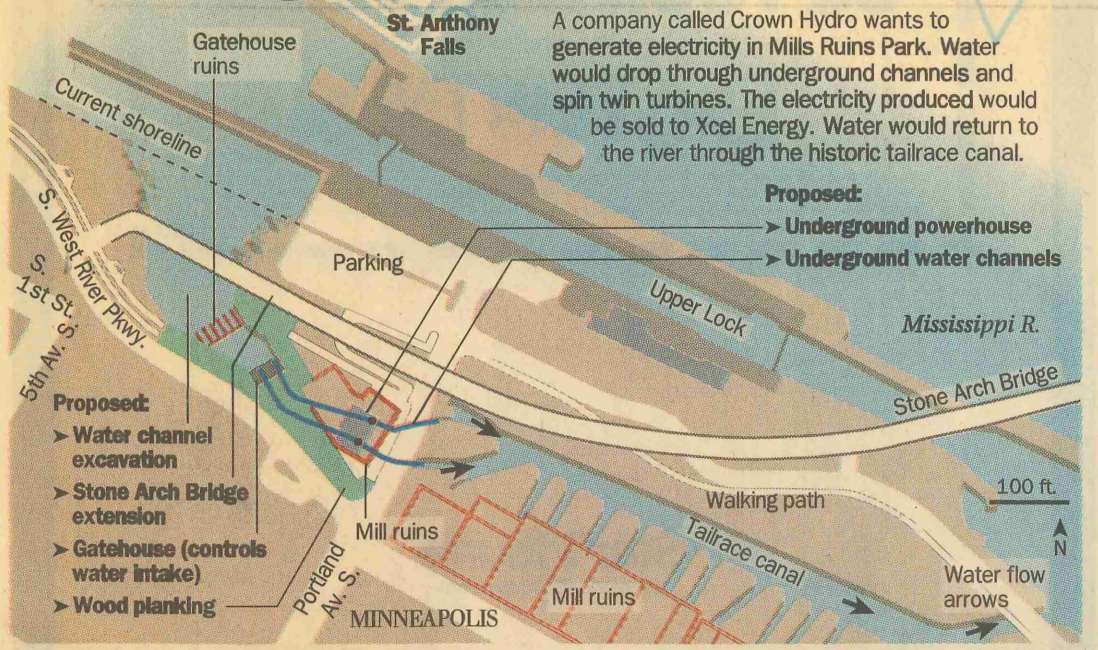
Tom Griffin 93

Resurrecting water power in Mill Ruins Park



Source: Engineering Partners International

Jane Friedmann/Star Tribune

Plan to harness river churns up a debate

By Linda Mack
Star Tribune Staff Writer

Minneapolis was built on the thunderous energy of St. Anthony Falls, but would a plan to resurrect water power in Mill Ruins Park enhance the Mississippi riverfront's history — or damage it?

Tonight, the Minneapolis Park and Recreation Board will debate a plan to lease one of its most historic holdings, the Cataract Mill site near the Stone Arch Bridge, for 50 years to a private company.

Crown Hydro wants to use the historic tunnels and chutes that the Park Board recently restored to do what entrepreneurs did 150 years ago: create energy from St. Anthony Falls.

The Park Board would retain use of the land above ground. The hydropower from the underground plant would generate a small amount of electricity — enough to serve 2,700 households — and would generate income for the Park Board — a $100,000 "signing bonus" and at least $30,000 a year, plus additional revenues.

For Tom Griffin, the former history teacher who embraced the idea in 1992, reusing the chutes and tunnels is a chance to bring history alive.

MILL continues on B4:
— *Firm says new mill would draw visitors; officials cite plan's risks.*

3/17/04

MILL from B1

Park Board to weigh plan's risks

"I was interested in having a beautiful park and also in having a living museum of hydropower," said Griffin, who managed former St. Paul Mayor George Latimer's energy conservation program in the late 1980s. He said viewing areas would give schoolkids and tourists a chance to see the turbines turning water into energy.

For Nina Archabal, who heads the State Historic Preservation Office, the project would put the area's history at risk.

"It would be hard to find a more sensitive site," she said, noting that the Cataract Mill and its neighbors dated to the 1850s and were the earliest on the west side of the Mississippi River.

The foundations, lower floors and historic tailrace canals may still exist, she said, and, "if they do, they should be used to continue the story told in Mill Ruins Park."

The approval of the Park Board, which zealously protects its land, is crucial. The lease needs to be approved by April 13 for Crown Hydro to meet a deadline set by the Federal Energy Regulatory Commission, which has granted the company a license.

But Park Board approval doesn't guarantee the project will sail through its further reviews, including those by historic and environmental agencies.

"Even if it passes the Park Board, it's got a ways to go," said Commissioner Bob Fine.

The plan

The plan is simplicity itself, said Peter Grills, Crown Hydro's lawyer.

River water would be captured and run through a new channel into the city's historic waterway system, created in the late 1800s to power the mills that built the city. The Park Board has recently restored the system's tailraces and tunnels as part of its $4 million investment in Mill Ruins Park.

After falling 40 feet and powering two turbines, the spent water would flow out into the tailraces and back into the river.

"What a way to have a working powerhouse incorporated into that old waterway system and produce energy," Grills said.

The issues

But while Grills sees only pluses, skeptics see major issues.

➤ Will diverting water from St. Anthony Falls slow it to a trickle?

Earlier Park Board resolutions called for maintaining 2,000 cubic feet per second over the falls rather than the 300 cubic feet per second that Crown guarantees. Crown Hydro's engineers say the falls doesn't flow that fast much of the year anyway.

(What does 300 cubic feet per second look like? "It looks like a little bit of water over the spillway rather than just wet pavement," said Judd Rietkerk, assistant park superintendent.)

➤ Will increasing the flow through the historic tailrace canal erode the delicate limestone walls that have recently been uncovered and stabilized?

Currently, less than 3 feet of water flows at a trickle (150 cubic feet per second) through the canal. Crown Hydro would dig down another 8 feet to accommodate 1,000 cubic feet per second. The water's speed could hit 3.8 feet per second, which Griffin compared to a brisk walk.

Crown Hydro has said it will repair any damage to the foundations. The increased speed and depth of the water would require railings along the foundations, an addition that preservationists feel would mar the sense of history.

➤ Will deepening the tailrace canal and excavating the Cataract Mill site dig up pollution?

Possibly. Crown Hydro has said it will take care of those costs.

Future unclear

It's not clear how the nine park commissioners will vote if the lease comes before the full board, which could happen as early as April 7.

Six votes will be needed because the 50-year lease term makes it equivalent to a land sale, Fine said. It will also need to be approved by Hennepin County District Court, which Fine noted adds another point for the public to intervene.

Fine said that the project adds another historic element to Mill Ruins Park and the nearby Mill City Museum but that he is concerned about digging up artifacts and uncovering pollution.

Park Board President Jon Olson said he sees a lot of risks, including reducing the flow over the falls. "We've got $1 billion worth of development that's centered around St. Anthony Falls," he said. "That's a big thing for me."

Commissioner Walt Dziedzic said he doesn't know how he will vote. "There are still a lot of unanswered questions," he said. "I'd like to have at least half of them answered before I vote."

Linda Mack is at lmack@startribune.com.

WHAT'S NEXT

What: The Minneapolis Park and Recreation Board Planning Committee will discuss a plan to produce water power in Mill Ruins Park. Public comments will be taken.

When: 5 p.m. today.

Where: Park Board headquarters, 2117 West River Rd., Minneapolis.

Information: Contact Diane Hill, 612-230-6404.

Next: The board could take action at its April 7 meeting.

12(a)

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Crown Hydro

JUN 12 2000

June 12, 2000

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To: Ms. Susan Thornton, LCMR
From: Tom Griffin

Crown Hydro understands that the 1995 LCMR grant for the Crown Hydro project at the Mill Ruins site in Minneapolis will be withdrawn as of June 30, 2000. We thank you for the opportunity to participate in the program and appreciate LCMR's forbearance in making previous extensions.

The hydro project has been difficult and complex. The situation now can be summarized as follows:

Crown Hydro was granted a hydropower production license by the Federal Energy Regulatory Commission on March 19, 1999. In June, 1999, after extensive analyses by the Minneapolis Park Board(MPRB) and Crown Hydro, MPRB staff headed by Mr. Don Siggelkow offered to buy the license from Crown. In February, 2000 it made an offer substantially below that recommended by independent economic analysts, which Crown therefore declined.

MPRB however offered to continue to participate in the project with Crown as the developer, and we are still trying to work out a power purchase agreement with MPRB and/ or a utility. We believe the project can still be completed and we will continue to hold the license under the conditions FERC laid out.

Please contact me if I can be of any further assistance.

1995 - 12(a)

July 10, 1998

LCMR Work Program 1998

I. Project Title: Restore Historic Mississippi River Mill Site

Program Manager: Thomas R. Griffin
Agency Affiliation: Crown Hydro
Mail Address: Crown Hydro, 5436 Columbus Avenue S., Mpls, MN 55417
Phone: (612) 825-1043
Fax: (612) 825-5392

A. Legal Citation:ML95, Chp. 220 Sec 19 Subd 12a
Total Biennial Appropriation: $120,000
Total Biennial Balance: $120,000

Appropriation Language: This appropriation is from the future resources fund to the Minnesota Historical Society for a subgrant to the Minneapolis Park & Recreation Board to implement an agreement with Crown Hydro Company to restore a gatehouse foundation, construct catwalks and lighting through the tailrace tunnels, and restore and display an historic turbine of the Crown Roller Mill. This activity must be done in cooperation with the St. Anthony Falls Heritage Board. Reasonable public use and access must be provided. This appropriation must be matched by at least $120,000 of nonstate money. This appropriation is contingent on the receipt of all applicable hydropower and other public agency approval.

Carryforward: The availability of the appropriation for the following projects is extended to June30, 1999. Request extension to June 30, 2000. Laws 1995, chapter 220, section 19, subdivision 12, paragraph (a), restore historic Mississippi river mill site.

B. Status of Match Requirement:
Match Required: $120,000
Amount Committed to Date: $120,000
Match Spent to Date: $000

II. Project Summary: This is a project to restore for public use and education an area of the historic West Bank Mills District on the Mississippi River in Minneapolis adjacent to St. Anthony Falls: in particular (1) to reopen an area of the Mills District tunnels from the Crown Roller Mill Building to the end of the historic First Street Tunnel(150 yards) for public tours and education about how the falling water power of St. Anthony Falls played a key role in building the flour milling industry which made Minneapolis a world leader in the flour milling business from 1890 to 1930; (2) to unearth and restore an historic gatehouse foundation at the mouth of the tunnel area, a gatehouse which directed water from the Mississippi River to the mills on the West Bank; and (3) remove an historic turbine still inside the Crown Roller Mill substructure and place the turbine outside for public display. The Mills District is regarded as one of the most significant archaeological sites in Minnesota. The Crown Hydro plan is to work with public agencies to rebuild the headrace and tailrace canal area along lines proposed by various agencies since 1983. A catwalk system will be built in the tunnels and a tailrace canal opened to flow water into the river beloe the Corps of Engineers lock which is adjacent to the mill ruins area.

Additional revenue to assist and maintain the project will come from development of a small hydropower plant in the historic Crown Roller Mill Building: the plant will capture the falling water and convert it to electricity and send the water through the tunnels and the reopened canal into the Mississippi River 600 yards downstream of the falls.

II a. Primary reason for extension. Status of Federal license and other key agreements: the Federal Energy Regulatory Commission(FERC) plans to issue a hydropower license to Crown Hydro by August 31, 1998. The final pre-license agreement, a Programmatic Agreement among FERC, the National Historic Advisory Council, and the Minnesota Historical Society, was executed June 24, 1998. It now remains for FERC legal staff to review all elements of the license and then place the matter before the Commission.

In the meantime during 1998, Crown Hydro and the Minneapolis Park & Recreation Department have been

discussing various ownership, operating, and financial possibilities which would allow the Park Board to control the project, including use of the electric power produced. Terms of the license will require a cooperative agreement between the Park Board and Crown Hydro. The FERC license will also require a plan for the use of historic and archaeological resources in the area. One example of a successful plan is in Lowell, Massachusetts, which restored an area similar to the Mill Ruins area along the Mississippi.

Crown Hydro anticipates that to satisfy all pre-construction agreements and stipulations contained in the FERC license will take about six months from the date of license issuance. Construction would begin about March, 1999 and operations begin about 12 months later.

III. Six Month Work Program Update Summary: left blank for initial submission.

IV. Statement of Objectives:

A. Creation of a walkway system consisting of walkways, lighting, and safety rails to allow a tour of the historic tailrace tunnels, plus assessing the condition of the tunnels.

B. Unearth and restore the gatehouse foundation and create a pedestrian walkway to allow the public to view the canal and link the gatehouse area with the river trail.

C. Remove intact, historic turbine in Crown Mill dropshaft, and restore and display at entrance to West Bank Milling District.

Timeline for Completion of Objectives:

	10/98	1/99	7/99	3/00
Objective A: Tunnel walkway system	plan xxxxx	xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx construct		
Objective B: Gatehouse foundation	plan xxxxx		(unearth)xxxxxxxx (rerstore)xxxxxx	
Objective C: Remove/display turbine			xxxxxxx(remove/display)	

V. Objectives/Outcome.

A. Creation of a walkway system in historic tailrace tunnels.
B. Unearth and restore historic gatehouse foundation.
C.Remove intact and display historic turbine in Crown Mill dropshaft.

A.l Tunnel Walkway System

A.1.a. Contaxt within the project: This is a key element in the public education aspect of the project: an appreciation of how waterpower and the tunnels helped build the flour milling industry and, as well, the city of Minneapolis. It also shows how the waterfall was used constructively to produce energy.

A.1.b. The tunnels will be cleared of silt; lighting and walkways installed; and the area will be examined and mapped for historical reference. The old wood walkway will be removed and any other debris removed.

A.1.c The type of walkway - metal or wood - is yet to be determined. It may be necessary to use only one side of the tunnel as a walkway. Whatever is most safe and practical will guide the decision. We will consult with experienced walkway and lighting designers. Removal of silt is necessary only for the first 100 yards, based on recent explorations. This can be accomplished with medium size catepillar equipment.

A.1.d. Budget

Total Biennial LCMR Budget: $60,000
LCMR Balance: $60,000
Match: $60,000
Match Balance: $60,000
A.1.e. Timeline

	4/99	8/99	3/00
Product # 1			
Tunnel Excavation	xxx		
Tunnel Walkway		xxxxxxxxxxxxxxx	

A.1.f. Workprogram Update: left blank for initial submission.

B. Title of Objective/Outcome

B.1. Activity: Excavate and restore gatehouse foundation.

B.1.a. Context within the project: The gatehouse is the structure where the water from the headrace canal entered mills. The Crown Mill plan calls for an excavation of the headrace area including the gatehouse foundation, an historical landmark of the Mills District. Excavation of the structure will expose as much as possible given the water level which is higher now than during the historical period. The purpose will be to link the gatehouse with the river trail.

B.1.b. Product #1. Removal of fill material. Excavation of fill material will be used to remove fill material along the canal area, placed there during the building of the Lock. The stone structure of the gatehouse will be unearthed with the proper equipment, and supervised by the appropriate people.

B.1.c. Budget:

Total Biennial LCMR Budget: $50,000
LCMR Balance: $50,000
Match: $50,000
Match Balance: $50,000.

	4/99	8/99	3/00
B.1.d Timeline: Product # 1			
Excavate Gatehouse	xxxxxxxxxxxxx		
Restore Foundation		xxxxxxxxxxx	

B.1.e. Workprogram Update: Left blank for initial submission

C. Title of Objective/Outcome:

C.1 Activity: Remove/display historical turbine.

C.1.a. Context within the project: To use the existing turbine pits requires that new equipment be installed to produce hydroelectric power. A turbine from the historic period exists in one of the pits. This artifact can be removed intact and placed on display for the benefit of the public.

C.1.b. Product # 1. The turbine housing and shaft will be removed and transported through the Crown Mill building, then put in condition to be displayed for public view at a suitable site in the West Bank Milling District.

C.1.c. Heavy equipment will be rented to detach and remove the old turbine. This will be done after contractor bids are taken.

C.1.d. Budget

Total Biennial LCMR Budget: $10,000.
LCMR Balance: $10,000.
Match: $10,000.
Match Balance: $10,000.

C.1.e. Timeline

	4/99	8/99	3/00
Product #1			
Remove Turbine	xx		
Display Turbine		xxxx	

C.1.f. Workprogram Update: left blank for initial submission.

VI. Evaluation: The walkway product can be evaluated by how much of the walkway is completed. The success of the gatehouse project will be unearthing the gatehouse and any linkage of that area with the river trail. Removal of the turbine and having it placed in a secure place for public view with an appropriate plaque will be its measure of success.

VII. Context within field: All three elements relate to an important chapter of Minneapolis/Minnesota industrial history and to the general archeaology of the area.

VIII. Budget context: The Crown Mill project will be financed with bonds which will be retired through revenues derived from electricity production. The Minneapolis Park Board may purchase the power directly and/or it will be sold to a regional utility. Matching dollars for the project: $120,000. Overall project cost is approximately $5 million.

IX. Dissemination: The products will be in the public realm in perpetuity.

X. Time: Crown Hydro is dependent on federal, state, and local license and permit provisions which may add to the time frame.

XI. Cooperators: Minnesota Historical Society, Minneapolis Park & Recreation Board, and St. Anthony Falls Heritage Board. The Program Manager will spend 75% of his time on the objectives. Principal names at this point for each organization: Minnesota Historical Society: Dennis Gimmestad; Minneapolis Park Board: Judd Rietkerk; St. Anthony Falls Heritage Board: Betsy Doermann.

XII. Reporting Requirements: Semiannual work program reports will be submitted.

XIII. Required Attachments

1. Qualifications: previously submitted.
2. Staffinf summary: Previously submitted.