areas due to its location and the natural flow of water in the park. I was told that the machinery that built the bike path was sinking in the moist soil therefore fill was needed



to stabilize the path. The culverts that cross the streams do not appear to be adequate for high flow events, thus causing a large sedimentation load when they fail. The path does cross the stream in two locations that also fragment the riparian area. However, it would be difficult to place a path in this area without impacting the riparian vegetation.

Riparian areas while very fragile, also have the great ability to heal after disturbance. In my opinion, the riparian area will return to a more natural state if further disturbance is kept to a minimum and a cessation of mowing and vegetation clearing by both the city and adjacent landowners. The construction of the bike path and interpretive trail has further fragmented the small wetland shrub community into small isolated patches of willow. In addition to the ground disturbance activities, the private land owners and the city have mowed large areas above the spring which has impacted the riparian vegetation. During the field visit, Canadian thistle was noted as part of the natural vegetation, which will likely explode in numbers due to the disturbance. The control of this noxious weed will become a major problem in the park and to adjacent landowners if not controlled effectively. Herbicide and pesticide use adjacent to water is limited to specific products. These herbicides may greatly alter the riparian species both in-stream and the adjacent vegetation by reducing species diversity. Runoff that includes chemicals and salt will affect the productivity of the area, water quality and pH levels.

At the time of the visit, the area was being explored by the public by various modes of travel such as motorized vehicles, bikes and walking. The motorized traffic has compacted the seeded areas which may not allow germination of grasses.

Overall, the area cannot be considered pristine due to introduced plant species, past disturbances, current disturbances and overall effects of being a small wetland in the middle of an urban city environment. There appears to be a large construction machinery storage facility to the north of the park that may add non-point pollution to the wetland during high run off periods (e.g. oil and hydraulic fluid).

Storm runoff with contaminants from city streets will continue to negatively impact this park and will most likely affect the pH levels of the stream and surrounding wetland. Any changes in pH will limit the amphibian and macro-invertebrates that utilize this area. There did not appear to be any structures or vegetation that would limit the effects of storm runoff.

## ***ISSUES RAISED***

During the field review and subsequent meetings with the Friends of Mary Hall Group and the Kiwanis Organization, I have managed to glean a few issues that need to be addressed concerning the park. I have tried to summarize these issues so that the following recommendations will be made clear.

- ❖ **Accessibility to the public especially to children and families.** *This issue has caused polarization between all parties that have a stake in this park area. On*

*one side, the area needs more accessibility to nature and stream on the other side there is already too much accessibility from the bike path.*

- ❖ **Wildlife impacts to private land from development of interpretive area.** *This included increased use of the area by wildlife such as coyotes, skunks, raccoons, snakes, beaver and mosquitoes. This effect was acceptable by most private land owners since this was already occurring prior to development. This aspect was also the desire of the Kiwanis Organization.*
- ❖ **Amount of use of the area.** *This issue included most of the negative effects usually associated with an increase in recreational use of an area such as increased crime, transients, trash accumulation, parties, drugs and private land trespass. The private land owners complained of recent problems with people riding bikes on their land due to the bike path. The Kiwanis group did not think that these effects would be more than the area currently has, in fact they felt that the development of the park would reduce these effect due to increase public use and police patrols.*
- ❖ **Conflict between recreational users.** *This issue is has also caused polarization of all parties that have a stake in this park area. Bikes assume right-of-way while children on a class nature expedition will need space on the paths. The loop trail created by the connection of the interpretive trail and bike trails may end up with some people getting hurt. The Kiwanis group was not responsible for the bike trail and agreed that the bike trail would cause a conflict with users. This item should have been addressed by the city, when reviewing the Kiwanis Organization's plans for the park. At the time of the field review, bicyclists were somewhat irritated when a large group was in the path. This issue was discussed at both meeting but could not be resolved.*
- ❖ **Too much planned development for such as small area.** *This issue has caused the most polarization between the Friends of Mary Hall Park and the Kiwanis Organization. The Kiwanis Organization maintains that the area needs all of the planned structures to provide teachers more control of class groups and use of the area. In addition, the city requires certain structures such as parking lots for developed parks. However, the Friends of Mary Hall maintains that the area is too small to withstand all of the structures planned and still be able to provide a learning environment for kids that features a natural setting with lots of wildlife and plants. The Friends of Mary Hall believe that the Kiwanis Organization's development plan will destroy the very things that they wish to utilize for education of the natural environment.*
- ❖ **Lack of Communication by both parties.** *This issue could have been neutralized by personal communication with adjacent landowners and heirs to Mary Hall (e.g. living room groups or public meetings) during the plan development phase and an exchange of issues and pertinent resource information. There appeared to be a break down between all parties, further*

*compounded by the unwillingness of the Kiwanis Organization to share information after the issue was raised about the construction of the interpretive trail. However, the adjacent landowners did not provide timely input into the proposal. I was told that a letter was sent in 1999 informing the landowners of a public meeting to be held regarding future plans for the park. Evidently, at the meeting, some ideas for the park were discussed but no formal plan was indicated. After this initial meeting, there was little shared with the adjacent landowners until they saw the construction equipment. Most people indicated that they were not included in the formation of a proposal nor informed of the finalized plan. This break down in communication by the city and the Kiwanis Organization may have not allowed the Friends of Mary Hall Park group to provide timely input. When construction started, the Friends of Mary Hall group were concerned that federal and state laws regarding wetlands have been overlooked. Both parties failed to adequately address issues in a timely or effective manner but this is typical when adequate notification of adjacent landowners and public does not occur.*

- ❖ **Cutting down of trees by beaver.** *Although the beaver complexes were identified as a potential interpretive gathering area. The beaver in the area moved upstream after the construction of the interpretive trail. The beaver has already chewed down several trees in the area. Although there are methods to control the beaver ponds level (e.g. beaver baffler), there is not an effective method to prevent beaver from cutting down prized ornamental trees. This issue would become a neighborhood nightmare and a costly expense to the landowners, thus would cause friction between interpretive coordinators and adjacent landowners.*
- ❖ **Economics of the plan and maintenance of the area.** *This issue was raised by several people that were concerned that the very nature of the wetland will cause maintenance headaches for the city, along with high cost of reconstruction of structures, if high flow event occurs. This would include debris removal along trails adjacent to drainages and streams, sediment accumulation along trails, vandalism of interpretive structures etc. Several people inquired as to who was going to be responsible for the upkeep of the trail, interpretive center and whether the Rapid City School District would utilize the area for their science programs. Although the Kiwanis Organization maintains that they had input from teachers and other park specialist, there did not appear to be a plan, or city dollars to maintain this park into the future nor a plan on how this area is to be incorporated into the Rapid School System education programs.*
- ❖ **Implications of changing the proposed plan.** *This was an issue of the Kiwanis Organization that did not appear to be adequately defined for the Friends of Mary Hall Park for them to understand, let alone sympathize. The Kiwanis Organization has spent a considerable amount of their time and money in getting this project to the implementation phase. Donations have been accepted on behalf of the proposed plan along with a lot of time spent on planning, going to*

*city meetings (going through the hoops and fund raising). Fund raising appeared to be a big issue to the Kiwanis Group but they did not expand on what effect of the alternative plan would do to these donations. The core group of the Kiwanis does not understand why after two years of public scoping and preparing for this project that all of a sudden they are met with opposition for such a good idea. This issue not only appears to be a time and money issue but also an emotional issue with most of the core members (e.g. legacy project). The Friends of Mary Hall on the other hand do not understand why the plan cannot be modified by the Kiwanis Organization or the City. Since most of the money for the Kiwanis Organization's proposal is not available at this time, the Friends of Mary Hall Group feels that a modified plan that reduces structures and trail system would save money in the initial construction costs and reduce the amount of area that would require upkeep and maintenance. The tax payers will be required to pick up the remaining costs of this proposal and maintenance of this park area*

- ❖ **Destruction of wetland habitat and creation of corridors for predation.** *This issue was raised mostly by this biologist. Current literature indicates that some riparian species, such as warblers, require less "edge" in suitable habitat to reduce predation, nest disturbance and potential brood parasitism by cowbirds. Approximately 60% of the nations wetlands have been lost, which is causing declines in migratory bird species. Trails and structures that allow access into dense riparian shrub vegetation will increase the chance of nest disturbance by humans, reduced security from predators (increased sight ability) and habitat loss due to repeated disturbance. In addition, increase edge will limit the ability of the wetland to maintain the moist microclimate that enhances amphibian, reptile, and macro-invertebrate species (e.g. butterflies, mayflies) use. This moist climate provides protection from temperature extremes and wind intercept that most riparian wildlife species require. There is a potential of drying out the wetland due to loss of vegetative structure thus increase the evaporation rate of this wetland. Further loss of vegetation will occur by construction on top of the spring and bank erosion cause by trampling along the bank of the creek. In addition, by building a platform over the existing spring would most likely cause the spring to go underground (shallow aquifer). These biological concerns were discussed with both groups after the field visit. The Kiwanis Organization recognized that there would be problems with the interpretive trail during construction due to the amount of clearing and graveling that has been utilized to stabilize the trail but they felt that the construction would not impact the area long term. The Kiwanis Organization said that the area had been evaluated for all of these concerns and until now, none of their experts had expressed these concerns. The Friends of Mary Hall group wanted to see any reports that discussed these concerns or talk with the experts. They said that they had already observed changes in use by wildlife, and they were afraid that the area had not undergone adequate analysis of wetland ecology and impacts prior to construction.*

## **RECOMMENDATIONS**

For the Mary Hall Park, most of the habitat has been altered either by construction, mowing, planting of aggressive non-native plant species and street runoff. However, with careful planning and changing of habits of private land owners through education and partnership, this little park can still provide an excellent opportunity for teachers to take classes on a short field trips to conduct experiments, nature viewing and to discuss the positive and negative management of wetlands in an urban setting.

I commend the Kiwanis Organization, especially the core group for wanting to develop this little piece of wetland habitat into a natural interpretive trail. The Kiwanis Organization core group has a great vision for the community and especially for children that can still be attainable through modifications. I also commend the Friends of Mary Hall Park for their courage to take the initiative and exercise their public right to change what their city parks provide for the community. There appeared to be common ground among both groups which I have tried to follow up with my recommendations. However, some mediation between these groups will be necessary to bring these groups to consensus. I feel that the negative rhetoric on both sides have built an atmosphere of mistrust and polarization. The City of Rapid City needs to inform the tax payers of the additional costs both in implementation and maintenance of this project. My feeling is that this project has not been evaluated for total costs, increased taxpayer's burden and for maintenance. Overall, I think that the concept of a nature trail is a great addition to Rapid City Parks Department but could be more effective for education while reducing costs. I hope that the Kiwanis Organization and the Friends of Mary Hall Park will work together to make this vision a reality.

### **General Recommendations**

Make sure all Federal, State and City Regulatory Agencies are involved in the development of the final plan for Mary Hall Park. There are specific rules, guidelines and mitigation for disturbance in a wetland/riparian area required under federal law. These need to be followed to reduce the negative effects to this park and to areas downstream (e.g. Rapid Creek).

Complete a watershed analysis that incorporates the effects of continued expansion of residential development, highway construction, wildfire potential, and point and non-point pollution sources. This analysis should include direct, indirect and cumulative effects to this particular watershed and subsequent wetland. This will allow maintenance problems to be anticipated, which will allow better planning of budget dollars, volunteer services and city park work loads.

To develop consensus between all interested parties (including the public), a committee needs to be formed to address the issues that have been raised. This committee should have a mediator that can provide an objective view of both sides of the issues. Although these issues were not raised in a timely manner, I do not believe that the current Mary

Hall Park will survive unless there is a partnership between the adjacent landowners, Kiwanis Organization, Rapid City Parks Department, South Dakota Game, Fish and Parks, United States Geological Survey, Rapid City Parks Department, Rapid City School System and the United States Fish and Wildlife Service. This partnership will provide valuable input into the care and maintenance of the wetland species diversity while providing educational opportunities for educators and families.

Look for opportunities to expand the nature trail but away from wetland core areas. Any trail that is constructed on wet soil will undergo constant softening from water and frost heaves. Maintenance would be cost prohibitive. Potential opportunities exist to utilize other areas for an Interpretive Center. I actually recommend that the city might consider this Interpretive Center to be located where the current City Park Offices are located. This location would be readily accessed by users of Sioux Park, Canyon Lake Park and local schools. Parking is already available that would not conflict with current uses of these parking areas (during school and summer programs). Reclaim natural wetlands by reducing clearing of stream corridors. Expand the nature trail through partnerships with Federal, State and local agencies where feasible.

Public safety should be incorporated into the development of the nature trail. Although the bike path is a wonderful addition to the bike trail, there is a great potential for conflict between the nature trail and public safety. Every effort should be made to reduce these concerns. To provide for a safe trail, the city usually clears the vegetation to a certain distance to keep the public safe from hazards and safe from potential crimes. This clearing will impact some parts of the wetland. With careful planning of the main trail and interpretive gathering stops adjacent to the paved trail, this habitat fragmentation and clearing could be kept to a minimum. A curfew for use of the area could be assigned like many other park areas in the city. This would reduce the impact of parties, transients and other criminal activities occurring after dark. Other opportunities to reduce conflict between users could be a change in current bicycle path to walking path, delineation of bike lane, etc. Pets should be leashed to minimize the disturbance to wildlife in the park.

### **Site Specific Recommendations:**

Feature the bike path as the interpretive trail to minimize the amount of disturbance in the park. Reduce the amount of disturbance to the wetland community by removal of interpretive trail along the creek, playground, parking lot and several of the interpretive gathering areas. There are other areas within ¼ mile walking distance that allows easy access to the park, other streams and "park like" areas. This area should look different from other city park areas if it is to be truly a nature trail and not like other parks in the city. Parking for buses and large groups can be accomplished by parking in the ball field parking area and walking up the new path. These playgrounds, parking areas, gathering areas and trails further impact the wetlands by increasing human/wildlife disturbance, habitat destruction, creation of artificial edges and increase potential of sediments and contaminants into the stream. This will also decrease the potential for large group

parties, drug use and other negative aspects that utilize quick in and quick out access. The city can change regulations to make this park proposal work.

Do not construct a platform over the spring. The amount of disturbance caused by heavy machinery to excavate the space for the platform, sinking of pylons, and bridge to the platform along with increase recreational impacts (trampling, trash and disturbance) may impact the hydrological spring flow and potentially cause the spring to go underground thus drying up the wetland. I would suggest an accessible overlook adjacent to the bike trail with railings to protect the public, while also protecting the spring.

Provide adjacent landowners with a visual break between private land and City Park through planting of native shrub species (e.g. willows) that will provide a visual screen so that park visitors do not disturb these owners. Allow mowing only in designated areas, along the bike path and for gathering areas adjacent to bike path. Natural vegetation should be allowed to grow (except for noxious weeds) to enhance macro-invertebrate species and structural diversity while providing cover from human disturbance and predators.

Remove all non-recyclable material from area, especially where stream course may be negatively affected by this material. Course woody debris such as down wood, and some flood debris (e.g. logs) should remain on site, along with vegetative litter and duff. This will enhance the natural aspect of the area along with providing necessary roosting and breeding sites for amphibians and reptiles. Develop partnerships with landowners, volunteer organizations or church groups to help with trash clean up and to report any maintenance needs. An "Earth Day" or Rapid City Clean Up Day project would be a great way for local natural resource specialist to educate while having fun.

Feature native warm and cool grass species and short grass prairie species along the drier, less mesic areas of the park. Native grasses and forbs should be planted and or seeded to provide an area where educators and families can discuss the convergence of two grassland ecosystems that is typical of the Black Hills. A high emphasis should be on native forbs species that will provide nectar and host plant sources for native butterflies, including plants that were utilized by the Native peoples for medicinal and cultural use in the Black Hills Area. Butterfly viewing areas should be located above the riparian areas and in small clearings in the upland sites so that children can gather information about these species.

Aggressively reduce the amount of non-native, very competitive species in the area such as smooth brome and the introduced crested wheatgrass and other sod formers. Consider all tools, including prescribed fire to reduce these species. Although landowners were not in favor of this tool, education, careful planning and burning in small ½ acre blocks during the green up stage will reduce these species. Any plans to reduce non-native species should incorporate conservation strategies for species of concern and rare species that might utilize the area (e.g. Regal Fritillary and Tawny Crescent butterflies).

The beaver in the area are natural part of a wetland but in an urban setting, it is wise to remove this species from this particular park. Control will be necessary periodically but I highly recommend that beaver only be moved during the spring and summer months. Education of the local landowners will be necessary to protect their ornamental trees from becoming beaver dam material.

A plan for education needs to be developed for the school systems and for other educators. There is a plethora of education materials available from the South Dakota Game Fish and Parks Department, the Partners in Flight Program, the Environmental Protection Agency, the United States Fish and Wildlife Service and many more. A plan for certain age groups, class sizes and education needs will be essential in making this park usable to educators. Information on these materials can be sent upon request.

## **MISCELLANIOUS**

Estimated costs of the Kiwanis Organization Proposal is greater that \$200,000 to implement the full proposal. This does not include the bike trail which cost the city \$50,000 to connect the existing bike trail system to South and Brookside Streets. Based on wetland soils and water flows, the interpretive trail, four gathering areas will require constant maintenance and materials to maintain accessible areas for disabled persons and are likely to be abandoned due to safety concerns and the high costs of maintenance.

Estimated costs of the alternative proposal would be approximately an additional \$50,000 to implement utilizing the existing bike trail and the nature trail. This cost would be for gathering area near the spring, interpretive signing and seeding. Estimate cost of maintenance to the city would be similar to their costs to maintain the bike trail system.

These cost estimates are a general ball park estimate. Cost for both proposals could increase based on interpretive design, increases in construction cost and unforeseen barriers to construction (wet soils and large debris). In addition, costs of the project can be reduced by using donated time and materials from the citizens of Rapid City.

A cost estimate of either proposal needs to be in place, along with plans for funding before the area is further developed as a city park.

/S/ Patrice Crawford Lynch  
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Wildlife Biologist

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