

MINUTES

MONTANA HOUSE OF REPRESENTATIVES
51st LEGISLATURE - REGULAR SESSION

SUBCOMMITTEE ON LONG RANGE PLANNING

Call to Order: By Chairperson Connelly, on January 27, 1989, at
8:00 a.m.

ROLL CALL

Members Present: All

Members Excused: None

Members Absent: None

Staff Present: Claudia Montagne, Secretary; Carroll South,
Staff Researcher, Legislative Fiscal Analyst's Office

Announcements/Discussion: None

CULTURAL AND AESTHETICS GRANT PROGRAM

Tape 23:A:000

CARROLL SOUTH discussed the Cultural and Aesthetics Grant Program bill, and suggested an amendment to cover the contingencies in the event that the legislature would over-appropriate the available money. The essence of the amendment was that the available funds would be allocated on a pro rata basis to projects authorized.

Motion: SEN. MANNING moved the acceptance of the amendment.

Vote: The motion CARRIED unanimously.

Motion: SEN. MCLANE moved that the portion of the operating budget for the administration of the Cultural and Aesthetic Grant Program be considered with the operational budget of the Montana Arts Council in the other subcommittee (Institutions).

Vote: The motion CARRIED unanimously.

WATER DEVELOPMENT GRANT PROGRAM

Tape 23:A:040

PARK CONSERVATION DISTRICT, RANKING 5, Park Branch Sediment Diversion. BRUCE MALCOLM, Vice Chairman of the Park County Conservation District, testified for the project as set forth in EXHIBITS 1, 2 and 3.

BILL HUNT, from HKM Associates, testified for the project, and referred to EXHIBITS 4 and 5. MR. HUNT spoke to the engineering aspects of the project, the size of the gravels, and the amounts deposited. He said that a number of alternatives had been

considered and that the Iowa solution, which was tested and proven, had been selected - "Iowa Vanes". He said that these veins would deflect sediment and keep it out of the channel. He added that this method would have application along the Yellowstone, Flathead, Musselshell, Bitterroot, Clark Fork and a number of other rivers which have this problem along intakes to diversions. He requested funding at the 100% level, rather than the 50% level recommended.

SEN. MCLANE (23:A:256) asked what would happen to the Yellowstone as a result of this project, and MR. HUNT said that there would be no impact. REP. BARDANOUVE asked how the district would raise their 50% of the project cost, and MR. HUNT said that the total cost would be 50% higher than the recommended amount. He said that the total cost of the project was \$49,715, and that one half of that was recommended. He said that the conservation district didn't have any method yet. REP. BARDANOUVE said that there were 12,000 acres affected, and suggested assessing the landowners who would benefit from the project. A representative from the conservation district spoke up, stating that they had just had a major expense to remove the gravel last fall.

REP. BARDANOUVE asked how much they paid in O and M. ALLYN O'HAIR, a member of the board of the Park Conservation District, reported on their costs, which were \$2.85/inch/year. REP. THOFT said that would translate into approximately \$2.85 per acre. He asked if these were pre-cast vanes that would be buried, and MR. HUNT said that they would be driving steel sheet piling. REP. BARDANOUVE asked about the environmental impact of the project on the river and the permitting that might be necessary. MR. HUNT said that an Environmental Impact Statement (EIS) had been produced and accepted by the Department of Health and Environmental Sciences. He said that there would be a minor disturbance during the construction period of 10 - 20 days. This disturbance would be minimized because the construction would be carried out in the late fall when the river would be low.

SEN. HIMSL (23:A:341) commented on the nature of the experiment and expressed concern that the vanes would be exposed or nearly exposed during times of low water. MR. HUNT said that there would be markers to locate the fins, either buoys or signs, for boaters and floaters.

ALLYN O'HAIR, Chairman of the Park Branch Water Users Association from Livingston, spoke in favor of the project and requested 100% funding since the organization had no repayment capacity.

MERLE SKATTUM, Chairman, Paradise Valley Canal Users Association, Livingston, spoke in favor as set forth in EXHIBIT 6.

REP. THOFT (23:A:520) clarified that they had \$2.85/acre O and M cost, and asked about the cost of the dredging done the previous fall. He clarified that the cost had been paid for by a special assessment. REP. THOFT asked if the canal was the property of a

district or association, and the applicants replied that it was a state-owned ditch.

SEN. STORY (23:A:542) gave a history of the canal, and said that it was a state owned project. He said that there was an association which had a contractual relationship with the state for the canal. He requested funding at 100% because the state was essentially paying itself. He said that provisions for repayment were set by contract, and that this was the cheapest solution. He suggested that new, wealthy landowners in the area, "exotics that are coming into the valley", could possibly sue if the gravels continued to be deposited on their property.

REP. THOFT (23:A:626) asked if they could assess the users, and SEN. STORY said that how much they could be assessed was based on the contract. REP. THOFT said that they had paid approximately \$6.00 for the gravel removal, and suggested that they could assess \$3/acre for this project. SEN. STORY said that they could not be assessed this amount due to the contractual relationship between the users and the state. REP. THOFT mentioned that the Daly Ditch users paid \$12 per acre. SEN. HIMSL spoke in favor of funding at the full amount of the project and said that he felt that it was a worthwhile project due to its experimental nature. He also noted the governor's budget recommendation of funding at 100%. He asked where the 50% figure came from.

MS CHENEY stated that the governor did recommend this project at 100% funding, but that DNRC reconsidered due to their earlier error. In reality, the project should have been funded at 25% of cost because of the possibility of repayment, but the percentage was raised to 50% due to the project's experimental nature and the instream benefits.

SEN. MANNING (23:A:740) asked for clarification of the contractual relationship of the contractual arrangement, and MR. O'HAIR replied that the state had to approve the association's recommendations, but that the association ran the canal. He said that their O and M money went into the state. He noted again that on the other side of the river from the Park Branch Canal, the Paradise paid more than the \$2.85 because they were still paying on the principal and had an higher O and M cost.

JIM DURGAN (23:B:026), from the Park Branch Canal, stressed that irrigation was the lifeblood of the Paradise Valley. With the Yellowstone River as the primary source of their canal, they felt that this was a very important project. He questioned their ability to finance the additional 50% of the project. He said that the project had educational value as well as value to irrigation.

JOHN GRAY, Board of Supervisors, Park County Conservation District, and CHUCK DONOVAN, Paradise Valley Canal, stood in support of the project.

CARBON CONSERVATION DISTRICT, RANKING 6 AND 8, (23:B:061),
Rushwater Creek Erosion Control and Rock Creek Deceaded Water
Distribution. DON PHILLIPS, representing the Mutual and Bridger
Ditch Companies, spoke on the Rushwater Creek Erosion Control
Project as set forth in EXHIBIT 7.

REP. BARDANOUE (23:B:102) asked how many acres were involved,
and MR. PHILLIPS said that there were 6,300 acres between the two
ditches. REP. BARDANOUE asked for the O and M charges, and MR.
PHILLIPS said that the costs were \$5-\$6 per acre. He said that
the Mutual had a big construction project, with a per share cost
of \$16. On the Bridger, a new headgate had been installed, and
the per share cost on that was \$10. SEN. MANNING asked if that
meant that the Mutual was paying a total of \$21 per share. MR.
PHILLIPS said that the \$5 per year operating cost was paid by the
shareholders. He said that the \$10 on the Bridger and the \$16 on
the Mutual was for capital improvements, and the shareholders
could either pay it off in full, or amortize it over 10 years.
The interest rate was 10%.

JIM YEDLICKA (23:B:163), Vice Chairman, Carbon County
Conservation District, testified on the Rock Creek Deceaded Water
Distribution project. He distributed a copy of the grant
application summary, and introduced other proponents: Doug Hart
and John Krinke, County Commissioner. He went through the grant
summary and spoke in favor of the project, stating that there
were no other funds available to help install these measurement
structures. He added that it was also a way to talk to water
users about the irrigation water management ditch consolidation
and system reorganization.

JOHN KRINKE encouraged positive consideration of the project on
behalf of the Carbon County Commissioners. He spoke of the
difficulties experienced during the previous summer with the
drought as evidence of the need.

DOUG HART, (23:B:261) farmer and member of the Rock Creek Water
Users Association, said that he used two ditches in the Rock
Creek system to get water and stated that he recognized the
proliferation of unorganized ditches to the point that water use
could not possibly be controlled or measured. He stated that the
main reason they needed this funding was due to the placement by
the Rock Creek Water Commissioner of a court order requiring
measuring devices to be installed at their diversions. He said
that the devices had to be installed during the upcoming
irrigation season, and that there were 142 diversions, with the
cost being \$1,000 per diversion. He added that with these
measuring devices, water rights could be properly administered.
He said that DNRC was about to issue preliminary final decrees in
the Rock Creek Basin (part of the state adjudication process),
another reason to encourage the placement of the devices.

REP. BARDANOUE asked if there was enough water in the creek to
cover the water rights. MR. HART said that the creek had not
been re-adjudicated yet, but that it had been over-decreed.

REP. THOFT asked about the number of acres involved, and the O and M costs. MR. HART said that there were 35,677 acres, and that the O and M was difficult to determine due to the number of diversions with different costs. He said that the amount varied, but was fairly low.

SEN. MCLANE (23:B:340) asked about the possible delay of the court order date mentioned in the grant review, and whether that delay would occur with any level of funding. MS CHENEY said that the delay would occur if they got any grant money at all.

REP. SPAETH (23:B:413), House District 84, spoke in favor of both projects submitted by Carbon County. He said that the Bridger Ditch situation was a mess, was visible in the community, caused problems with the railroad and the county, and needed help. He said that it was a major erosion problem, producing 6700 tons of silt and a 20 foot gouge. Regarding the Rock Creek Water Distribution project, he said that it was unique in its number of diversions. REP. SPAETH said that it was a recreational stream with instream flow reservations, and needed to be managed. He said that the project could be seen as a pilot project, taking a complicated situation on a stream with a lot of water right problems. This could be utilized elsewhere in the state.

Additional testimony was submitted in written form by Larry Jordan, Cleto McPherson, and Linden Sieven (EXHIBITS 8A - 8C).

EASTGATE VILLAGE WATER AND SEWER ASSOCIATION, RANKING 7,

(23:B:482), Wastewater Pond Effluent Irrigation System.

REP. JIM RICE, House District 43, Helena Valley, testified for the project, and turned the podium over to an Eastgate Water and Sewer Association member. He stated that Eastgate Village was a residential housing development east of East Helena. He said the residents of the area deserved credit for the problems they had already tackled with regards to their water situation. He said that the residents were young families, of mostly low to moderate income. REP. RICE said that they had raised \$140,000 for improvements they had to make, and now state and county regulations were requiring them to make additional improvements, addressed in this project. REP. RICE said that they were a private applicant, and thus were eligible for only 25% of the project cost.

JIM MELSTAD, member, Eastgate Water and Sewer Association, testified as set forth in EXHIBITS 9 and 10. SEN. HIMSL (23:B:702) asked how many hook ups were involved, and MR. MELSTAD said that there were 270 connections for single family homes, as well as connections for 4 large apartment buildings for a total of 300. He said that the total capacity was 600.

SEN. RASMUSSEN, Senate District 22, testified for the project, saying that the first developer went bankrupt, and the second defaulted. He said that the group inherited quite a tangled web of problems. He commended the association for its creative approach in using its waste water for irrigation, an approach

that enhanced the agricultural character of the area. He also encouraged the committee to support the project, which was ranked by the department as the highest in the need and urgency area.

HUNTLEY PROJECT IRRIGATION DISTRICT, RANKING 9, (24:A:030), Main Canal Measuring and Flow Control. DUANE CALVIN, a member of the Huntley Project Irrigation District, testified for the project as set forth in EXHIBIT 11.

REP. THOFT asked for the acreage involved and the O and M costs. MR. CALVIN stated that there were 27,450 acres with a cost of \$18 per acre. \$2.50 of the cost was for reconstruction and replacement of measuring devices.

SEN. HIMSL asked if this was an old project, and if they had made plans for contingencies such as this. MR. CALVIN said that it was one of the first reclamation projects after the 1902 law to get water. He added that in 1978, extensive flood damage had depleted their resources and that they were now rebuilding their reserve fund which now stood at \$126,000. He said that the \$2.50 per acre had been designated for reconstruction and expansion since 1985, and that their district's contribution would come from that fund.

MR. CALVIN said that the other problem was that the measuring devices were originally made of timbers, which had deteriorated over the years. He added that no concerted effort had been made to replace them. In the last two years, the Board of Directors began looking at the situation and had issued the order that the measuring devices be replaced within the next three years.

CASCADE COUNTY, RANKING 10, (24:A:134), Sun Prairie Village Wastewater System Rehabilitation. BOB BROADWAY, President of Village Water and Sewer Association, presented testimony as set forth in EXHIBIT 12. He said that their circumstances since the project was listed had changed. At the time of the application, they were seeking a \$50,000 grant and a \$150,000 loan based on CDBG application. Subsequently, they had been informed that they failed to qualify for that program, and thus they were coming before the committee seeking a long-term large loan under the Coal Severance Tax Bond program as advised by DNRC. He stated that O and M costs had eaten up their reserves, and that this was the only funding source for a large loan. He went through the exhibit, which gave the history of the subdivision's water and sewer predicament.

SEN. HIMSL (24:A:224) asked what they were asking for. MR. BROADWAY clarified that they were asking for a loan under the Coal Severance Tax Program in the amount of \$584,000 and were disregarding the application in the book entirely. He said that their entire project was \$1,200,000, and that EPA would be participating at 55%. This request would be for the local share of 45% in the form of a 20 year loan, with 5 years of subsidized interest from the Coal Severance Tax Bond Program. He said the

user fees would then be \$34.08 for sewer, and next they would have to do their water system, a similar situation.

REP. BARDANOUE expressed concern that with the increased rates, the people would move off their lots. MR. BROADWAY said the current user rate was \$24, and the combined water and sewer and water rate would be \$38. REP. BARDANOUE suggested that the concept of the development was lousy to begin with. MR. BROADWAY concurred, stating that the design and concept was flawed from the outset because the type of soil was not suitable to start with.

REP. THOFT (24:A:296) asked if they would get to the point where nobody would live there due to the increased water and sewer costs. MR. BROADWAY said that it was a possibility. REP. BARDANOUE said a Cascade County Commissioner had raised this question, and had concerns. MR. BROADWAY said most of the trailer houses were on permanent foundations, on lots owned by the residents. REP. BARDANOUE asked who owned the lots not sold, and MR. BROADWAY said that the 170 of the vacant lots were held by Sun Prairie Village Inc., the developer. He added that the county was looking into taking the properties for tax deed, but part of the parcels had been put into bankruptcy. MR. BROADWAY said that their plan for repayment of the loan would be to assess the developed properties only. The total 559 properties were assessed under the RSID, while the 230 not current with their taxes would not be assessed for future loans.

PRIVATE APPLICANT DISTRICT, RANKING 11, (24:A:400), Gravity Sprinkler Project. FRANK POPE from Lake County, the private applicant, spoke in favor of the project, stating that any amount would get him started. He said that it would increase the cropload, increase the stream flow, improve the water quality, save topsoil, control weed and contaminant spread, and bring about better water management.

REP. BARDANOUE asked the source of the loan, and MR. POPE said that it was from the Coal Severance Tax Loan Program. REP. BARDANOUE asked if anyone below him would benefit from the project. MR. POPE said yes, the other irrigators would benefit.

GREENFIELDS IRRIGATION DISTRICT, RANKING 12, (24:A:539) Greenfields Lateral Rehabilitation. JERRY NYPEN, Manager of the Greenfields Irrigation District, a federal project consisting of open canals, laterals and drains similar to the Huntley project, testified for this application. He stated that it would affect 80,000 acres. MR. NYPEN said the money would be for rehabilitation of a specific lateral, a major waterway that branched off the main canal. He said they had a budget for rehabilitating these lateral systems but wanted to extend this work to improve the water distribution system. He said their reserve funds were designated for emergencies.

SEN. HIMSL asked why they didn't have a reserve for replacement contingencies. MR. NYPEN said they wanted to extend the program,

and they did have to modernize in order to show prudent use of water. He said the benefits came to them and to the public.

REP. BARDANOUE (24:A:677) asked if they got their water from the Gibson Dam, and MR. NYPEN said yes, in the Sun River drainage. REP. BARDANOUE asked if Mr. Manual was in this project, and MR. NYPEN said that his boys were involved. REP. BARDANOUE commented that malt barley didn't sell too low, and wouldn't mind having some of those crops.

JO BRUNNER, Montana Water Resources Association, spoke in favor of the Greenfields Lateral Rehabilitation Project and the Huntley Project Irrigation District grant request. She stated that, as a farmer in the Greenfields Irrigation District, she had benefited from this type of project.

SHERIDAN COUNTY, RANKING 13, (24:A:740), Carroll Dam Feasibility Study. DOUG SMITH, Planner for Sheridan County, spoke for the project, saying the reservoir was needed for recreation and fishing. He said the original dam had washed out in 1946, and there was no other reservoir in the area.

REP. BARDANOUE asked about the internal problems with the project; they did not have the water rights yet, and the affected parties were only 50% behind the dam. He commented that it was a precarious project. MR. SMITH said the money would be expended only after these problems were solved, and it would be paid off by a mill levy and DFWP tax monies on motorized boats.

SEN. MANNING (24:B:046) asked if this would be a high structure, and how much water it would hold. MR. SMITH replied that it would be 70-80 feet high, and hold 3500 acre feet of water. SEN. HIMSL asked who would own and assume the liability for the dam, and MR. SMITH said that Sheridan County would.

REP. THOFT asked who owned the water rights at the present, and MR. SMITH said that the Fort Peck Tribe and the USFWS Wildlife Refuge owned the rights. REP. BARDANOUE asked if they were arguing with the tribe, and MR. SMITH said that their negotiations with the tribe and the USFWS were proceeding satisfactorily. REP. BARDANOUE commented that the tribe could carry on a long time warfare if you were to argue with them, and MR. SMITH replied that the tribe had to make its decision by 1990.

TOWN OF DUTTON, RANKING 14, (24:B:077), Streambank Stabilization Project. JIM YEAGLEY, representing the town of Dutton, stated that he worked for Teton County as their land use planner. He said the project was adequately outlined in the book and made two points. Regarding DNRC's suggestion that it would be more cost effective to move the well and protect the existing well site, he said a new well to the southwest of the existing sight was dug in September of 1988 with no luck. Regarding DNRC's recommendation of \$24,000, the community was asking for reconsideration of the entire amount of \$98,000. MR. YEAGLEY cited the current debt

carried by the community for its recent water project, an amount which exceeded the community's bonded indebtedness ceiling by \$140,000.

REP. BARDANOUE asked about the advisability of drilling a new well to get themselves out of the river area. MR. YEAGLEY said a new well had been drilled to a depth of 168 feet with no luck. REP. BARDANOUE asked if they would need the riprap for the new well too, and MR. YEAGLEY said that the riprap was to protect the existing well. Regarding the water quality, MR. YEAGLEY said it was poor, but it was being treated to keep the oxides in suspension.

CITY OF TROY, RANKING 16, (24:B:133), Water System Improvements. REP. MARY LOU PETERSON, House District 1, appeared before the committee to plead for the city of Troy. She said they were in a "Catch-22". In getting a new highway, an adequate water system not due for repair had to be moved to accommodate the contracts for the new highway. She said the community was not able to finance the water system changes.

REP. BARDANOUE said if the highway development was causing the negative impact, the Highway Department should pay for it. REP. PETERSON agreed. REP. BARDANOUE suggested that the committee call the Highway boys in here to have a session with them.

MS CHENEY said the Highway Department would pay 75% when the highway went in, but the Highway Department was requiring an upgrade so that the water system would be maintenance free for a certain number of years.

Motion: SEN. MANNING moved that the committee contact the Highway Department to appear before the committee in reference to this project.

Vote: The motion CARRIED unanimously.

TOWN OF POPLAR, RANKING 15, (24:B:199), Water System Improvements. REP. DOROTHY CODY, House District 20, Wolf Point and Poplar, testified for the project, a water treatment facility. She said the problem was with the rust and iron in the ground water. She said other monies had been found, and this was a small request.

SEN. HIMSL asked what could be done with unpalatable water, and REP. CODY said the process used in Wolf Point (iron and manganese removal facility using a green sand filter) had been successful.

CHRIS BRUNCKHORST, Public Works Director, City of Poplar, described the process, saying that potassium permanganate was added to the water as an oxidant, and the deposits were filtered out through a green sand filter system.

BILL BECK, Mayor of Poplar, said they were working with the Indian Health Service and the Fort Peck Housing Authority, and had \$150,000 of their own money to put into the project. He said the filtration plant was all that was needed, since the water

towers were recently constructed and the wells were new. SEN. MANNING asked if they had an adequate water supply, and MR. BECK said yes.

REP. BARDANOUE commented that he could appreciate the problem. He said his wife came from western Montana, and almost divorced him when she learned what kind of water she had to wash her clothes in. He added they almost had a separation until he got a water supply from the Fort Belknap Indian Reservation across the river, for which he built a pipeline under the river.

SEN. HIMSL asked what their rates were. MR. BECK answered that their water rate was \$8.75, and their combined water, sewer and garbage rate was \$27. He said that they hoped not to have to raise the rates, due to the economy of the area.

SEN. MANNING asked how frequently the filter would have to be replaced, and MR. BRUNCKHORST said that the green sand filter was regenerated with a back washing cycle. The waste water would then be fed through the sewer system.

ADJOURNMENT

Adjournment At: 11:00 a.m.

M. E. Connelly

REP. CONNELLY, Chairperson

MEC/cm

2325.min

EXHIBIT 1
DATE 1-27-89
HB Water Development

JOINT HOUSE AND SENATE LONG RANGE PLANNING COMMITTEE
Water Development Program funding

RE: 100% funding for Project for Park Branch Canal Inlet Project

January 27, 1989

Chairman Connelly and members of the Long Range Planning Committee.

I am Bruce Malcolm representing the Park County Conservation District. Also with me today are John Gray, Park County Conservation Board member, and Park Branch Canal representatives Jim Durgan, Allyn O'Hair and Merle Skattum. Bill Hunt from HKM Associates is present to explain the concept we are proposing and to answer any questions the committee might have.

I feel a brief history of the Park Branch Canal's problem will help the committee to understand why the conservation district is the applicant for the project; why the conservation district wants this project to remain on a high priority status by the committee; and why the importance of 100% funding. The problem we are attempting to solve is one of gravels being deposited in a side channel of the Yellowstone River which directly feeds the Park Branch Canal. In the past it has been necessary to dredge the deposited gravels from the channel every two to three years with a major cleaning every eight to ten years. Problems are developing as a result of this cleaning practice. 1. Agencies both Federal and State are becoming reluctant to issue necessary permits for large scale gravel removal. 2. The gravel cleared from the channel in the future will have to be hauled from the site because the on site gravel dump area is filled to capacity. 3. Gravel removal from the channel is a temporary solution.

Park Branch Canal Inlet Project

1/27/89

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The Park County Conservation District has been involved with this gravel removal through the Streambank Preservation Law for several years. The Conservation District Board feels it is time to replace this historical practice with a permanent solution. Because of our obligation to the Streambank Preservation Act and our desire to reach a permanent solution, the Park County Conservation District is the applicant of the Park Branch Canal Inlet Project.

HKM Associates were contacted to search for alternatives to the present gravel removal. The concept of submerged vanes seemed to be the least costly and most acceptable to recreation concerns. Bill Hunt will explain submerged vanes in his presentation. Presently, submerged vanes have only been used in silty river conditions and not in heavy gravels as exists on the Yellowstone River. HKM Associates have presented the Conservation District and Park Branch Canal Board with enough technical and engineering data to convince us that this is a viable and economical solution to this increasingly costly and unmanageable condition.

I would like to stress the importance of 100% Funding for the following reasons:

1. Because the Park County Conservation District is the applicant, there is no repayment ability.
2. The educational and technological benefit of this pilot program could be immense to all of Montana, providing a solution for identical problems now existing on many other Montana rivers.
3. Keeping this channel active and free flowing is

Park Branch Canal Inlet Project

1/27/89

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a benefit to Montanans. It provides spawning habitat for Brown trout on the Yellowstone River.

4. By solving the gravel deposit problem, this side channel remains a constant and viable relief for the main channel of the Yellowstone River during periods of High water.

We need to move ahead with this project rapidly. The side channel in question is now clear of gravel and every year of delay only results in the channel becoming gravel clogged again. We again ask you to fund this project 100% and to keep it high on your priority list. Thank you for the opportunity to explain the benefits of this project.

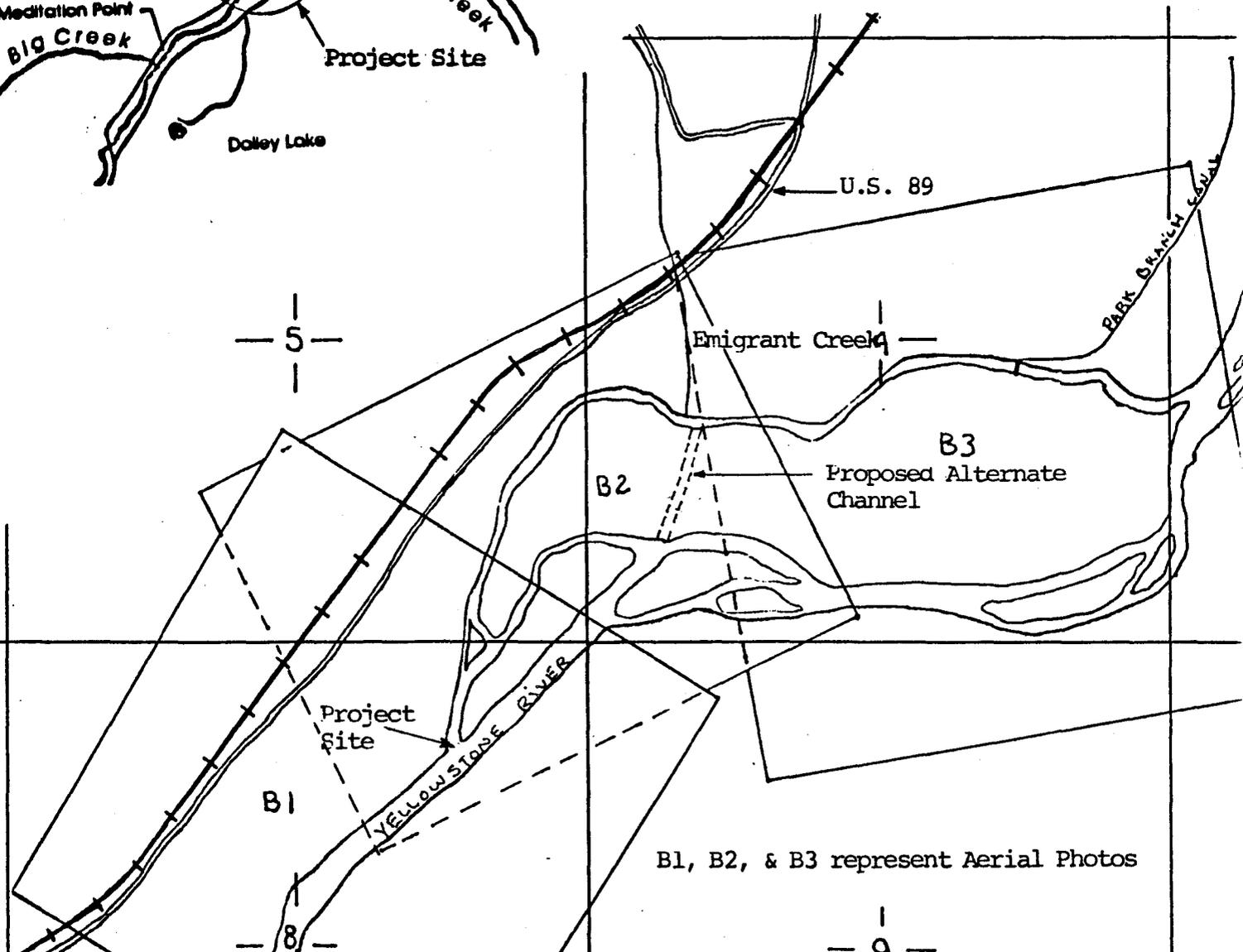
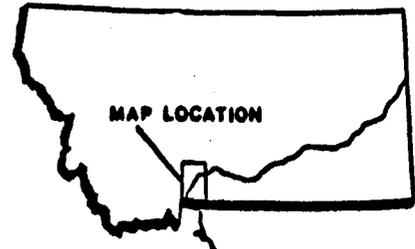
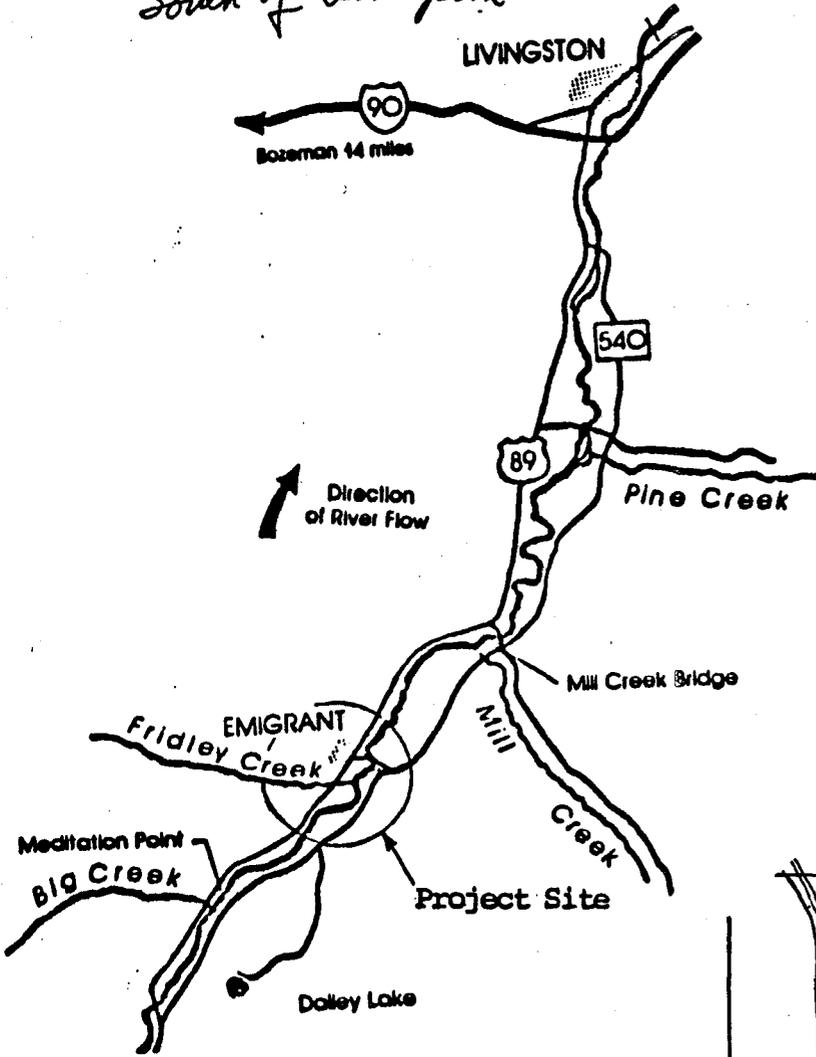
South of Livingston - Near Emigrant

EXHIBIT A

EXHIBIT 2

DATE 1-27-89

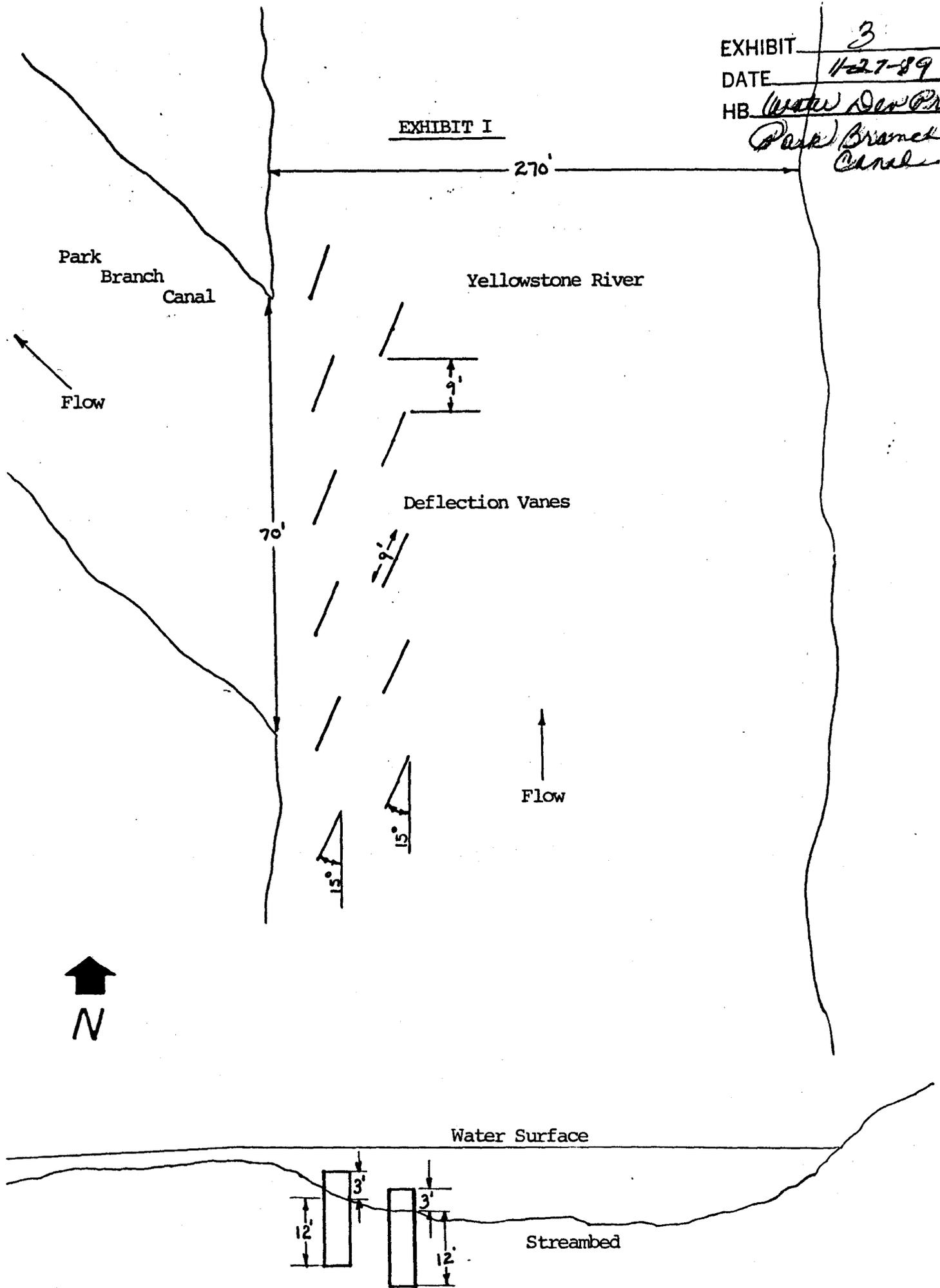
HB Water Rev Project
Park Branch Canal



B1, B2, & B3 represent Aerial Photos

EXHIBIT 3
DATE 1/27-89
HB Water Dev Proj
Park Branch
Canal

EXHIBIT I



Water Surface

Streambed

#5 Date 15

EXHIBIT 4
DATE 1-27-89
HB Water Development
Project



**HKM Associates
Engineers/Planners**

20 East Olive, Suite 3D
P.O. Box 1090
Bozeman, Montana 59715
Phone (406) 586-8834

Airport Industrial Park
P.O. Box 31318
Billings, Montana 59107
Phone (406) 245-6354/259-1993
Fax (406) 252-3757

January 24, 1989
BZMOFF/272.102

Representative Mary Ellen Connelly
Long Range Planning Committee
Capitol Station
Helena, MT 59620

Mary Ellen
Dear ~~Representative Connelly~~:

RE: Support for Water Development Project on Yellowstone River

On behalf of the Park Conservation District I am requesting the LONG RANGE PLANNING to restore the full funding recommended for the grant in the Water Development Program for the PARK BRANCH SEDIMENT CONTROL PROJECT on the Yellowstone River at Emigrant.

This project is No. 5 (out of 20) on the priority ranking list submitted to the LONG RANGE PLANNING COMMITTEE.

The DNRC program review committee initially recommended a grant for \$49,715 (see attachment A). The final recommendation on the priority is for only \$24,857, 50% of the original recommendation.

The Park County Board of Supervisors has reviewed the priority list and recommendations and noted that the final recommended grant amounts for EIGHT of the TOP TEN on the priority list are for 100 per cent of the amounts initially recommended.

The project is for the construction of a system for eliminating the deposition of sediment from the river in the entrance to the irrigation channel. It will solve the environmental problems of dredging or otherwise removing and stockpiling the sediment along the stream banks which the Department of Fish, Wildlife and Parks and the Department of Health and Environmental Sciences strongly object to.

This project is a demonstration project which has application throughout the entire state (and the western U.S.) and deserves full funding.

I will be testifying for this project before the Long Range Planning Committee at 8:00 a.m. Friday, January 27 and will be happy to answer any question you may have.

Your assistance in urging the committee to restore the full funding of this project would be greatly appreciated.

Sincerely your,

Bill Hunt
William A. Hunt, P.E.
Branch Manager

DNRC's recommendation to Gov

Bill

WATER DEVELOPMENT AND RENEWABLE RESOURCE DEVELOPMENT

ATTACH A EXHIBIT 5
DATE 1-27-89 NOV 15 1989
HB Water Development
Projects ASSOCIATE

Water Development Program

A water development loan and grant program was established in 1981 by the legislature. The purpose of the program is to promote and advance the beneficial use of water to allow the citizens of Montana to achieve full use of the state's water by providing grant and loan financing for water development projects.

Public entities, private individuals, partnerships and corporations may apply for financing. Grants and loans to public entities must be approved by the legislature while loans to private entities are approved by the DNRC Director.

Funding sources for the water development grant program include 0.625% of the gross proceeds of the coal severance tax, a portion of the 30% of the resource indemnity trust fund earmarked for water development. As funds become available, they are disbursed to approved projects based on priority ranking established by the legislature. The program has provided an average of \$1.4 million to 23 projects biennium.

The loan program has a \$10 million general obligation bonding authority and a \$250 million coal severance tax bonding authority. To date, \$4.2 million in general obligation bonds have been sold to provide funds for, primarily, private irrigation projects. Twenty-nine million in coal severance tax bonds have been sold to provide loans to

public entities for irrigation and municipal water and sewer projects. In addition, \$25.3 million has been sold for the hydropower retrofit at the state owned Broadwater project at Toston.

Renewable Resource Development Program

The Renewable Resource Development Loan and Grant Program was established by the legislature in 1975 to provide financial assistance for the conservation, protection, and development of Montana's renewable resources.

The program is available to public entities only. All projects require legislative approval.

Grant funds are generated by 0.625% of the gross proceeds of the coal severance tax and 8% of the interest income from the resource indemnity trust fund. Grants are now limited to \$100,000. The program has provided an average of \$1.1 million to 12 projects per biennium.

The loan program has \$5 million bonding authority. To date, \$1.1 million in bonds have been sold to provide loan funds to approved projects.

Table 1 lists the water development and renewable resource development project recommendations. Projects are listed in priority order. Total funds estimated to be available for projects is \$1,422,931. Separate legislation will be presented to appropriate funds for projects and to establish legislative priorities.

Table 1
Water Development And Renewable Resource Development
Project Recommendations
Fiscal Years 1990-91

Applicant	Project Name	Recommended Funding	Accumulative Total
Gallatin Conservation District	E. Gallatin State Recreation Area	\$100,000	\$100,000
Flathead Basin Commission	Forest Practices/Water Quality Coop Program	25,000	125,000
Montana State Library	Mt Natural Resource Information System	99,806	224,806
Montana State Library	Montana Water Information System	45,510	270,316
Daly Ditches Irrigation District	Republican West Diversion Replacement	100,000	370,316
Montana State Library	Montana Natural Heritage Program	99,450	469,766
University of Montana	Management Guidelines/Riparian Site Types	41,733	511,499
Montana Rural Water System Inc.	Water System Technical Advisor	60,000	571,499
Beaverhead & Mile High Cd'S	Big Hole River Channel Stabilization	31,742	603,241
Agriculture, Montana Dept of	Monitor Ag Chemicals in Groundwater	93,550	696,791
Eastgate Village W & S Assoc.	Wastewater Pond Effluent Irrigation System	29,558	726,349
Flathead Valley Community Coll.	Outdoor Education and Conference Center	72,000	798,349
Park Conservation District	Park Branch Sediment Diversion	49,715	848,064
Cascade County	Sun Prairie Village Wastewater	50,000	898,064
Lewis and Clark County	Hydrogeologic Evaluation Of Helena Valley	100,000	998,064
State Lands, Dept of	Pilot Urban Forestry Project	60,000	1,058,064
Prairie County Conservation Dist	Watershed Demonstration/Management	1,127,055	1,127,055
Carbon Conservation District	Rushwater Creek Erosion Control	100,000	1,227,055
Belgrade, City of	Meter Installation & Water Main Replacement	50,000	1,277,055
Carbon Conservation District	Rock Creek Decreed Water Distribution	30,000	1,307,055
Huntley Project Irrigation Dist	Main Canal Measuring & Flow Control	44,268	1,351,323
Fish, Wildlife & Parks, Dept. of	Wildlife Habitat/Conservation Reserve Prog	50,000	1,401,323
Hysham, Town of	Hysham Water System Improvement Project	50,000	1,451,323

EXHIBIT 6
DATE 1-27-89
HB Water Development
Projects

Dear Mary Ellen Connelly, Chairperson

The hearing on the Park Branch Canal Project sponsored by the Park Conservation District is scheduled for 8:00 a.m., Friday, January 27 by your committee.

This project is no. 5 on the priority list.

The total project budget is \$49,715. This amount was originally recommended for the Governor's Budget. The most recent project list indicates a recommended grant of \$24,857 (50% of the project).

As an irrigator affected by this project, I would appreciate if it you could help us convince the members of the Joint Long Range Planning Committee to provide 100% funding for this project. The following are the principal points justifying full funding for the project:

1. The Park Conservation District has no repayment capacity and is eligible for 100% grant funds.

2. The project will be using SUBMERGED VANES which is a new technology for solving sedimentation problems in irrigation canal inlets. This new technology could be very important to other projects not only in Montana, but in most of the Western United States.

3. The method proposed will, if successful, eliminate the environmental problems associated with dredging or bulldozing the gravel from irrigation canal inlets and will be more beneficial to the fish habitat.

If you have any questions please contact Don Freeman with the S.C.S.

Thank you for your consideration,

Merle Spattum

EXHIBIT 7
DATE 7-27-89
HB Water Dev. Project

APPLICANT NAME: Carbon Conservation District

PROJECT/ACTIVITY NAME: Rushwater Creek Erosion Control

AMOUNT REQUESTED: \$100,000

OTHER FUNDING SOURCES AND AMOUNTS: \$83,340 - ACP Pooling

Agreement

\$5,000 - Carbon County

\$22,780 - Mutual/Bridger

Ditch Companies

TOTAL PROJECT COST: \$211,120

PROJECT DESCRIPTION:

Rushwater Creek is a small intermittent stream which flows into the East side of the Clarks Fork Yellowstone River southeast of Bridger. During the irrigation season, both the Mutual and Bridger Irrigation Ditches spill water into the lower section of Rushwater Creek, causing excessive erosion of the creek channel. In places, the creek channel has eroded to a depth of about 20 feet. The bank erosion and degradation of the channel bottom have and are creating maintenance problems to a county road bridge and railroad crossing.

Carbon Conservation District intends to correct the present situation with the construction of a concrete control structure

placed below the Mutual Ditch spillway. From the county road to the confluence with the Clarks Fork Yellowstone, ten rock-drop structures will be installed to control the gradient. All disturbed areas will be revegetated.

TECHNICAL ASSESSMENT:

Practically every open canal irrigation system has a terminal wasteway problem. There can be little doubt that any erosion control efforts will be worthwhile.

The Rushwater Creek problem has received attention and study by the SCS at least as far back as 1973. Because of the potential threat to the county road and railroad crossing, and because the erosion problem is accentuated by the wasting of water from two major irrigation supply ditches, Rushwater Creek is identified as the worst wastewater-caused erosion problem in Carbon County.

One important aspect of reducing the amount of water being wasted into Rushwater Creek would be better management of water in the ditches. Presently, the ditches run at full capacity and any excess water is wasted into Rushwater Creek. The applicant intends to develop a water scheduling plan in hopes of reducing the amount of water that is wasted.

The Soil Conservation Service has developed preliminary engineering plans for the control structures and drop structures to be constructed. All final designs and specifications will be prepared by the SCS. The preliminary plans look like a feasible solution for prevention of further degradation of Rushwater

Creek.

All corrective action to be performed on Rushwater Creek will take place in the lower 1.5 miles of the creek, from the county road crossing to the confluence the Clarks Fork Yellowstone River.

FINANCIAL ASSESSMENT:

Total costs for this project are estimated at \$211,253. An ASCS-ACP pooling agreement will tentatively provide \$83,343. Carbon County will provide \$5,000 and the ditch companies each will contribute \$10,205. The Mutual and Bridger Ditch companies will assess its water users for their portion with combined shares of 5720 which would increase the assessment by \$3.54 per share. Assuming a grant of \$100,000 from DNRC, and ACP funds of \$83,343, the combined cost-share rate for the project would be 87%.

Construction cost estimates are broken down as follows:

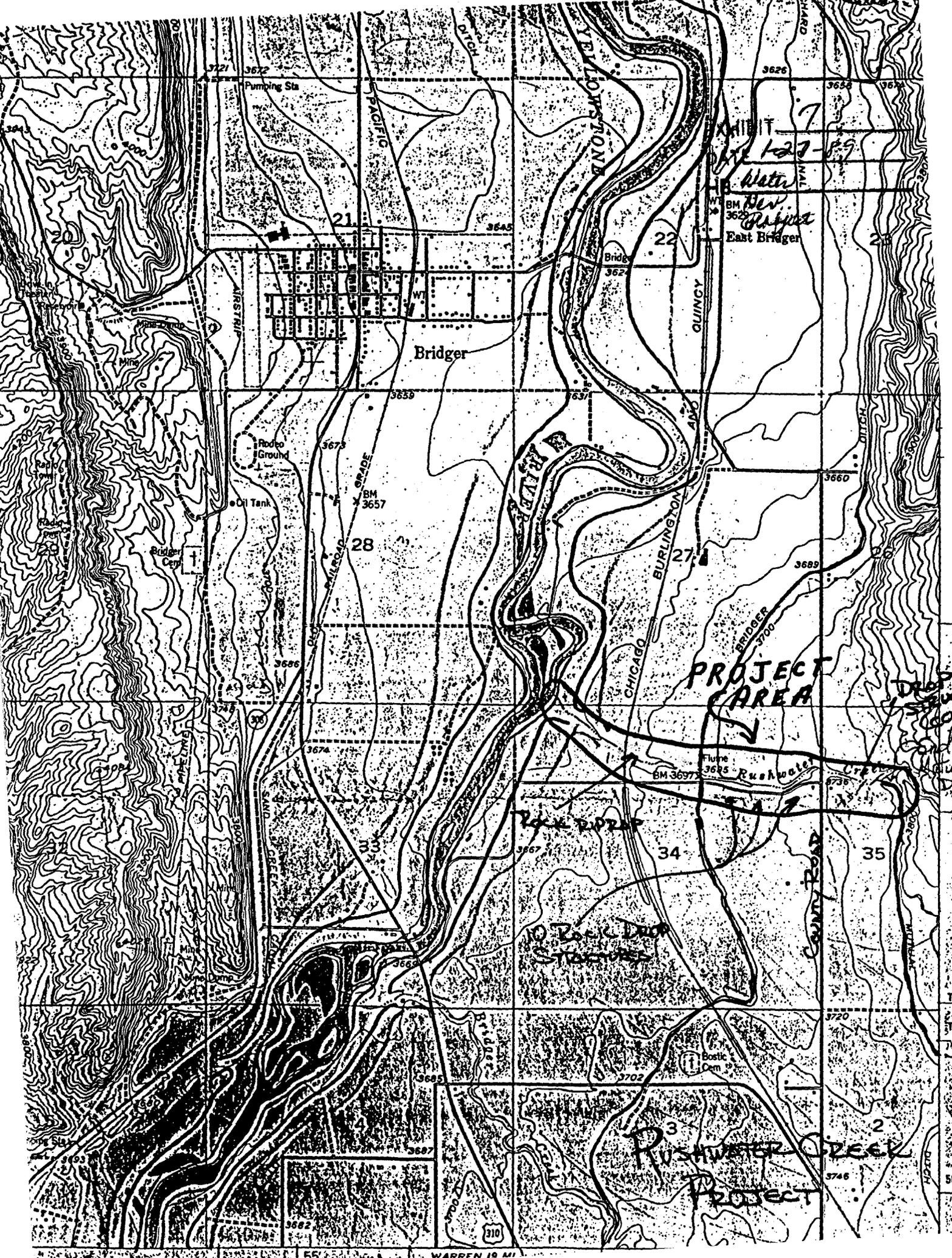
a) Excavation and shaping -		
25,700 c.y. @ \$2.01/c.y.	=	\$ 51,400
b) Rock for drops - 521 c.y.		
@ \$20/c.y.	=	114,400
c) Gravel bedding - 160 c.y.		
@ \$10/c.y.	=	12,600
d) Reinforced concrete box -		
7.0 c.y. @ \$500/c.y.	=	<u>3,500</u>
ESTIMATED CONSTRUCTION COSTS		\$181,900

ENVIRONMENTAL ASSESSMENT:

The major benefit as a result of this project will be reduced erosion of Rushwater Creek channel and reduced sediment leading into the Clarks Fork Yellowstone River. The applicant has calculated that 6758 tons of sediment are produced each year. Although sediment production should be greatly reduced, any detectable improvement to water quality in the Clarks Fork will be negligible due to large sediment loads present in the river.

RECOMMENDATIONS:

Improved water management is an important aspect of this project. DNRC recommends a grant of up to \$100,000 contingent upon the development of a water management plan by the applicant, DNRC approval, and successful implementation of the plan for one year. The grant is also contingent upon DNRC approval of scope of work and budget.



Pumping Sta

21

22

Bridger

28

27

34

35

PROJECT AREA

Back Door Storage

P3 RUSHWATER CREEK PROJECT

UNIT 7

127-89

Water Div. Project
East Bridger

BM 3622

East Bridger

Flume 3625

Rushwater Creek

BM 3697

Blastic Cem

310

WARREN IS M

Office File
EXHIBIT 8
DATE 1-27-89
HB Water Dev Project

Department of Natural Resources and Conservation
Water Development and
Renewable Resource Development Grant Programs

GRANT APPLICATION SUMMARY

I. APPLICANT INFORMATION

A. Applicant Name Canon Conservation District

B. Mailing Address Box J

C. City, State, Zip Bozeman, MT 59041

D. Telephone Number(s): (406) 962-3914

E. Contact Person James Yedlicka

1. Address if different from Project Sponsor _____

2. Telephone _____

F. This grant is requested by a(n) (Check one)

- | | | |
|---|---|---|
| <input type="checkbox"/> Individual | <input type="checkbox"/> State government unit | <input type="checkbox"/> Rural Improvement district |
| <input type="checkbox"/> Corporation for profit | <input type="checkbox"/> City, town, or county | <input type="checkbox"/> Irrigation district |
| <input type="checkbox"/> Nonprofit corporation | <input type="checkbox"/> County water or sewer district | <input checked="" type="checkbox"/> Conservation district |
| <input type="checkbox"/> Partnership | <input type="checkbox"/> Association | |
| <input type="checkbox"/> Other (Specify) _____ | | |

II. PROJECT INFORMATION

A. Project Title Rock Creek Decreed Water Distribution

B. Brief Project Description To assist water users install proper measuring structures for proper distribution of water according to their right; to help with ditch consolidation; to assist with proper irrigation water management.

C. How long will it take to complete your project or activity?
1 year

D. Project Budget (pages 17-19)

I (we) request _____ in the amount of \$ 61,000 *
I am (we are) prepared to spend this amount
of my (our) money \$ 1,100

I (we) have also used funding from the
following sources: list amount and name
of source) _____ \$ 60,000
\$ _____

TOTAL PROJECT COST \$ 122,100

* Maximum allowable grant is \$100,000.

-- Grants to project recipients cannot exceed 25 percent of the total project cost.

-- Grants for projects with repayment capability cannot exceed 25 percent of project cost.

E. Authorizing Statement

I (We) hereby declare that the information, and all attachments to this application are true, complete, and accurate to the best of my (our) knowledge, and that the project or activity complies with all applicable state, local, and federal laws and regulations.

I (We) further declare that I am (we are) legally authorized to enter into a binding contract with the Department of Natural Resources and Conservation to obtain a grant if this application receives approval.

PUBLIC APPLICANTS

James Yeike _____ 4/14, 1988
Signature and Title Authorized Date
Representative of Entity Applicant

PRIVATE APPLICANTS

INDIVIDUAL

Signature of applicant _____ Date _____

Signature of co-applicant _____ Date _____

PARTNERSHIP

Name: _____, a Montana partnership

By: _____, a partner

_____, a partner

_____, a partner

Date: _____

CORPORATION

NAME: _____, A Montana corporation

By: _____, President

_____, Secretary

Date: _____

Department of Natural Resources and Conservation
Water Development and
Renewable Resource Development Grant Programs

TECHNICAL NARRATIVE

(use additional pages as needed)

Applicant Carbon Conservation District

Project Title Rock Creek Decreed Water Distribution

- A. The purpose of the project is to assist ditch companies, ditch groups, and individuals construct measuring structures at or near their head-gate for the purpose of measuring their right of water into their ditch system. This is the only way that decreed water can be properly distributed.

In doing this, the conservation district's objectives are to obtain irrigation water management, some ditch consolidation, and the saving of water to be used in water short areas. It is also hoped by the District that the proper use of water will result in less cost of operation and increased production. This will help the economy of the area.

- B. With the grant funds, the District will assist the water users with the financial part of installing measuring structures. These will be cost-shared at 50%. It will insure that the structures are installed properly. The measurement of water will help landowners apply irrigation water management. In some cases, ditch groups can join together using one ditch system where 3 or 4 were used before and thereby decreasing the chance for water loss.
- C. Rock Creek water was decreed in August 1903 as a result of a dispute between Granite Ditch Co. and William Anderson. Within the decree, it states that "owing to the numerous parties involved, it is necessary to have an equitable distribution of the waters. Measuring boxes will be placed at the head of each and all of the ditches tapping the stream. It is, therefore, ordered that measuring boxes be immediately placed at the head of all of said ditches for the purpose of assisting a commissioner to properly measure said waters." The decreed water is 52,047 Miner's Inches or 1,306.18 c.f.s.

The first right was taken out in 1886; the last was in 1902. There are several gauging stations on Rock Creek where the U. S. Geological Survey measures water. They are: 18 miles south of Red Lodge - Max. 90 c.f.s., Min. 0; average controlled by Glacier Lake Dam; 5 miles south of Red Lodge - Max. 3110 c.f.s., Min. 14 c.f.s., Av. 167 c.f.s.; Red Lodge Creek above Cooney Reservoir - Max. 1360 c.f.s., Min. 0; Willow Creek above Cooney Reservoir - Max 648 c.f.s., Min. 0.4 c.f.s.; Red Lodge near Boyd - Max 1400 c.f.s., Min. 0; Rock Creek at Joliet - Max. 1930 c.f.s., Min. 18 c.f.s., Av. 253 c.f.s.; and Rock Creek at Rockvale - Max. 2310 c.f.s., Min. 0.

According to ~~the~~ data, Rock Creek, in most years, does not have sufficient water to satisfy all the decreed rights. The ~~water~~ commissioner, in order to do his job, must be ~~able~~ to distribute the proper amount of water according to the decreed schedule. It is, therefore, very important to have an acceptable measuring structure at each headgate that diverts water from the stream. To date, about 1/3 of the headgates have measuring structures.

- D. This project's only other alternative would be to continue operating as in the past. This would not solve the problem of determining the amount of water to which each user has a right.

The Conservation District decided that, in order to get proper measuring structures, they would assist the water users. There are no other funds available to help install ~~the~~ structures. It is also a way to talk to the water users about irrigation water management, ditch consolidation, and system reorganization.

- E. Ditch companies, groups and individuals that divert water directly from the Rock Creek drainage that need measuring structures would apply to the Conservation District. The District would determine, through their engineering service, what is needed. In some cases, it would be a simple Parshall flume; in others, it may be ditch consolidation; or else a complete reorganization.

For the purpose of this grant, only the measuring structure would be cost-shared. If additional work was necessary, other funds would be used, such as ACP, Great Plains, and private landowners. The main purpose of this project is to assist the water commissioner in the proper management of the water as decreed by the court.

9-44

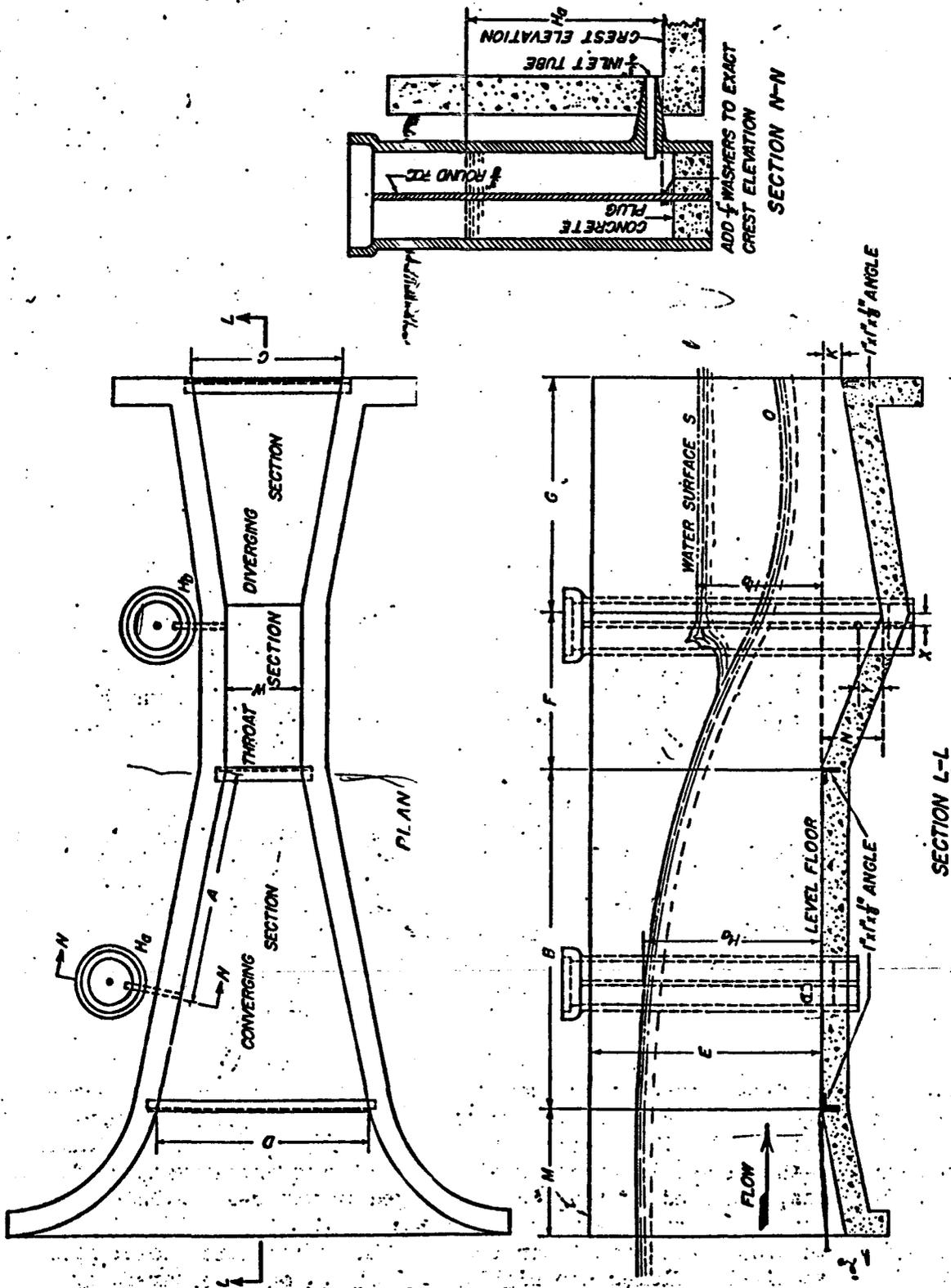


Figure 9-21--Plan and elevation of a concrete Parshall measuring flume showing component parts

Table 9-13.--Dimensions and capabilities of the Parshall measuring flume for various throat widths (W)

(Letters refer to dimensions. See fig. 9-21.)

Width	A		B		C		D		E		F	
	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.
Small												
1-inch....	0	9-17/32	1	2	0	3-21/32	0	6-19/32	0	9	0	3
2-inch....	0	10-7/8	1	4	0	5-5/16	0	8-13/32	0	10	0	4-1/2
3-inch....	1	0-1/4	1	6	0	7	0	10-3/16	1	6	0	6
Intermediate												
6-inch....	1	4-5/16	2	0	1	3-1/2	1	3-5/8	2	0	1	0
9-inch....	1	11-1/8	2	10	1	3	1	10-5/8	2	6	1	0
1-foot....	3	0	4	4-7/8	2	0	2	9-1/4	3	0	2	0
1-1/2-foot	3	2	4	7-7/8	2	6	3	4-3/8	3	0	2	0
2-foot....	3	4	4	10-7/8	3	0	3	11-1/2	3	0	2	0
3-foot....	3	8	5	4-3/4	4	0	5	1-7/8	3	0	2	0
4-foot....	4	0	5	10-5/8	5	0	6	4-1/4	3	0	2	0
5-foot....	4	4	6	4-1/2	6	0	7	6-5/8	3	0	2	0
6-foot....	4	8	6	10-3/8	7	0	8	9	3	0	2	0
7-foot....	5	0	7	4-1/4	8	0	9	11-3/8	3	0	2	0
8-foot....	5	4	7	10-1/8	9	0	11	1-3/4	3	0	2	0
Large												
10-foot....	6	0	14	0	2	0	15	7-1/4	4	0	3	0
12-foot....	6	8	16	0	2	8	18	4-3/4	5	0	3	0
15-foot....	7	8	25	0	2	4	25	0	6	0	4	0
20-foot....	9	4	25	0	2	0	30	0	7	0	6	0

Width	G		K	J		X	Y	Free-flow capacity	
	Ft.	In.	In.	Ft.	In.	In.	In.	Minimum	Maximum
								Sec.-Ft.	Sec.-Ft.
Small									
1-inch....	0	8	3/4	0	1-1/8	5/16	1/2	0.01	0.20
2-inch....	0	10	7/8	0	1-11/16	5/8	1	.02	.50
3-inch....	1	0	1	0	2-1/4	1	1-1/2	.03	1.00
Intermediate									
6-inch....	2	0	3	0	4-1/2	2	3	.05	3.9
9-inch....	1	6	3	0	4-1/2	2	3	.09	8.9
1-foot....	3	0	3	0	5	2	3	.11	16.1
1-1/2-foot	3	0	3	0	5	2	3	.15	24.6
2-foot....	3	0	3	0	5	2	3	.42	33.1
3-foot....	3	0	3	0	5	2	3	.61	50.4
4-foot....	3	0	3	0	5	2	3	1.3	67.9
5-foot....	3	0	3	0	5	2	3	1.6	85.6
6-foot....	3	0	3	0	5	2	3	2.6	103.5
7-foot....	3	0	3	0	5	2	3	3.0	121.4
8-foot....	3	0	3	0	5	2	3	3.5	139.5
Large									
10-foot....	6	0	6	1	1-1/2	12	9	6.0	200.0
12-foot....	8	0	6	1	1-1/2	12	9	8.0	350.0
15-foot....	10	0	9	1	6	12	9	8.0	600.0
20-foot....	12	0	12	2	3	12	9	10.0	1000.0

- G. The project will have no negative effects on the natural resources (Rock Creek Drainage Stream Inventory included in Appendix). Over the entire project, there may not be any water saved, but water diverted in some areas will be much less, leaving greater flows in the stream as far as silt. This will improve the fish habitat. With no water being measured into ditch systems, there will be less water from return flows. This should improve the water quality. With less water being used, leaching will be less and the soils should be more productive. Other natural resources, such as vegetation and wildlife should not be affected either positively or negatively.
- H. The project will result in all ditches diverting water from Rock Creek using a measuring structure. This will allow the Water Commissioner to properly distribute the water according to rights of each user. This should result in some ditches consolidating to save water losses in delivery systems. It should also improve water management on individual farms and in ditch systems. The project could also serve as a guide to ditch companies and groups to have measuring structures for each user on a ditch system.

Department of Natural Resources and Conservation
Water Development and
Renewable Resource Development Grant Programs

FINANCIAL FEASIBILITY NARRATIVE

(use additional pages as needed)

Applicant Carbon Conservation District

Project Title Rock Creek Decreed Water Distribution

The total project will cost \$122,100; of this, we are seeking a grant for \$61,000. The other funds will be District and water users. The purpose of the grant is to help with the cost of installing proper measuring structures. With a cost-share program, the District will have control over proper installation of the structures. They will also be in a position to promote the other needed conservation practices. It is planned that the funds will be on an individual basis. When a structure is installed, the bills would be presented to the District and the water user would be reimbursed 50% of the cost.

**DEPARTMENT OF NATURAL RESOURCES AND CONSERVATION
RENEWABLE SOURCE AND WATER DEVELOPMENT PROGRAMS**

PROJECT BUDGET FORM

I. CONTRACT ADMINISTRATION

A. Employee & Contracted Personnel

Position Titles (list is not intended to be inclusive) Please indicate wages and allocation of time for each project position:	DNRC Grant	Non- DNRC	Total	Funding Source (if not DNRC)
Administrator/Project Manager _____	\$ 500	\$ 500	\$ 1000	Cons. Dist.
Accountant _____				
Attorney _____				
Secretary _____	300	300	600	Cons. Dist.

Fringe Benefits _____				
Subtotal Salaries and Benefits	\$ 800	\$ 800	\$ 1600	
B. Associated Costs				
Office Rent _____				
Equipment Rent, Lease, or Purchase _____				
Utilities _____				
Communications _____				
Supplies _____	200		200	
Travel _____		300	300	Cons. Dist.
Other (specify) _____				

Subtotal Associated Costs	\$ 200	\$ 300	\$ 500	
TOTAL CONTRACT ADMINISTRATION COSTS	\$ 1000	\$ 1100	\$ 2100	

II. PROFESSIONAL/TECHNICAL COSTS

A. Employee & Contracted Personnel

Position Titles (list is an example only) Please indicate wages and allocation of time for each project position.	DNRC Grant	Non- DNRC	Total	Funding Source (if not DNRC)
Project Engineer _____ SCE	\$	\$	\$	
Hydrologist _____				
Soils Engineer _____				
Project Inspector _____ SCE				

Fringe Benefits _____				
Subtotal Salaries and Benefits	\$	\$	\$	

B. Associated Costs (list is an example only)	\$	\$	\$
Laboratory Costs _____			
Travel _____			
Communications _____			
Printing _____			
Supplies _____			
Equipment Rent, Lease, or Purchase _____			
Other (specify) _____			
Subtotal Associated Costs	\$	\$	\$
TOTAL PROFESSIONAL/TECHNICAL COSTS	\$	\$	\$

III. CONSTRUCTION COSTS
(list is an example only)

	DNRC Grant	Non-DNRC	Total	Funding Source (if not DNRC)
Labor _____	10,000	10,000	20,000	Water Users
Equipment _____	10,000	10,000	20,000	Water Users
Land or Structure Acquisition _____				
Materials _____	30,000	30,000	60,000	Water Users
Other (specify) _____				
Subtotal Construction Costs	\$50,000	\$ 50,000	\$100,000	
Contingency for unexpected costs (10%) _____	5,000	5,000	10,000	
TOTAL CONSTRUCTION COSTS	\$55,000	\$ 55,000	\$110,000	
IV. PROJECT COST (Sum of I, II, III)	\$ 1,000	\$ 1,100	\$ 2,100	
V. 6 PERCENT INFLATION CONTINGENCY (optional)	--	--	--	
VI. TOTAL PROJECT COST	\$61,000	\$ 61,000	\$122,100	

Revenue

Project Revenue	
* I (We) request a grant in the amount of:	\$ 61,000
I am (We are) prepared to spend this amount of my (our) funds	\$ 1,100
Other funding sources (List and specify grant, loan or in-kind services)	
Water Users	\$ 60,000
_____	\$ _____
_____	\$ _____
_____	\$ _____
TOTAL PROJECT REVENUE	\$ 122,100

* Maximum allowable grant is \$121,000.

—grants to private recipients cannot exceed 25% of total project cost.

—grants for projects with repayment capability cannot exceed 25% of total project cost.

8A
1-27-89
Water Development
Grant

Dear Mary Ellen Connelly, Chairperson

The hearing on the Park Branch Canal Project sponsored by the Park Conservation District is scheduled for 8:00 a.m., Friday, January 27 by your committee.

This project is no. 5 on the priority list.

The total project budget is \$49,715. This amount was originally recommended for the Governor's Budget. The most recent project list indicates a recommended grant of \$24,857 (50% of the project).

As an irrigator affected by this project, I would appreciate if it you could help us convince the members of the Joint Long Range Planning Committee to provide 100% funding for this project. The following are the principal points justifying full funding for the project:

1. The Park Conservation District has no repayment capacity and is eligible for 100% grant funds.
2. The project will be using SUBMERGED VANES which is a new technology for solving sedimentation problems in irrigation canal inlets. This new technology could be very important to other projects not only in Montana, but in most of the Western United States.
3. The method proposed will, if successful, eliminate the environmental problems associated with dredging or bulldozing the gravel from irrigation canal inlets and will be more beneficial to the fish habitat.

Thank you for your consideration,

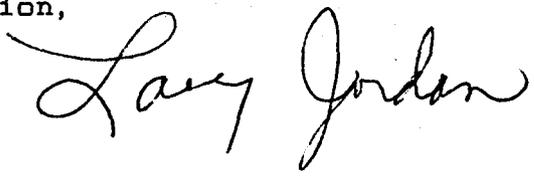


EXHIBIT 8B
DATE 1-27-89
HB Water Development
Grant

Dear Mary Ellen Connelly, Chairperson

The hearing on the Park Branch Canal Project sponsored by the Park Conservation District is scheduled for 8:00 a.m., Friday, January 27 by your committee.

This project is no. 5 on the priority list.

The total project budget is \$49,715. This amount was originally recommended for the Governor's Budget. The most recent project list indicates a recommended grant of \$24,857 (50% of the project).

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If you have any questions please contact Don Freeman with the S.C.S.

Thank you for your consideration,

Cliff Freeman

SIEVERS - FLYING M BAR RANCH
RT 38 BOX 2118
LIVINGSTON, MT 59047

EXHIBIT 8C
DATE 1-27-89
HB Water Reclamation
Grant

Dear Representative Ellison,

The hearing on the Park Branch Canal Project sponsored by the Park Conservation District is scheduled for 8:00 a.m., Friday, January 27 by the Joint Committee on Long Range Planning.

This project is no. 5 on the priority list. As a farmer you know how important this canal is to the well fare of our valley. And we are asking for your help in our endeavor to receive this grant.

The total project budget is \$49,715. This amount was originally recommended for the Governor's Budget. The most recent project list indicates a recommended grant of \$24,857 (50% of the project).

As an irrigator affected by this project, I would appreciate if it you could help us convince the members of the Joint Long Range Planning Committee to provide 100% funding for this project. The following are the principal points justifying full funding for the project:

1. The Park Conservation District has no repayment capacity and is eligible for 100% grant funds.

2. The project will be using SUBMERGED VANES which is a new technology for solving sedimentation problems in irrigation canal inlets. This new technology could be very important to other projects not only in Montana, but in most of the Western United States.

3. The method proposed will, if successful, eliminate the environmental problems associated with dredging or bulldozing the gravel from irrigation canal inlets and will be more beneficial to the fish habitat.

If you have any questions please contact Don Freeman with the S.C.S.

Thank you for your consideration,

Linda Sievers

Manager Flying M Bar Ranch

WITNESS STATEMENT

NAME Jim Melstad, Jim Enyeart BUDGET #119,602 Total ; #29,558 Grant
ADDRESS Eastgate Village Water & Sewer Association, PO Box 1220, E. Helena
WHOM DO YOU REPRESENT? Eastgate Village W/S Association 59635
SUPPORT Yes OPPOSE _____ AMEND _____

COMMENTS: Jim Melstad presented testimony to the committee as president of the association. This statement is only a written confirmation in support of the testimony. The project is the end step in completing the wastewater treatment system for Eastgate Village, a large rural subdivision east of East Helena.

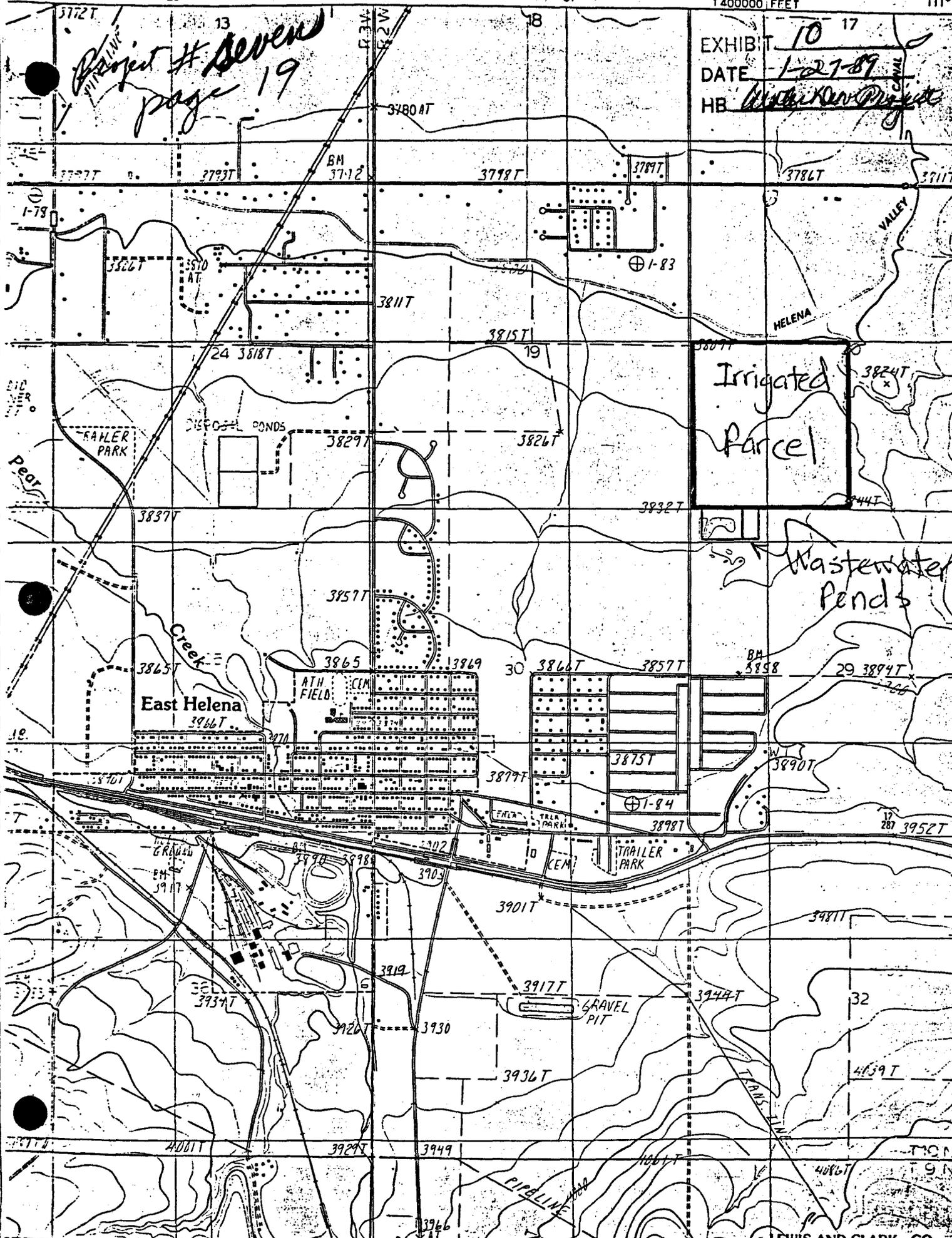
The association, which represents the residents of Eastgate Village and is responsible for operating the water and sewer systems, has recently spent approximately \$200,000 on wastewater system improvements. The association has more than tripled the monthly fee for wastewater service and has simply run out of money. Without a further fee increase, it is very unlikely that the wastewater irrigation system can be installed unless the grant is received. The wastewater irrigation system has been designed to prevent contamination of the Helena Valley groundwater, a serious concern of the Lewis & Clark County Commissioners.

The association would like to stress our large expenditure of time and money in relation to the requested grant amount.

PLEASE LEAVE PREPARED STATEMENT WITH SECRETARY.

EXHIBIT 10
 DATE 1-27-89
 HB *Water Use Project*

Project # Seven
page 19



APPENDIX B



United States
Department of
Agriculture

Soil
Conservation
Service

FOB Drawer 10022
301 South Park Avenue
Helena, MT 59626-0022

September 10, 1987

Eastgate Subdivision

Reference is made to attached reports from Dave Jones and Monte Bingham.

As noted in Dave Jone's report, the existing capacity of 55.5 acre feet will require approximately 30 acres and the design max of 168 acre feet will require 90 acres.

To accommodate a buffer, we are recommending 110 acres.

w/ 110 acres 8" mainline is needed.
+ or - 1400 feet - Garber site
+ or - 3000 feet - Diehl site

w/ 30 acres 6" mainline is adequate.

To cover 110 acres will require a 1235' center pivot operating at 30 psi at the pivot point.

Horsepower requirements: 110 acres

Garber site - 24.4 minimum
Diehl site - 27.4 minimum

The Garber site is presently in crop and would require a minimum of land preparation to establish a grass stand (as recommended for nitrogen utilization). The cost of establishment will be in the area of \$50 per acre.

Grass hay production on these soils will be approximately 2 to 2 ½ tons per acre for irrigated and .75 tons per acre for non-irrigated.

The Diehl site will require considerable field work. Preparation of seedbed, seed and seeding and etc is estimated at \$85 - \$100 per acre. Production potentials will be approximately the same as for the Garber site.

The buffer zone requirement is still questionable and subject to Health Department considerations. It would appear that



Eastgate Subdivision
September 10, 1987
Page 2

with low psi operations, and being down-wind from the road could reduce the requirement on the Garber site.

If you need further assistance, please feel free to give us a call at 449-5278.

Sincerely,

A handwritten signature in cursive script, appearing to read "Arnold Quale".

Arnold Quale, DC
Soil Conservation Service
Helena, Montana

smd

United States
Department of
Agriculture

Soil
Conservation
Service

Federal Building, Room 443
10 East Babcock Street
Bozeman, MT 59715

Subject: ENG--Eastgate Lagoon--Land
Application of Effluent

Date: August 20, 1987

AUG 26 1987

To: Arnold Quale
District Conservationist
Soil Conservation Service
Helena, Montana

The following land area requirements are based on a gross irrigation application of 23 inches per year (16"/ 0.70) on grass hay. This application would apply an estimated 100 lbs. nitrogen per acre per year. Lagoon seepage was estimated at 15 inches per year and the evaporation at 40 inches per year. Buffer requirements need to be added.

<u>FLOW</u>	<u>QUANTITY</u>	<u>AREA</u>
GPD	ACRE/FT	ACRES
82,400 (Existing)	55.5	30
188,100 (Design Max)	168.	90

At design maximum flows Cell #2 will have 7 months of storage from a seal protective depth of 2 feet to a depth of 17 feet. Thus a minimum irrigation period of 5 months is needed.

If you have further questions, please call.


DAVID J. JONES

Environmental Engineer
Field Support Staff

cc: Don McAndrew, AC, SCS, Bozeman MT
Richard W. Van Klaveren, SCE, SCS, Bozeman MT

STATE	MONTANA		PROJECT	Eastgate subdivision SPRINKLER	
BY	RLM	DATE	2/9/88	CHECKED BY	DATE
SUBJECT	MAINLINE / PUMP SIZING			JOB NO.	
				SHEET	1 OF

From Dave Jones report of 8/20/87

Approx. 90 acres needed for logoons (subdivision full)

$$(90 \text{ ac}) (43560 \text{ ft}^2/\text{ac}) = 3920400 \text{ ft}^2 / 3.1415 = 1248535.03 \text{ ft}^2$$

$$r^2 = 1248535.03$$

$$r = \sqrt{1248535.03}$$

$$r = 1117' \text{ radius needed for center pivot}$$

Health dept. requires 200' buffer along Co. road

Pivot point to be 1320' from edge of road

FROM SOIL INVESTIGATION REPORT: 9/10/87

Soil has water holding capacity of 2"

Crop uses 0.2" / day peak use (crop = grass hay)
 " 70% eff. ~ gross application = 0.29" / day

$$(90 \text{ ac}) (0.29) = 26.1 \text{ ac}''/\text{day gross application}$$

$$26.1 / 24 = 1.09 \text{ ac}''/\text{hr}$$

$$1 \text{ cfs} = 1.0 \text{ ac}''/\text{hr} \text{ therefore } 1.09 \text{ ac}''/\text{hr} = 1.09 \text{ cfs}$$

$$1.09 \text{ cfs} = 490 \text{ gpm} \text{ "}$$

$$490 \text{ gpm} / 90 \text{ ac} = 5.4 \text{ gpm}/\text{ac} \text{ gross application}$$

Operating Pressure = 30 PSI at pivot point

STATE <u>MONTANA</u>		PROJECT <u>EASTGATE SUBDIVISION SPRINKLER</u>		
BY <u>RLM</u>	DATE <u>2/11/88</u>	CHECKED BY	DATE	JOB NO.
SUBJECT <u>MAINLINE / PUMP SIZING</u>				SHEET <u>3</u> OF _____

TDH CONTINUED

Operating pressure = 30 PSI @ PIVOT POINT
= 69.3 ft head

PUMP LIFT - Assume 25' (OVER BANK OF CANYON)

TDH

	<u>6"</u>	<u>8"</u>
FRICTION LOSS - mainline	20.7'	4.8'
FRICTION LOSS - PIVOT	26.6'	26.6'
Operating pressure @ 30 PSI	69.3'	69.3'
Pump lift	<u>25.0'</u>	<u>25.0'</u>
	141.6'	125.7

BHP

$$\frac{(141.6' \times 490 \text{ GPM})}{(3960 \times 0.70)}$$

6" MAINLINE

ASSUME 70% EFF.

$$= 25.0 \text{ BHP}$$

$$\frac{(125.7' \times 490)}{(3960 \times 0.70)}$$

8" MAINLINE

ASSUME 70% EFF.

$$= 22.2 \text{ BHP}$$

EXHIBIT 11
DATE 1-27-89
HB West Bend Project

Dueane Calvin - Huntley Project Irrigation District

Before the Long Range Planning Sub-Committee

The vast majority of our system is unlined earthen canals and laterals. This system consists of 54 miles of main canals, 202 miles of laterals and 186 mile of open and closed drains serving 27,450 acres along the Lower Yellowstone. Due to the type of of system and it's age (construction was completed prior to 1917) the District currently spends \$534,475.00 each year for basic operation and maintenance. In addition to that we spend another \$69,000.00 each year to reconstruct or perform major repairs in areas having excessive seepage losses or extensive erosion problems, additionally the District is refurbishing and/or replacing system measuring devices where ever necessary.

In late 1987 the District began an extended series of water sampling tests to evaluate water quality coming into and exiting the District, this will probably continue for another two years, these costs come out of the regualr O & M dollar. In July of 1988 the Board of Commissioners informed all water users that they will be required to have installed and operational, standard metering devices for every farm delivery point, prior to the begining of the irrigation season, 1992. At last count there are 1,770 delivery points within the Huntley Project, less than 1% of these ~~are~~ currently have measuring devices. The average cost of the measuring devices to the individual water user will be \$150.00. This will amount to an additional cost of \$263,000.00 to the water users over the next three years.

With the current O & M assessment at \$18.00 per acre, U.S. construction at \$0.75 per acre and the cost of the measuring devices, it is felt that the water users could not be asked to assume the additional burden for the complete cost of the SCADA Program set forth in our Grant request.

EXHIBIT 12
DATE 1-27-89
HB Water Dev Project

TESTIMONY GIVEN
BEFORE THE
MONTANA LEGISLATURE
NATURAL RESOURCES APPROPRIATIONS SUBCOMMITTEE

Date: January 27, 1989

ON BEHALF OF
(SUN PRAIRIE)
VILLAGE WATER AND SEWER ASSOCIATION, INC.
WASTEWATER SYSTEM REHABILITATION

by

Bobby B. Broadway, President
Village Water and Sewer Association, Inc.

and

Timothy R. Berry, P.E.
Morrison-Maierle/CSSA, Inc.
P.O. Box 6147
Helena, Montana 59601

LOCATION: 6 miles west of Great Falls, Cascade County
Developed 1976-1977.

PROBLEM: Violation of Water Quality Act

District Court Order to complete construction of
facility improvements by December 1989.

REQUEST: \$584,014 loan from Department of Natural Resources
programs. Funds needed by July 1989.

PROJECT START DATE: February 1, 1989

PROJECT COMPLETION DATE: By Court Decree, December 31, 1989.

HISTORY:

March 1985 Violation of Water Quality Act resulting
from breach of lagoon dike.

Temporary repairs made to dike.

Department of Health and Environmental
Sciences (DHES) brings enforcement action
(law suit) for violation.

June 1986 Association hires engineer to evaluate dikes.

Sept. 1986 Engineer completes report, Water Development Grant application filed with DNRC.

April 1987 DHES counsels Association to make permanent repairs or face prosecution. DHES informs Association monies available from EPA to finance facilities planning and repairs.

May 1987 DNRC notifies Association of \$162,000 loan for dike repairs.

Association begins search to hire engineer to design dike repairs and prepare EPA wastewater facilities plan.

Aug. 1987 Association signs contract with engineer for EPA wastewater facilities planning subject to receipt of EPA advance of allowance.

Engineer reports literature shows treatment facilities could never function as designed because of unsuitable soils, poor wastewater quality, interference with flood plain.

Association files application for EPA advance of allowance with DHES.

Engineer and Association hypothesize lagoons will fill to overflowing before winter is out -- temporary discharge permit requested from DHES to preclude dike failure. Request denied.

Sept. 1987 Engineering field testing verifies treatment facilities will not function. DHES informed.

Oct. 1987 Association awarded EPA advance of allowance for wastewater facilities planning.

Nov. 1987 Public meeting held on facility planning progress. Several alternative presented including treatment and discharge to Vaughn; pumping to Great Falls; evaporation ponds; treatment and discharge to Sun River.

Dec. 1987 Association files application for discharge permit with DHES.

Jan. 1988 Public meeting held on progress of wastewater facilities planning effort.

Association and DHES appear before Judge McKittrick seeking Court ordered discharge to prevent catastrophic failure of lagoon dikes. Judge McKittrick grants temporary discharge.

April 1988 DHEs grants non-degradation discharge permit.
 Association files appeal of non-degradation permit with Board of Health for equivalent to secondary standards permit.

May 1988 Public meeting on progress of facilities planning effort.
 Board of Health hears appeal and order DHEs to prepare preliminary environmental record and notice for public comment.

July 1988 Board of Health holds final hearing on appeal. Grants equivalent to secondary standards.
 Cascade County hold first public hearing on Community Development Block Grant application -- agrees to sponsor Village Water and Sewer Association application.

Aug. 1988 DHEs issues "equivalent to secondary" standards permit.
 Association and DHEs come to terms on compliance schedule to settle enforcement action law suit.

Sept. 1988 Consent decree entered before Judge Thomas McKittrick requiring construction of improvements be complete by the end of December 1989.

Dec. 1989 Association notified by Montana Department of Commerce that CDBG application not successful.

FINDINGS
OF
WASTEWATER FACILITIES PLANNING
EFFORT

EXISTING FACILITIES:

- o constructed 1976-1977
- o 7,895 lineal feet of 10-inch sewer main
- o 25,130 lineal feet of 8-inch sewer main
- o 2 lift stations (wet well type)
- o aerated lagoon
- o storage pond
- o disposal via spray irrigation

COLLECTION SYSTEM DEFICIENCIES:

- o areas of negative grade and poor alignment
- o poor construction - manhole rings on wood supports
- o gravel

35 manhole and 4,885 feet of sewer main to be reconstructed.

LIFT STATION DEFICIENCIES:

- o no standby (emergency) power
- o no screening - rags, debris
- o no shelter from weather
- o no lifting device for removing pumps
- o float switches not secured to wet well

Both lift stations to be reconstructed.

TREATMENT DEFICIENCIES:

- o poor soils
- o flood plain
- o poor water quality
- o flows greater than normal
- o eroded dikes
- o aeration system worn out
- o irrigation system

Dikes to be reconstructed and protected with riprap or lined; aeration system replaced; effluent pump station and 7,800 feet of new pipeline to Sun River and discharge structure to be constructed and a control building/maintenance shop/garage built.

(SUN PRAIRIE)
VILLAGE WATER AND SEWER ASSOCIATION, INC.

WASTEWATER SYSTEM IMPROVEMENTS

	TOTAL
COLLECTION SYSTEM	
Mains	\$205,065
Lift Stations	\$137,736
TREATMENT	\$447,118
DISCHARGE TO SUN RIVER	
Land/Right-of-Way	\$9,000
Construction	\$118,672

Sub-Total	\$917,591
Contingencies, 10%	\$91,759

Sub-Total	\$1,009,350
Engineering, Inspection, Or- dinances, Rates, O&M Man- ual, Plan of Operation, Legal, Administrative, Interest	\$231,218

TOTAL PROJECT COSTS	\$1,240,568
EPA SHARE	\$656,554

LOCAL SHARE	\$584,014

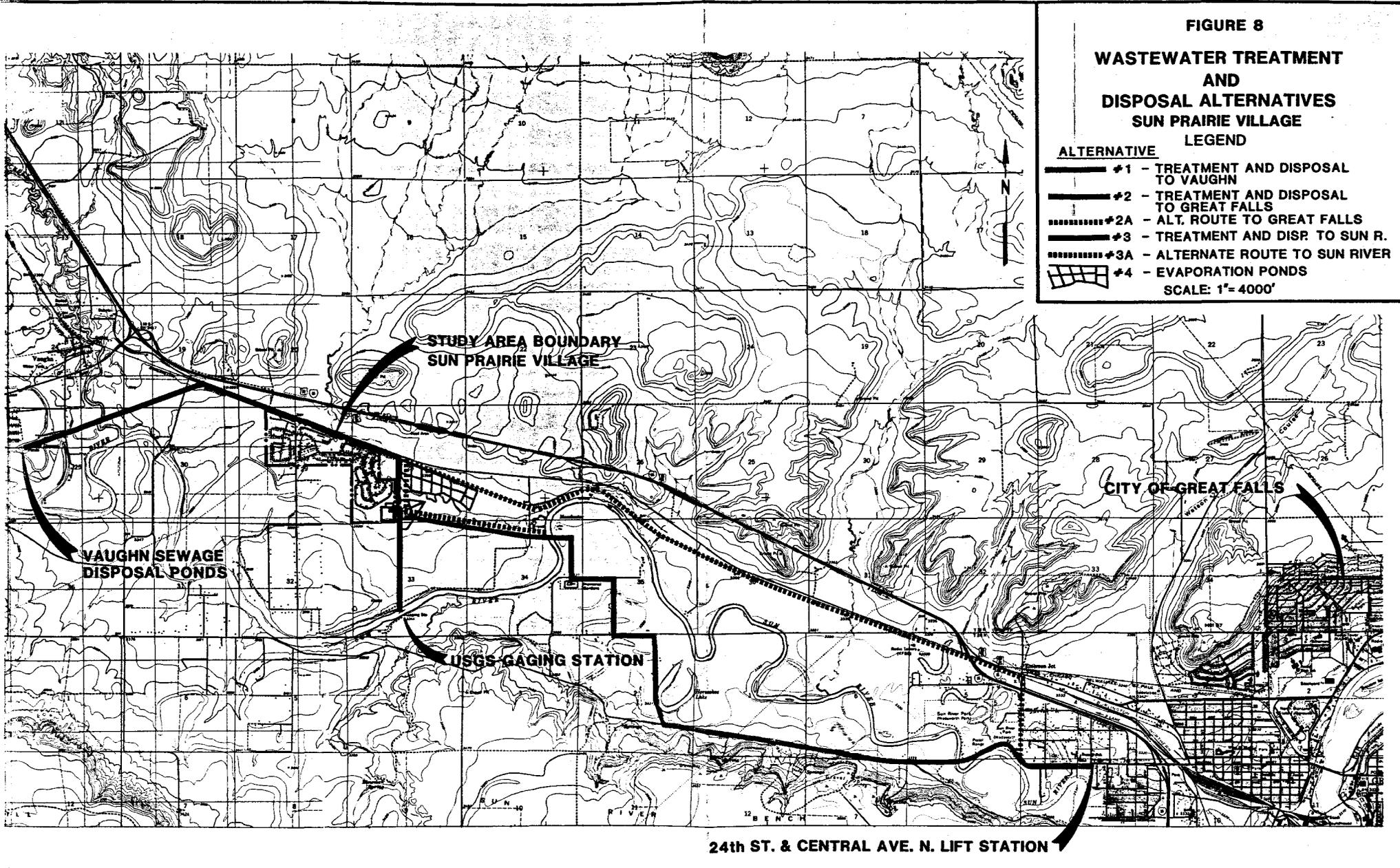
MONTHLY
WASTEWATER USER CHARGES

	Revenue		
	<u>Bond</u>	<u>DNRC Loan</u>	
	11.5%	7.3%	5.3%
Debt Service on Proposed Loan for \$584,104	\$25.46	\$16.80	\$14.30
Operation, Maintenance, and Repair:	\$10.55	\$10.55	\$10.55
<hr/>			
SUB-TOTAL	\$36.01	\$27.35	\$24.85
RSID Debt Service (Tax Roles)	\$6.73	\$6.73	\$6.73
<hr/>			
TOTAL	\$42.74	\$34.08	\$31.58
MEAN ANNUAL INCOME = \$21,100			
Percent of Mean Annual Income	2.43	1.94	1.80

FIGURE 8

**WASTEWATER TREATMENT
AND
DISPOSAL ALTERNATIVES
SUN PRAIRIE VILLAGE
LEGEND**

- ALTERNATIVE**
-  #1 - TREATMENT AND DISPOSAL TO VAUGHN
 -  #2 - TREATMENT AND DISPOSAL TO GREAT FALLS
 -  #2A - ALT. ROUTE TO GREAT FALLS
 -  #3 - TREATMENT AND DISP. TO SUN R.
 -  #3A - ALTERNATE ROUTE TO SUN RIVER
 -  #4 - EVAPORATION PONDS
- SCALE: 1" = 4000'



24th ST. & CENTRAL AVE. N. LIFT STATION

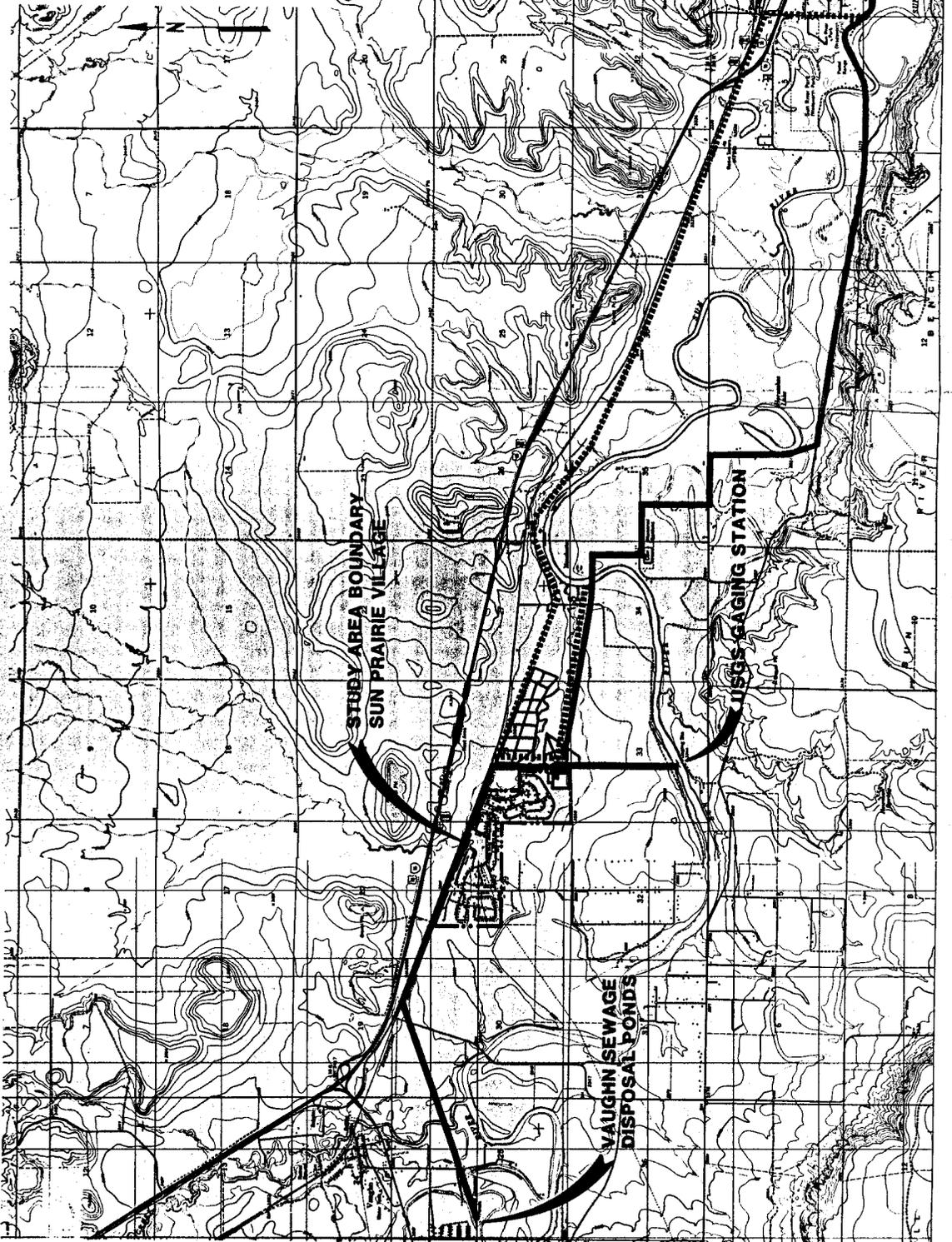
FIGURE 8

**WASTEWATER TREATMENT
AND
DISPOSAL ALTERNATIVES
SUN PRAIRIE VILLAGE**

LEGEND

- #1 - TREATMENT AND DISPOSAL TO VAUGHN
- #2 - TREATMENT AND DISPOSAL TO GREAT FALLS
- #2A - ALT. ROUTE TO GREAT FALLS
- #3 - TREATMENT AND DISR TO SUN R.
- #3A - ALTERNATE ROUTE TO SUN RIVER
- #4 - EVAPORATION PONDS

SCALE: 1"=4000'



24th ST. & CENTRAL AVE. N. LIFT STATION

VISITOR'S REGISTER

Long Range Planning

SUBCOMMITTEE

AGENCY (S)

DATE

1-27-89

DEPARTMENT

Water Dev. Grants

NAME	REPRESENTING	SUP-PORT	OP-POSE
Don Phillips	Budget Mutual Dist Co	✓	
James Gedlicka	Carbon Cong Dist	✓	
Wesley Calvin	Hwy 101 Proj Irrig Dist	✓	
Jim Melstad	Eastgate Village Water Sewer Ass'n	✓	
TOBY O. GRAY	PARK CO. CONS. DIST.	✓	
Jo Brunner	MURA	9/12	
Robert C. Porduff	Dutton		
John Feagley	Teton County		
William Train	Saska	✓	
Angela Mathem	Park	✓	
Frank Donovan	PARK	✓	
James R. Durgan	PARK	✓	
Bruce Malcolm	Park Branch canal inlet	✓	
Frank Pope	LAKE	✓	
Bill Hunt	HKM (for Park CD)	✓	
Douglas S. Hgo	Rock Creek Water Use	✓	
Jim Empeart	Eastgate Village water + Sewer Ass'n	✓	
Gerry Myssen	Greenfield Irrigation Dist.	✓	
Dale Parkey	Rush water Conservation	✓	
John E. Smith	Rock Creek water	✓	

IF YOU CARE TO WRITE COMMENTS, ASK SECRETARY FOR WITNESS STATEMENT. IF YOU HAVE WRITTEN COMMENTS, PLEASE GIVE A COPY TO THE SECRETARY.

Mary Lou Peterson City of Troy

