STATE OF NEBRASKA
DEPARTMENT OF WATER RESOURCES
APPLICATION FOR A PERMIT TO IMPOUND WATER

1. Name and address of applicant: H&W, Frenchman Valley and Frenchman-Cambridge Irrigation Districts. See enclosure 1 for addresses, and telephone numbers.
   Zip code ________ Telephone No. ________

2. Name and address of owner if different than applicant:
   Water and Power Resources Service, Lower Missouri Region, Kansas River Projects, P.O. Box 737, McCook, NE owns and operates Enders Dam and Reservoir.
   Zip code 69001 Telephone No. (308) 345-4400

3. State the purposes for water storage (i.e., irrigation, livestock, erosion control):
   Supplement water supply for irrigation

4. Identify the source of water (name of stream):
   South Platte River

5. State the approximate quantity of water to be impounded: 45,000 acre-feet.

6. Identify the location of the proposed reservoir or pit:
   County Chase, Nebraska
   Township 5 North, Range 37 East
   Quarter Section 1

7. State the approximate date water will first be impounded: 1990

8. Identify the supply canal headgate or pipeline pump site location:
   County Keith, Nebraska
   Big Springs Diversion Dam and Pumping Plant, SW 1/4, Section 29, NW 1/4, Section 32
   Township 13 North, Range 41 East

9. I certify that I am familiar with the information contained in this application, and that to the best of my knowledge and belief such information is true, complete and accurate.

   Date __________________________
   Signature of owner or owner's authorized agent

This form must be completed in full. An incomplete or defective application will be returned with 30 days being allowed for resubmission. Failure to resubmit a corrected application within this time period shall cause dismissal of the application and consequent loss of priority.

A non-refundable filing fee (payable to the Director of Water Resources) can be computed from the table below and must accompany this application. Forward this application and fee to:

1/ With dike extension

State of Nebraska
Department of Water Resources
301 Centennial Mall South
P.O. Box 94676
Lincoln, Nebraska 68509

FEES FOR APPLICATIONS TO IMPOUND WATER

<table>
<thead>
<tr>
<th>Quantity of Water Stored</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 5,000 acre-feet</td>
<td>$25</td>
</tr>
<tr>
<td>Each additional 5,000 acre feet or fraction thereof</td>
<td>$10</td>
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</tbody>
</table>

Scaled plans depicting the project must be submitted for departmental approval prior to construction.
Enclosure 1

H & RW Irrigation District
Culbertson, Nebraska 69024 Telephone No. (308) 278-2125

Frenchman Valley Irrigation District
Culbertson, Nebraska 69024 Telephone No. (308) 278-2125

Frenchman-Cambridge Irrigation District
P.O. Box 116
Cambridge, Nebraska 69022 Telephone No. (308) 697-4535
Enclosure 2

H&RW Irrigation District

William L. Schlegel
President

Date: 12-16-80

Joyce B. Stupka, Notary Public

Commission expires 3/30/82

Frenchman Valley Irrigation District

Ernest A. Hays
Vice Pres.

Date: 12-16-80

Joyce B. Stupka, Notary Public

Commission expires 2/2/82

Frenchman-Cambridge Irrigation District

Lester Johnson
Vice Pres.

Date: 12-16-80

Joyce B. Stupka, Notary Public

Commission expires 2/2/82
DEUEL

NEBRASKA
COLORADO

SOUTH PLATTE RIVER BASIN

SEDGWICK

REPUBLICAN RIVER BASIN

KEITH

PERKINS

PHILLIPS

CHASE

REPUBLICAN RIVER WATER MANAGEMENT STUDY
SOUTH PLATTE TO FRENCHMAN RIVER
DIVERSION STUDY
## TABLE OF ALTERNATIVES

<table>
<thead>
<tr>
<th>LOCATION OF DIVERSION PT</th>
<th>DIVERSION CAPACITY (CFS)</th>
<th>PUMP TDH HEAD (FT.)</th>
<th>CONDUIT CAPACITY &amp; LENGTH</th>
<th>OPERATING PLAN</th>
<th>DIVERSION (MONTHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. JULESBURG CO. (1 MI. SE)</td>
<td>100</td>
<td>338</td>
<td>DESIGNED FOR 100 FT 3/8 (1) 20 MILES CONC. REINF. DISCHARGE PIPE. (2) 4.5 MILES GRAVITY CONC. PRESSURE PIPE.</td>
<td>DIVERT 81 FT 3/8 94 FT 3/8 X 160 DAYS = 34,800 AC.-FT. DIVERTED. NO LOSSES.</td>
<td>OCT. 15, TO APR 1.</td>
</tr>
<tr>
<td>B. JULESBURG CO. (1.5 MI. SE)</td>
<td>100</td>
<td>287 (RIVER)</td>
<td>DESIGNED FOR 100 FT 3/8 (1) 3.0 MILES CONC. REINF. DISCHARGE PIPE. (2) RESERVOIR</td>
<td>DIVERT MAX. CAP. 100 FT 3/8 X 185 DAYS = 34,700 AC.-FT. DIVERTED</td>
<td>OCT. 15, TO APR 1.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>142 (RESERVOIR)</td>
<td>RESERVOIR</td>
<td>RIVER</td>
<td>APR 1, TO SEPT. 15.</td>
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<tr>
<td>C. BIG SPRINGS NEB. (1 ML EAST)</td>
<td>125</td>
<td>346</td>
<td>DESIGNED FOR 125 CFS (1) 5.5 MILES CONC. DISCHARGE PIPE. (2) 40 MILE LINED CANAL.</td>
<td>DIVERT MAX. CAP. 125 FT 3/8 X 90 DAYS = 22,500 AC.-FT. DELIVERED</td>
<td>APRIL, MAY, AND, JUNE</td>
</tr>
<tr>
<td>D. BIG SPRINGS NEB. (1 ML EAST)</td>
<td>68</td>
<td>366</td>
<td>DESIGNED FOR 68 CFS (1) 4.5 MILE CONC. PRESSURE PIPE.</td>
<td>DIVERT MAX. CAP. 68 FT 3/8 X 165 DAYS = 21,300 AC.-FT. DIVERTED NO LOSSES.</td>
<td>OCT, TO APR,</td>
</tr>
<tr>
<td>E. BIG SPRINGS NEB. (1 ML EAST)</td>
<td>115</td>
<td>352</td>
<td>DESIGNED FOR 115 CFS (1) 4.5 MILE CONC. PRESSURE PIPE.</td>
<td>DIVERT MAX. CAP. 115 FT 3/8 X 165 DAYS = 27,400 AC.-FT. DIVERTED NO LOSSES.</td>
<td>OCT, TO APR,</td>
</tr>
<tr>
<td>Alternative</td>
<td>Diversion Schedule</td>
<td>Features</td>
<td>Total Cost (July 1980 Costs) $</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------</td>
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</tbody>
</table>
| Big Springs - 125 CFS       | 22,315 AC-ft diverted from the South Platte during April, May, and June, 90 days (21,333 AC-ft delivered to Kilpatrick Res., on Frenchman Cr.) | 1) South Platte diversion works  
2) Pumping plant with 5.5 mile discharge  
3) 40 miles of concrete (unreinforced) lined canal  
4) 4 miles of transmission line | 1/4 45,650,000  
48,750,000  
$2,140/AC-ft  
$2,185/AC-ft |
| Big Springs - 68 CFS         | 22,255 AC-ft diverted from the South Platte from Oct. to April 165 days | 1) South Platte diversion works  
2) Pumping plant with 5.5 miles discharge  
3) 40 miles of concrete pressure pipe  
4) 4 miles of transmission line | 1/4 80,350,000  
82,150,000  
$3,610/AC-ft  
$3,690/AC-ft |
| Big Springs - 115 CFS        | 37,637 AC-ft diverted from the South Platte during Oct. to April 165 days | 1) South Platte diversion works  
2) Pumping plant with 5.5 mile discharge  
3) 40 miles of concrete pressure pipe  
4) 4 miles of transmission line | 1/4 91,650,000  
94,550,000  
$2,435/AC-ft  
$2,510/AC-ft |
| Frenchman - lined canal buried conduit--100 CFS | 36,700 AC-ft diverted from the South Platte from Oct. to May 185 days | 1) South Platte diversion works  
2) Pumping plant with 3 mile discharge  
3) 42 miles of concrete pressure pipe | 1/4 79,260,000  
81,920,000  
$2,160/AC-ft  
$2,230/AC-ft |

1/ Additional construction cost of $633/KW, based on max. load for P-SMP power for pumping plants
<table>
<thead>
<tr>
<th>Alternative</th>
<th>Diversion Schedule</th>
<th>Features</th>
<th>Total Cost (July 1980 Costs)</th>
</tr>
</thead>
</table>
| Frenchman - lined canal 100 ft 3/s - 93 ft 3/s 185 days | 36,700 AC-ft diverted from the South Platte into Holding Res. from Oct. to May, 185 days; 34,500 AC-ft gross diverted from the Holding to Frenchman from April to Oct. 185 days; 32,200 net AC-ft into Frenchman | 1) South Platte diversion works  
2) Pumping plant with 3 mile discharge line  
3) Holding Reservoir and Dam  
4) Pumping plant with 0.8 mile discharge line  
5) 50-miles concrete lined canal | $70,650,000  
$2,260,000  
$2,200/AC-ft  
$2,300/AC-ft |

1/ Additional construction cost of $633/KW, based on max. load for P-SMP power for pumping plant
<table>
<thead>
<tr>
<th>Alternative</th>
<th>Acre-feet Delivered</th>
<th>40 Yr Construction Repayment Per Acre-ft</th>
<th>Total Annual Payment Per Acre-foot with P-SMBP Power</th>
<th>Total Annual Payment Per Acre-foot with Commercial Power</th>
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<tbody>
<tr>
<td>C</td>
<td>21,333</td>
<td>$53.50</td>
<td>$61.13</td>
<td>$76.80</td>
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<tr>
<td>D</td>
<td>22,255</td>
<td>90.25</td>
<td>97.48</td>
<td>114.34</td>
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<tr>
<td>E</td>
<td>37,637</td>
<td>60.90</td>
<td>67.39</td>
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<tr>
<td>A</td>
<td>36,700</td>
<td>54.00</td>
<td>60.40</td>
<td>75.84</td>
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<tr>
<td>B</td>
<td>32,200</td>
<td>55.00</td>
<td>65.27</td>
<td>85.02</td>
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**SOUTH PLATTE - FRENCHMAN C.P. DIVERSION PLANS**