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PHASE III REPORT
(OPAL PIPELINE)

OAKLEY
WATER SUPPLY PROJECT
LEVEL II - FEASIBILITY STUDY

FOR

WYOMING WATER DEVELOPMENT COMMISSION
APRIL 1990

1515 Ninth Street
Rock Springs, Wyoming 82901
Phone (307) 362-7519
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PHASE III REPORT

I. INTRODUCTION AND SUMMARY


Phase I of the Project investigated various alternate sources of a water supply for the Oakley area which is located approximately two miles south of Kemmerer, Wyoming. A groundwater source and a supply from the City of Kemmerer were investigated together with looking at means to treat water from the privately owned wells in the Oakley Subdivision. Ultimately a pipeline from Kemmerer to Oakley was selected for further study in the Phase II effort.

Three different alternatives were examined in detail in Phase II as follows:

Alternate "A" - Constructing an 8 inch diameter transmission pipeline from Kemmerer to Oakley and installing a distribution system with adequate capacity for fire flows.

Alternate "B" - Constructing a 4 inch diameter transmission pipeline from Kemmerer to a 50,000 gallon water storage tank near Oakley. A distribution system would connect to the water storage tank to serve Oakley, with sufficient capacity to meet fire flow demands and fire hydrants would be installed for fire protection.
Alternate "C" - Constructing a 4 inch diameter transmission pipeline from Kemmerer to Oakley with a distribution system consisting of 4 inch diameter pipe. No fire hydrants would be installed and there would be no provision for fire fighting capabilities.

The Draft Phase II Report was submitted to the Wyoming Water Development Commission on January 10, 1990.

The Town of Opal, Wyoming requested that the Wyoming Water Development Commission investigate the possibility of extending the Oakley pipeline to Opal, this request was made prior to January 10, 1990. It was made because Opal had been advised that United States Environmental Protection Agency Region VIII was considering a Proposed Administrative Order addressing violation of 40 CFR 141.11(c) which sets the maximum contaminant level (MCL) for fluoride for a community public water supply system at 4.0 mg/L. The Opal MCL was based on an average of 4.4 mg/L, fluoride for six water samples taken and analyzed in 1986, 1988 and 1989. The Proposed Administrative Order is bound in the Appendix to this Phase III Report.

The pipeline extension was therefore considered to deliver sufficient water from Kemmerer to Opal to be blended or mixed with Opals' existing well water supply to achieve a MCL for fluoride of 4.0 mg/L or less.

The four inch diameter pipeline considered in Alternate "C" of the Phase II study is proposed in Phase III as Reach 1 of the Opal Pipeline. Reach 2 would consist of a four inch diameter pipeline from Oakley to Opal.

Extending the Oakley pipeline to Opal would affect the monthly water costs determined for Oakley in the Phase II effort because Opal would share in the cost of Reach 1 of the pipeline.
The estimated total monthly water costs for Oakley residences for Alternative "C" would be revised as shown below, if Opal shared in the cost of the transmission line from Kemmerer to Oakley. Service to the existing 20 lots in the Oakley area is considered.

<table>
<thead>
<tr>
<th>Alternate</th>
<th>100 gal per Capita per day</th>
<th>300 gal per Capita per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>&quot;C&quot;</td>
<td>$64.87</td>
<td>$121.57</td>
</tr>
</tbody>
</table>

Total monthly water costs are estimated at $108.71 for Opal residents assuming that 28 lots are served, which is the number of services presently active in Opal. This figure would be higher during the summer months when more water is being used for lawns etc.

II. PROPOSED EPA ADMINISTRATIVE ORDER

The Proposed EPA Administrative Order presents the following water quality data for fluoride in the Opal Water Supply:

<table>
<thead>
<tr>
<th>SAMPLE DATE</th>
<th>FLUORIDE LEVEL</th>
<th>mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-28-86</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>10-23-86</td>
<td>4.3</td>
<td></td>
</tr>
<tr>
<td>10-30-86</td>
<td>4.7</td>
<td></td>
</tr>
<tr>
<td>11-05-86</td>
<td>4.5</td>
<td></td>
</tr>
<tr>
<td>05-19-88</td>
<td>4.4</td>
<td></td>
</tr>
<tr>
<td>08-24-89</td>
<td>4.3</td>
<td></td>
</tr>
</tbody>
</table>

Average 4.4 mg/L

The above analysis are of blended well water and the data demonstrates that the average fluoride level of 4.4 mg/L is in excess of the 4.0 mg/L allowed under 40 CFR 141.11.
There are other provisions in the Proposed Administrative Order that are not addressed in the study. The Proposed Order is included in its entirety in the Appendix of this report.

The town of Opal requested that the Wyoming Water Development Commission investigate measures to bring Opal's water supply into compliance with 40 CFR 141.11 by providing sufficient water to mix with their existing supply to reduce MCL for fluoride to 4.0 mg/L or less. This water would be delivered from Kemmerer via the extension of the Oakley Transmission Pipeline identified in Alternate "C" of the Phase II Study.

Amendment No. 2 to Johnson-Fermelia Co., Inc. Contract with WWDC for the Oakley Water Supply Project was executed on January 25, 1990, to provide for the Phase III Study to convey water to Opal to remedy the referenced fluoride problem. The costs of the project were also developed in the Phase III Study.

III. THE OPAL WATER SUPPLY

Opal obtains its existing water supply from four wells. Samples of a blend of water from the four wells produced an average 4.4 mg/L fluoride, which as stated earlier exceeds that allowed by the EPA for a public water supply by 0.4 mg/L. Mixing the existing supply with water that has less fluoride would be necessary to bring the Opal water into EPA compliance. Such a supply could be obtained from the City of Kemmerer.

The total usage of water in Opal has to be examined in order to calculate how much water would have to be mixed with their well water to reduce the fluoride concentration. Also, the fluoride concentration in the water to be added to the Opal supply must be known in order to calculate the proportions necessary to reduce the fluoride concentration to acceptable levels.
Monthly water usage in Opal is given in the following tabulation.

**OPAL WATER SUPPLY**

<table>
<thead>
<tr>
<th>MONTH - 1989</th>
<th>TOTAL WATER USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
<td>298,600 Gallons</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>196,100 Gallons</td>
</tr>
<tr>
<td>MARCH</td>
<td>235,300 Gallons</td>
</tr>
<tr>
<td>APRIL</td>
<td>217,700 Gallons</td>
</tr>
<tr>
<td>MAY</td>
<td>216,500 Gallons</td>
</tr>
<tr>
<td>JUNE</td>
<td>600,500 Gallons</td>
</tr>
<tr>
<td>JULY</td>
<td>322,000 Gallons</td>
</tr>
<tr>
<td>AUGUST</td>
<td>440,100 Gallons</td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>203,000 Gallons</td>
</tr>
<tr>
<td>OCTOBER</td>
<td>211,200 Gallons</td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>163,400 Gallons</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>188,800 Gallons</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3,293,200 Gallons</td>
</tr>
</tbody>
</table>

MONTHLY AVERAGE = 274,430 Gallons
The monthly average of 274,430 gallons is rounded to 300,000 gallons to simplify calculating the amount of water necessary to reduce fluoride concentration to 4.0 mg/L, as shown in the following tabulation:

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>FLUORIDE CONCENTRATION</th>
<th>GALLONS PER MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>FROM WELLS</td>
<td>4.4 mg/L</td>
<td>258,000</td>
</tr>
<tr>
<td>FROM KEMMERER</td>
<td>1.5 mg/L</td>
<td>42,000</td>
</tr>
<tr>
<td>BLENDED SUPPLY</td>
<td>4.0 mg/L</td>
<td>300,000</td>
</tr>
</tbody>
</table>

An examination of water quality data for water produced from the Kemmerer water treatment plant indicated an average fluoride concentration of about 1.3 mg/L and a peak concentration of 1.5 mg/L. The higher value was used in the calculation as a conservative measure. A supply of 42,000 gallons per month would have to be delivered through the Opal pipeline to achieve an average fluoride concentration of 4.0 mg/L. However, the 4 inch diameter pipeline has a capacity to deliver more than 2,000,000 gallons per month. Cost figures presented later herein assume 80,000 gallons per month from Kemmerer which would produce a fluoride concentration of 4.0 mg/L during the peak month of June when 600,500 gallons is used.

IV. OPAL TRANSMISSION PIPELINE

The Opal pipeline would consist of a four inch diameter pipe to deliver water from the Kemmerer water distribution system to Opal. Reach 1 of the pipeline would extend from Kemmerer to Oakley as described in Alternative "C" of the Phase II Study. Reach 2 would extend from Oakley to Opal as shown on the plan and profile sheets accompanying the Report. The plan and profile sheets were developed by use of plans for Highway 30 which were obtained from the Wyoming Highway Department.
The following tables describe the various features and their estimated cost for Reach 1 and 2 of the Opal Pipeline. The cost per lot is also shown. The number of lots for Reach 1 differs from that for Reach 2 because Oakley drops out of Reach 2.

COST ESTIMATE: OAKLEY WATER PROJECT
PHASE III - OPAL PIPELINE
4" DIAMETER TRANSMISSION LINE
REACH 1 - KEMMERER TO OAKLEY

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4&quot; dia. Pipeline</td>
<td>15,233 LF</td>
<td>$ 9.50</td>
<td>$144,713.50</td>
</tr>
<tr>
<td>2. Valves</td>
<td>10 EA</td>
<td>$ 700.00</td>
<td>$7,000.00</td>
</tr>
<tr>
<td>3. Air Vacuum Relief Valves</td>
<td>6 EA</td>
<td>$1000.00</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>4. Boring</td>
<td>200 LF</td>
<td>$ 125.00</td>
<td>$25,000.00</td>
</tr>
<tr>
<td>5. Trench in Rock</td>
<td>1,100 LF</td>
<td>$ 25.00</td>
<td>$27,500.00</td>
</tr>
<tr>
<td>6. Easements</td>
<td>Lump Sum</td>
<td></td>
<td>$5,000.00</td>
</tr>
<tr>
<td>7. Meter</td>
<td>1 EA</td>
<td>$3000.00</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>8. River Crossing</td>
<td>250 LF</td>
<td>$ 60.00</td>
<td>$15,000.00</td>
</tr>
</tbody>
</table>

Sub Total $233,213.50

Plus 10% Engineering $23,321.35

Sub Total $256,534.85

Plus: 15% Contingency
Connection Charge $10,000.00
Permits 1,000.00
Final Design (8%) 20,522.79

TOTAL PROJECT COST $326,537.87

33% LOAN ......................... $107,757.50

ANNUAL COST @
4% INTEREST FOR 30 YEARS ...... $6,231.62

COST/LOT/MONTH:
50 lots ............... $ 10.39
55 lots ............... $ 9.44
60 lots ............... $ 8.66
65 lots ............... $ 7.99
COST ESTIMATE: OAKLEY WATER PROJECT

PHASE III - OPAL PIPELINE

4" DIAMETER TRANSMISSION LINE

REACH 2 - OAKLEY TO OPAL

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4&quot; dia. Pipeline</td>
<td>60,280 LF</td>
<td>$ 9.50</td>
<td>$572,660.00</td>
</tr>
<tr>
<td>2. Valves</td>
<td>5 EA</td>
<td>$ 700.00</td>
<td>$ 3,500.00</td>
</tr>
<tr>
<td>3. Air Vacuum Relief Valves</td>
<td>35 EA</td>
<td>$1000.00</td>
<td>$35,000.00</td>
</tr>
<tr>
<td>4. Blow Off Valves</td>
<td>8 EA</td>
<td>$1500.00</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>5. Boring</td>
<td>500 LF</td>
<td>$ 200.00</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>6. Trench in Rock</td>
<td>3,725 LF</td>
<td>$ 25.00</td>
<td>$ 93,125.00</td>
</tr>
<tr>
<td>7. Trench Dewatering</td>
<td>Lump Sum</td>
<td></td>
<td>$10,000.00</td>
</tr>
<tr>
<td>8. Meter</td>
<td>1 EA</td>
<td>$7500.00</td>
<td>$ 7,500.00</td>
</tr>
<tr>
<td>9. Stream Crossing</td>
<td>1 EA</td>
<td>$7500.00</td>
<td>$ 7,500.00</td>
</tr>
</tbody>
</table>

Sub Total $841,285.00
Plus 10% Engineering Sub Total $925,413.50

Plus: 15% Contingency $138,812.03
Permits 2,500.00
Final Design (8%) 74,033.08

TOTAL PROJECT COST $1,140,758.61

33% LOAN $376,450.34
ANNUAL COST @
4% FOR 30 YEARS $21,770.12

COST/LOT/MONTH:
28 lots $64.79
35 lots $51.83
40 lots $45.35
50 lots $36.28
The following monthly costs would accrue to the residents of Opal in addition to those for capital costs of Reach 1 and 2 of the pipeline:

1. Fixed and variable costs payable to Kemmerer.
2. Existing monthly water costs charged by Opal.

The fixed costs payable to Kemmerer consist of the monthly charge of $340.80 that would be levied for the four inch meter required at the location where the Oakley/Opal pipeline would connect to the Kemmerer distribution system. This charge would be born jointly between Oakley and Opal water users.

Variable costs would be charged by Kemmerer at the rate of $2.70 per 1000 gallons of water delivered. This would amount to $216.00/month if the 80,000 gallons per month referenced earlier is delivered to Opal.

The following table presents the variable and fixed costs payable to Kemmerer as just described:

<table>
<thead>
<tr>
<th>VARIABLE AND FIXED COSTS PAYABLE TO KEMMERER</th>
</tr>
</thead>
<tbody>
<tr>
<td>FIXED COSTS .................................. $340.80/month</td>
</tr>
<tr>
<td>50 lots........ $ 6.82</td>
</tr>
<tr>
<td>55 lots........ $ 6.20</td>
</tr>
<tr>
<td>60 lots........ $ 5.68</td>
</tr>
<tr>
<td>65 lots........ $ 5.24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>VARIABLE COSTS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assumes 80,000 Gallons/month</td>
</tr>
<tr>
<td>@ $2.70/1000 Gallons .......... $216.00/month</td>
</tr>
<tr>
<td>28 lots........ $ 7.71</td>
</tr>
<tr>
<td>35 lots........ $ 6.17</td>
</tr>
<tr>
<td>40 lots........ $ 5.40</td>
</tr>
<tr>
<td>50 lots........ $ 4.32</td>
</tr>
</tbody>
</table>
The Town of Opal charges $19.00 per month for up to 10,000 gallons of water used and $2.00/1000 gallons for all water used in excess of 10,000 gallons per month. 10,000 gallons per month amounts to a use rate of about 100 gallons per capita per day. Water costs will exceed the $19.00/month during the summer months.

The following table summarizes monthly costs for Opal residents which assumes a $19.00 per month water cost. There are presently 28 active services in Opal that are currently billed. Fifty-six lots have service lines and there are 137 lots in Opal.

Monthly water costs for Oakley residents that would result from the Opal Pipeline Project are presented in the next table.
### Oakley Water Project

#### Phase III - Opal Pipeline

#### Opal - Total Monthly Costs

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>28 LOTS</th>
<th>35 LOTS</th>
<th>40 LOTS</th>
<th>50 LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transmission Pipeline - Reach 1</td>
<td>$10.39</td>
<td>$9.44</td>
<td>$8.66</td>
<td>$7.99</td>
</tr>
<tr>
<td>2. Transmission Pipeline - Reach 2</td>
<td>$64.79</td>
<td>$51.83</td>
<td>$45.35</td>
<td>$36.28</td>
</tr>
<tr>
<td>3. Fixed Costs Payable to Kemmerer</td>
<td>$6.82</td>
<td>$6.20</td>
<td>$5.68</td>
<td>$5.24</td>
</tr>
<tr>
<td>4. Variable Costs Payable to Kemmerer</td>
<td>$7.71</td>
<td>$6.17</td>
<td>$5.40</td>
<td>$4.32</td>
</tr>
<tr>
<td>5. Existing Monthly Water Costs</td>
<td>$19.00</td>
<td>$19.00</td>
<td>$19.00</td>
<td>$19.00</td>
</tr>
</tbody>
</table>

---

**TOTAL MONTHLY COSTS**

<table>
<thead>
<tr>
<th>28 LOTS</th>
<th>35 LOTS</th>
<th>40 LOTS</th>
<th>50 LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>$108.71</td>
<td>$92.64</td>
<td>$84.09</td>
<td>$72.83</td>
</tr>
</tbody>
</table>
**OAKLEY WATER PROJECT**

**PHASE III**

**OAKLEY - TOTAL MONTHLY COSTS**

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>15 LOTS</th>
<th>20 LOTS</th>
<th>25 LOTS</th>
<th>30 LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Transmission Pipeline</td>
<td>$10.39</td>
<td>$9.44</td>
<td>$8.66</td>
<td>$7.99</td>
</tr>
<tr>
<td>2) Distribution System</td>
<td>$9.84</td>
<td>$7.38</td>
<td>$5.91</td>
<td>$4.92</td>
</tr>
<tr>
<td>3) Meter Reading and Billing</td>
<td>$18.00</td>
<td>$13.50</td>
<td>$10.80</td>
<td>$9.06</td>
</tr>
<tr>
<td>4) Fixed Costs to Kemmerer</td>
<td>$6.82</td>
<td>$6.20</td>
<td>$5.68</td>
<td>$5.24</td>
</tr>
<tr>
<td>5) Variable Costs Payable to Kemmerer:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 100 G/C/D</td>
<td>$28.35</td>
<td>$28.35</td>
<td>$28.35</td>
<td>$28.35</td>
</tr>
<tr>
<td>b) 300 G/C/D</td>
<td>$85.05</td>
<td>$85.05</td>
<td>$85.05</td>
<td>$85.05</td>
</tr>
</tbody>
</table>

**TOTAL COSTS:**

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a) 100 G/C/D</td>
<td>$73.40</td>
<td>$64.87</td>
<td>$59.40</td>
<td>$55.56</td>
</tr>
<tr>
<td>b) 300 G/C/D</td>
<td>$130.10</td>
<td>$121.57</td>
<td>$116.10</td>
<td>$112.26</td>
</tr>
</tbody>
</table>
VI. PERMITS

A permit would be required from the Wyoming Highway Department to construct the pipeline within the Highway 30 Right-of-Way, as depicted on the drawings for Phase III.

VII. FUNDING

Funding for the Opal Pipeline is assumed to come from the Wyoming Water Development Commission in the form of a 67% grant and a 33% loan payable over 30 years at 4% interest.

VIII. ECONOMIC ANALYSIS

There are approximately 137 lots in the Town of Opal. Of these 56 have water service lines and meters, and of the 56 with meters only 28 are currently active and billed on a regular basis. Water costs would be $108.81 per month if the 28 active connections bear the entire cost of the Opal Pipeline.

The Town also has an outstanding debt of $119,037.17 for a Wyoming Farm Loan Board loan that was granted in 1984 for the purpose of improving the town's water and sewer system. The loan was to be repaid over 30 years at 8.5% per annum interest - annual payments are $11,631.32. The town was in default of $7,631.32 for payments due in 1988 and $11,631.32 for payments due in 1989. The Wyoming Farm Loan Board authorized an additional grant of $19,262.56 in March of 1990 to bring the town current with payments due the Loan Board. However, these payments will continue to become due in the future. Monthly costs of $34.63 per lot will be incurred if the 28 active services are to pay the amount due the Wyoming Farm Loan Board on an annual basis.

In addition, Town residents (the 28 active services) are obligated to make the following payments for other services.

<table>
<thead>
<tr>
<th>Cost Items</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewer</td>
<td>$19.00/month</td>
</tr>
<tr>
<td>Garbage</td>
<td>$ 7.50/month</td>
</tr>
</tbody>
</table>
Recapping:

<table>
<thead>
<tr>
<th>Cost Items</th>
<th>Monthly Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opal Pipeline and Monthly Water Charge *</td>
<td>$108.71</td>
</tr>
<tr>
<td>Wyoming Farm Loan Board Payment for 1984 Loan</td>
<td>$ 34.63</td>
</tr>
<tr>
<td>Sewer Charge</td>
<td>$ 19.00</td>
</tr>
<tr>
<td>Garbage Fee</td>
<td>$  7.50</td>
</tr>
</tbody>
</table>

Total Monthly cost for Town Services (28 active Services) $169.84

* Assumes 100 gal per capita per day

This total cost for services is excessive and it can be seen that the major component would be repayment of the cost for the Opal Pipeline.

The Town conducted a survey to determine average income of the Opal residents. Thirty-six inquiries were made - eighteen responded. The average annual income of those responding was $33,111.11, the high was $61,000.00 per year and the low $12,000.00. Five residents live on retirement income of $12,000.00 to $15,000.00 per year. The Town therefore does not qualify for a grant from the Farmers Home Administration.

VIII. CONCLUSIONS

The total monthly cost for water assuming 28 active services is again summarized in the following tabulation:

<table>
<thead>
<tr>
<th>Cost Item</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water Charge</td>
<td>$ 19.00</td>
</tr>
<tr>
<td>Opal Pipeline</td>
<td>$ 89.71</td>
</tr>
</tbody>
</table>

Subtotal $108.71
The following costs for other Town services and debt repayment must be added to this total:

<table>
<thead>
<tr>
<th>COST ITEM</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Payment to the Wyoming Farm Loan Board for 1984 Loan</td>
<td>$34.63</td>
</tr>
<tr>
<td>Sewer Charge.</td>
<td>$19.00</td>
</tr>
<tr>
<td>Garbage Fee</td>
<td>$7.50</td>
</tr>
</tbody>
</table>

SUBTOTAL $61.13

TOTAL COSTS FOR ALL SERVICES & OPAL PIPELINE... $169.84

A charge of $50.00 per month can be assumed as a reasonable figure for water service. The total costs for Town services with a $50.00 monthly charge for water would be $76.50 which is still a high figure but considerably less than the $169.84 that will be incurred if the EPA demands that MCL for fluoride be limited to 4.0 mg/L.

IX. RECOMMENDATIONS

The residents of Opal will be burdened with excessive costs for town services if the EPA requires or mandates compliance with the MCL of 4.0 mg/L fluoride. It is therefore recommended that a formal request for a variance from this requirement be submitted to the EPA.

There are however, other provisions in the Proposed Administrative Order that have not been enumerated herein but which can be complied with. Compliance with such other conditions of the Proposed Administrative Order should be seriously considered by the Town of Opal.
Safety and health implications relate to the long term use of water with a fluoride content in excess of 4.0 mg/L MCL required by the EPA. This must be kept in mind when considering a variance. Furthermore, the other provisions in the Proposed Administrative Order should definitely be implemented.
PHASE III
APPENDIX
<table>
<thead>
<tr>
<th>MONTH - 1989</th>
<th>TOTAL WATER USAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>JANUARY</td>
<td>298,600 Gallons</td>
</tr>
<tr>
<td>FEBRUARY</td>
<td>196,100 Gallons</td>
</tr>
<tr>
<td>MARCH</td>
<td>235,300 Gallons</td>
</tr>
<tr>
<td>APRIL</td>
<td>217,700 Gallons</td>
</tr>
<tr>
<td>MAY</td>
<td>216,500 Gallons</td>
</tr>
<tr>
<td>JUNE</td>
<td>600,500 Gallons</td>
</tr>
<tr>
<td>JULY</td>
<td>322,000 Gallons</td>
</tr>
<tr>
<td>AUGUST</td>
<td>440,100 Gallons</td>
</tr>
<tr>
<td>SEPTEMBER</td>
<td>203,000 Gallons</td>
</tr>
<tr>
<td>OCTOBER</td>
<td>211,200 Gallons</td>
</tr>
<tr>
<td>NOVEMBER</td>
<td>163,400 Gallons</td>
</tr>
<tr>
<td>DECEMBER</td>
<td>188,800 Gallons</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3,293,200 Gallons</td>
</tr>
</tbody>
</table>

MONTHLY AVERAGE = 274,430 Gallons
OPAL WATER SUPPLY

AVERAGE MONTHLY
WATER DEMANDS.......... 274,300 Gallons

SAY........... 300,000 Gallons/Month

DESIRED FLUORIDE
CONCENTRATION.......... 4.0 Mg/L or Less
<table>
<thead>
<tr>
<th>SOURCE</th>
<th>FLUORIDE CONCENTRATION</th>
<th>GALLONS PER MONTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>FROM WELLS</td>
<td>4.4 Mg/L</td>
<td>258,000</td>
</tr>
<tr>
<td>FROM KEMMERER</td>
<td>1.5 Mg/L</td>
<td>42,000</td>
</tr>
<tr>
<td>BLENDED SUPPLY</td>
<td>4.0 Mg/L</td>
<td>300,000</td>
</tr>
</tbody>
</table>
## COST ESTIMATE: OAKLEY WATER PROJECT

### PHASE III - OPAL PIPELINE

**4" DIAMETER TRANSMISSION LINE**

**REACH 1 - KEMMERER TO OAKLEY**

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4&quot; dia. Pipeline</td>
<td>15,233 LF</td>
<td>$ 9.50</td>
<td>$144,713.50</td>
</tr>
<tr>
<td>2. Valves</td>
<td>10 EA</td>
<td>$700.00</td>
<td>$ 7,000.00</td>
</tr>
<tr>
<td>3. Air Vacuum Relief Valves</td>
<td>6 EA</td>
<td>$1000.00</td>
<td>$ 6,000.00</td>
</tr>
<tr>
<td>4. Boring</td>
<td>200 LF</td>
<td>$ 125.00</td>
<td>$ 25,000.00</td>
</tr>
<tr>
<td>5. Trench in Rock</td>
<td>1,100 LF</td>
<td>$ 25.00</td>
<td>$ 27,500.00</td>
</tr>
<tr>
<td>6. Easements</td>
<td></td>
<td>Lump Sum</td>
<td>$ 5,000.00</td>
</tr>
<tr>
<td>7. Meter</td>
<td>1 EA</td>
<td>$3000.00</td>
<td>$ 3,000.00</td>
</tr>
<tr>
<td>8. River Crossing</td>
<td>250 LF</td>
<td>$ 60.00</td>
<td>$ 15,000.00</td>
</tr>
</tbody>
</table>

**Sub Total** $233,213.50

**Plus 10% Engineering** $ 23,321.35

**Sub Total** $256,534.85

**Plus:**

- 15% Contingency
- Connection Charge $38,480.23
- Permits $10,000.00
- Final Design (8%) $20,522.79

**TOTAL PROJECT COST** $326,537.87

33% LOAN ......................... $107,757.50

ANNUAL COST @ 4% INTEREST FOR 30 YEARS ...... $ 6,231.62

**COST/LOT/MONTH:**

- 50 lots .............. $ 10.39
- 55 lots .............. $ 9.44
- 60 lots .............. $ 8.66
- 65 lots .............. $ 7.99
COST ESTIMATE: OAKLEY WATER PROJECT

PHASE III - OPAL PIPELINE

4" DIAMETER TRANSMISSION LINE

REACH 2 - OAKLEY TO OPAL

<table>
<thead>
<tr>
<th>ITEM</th>
<th>QUANTITY</th>
<th>UNIT PRICE</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 4&quot; dia. Pipeline</td>
<td>60,280 LF</td>
<td>$ 9.50</td>
<td>$572,660.00</td>
</tr>
<tr>
<td>2. Valves</td>
<td>5 EA</td>
<td>$700.00</td>
<td>$ 3,500.00</td>
</tr>
<tr>
<td>3. Air Vacuum Relief Valves</td>
<td>35 EA</td>
<td>$1000.00</td>
<td>$ 35,000.00</td>
</tr>
<tr>
<td>4. Blow Off Valves</td>
<td>8 EA</td>
<td>$1500.00</td>
<td>$ 12,000.00</td>
</tr>
<tr>
<td>5. Boring</td>
<td>500 LF</td>
<td>$200.00</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>6. Trench in Rock</td>
<td>3,725 LF</td>
<td>$ 25.00</td>
<td>$ 93,125.00</td>
</tr>
<tr>
<td>7. Trench Dewatering</td>
<td>Lump Sum</td>
<td></td>
<td>$ 10,000.00</td>
</tr>
<tr>
<td>8. Meter</td>
<td>1 EA</td>
<td>$7500.00</td>
<td>$ 7,500.00</td>
</tr>
<tr>
<td>9. Stream Crossing</td>
<td>1 EA</td>
<td>$7500.00</td>
<td>$ 7,500.00</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td></td>
<td>$841,285.00</td>
</tr>
<tr>
<td></td>
<td>Plus 10% Engineering</td>
<td></td>
<td>$ 84,128.50</td>
</tr>
<tr>
<td></td>
<td>Sub Total</td>
<td></td>
<td>$925,413.50</td>
</tr>
<tr>
<td></td>
<td>Plus: 15% Contingency</td>
<td></td>
<td>$138,812.03</td>
</tr>
<tr>
<td></td>
<td>Permits</td>
<td>2,500.00</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Final Design (8%)</td>
<td>74,033.08</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL PROJECT COST $1,140,758.61
OAKLEY WATER PROJECT
PHASE III - OPAL PIPELINE
TRANSMISSION LINE - REACH 2

TOTAL PROJECT COST............ $1,140,753.61

33% LOAN......................... $376,450.34

ANNUAL COST @
4% FOR 30 YEARS............... $21,770.12

COST/LOT/MONTH:

28 lots........ $64.79
35 lots........ $51.83
40 lots........ $45.35
50 lots........ $36.28
VARIABLE AND FIXED COSTS
PAYABLE TO KEMMERER

FIXED COSTS ......................... $340.80/month

50 lots.......... $ 6.82
55 lots.......... $ 6.20
60 lots.......... $ 5.68
65 lots.......... $ 5.24

VARIABLE COSTS:
Assume 80,000 Gallons/month
@ $2.70/1000 Gallons............ $216.00/month

28 lots.......... $ 7.71
35 lots.......... $ 6.17
40 lots.......... $ 5.40
50 lots.......... $ 4.32
# OAKLEY WATER PROJECT

## PHASE III - OPAL PIPELINE

### OPAL - TOTAL MONTHLY COSTS

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>28 LOTS</th>
<th>35 LOTS</th>
<th>40 LOTS</th>
<th>50 LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Transmission Pipeline - Reach 1</td>
<td>$10.39</td>
<td>$9.44</td>
<td>$8.66</td>
<td>$7.99</td>
</tr>
<tr>
<td>2. Transmission Pipeline - Reach 2</td>
<td>$64.79</td>
<td>$51.83</td>
<td>$45.35</td>
<td>$36.28</td>
</tr>
<tr>
<td>3. Fixed Costs Payable to Kemmerer</td>
<td>$6.82</td>
<td>$6.20</td>
<td>$5.68</td>
<td>$5.24</td>
</tr>
<tr>
<td>4. Variable Costs Payable to Kemmerer</td>
<td>$7.71</td>
<td>$6.17</td>
<td>$5.40</td>
<td>$4.32</td>
</tr>
<tr>
<td>5. Existing Monthly Water Costs</td>
<td>$19.00</td>
<td>$19.00</td>
<td>$19.00</td>
<td>$19.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL MONTHLY COSTS</td>
<td>$108.71</td>
<td>$92.64</td>
<td>$84.09</td>
<td>$72.83</td>
</tr>
</tbody>
</table>
**OAKLEY WATER PROJECT**  
**PHASE III**  
**OAKLEY - TOTAL MONTHLY COSTS**

<table>
<thead>
<tr>
<th>COST ELEMENT</th>
<th>15 LOTS</th>
<th>20 LOTS</th>
<th>25 LOTS</th>
<th>30 LOTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Transmission Pipeline</td>
<td>$10.39</td>
<td>$9.44</td>
<td>$8.66</td>
<td>$7.99</td>
</tr>
<tr>
<td>2) Distribution System</td>
<td>$9.84</td>
<td>$7.38</td>
<td>$5.91</td>
<td>$4.92</td>
</tr>
<tr>
<td>3) Meter Reading and Billing</td>
<td>$18.00</td>
<td>$13.50</td>
<td>$10.80</td>
<td>$9.06</td>
</tr>
<tr>
<td>4) Fixed Costs to Kemmerer</td>
<td>$6.82</td>
<td>$6.20</td>
<td>$5.68</td>
<td>$5.24</td>
</tr>
<tr>
<td>5) Variable Costs Payable to Kemmerer:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 100 G/C/D</td>
<td>$28.35</td>
<td>$28.35</td>
<td>$28.35</td>
<td>$28.35</td>
</tr>
<tr>
<td>b) 300 G/C/D</td>
<td>$85.05</td>
<td>$85.05</td>
<td>$85.05</td>
<td>$85.05</td>
</tr>
<tr>
<td><strong>TOTAL COSTS:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) 100 G/C/D</td>
<td>$73.40</td>
<td>$64.87</td>
<td>$59.40</td>
<td>$55.56</td>
</tr>
<tr>
<td>b) 300 G/C/D</td>
<td>$130.10</td>
<td>$121.57</td>
<td>$116.10</td>
<td>$112.26</td>
</tr>
</tbody>
</table>
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII

IN THE MATTER OF
The Town of Opal
Opal, Wyoming
Proceedings under Section 1414(g)
of the Safe Drinking Water Act,
42 U.S.C. §300g-3(g)

Docket No. 8-PWS-VIII-90-10

PROPOSED
ADMINISTRATIVE ORDER

STATUTORY AUTHORITY

The following Findings are made and Order issued under
the authority vested in the Administrator of the U.S. Environmental Protection Agency (EPA) by Section 1414(g) of the Safe Drinking Water Act, 42 U.S.C. §300g-3(g) (the Act). The Administrator of the U.S. EPA has delegated the authority to take these actions to the Regional Administrator of Region VIII, who in turn, has delegated them to the Director of the Water Management Division, Region VIII.

FINDINGS

1. The Town of Opal (Respondent) is a municipality and therefore a person within the meaning of 40 CFR §141.2.

2. Respondent operates a system, the Town of Opal Water System located in Lincoln County, for the provision to the public of piped water for human consumption.
3. The Town of Opal Water System has at least 15 service connections and serves at least 25 year-round residents. The Town of Opal Water System is therefore a "community public water system" within the meaning of Section 1401(4) of the Act, 42 U.S.C. §300f(4), and 40 CFR §141.2.

4. Respondent operates a public water system and is therefore a "supplier of water" within the meaning of Section 1401(5) of the Act, 42 U.S.C. §300f(5) and 40 CFR §141.2. Respondent is therefore subject to the requirements of Part B of the Act, 42 U.S.C. §300g, and its implementing regulations, 40 CFR Part 141.

5. According to a September 1988 sanitary survey by the Midwest Assistance Program, Respondent operates a system that is supplied solely by a groundwater source consisting of three wells, placed into operation by January 1986.

FINDINGS OF VIOLATION

COUNT I

1. 40 CFR §141.11(c), effective May 1986, sets the maximum contaminant level (MCL) for fluoride for a community public water supply system at 4.0 mg/L. The MCL is based on an average of four samples.
2. Respondent's public water supply has exceeded the MCL for fluoride based upon the following test results submitted by the Respondent:

<table>
<thead>
<tr>
<th>SAMPLE DATE</th>
<th>FLUORIDE LEVEL mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>08-28-86</td>
<td>4.3</td>
</tr>
<tr>
<td>10-23-86</td>
<td>4.3</td>
</tr>
<tr>
<td>10-30-86</td>
<td>4.7</td>
</tr>
<tr>
<td>11-05-86</td>
<td>4.5</td>
</tr>
<tr>
<td>05-19-88</td>
<td>4.4</td>
</tr>
<tr>
<td>08-24-89</td>
<td>4.3</td>
</tr>
</tbody>
</table>

All analyses are of blended well water.

The data show that the average fluoride level is 4.4 mg/L, in violation of 40 CFR §141.11.

**COUNT II**

1. 40 CFR §141.26(a)(1), effective June 1979, requires community public water suppliers to conduct initial sampling of their water consisting of 4 consecutive, quarterly samples to determine compliance with the MCL for radionuclides appearing at 40 CFR §141.15.

2. Respondent has failed to conduct initial sampling of its water consisting of 4 consecutive, quarterly samples for determining compliance with the MCL for radiological contaminant, due December 1986, in violation of 40 CFR §141.26(a)(1).
COUNT III

1. 40 CFR §§141.32 and 141.36 require community public water suppliers to provide public notification for violations of any MCL or monitoring requirement. 40 CFR §141.36, in effect until April 27, 1989, required that the supplier notify the users of an MCL or monitoring violation by written notice within three months from the violation. The notification was to be repeated once every three months as long as the violation continues. 40 CFR §141.32, effective April 28, 1989, requires that the owner or operator of the public water system must give notice to the public within 14 days of the initial MCL violation and within three months of the initial monitoring violation by publication in the newspaper. Notice of the MCL violation is to be repeated within 45 days of the violation and notice of a monitoring violation is to be repeated within three months by direct mail delivery. Monitoring and MCL violation notices are to be repeated at least once every three months by mail delivery (by direct mail or with the water bill) or by hand delivery, as long as the violation exists.
2. Respondent has not provided public notice of the MCL violations detailed in Count I during the fourth quarter 1986, second, third, and fourth quarters 1987, first, third, and fourth quarters 1988 and, first and second quarters 1989, in violation of 40 CFR §§ 141.32 and 141.36.


COUNT IV

1. 40 CFR § 141.31(b) requires that Respondent report to EPA within 48 hours any failure to comply with any National Primary Drinking Water Regulation (40 CFR Part 141).

2. Respondent has failed to report to EPA instances of non-compliance detailed in Counts I, II, and III, in violation of 40 CFR § 141.31(b).

PROPOSED ORDER

Based on the foregoing Findings, and pursuant to the authority of Section 1414(g) of the Act, I HEREBY PROPOSE TO ORDER:

1. Within 90 days from the effective date of this ORDER, Respondent shall report to EPA detailed engineering plans for bringing Respondent's public
water system into compliance with the MCL for fluoride or submit to EPA a completed request for an exemption, as specified in 40 CFR Part 142 Subpart F and Attachment 1 of this ORDER.

2. Should the Respondent choose not to apply for an exemption, the engineering plans required above shall include proposed system modifications, estimated costs of modifications, and an approvable schedule for construction of the project and consistent compliance with the MCL for fluoride. The schedule shall include, in addition to a construction schedule, steps towards project funding and State approval of any proposed modifications. The schedule for construction and completion of any modifications will be incorporated in this ORDER upon written approval by EPA.

3. Respondent shall, within 30 days of the effective date of this ORDER, submit to EPA quarterly reports on the progress made toward bringing Respondent's system into compliance with the fluoride MCL at 40 CFR §141.11.

4. Should EPA deny the Respondent's request for an exemption, after all opportunities for due processes are afforded to the Respondent pursuant to 40 CFR Part 142 Subpart F, the Respondent
shall, within 90 days from the effective date of denial, report to EPA detailed engineering plans for bringing Respondent's public water system into compliance with the MCL for fluoride, as specified in paragraph 2 of this ORDER. The plan shall include, in addition to a construction schedule, steps towards project funding and State approval of any proposed modifications. The schedule for construction and completion of any modifications will be incorporated in this ORDER upon written approval by EPA.

5. Should EPA deny Respondent's request for an exemption, the Respondent shall, within 30 days of the effective date of the exemption denial, submit to EPA quarterly reports on the progress made toward bringing Respondent's system into compliance with the fluoride MCL at 40 CFR §141.11.

6. Within 30 days of the effective date of this ORDER, Respondent shall provide quarterly public notice of MCL exceedences, as detailed in 40 CFR §141.32. Respondent shall submit copies of the public notices to EPA within ten days of completion of the quarterly public notices, as required by 40 CFR §141.31(d).
7. Within 30 days of the effective date of this ORDER, Respondent shall provide quarterly public notice of radionuclide monitoring violations, as detailed in 40 CFR §141.32. Respondent shall submit copies of the public notices to EPA within ten days of completion of the quarterly public notices, as required by 40 CFR §141.31(d).

8. Upon the effective date of this ORDER, Respondent shall comply with 40 CFR §141.31(b) by reporting to EPA within 48 hours any failure to comply with any National Primary Drinking Water Regulation (40 CFR Part 141).

9. Respondent shall, within 90 days of the effective date of this ORDER, sample its water for radionuclide contaminants, as required by 40 CFR §141.26(a). Results shall be reported to EPA within 10 days after receipt of results, as required by 40 CFR §141.31(a).

10. Respondent shall, within 180 days of the effective date of this ORDER, sample its water for radionuclide contaminants, as required by 40 CFR §141.26(a). Results shall be reported to EPA within 10 days after receipt of results, as required by 40 CFR §141.31(a).
11. Respondent shall, within 270 days of the effective date of this ORDER, sample its water for radionuclide contaminants, as required by 40 CFR §141.26(a). Results shall be reported to EPA within 10 days after receipt of results, as required by 40 CFR §141.31(a).

GENERAL PROVISIONS

1. This ORDER does not constitute a waiver, suspension, or modification of the requirements of 40 CFR §141.1 et seq., or the Safe Drinking Water Act, which remain in full force and effect. Issuance of this ORDER is not an election by EPA to forego any civil or any criminal action otherwise authorized under the Act.

2. Violation of any term of this ORDER may subject Respondents to an administrative civil penalty of up to $5,000 under Section 1414(g)(3)(B) of the Act, 42 U.S.C. §300g-3(g)(3)(B) or a civil penalty of not more than $25,000 per day of violations, assessed by an appropriate U.S. district court, under Section 1414(g)(3)(A) and (C) of the Act, 42 U.S.C. §300g-3(g)(3)(A) and (C).
3. The effective date of this ORDER shall be the date of receipt by Respondent.

Dated this 6th day of February, 1990.

Max H. Dodson
Director
Water Management Division
U.S. EPA Region VIII
999 18th St., Suite 500
Denver, CO 80202-2405
REQUEST FOR EXEMPTION

40 CFR Part 142 Subpart F gives authority to EPA to grant exemptions to public water supplies from any maximum contaminant level (MCL) or requirement thereof, or any treatment technique upon a finding that:

(1) a financial hardship exists for the system to meet the MCL or treatment technique;

(2) the water system was in operation on the effective date of the regulations; and

(3) the exemption will not result in an unreasonable risk to health.

In order for a water system to qualify and be granted an exemption all of the above must be demonstrated to EPA.

This packet contains the information needed by EPA to make a determination as to whether a water system qualifies for an exemption. You, the water system, must provide all requested information. Failure to do so will result in your request for an exemption to be denied. In order for EPA to determine whether a financial hardship exist for your system, you must study possible alternatives for achieving the MCL and select the most cost-effective. You must indicate all alternatives considered and the estimated costs. The following Attachments are included to assist you in completing the information needed by EPA:

Attachment A: General information about your water system.
Attachment B: All relevant analytical data
Attachment C: Financial analysis
Attachment D: Proposed compliance schedule
Attachment E: Other information
ATTACHMENT A

GENERAL INFORMATION

WATER SYSTEM NAME: ________________________________________

LEGAL OWNER: _____________________________________________

PHONE NUMBER: __________________________________________

MAILING ADDRESS FOR WATER SYSTEM: ________________________
__________________________________________________________________
__________________________________________________________________

DESIGNATED CONTACT: ________________________________________

PHONE NUMBER OF CONTACT: _________________________________

====================================================================

TYPE OF MCL EXEMPTION BEING REQUESTED: ________________________

WHAT PERIOD OF TIME IS EXEMPTION REQUESTED (MONTH/DAY/YEAR -
MILLISECOND DUE/PAYMENT)? : _________________________________

====================================================================

WATER SUPPLY IS (CHECK ONE): ______ GROUND WATER

_____ SURFACE WATER

_____ BOTH

_____ OTHER:

TOTAL NUMBER OF CONNECTIONS ON YOUR WATER SYSTEM: ________
ANY CURRENT STATE OR FEDERAL ENFORCEMENT ACTIONS AGAINST THE WATER SYSTEM?:  ________ YES  ________ NO

IF YES, PLEASE EXPLAIN:
ATTACHMENT B
ANALYTICAL DATA

IF YOU ARE APPLYING FOR MORE THAN ONE MCL EXEMPTION YOU MUST PROVIDE THE FOLLOWING INFORMATION FOR EACH EXEMPTION REQUESTED. PROVIDE THE FOLLOWING INFORMATION AS SEPARATE REPORTS FOR EACH EXEMPTION.

1. REFER TO ATTACHMENT "A" OF THIS EXEMPTION REQUEST AND IDENTIFY THE MCL THAT YOU ARE REQUESTING AN EXEMPTION FROM.

2. FOR EACH SAMPLE ANALYZED, PROVIDE THE FOLLOWING INFORMATION IN TABULAR FORMAT:
   
   A. Parameter name  
   B. Sample date  
   C. Sample location  
   D. Date sample analyzed  
   E. Sample results  
   F. Name of person performing sampling  

3. PROVIDE A COPY OF ALL TEST RESULTS SUMMARIZED IN #2 ABOVE.
Please consider the following information carefully. Treatment estimates should be based on a treatment system that delivers piped, treated water to each customer. Consideration of point-of-use devices should be a last resort. Please also consider the cost of developing a new source of water and the possibility of transmitting water from another public water supply with acceptable water quality (regionalization). There are four sections in this Attachment to help you with evaluating treatment, new source development and regionalization. Section 3 needs to be completed only for the option you choose, based on information from Sections 1 and 2. Section 4 is a list of state and federal funding agencies that may be able to assist you in gathering the financial information.

A financial analysis will help answer five key questions:

- What water system improvement is being proposed?
- How much will the improvement cost at today's prices?
- How will the improvement be funded?
- What is the average annual cost per household?
- What is the community's financial capability?
The identification of the costs to the community, reflected in the charges to customers, includes user charges and other costs such as debt service on any existing system, debt service in the local share of new capital costs (you should use actual or expected interest rates when calculating debt service), annual O&M costs, and service charges.

Analysis of the financial characteristics of a community can include existing debt, revenues, assessed value of property, median household income, income distribution, rate of population growth, bond ratings, existing water system charges, planned capital expenditures, and other factors and trends. The analysis is applicable to community public water supply systems and community water systems that are party to an intergovernmental agreement.

To assist you in this analysis, use Sections 2 and 3. The information on these sheets will demonstrate your community's financial plan. You should update this information to reflect improved cost estimates and current community financial characteristics after design.

You should also consider the effects of projected charges to customers in areas with household incomes below the poverty level, when you are able to identify this problem. You should make a thorough cost-effectiveness analysis to ensure that lower cost alternatives have not been overlooked and that estimates are adequate and accurate.
SECTION 1

A. Improvement Identification

1. The proposed improvement will be (check more than one if applicable)

[ ] Treatment [ ] New Source [ ] Regionalization

2. Describe the improvement evaluated __________________________

3. The improvement will benefit

[ ] Current Population [ ] Anticipated Growth

4. Indicate the types of consumers to be served, and the approximate percentage of the water system output that will be devoted to each group.

<table>
<thead>
<tr>
<th>TYPE OF CONSUMER</th>
<th>PERCENTAGE OF DAILY OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Residential</td>
<td></td>
</tr>
<tr>
<td>[ ] Schools</td>
<td></td>
</tr>
<tr>
<td>[ ] Businesses, Retail</td>
<td></td>
</tr>
<tr>
<td>[ ] Industry</td>
<td></td>
</tr>
<tr>
<td>[ ] Irrigation</td>
<td></td>
</tr>
<tr>
<td>[ ] Other</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL =

NOTE: Total must add to 1.0

5. Indicate the entities to be served, and the approximate percentage of the water system output that will be devoted to each entity.

<table>
<thead>
<tr>
<th>ENTITY</th>
<th>PERCENTAGE OF SYSTEMS_OUTPUT</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] COUNTY</td>
<td></td>
</tr>
<tr>
<td>[ ] MUNICIPAL</td>
<td></td>
</tr>
<tr>
<td>[ ] WATER DISTRICT</td>
<td></td>
</tr>
</tbody>
</table>
6. Design Criteria:  
   Maximum Flow (MGD)  
   Current Output (MGD)  

B. Improvement cost at today's prices.  

1. The following figures are estimated costs for construction, operation, and maintenance of the proposed improvement. Dollar amounts should reflect today's prices.  

   Construction Costs Estimate  
   a. Water Treatment Plant  
   b. Pump Stations  
   c. Distribution  
   d. Transmission  
   e. Land Acquisition  
   f. Other (specify)  
   g. Total Construction Costs  

C. Estimated Annual Operation and Maintenance (O + M) Costs (in Today's Dollars) for the Proposed Facilities  

   a. Labor  
   b. Water Cost  
   c. Utilities  
   d. Materials  
   e. Outside Services  
   f. Miscellaneous Expenses  
   g. Maintenance Budget  
   h. Total Operations and Maintenance Costs
SECTION 2

A. How will the improvement be financed?

B. Amount to Be Borrowed
   a. Total Construction Costs
   b. Construction-Related Costs
   c. Money Available for Construction
      (____________________) minus
   d. Grants
      (____________________) minus
   e. Amount to Be Borrowed
      ______________________

C. Methods of Financing the Amount to be Borrowed

<table>
<thead>
<tr>
<th>Financing Method</th>
<th>Amount Borrowed</th>
<th>Interest Rate</th>
<th>Term of Maturity</th>
<th>Annual Debt Service Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Obligation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Revenue Bond</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Loan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>xxxxxxxxx</td>
<td>xxxxxxxxx</td>
<td></td>
<td>xxxxxxxxx</td>
</tr>
</tbody>
</table>

D. Total Estimated Annual Improvement Costs

1. Existing O + M*
   ______________________
2. Existing Annual Debt Service*
   ______________________
3. O + M for Proposed Improvement
   ______________________
4. Debt Service for Proposed Improvement
   ______________________
5. Other
   ______________________
6. Total Estimated Annual Improvement Costs
   ______________________

*Current facilities if they will be retained and operated
E. Funding Sources for Total Annual Water Facilities Cost

1. Water Service Charges
2. Tax Revenues
3. Surcharge
4. Special Assessments and Fees
5. Connection Fee
6. Betterment Assessments
7. Other
8. Transfers From Other Funds
9. Other (specify)
10. Total Funding

F. What are the annual costs per household?

1. Total Estimated Annual Water System Improvement Charges (Section 2, D., 6.)
2. Nonresidential Share of Total Annual Charges
3. Residential Share of Total Annual Charges
4. Number of Households
5. Annual Costs Per Household for Water Treatment
   (1) From Taxes
      a. General
      b. Debt Service
   (2) From Service Charges
6. Median Household Income
7. Total Annual Costs Per Household as a Percentage of Median Household Income
A. General Community Information

1. Over the past five years, has your community's population been stable, growing, or falling? Submit data for the past five years and projected data for the next twenty years.

2. Over the past five years, has the flow from your water system been stable, increasing, or falling? Submit data for the past five years and projected data for the next twenty years. Include percentages of industrial flow.

3. What is the current outstanding indebtedness of your community?

4. How much additional debt can your community legally incur?

5. What is your community's bond rating? Has it changed within the last two years?

6. Has the industrial share of the total annual cost been discussed with the affected industries?

B. Cash Flow Table for Selected Water System Improvement

<table>
<thead>
<tr>
<th>Quarter</th>
<th>Anticipated Revenues</th>
<th>Anticipated Expenditures</th>
<th>Other Anticipated Expenditures</th>
<th>Total Funds Available</th>
</tr>
</thead>
<tbody>
<tr>
<td>First</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Second</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
<tr>
<td>Third</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
<td>( )</td>
</tr>
</tbody>
</table>

Cash on Hand at Time of Financial Analysis

To anticipated operational date.
1. Taxes, Interest, Water Charges, Surcharges, Bonds, Loans, etc., per quarter to be applied to the existing and proposed water treatment facilities.

2. All projected construction, design, evaluations, etc., costs per quarter related to the proposed water treatment system.

3. Operation and Maintenance, Debt Service and any other costs on the existing water treatment system per quarter.

4. Current Cash on Hand available for use for existing and proposed water treatment facilities from previous quarter plus Anticipated Revenue¹ minus Anticipated Construction Costs² minus existing O + M + Debt Service³ for this quarter.
SECTION 4

STATE/FEDERAL FUNDING AGENCIES

Evan Green
Wyoming Water Development Commission
Herschler Building, 4 West
Cheyenne, Wyoming 82002
(307) 777-7626

Ed Chase
Farmers Home Administration
P. O. Box 820
Casper, Wyoming 82602
(307) 261-5144

Don Collamore
Farm Loan Board
Department of Public Lands
Herschler Building, 3 West
Cheyenne, Wyoming 82002
(307) 777-7309

John Sedgwick
Economic Development and Stabilization Board
Herschler Building, 2 West
Cheyenne, Wyoming 82002
(307) 777-6418

Michael Hackett
Water Quality Division
Department of Environmental Quality
Herschler Building, 4 West
Cheyenne, Wyoming 82002
(307) 777-6351

Michael Sposit
Midwest Assistance Program
P. O. Box 688
Green River, Wyoming 82935
(307) 875-4200
(Provides assistance only, no funding)
Please include a proposed compliance schedule for meeting the MCL, treatment technique, etc. as described in ATTACHMENT A. The compliance schedule must include a start date, finish date, and intermediate milestone dates for identified steps, i.e.:

BEGIN SYSTEM IMPROVEMENT DESIGN:  DATE 0
DESIGN COMPLETED BY:  DATE 1
FUNDING FOR MODIFICATIONS OBTAINED BY:  DATE 2
CONSTRUCTION BEGINS:  DATE 3
PHASE I COMPLETED BY:  DATE 4
.  
.  
PROJECT COMPLETED:  DATE 5
ATTACHMENT E
SUPPLEMENTAL INFORMATION

Include in this Attachment any additional information you wish to submit to support your request for an exemption.
PROPOSED ADMINISTRATIVE ORDER
SAFE DRINKING WATER ACT

to
Town of Opal

PUBLIC NOTICE

The purpose of this notice is to publicize the decision by the Region VIII office of the U.S. Environmental Protection Agency to issue an Administrative Order, Docket No. 8-PWS-VIII-90-10 to the Town of Opal, WY 83124. This proposed Order is the result of the Town of Opal's alleged failure to comply with the fluoride maximum contaminant level, failure to comply with radionuclide monitoring requirements, failure to report violations to EPA, and failure to provide public notice of violations, as required by the Safe Drinking Water Act.

BACKGROUND

Part B of the Safe Drinking Water Act (SDWA) specifically mandates regulation of public water systems to protect the public health by assuring that safe drinking water is provided to consumers. EPA administers the SDWA in Wyoming because the State does not have its own program for implementing the SDWA.

EPA proposes to issue this Administrative Order to the Town of Opal because of violations EPA alleges have occurred at the public water supply system located in Opal, WY. The proposed Order requires that the Town of Opal comply with the SDWA and applicable regulations.

PUBLIC INTEREST

If there is significant public interest in this matter, EPA will consider holding a public hearing. To indicate your interest, contact Alicia Aalto within the next fourteen days at (303) 293-1413.

U.S. Environmental Protection Agency
Drinking Water Branch
Attn: Alicia Aalto
999 18th Street, Suite 500
Denver, CO 80202-2405
Town of Opal Water System
PUBLIC NOTICE
(cont'd)

Copies of the proposed Administrative Order are available for viewing at the Lincoln County Clerk and Recorder's Office, in Kemmerer, WY, or by contacting Alicia Aalto and requesting a copy.

Max H. Dodson
Director
Water Management Division
U.S. EPA, Region VIII

PHASE III

DRAWINGS
OAKLEY WATER SUPPLY PROJECT

PHASE III

(OAKLEY TO OPAL PIPELINE)

prepared for

WYOMING WATER DEVELOPMENT COMMISSION

prepared by

JOHNSON-FERMELIA CO. INC.
CONSULTING ENGINEERS, ARCHITECTS AND SURVEYORS
Rock Springs, Wyoming

DRAWING INDEX

<table>
<thead>
<tr>
<th>SHEET</th>
<th>TITLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>PRELIMINARY PIPELINE ALIGNMENT STA. 0+00 TO 61+61</td>
</tr>
<tr>
<td>2</td>
<td>PRELIMINARY PIPELINE ALIGNMENT STA. 61+61 TO 124+61</td>
</tr>
<tr>
<td>3</td>
<td>PRELIMINARY PIPELINE ALIGNMENT STA. 124+61 TO 185+00</td>
</tr>
<tr>
<td>4</td>
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</table>

LEGEND

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HOMERES TO OAKLEY TRANSMISSION LINE - REACH 1: OPAL PIPELINE
OAKLEY TO OPAL TRANSMISSION LINE - REACH 2: ORAL PIPELINE

NO SCALE