Revisions of ditches since the general report of October 15, 1936

<table>
<thead>
<tr>
<th>Name of Ditch</th>
<th>Source</th>
<th>Date of Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baca Irrigating Ditch Company</td>
<td>Purgatoire River</td>
<td>June 1969</td>
</tr>
<tr>
<td>El Moro Ditch Company</td>
<td>Purgatoire River</td>
<td>June 1969</td>
</tr>
<tr>
<td>Picketwire Ditch Company, Inc.</td>
<td>Purgatoire River</td>
<td>June 1969</td>
</tr>
<tr>
<td>(Trinidad Project-Corps of Engrs.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
WATER DISTRICT 19

Revisions of ditches since the general report of October 15, 1936

<table>
<thead>
<tr>
<th>Name of Ditch</th>
<th>Source</th>
<th>Date of Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baca Irrigating Ditch Company</td>
<td>Purgatoire River</td>
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<td>Picketwire Ditch Company, Inc.</td>
<td>Purgatoire River</td>
<td>June 1969</td>
</tr>
<tr>
<td>(Trinidad Project-Corps of Engrs.)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TO: Appraisers in Colorado Water District 19 Area
FROM: Vice-President's Division
SUBJECT: Revisions of the General Engineering Report

Attached is a binder for inserting revisions to the engineering report on Water District 19 dated October 15, 1936. Included is a general report on the new Picketwire Ditch Company and revised reports on the Baca Irrigating Ditch Company and El Moro Ditch Company which involve related water rights on the Purgatoire (Las Animas) River.

The revisions will be inserted in alphabetical order until such time as the general report may be revised on another basis. I had thought we might want to prepare a basic report on the proposed Trinidad Project of the Bureau of Reclamation; however, it appears it will be several years before any progress will be made toward construction of the project facilities. The Purgatoire River Conservancy District has been organized for the purpose of contracting for repayment and for management of the project water supply. We will keep this district in mind for a report at a future date.

Dexter G. Henderson
Engineer Appraiser

Att.

cc: Olson, RM
    Bever
    Assn. #852
## ENGINEER-APPRAISER PROJECT SUMMARY

**Identification:** WD 19  
**State:** Colorado  
**County:** Las Animas  
**Trinidad, Colorado**  
**Year organized:** 1916  
**Class of Service (mark with x):**  
- Drainage  
- Water Storage  
- Supply  
- Irrig. carrier serv.  
- Other

**Location: Webb Camp, northwest of Trinidad-North of river**  
**Well: 400 feet, sustain: 370**  
**Location of records: Tarahina Real Estate Office, Box 777**  
**Trinidad, Colorado**  
**Duties: Joint diversion with Picketwire Ditch Co.**

### Character Lean Standards: Unit of assessment: share of stock

<table>
<thead>
<tr>
<th>Type</th>
<th>Shares</th>
<th>BAI</th>
<th>Cost per Sustain: acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2 shares for 40 acres</td>
<td>Class I</td>
<td>2.50 4.25 1.25</td>
</tr>
</tbody>
</table>

**Evidence of users' rights, for loan closing: shares of stock, Stockholders receive 4 cfs of top priority water, Each share should represent 1/5 cfs.**

**Location of area under the proposed Trinidad Project-U.S.R.R. for supplemental water.**

**Elev.:** 6000  
**No. days frost-free:** 157  
**Growing season:** 4-23 to 10-18

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**No days frost-free:** 157  
**Growing season:** 4-23 to 10-18

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**Evidence of users' rights, for loan closing: shares of stock, Stockholders receive 4 cfs of top priority water, Each share should represent 1/5 cfs.**

**General:** A fair lending area-predominately livestock and feed with some dairying and diversification.

**Elev:** 6000  
**No days frost-free:** 157  
**Growing season:** 4-23 to 10-18

**Topo-setting:** rolling and sloping land along river

**Soils & productivity:** gravel to clay generally quite productive

**Management:** has been satisfactory.

**Operational Facilities:** Joint diversion with Picketwire Ditch Company which operates the Baca Joint Ditch. Water delivered to headgates under contract with Picketwire Ditch Co. Baca Ditch Company land is near the upper end of the former Baca Joint Ditch.

**Special conditions:** none. Diversion is from the north side of the river in the

**NW1/4 SE1/4 Section 13-T33S-R64W.

## Project Finances

<table>
<thead>
<tr>
<th>Condition</th>
<th>Expenses, before BAI or depn $</th>
<th>Depn actually charged $ (Est. future $)</th>
<th>Income</th>
<th>Serv.</th>
<th>Other</th>
<th>Total $</th>
</tr>
</thead>
<tbody>
<tr>
<td>no debts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Water delivered under contract for $400/year over last 10 years. To be renewed end of 1969, and will probably be increased to $600 to $700.**
A | Identification: WD-19  State Colorado  County Las Animas  
| 1. Name & address: El Moro Ditch Company  
| 2. Trinidad, Colorado  
| 3. Form of organization: mutual ditch company  
| 4. Location service area: vicinity of El Moro-north of river  
| 6.  
| 7. Location of records: Victor Mariano, Secy., Trinidad  
| 8. Overlaps: none  

B | Appraisal & Loan Standards: Unit of ownership - Share of stock  
| 1. Fixed charges: DM: $30, 00  
| 2. Additional: Area will be under the proposed Trinidad  
| 3. Project - U.S.A.R. for supplemental water  
| 4. Drainage stability - good-natural drainage  
| 5. Water supply rating: 5 shares for 40 acres  
| 6. Evidence of water rights, for loan closing: shares of stock  
| 7. Loan policy restrictions: none  
| 8. General: A fair to good lending area-predominately livestock and feed-some  

C | Description of Service Area  
| 1. Crops or kind of land use:  
| 2. Alfalfa  
| 3. Corn-ensilage  
| 4. Small grain  
| 5. Irrigated pasture  
| 6. Other  
| 7. State-County tax rates  
| 8. Community development: Fair. A few new homes being built in the area, schools at small town of El Moro. All utilities available, Blacktop road through the area  

D | Organization: Unit of asset - Share of stock  
| 1. Class: Authorized 22, Outstanding 22, Sustain: 22, Per val: 400, Wet val:  
| 2. Common  
| 3.  
| 4.  
| 5. Management: Appears satisfactory for a small company  

E | Operational Facilities: Diversion pump station located in SW1/4 NW1/4 33-32S-63W just above diversion works of Model Ditch. Cantilever pump with 15 HP elec. motor in a concrete station. About 300 ft. of 10" pipe to the old ditch. Present diversion is about 1/4 mi. below former gravity diversion. Ditch about 3 mi. long with 10 cfs capacity.  

F | Project Finances:  
| 1. Condition as of: No debts  
| 2. Capital debt:  
| 3. Payable: To  
| 4. Delinquent:  
| 5. Unmatured:  
| 6. Current liabilities:  
| 7. Current assets:  

- Depts. before B&I or dep't in $  
- Dep't charged: $  
- Income: Ser.: $  
- Other: $  
- Total:  

- Collection history: Small ditch with nominal expense other than elec. power for pump. Pump station 2 years old and in satisfactory condition  

- Debt history:  

- Annual avg.:  
- Expense, before B&I or dep't in $  
- Dep't in $  
- Income: Ser.: $  
- Other: $  
- Total:  

- Collection history: Small ditch with nominal expense other than elec. power for pump. Pump station 2 years old and in satisfactory condition.
ENGINEER-PREPARER PROJECT SUMMARY

Identification: WD 19 State: Colorado County: Las Animas
Name & Address: Picketwire Ditch Company, Inc.

Trinidad, Colorado Year organized: 1968

Form of organization: mutual ditch company-perpetual

Location served: town of Trinidad

Number of acres: 6,200

Irrigated under Baca Irrigation District: Yes

Location of records: Record in the office of the Ditch

Joint diversion with Baca Ditch Co

Several ditches through the area which could exchange water to some extent.

Appraisal & loan standards interest: Share of ditch company stock.

Fixed charges: $0.75

Additional toll: None. Area covered will be under the proposed

Trinidad Project-USBR for supplemental water.

Training classification: Good surface drainage on upper end grading to slow with some steep areas on lower end.

Later supplementary: 120 shares for 40 acres

(3 shares per acre) Share holding may vary.

Evidence of user's rights, for loan closing: Shares of stock in subject ditch company.

Loan policy restrictions: None-consider on a case basis.

A fair lending area-predominately livestock and feed with some dairying and diversification.

Description of Service Area

<table>
<thead>
<tr>
<th>Crop or kind of land used</th>
<th>Acres</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Corn-ensilage</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Small grains</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>Irrigated pasture</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

State county tax ratio: Fair. Adequate roads and all public utilities are available in the project area.

Organization: Unit of asset share of stock

Class: Common

Authorized: 11,000

Outstanding: 10,187

Sustained: 10,187

For sale, 800

Ave. unit about 250 acres.

Tenancy est. 10%

Nationality appears satisfactory.

Operational facilities: Adequate reinforced concrete spillway. Headgate constructed as an extension of the spillway. Some 200 feet of 10" x 6" concrete flume below headgate.

Measuring flume is 10" with automatic recorder. Capacity of canal about 100 cfs. Some 17 miles of canal with adequate regulating structures.

Project finances: BFC Loan

Condition as of June 1969

Annual av. Expense before BML or depn $7,200/yr

Depn actually charged $7,200

Income: Curr. $7,200

Other: $3,000

Total $10,200

Collection history: New company. BFC loan for $30,000 to improve the system. Operation of the 3 companies combined to form this new organization were satisfactory.
### Water Sources & Rights

<table>
<thead>
<tr>
<th>Name of source</th>
<th>Ac. ft. normal diversion</th>
<th>Item</th>
<th>Priority</th>
<th>Amount</th>
<th>for no. of acres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purgatoire River</td>
<td>5,528</td>
<td>See schedule of priorities</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Est. total norm. annual diversions

- 5,528

- Est. distrib. losses 30%; not delty.

- 3,875

**Storage capacity**

- A.F. Loc. pts of diversion: Contests pending. Litigation pending in Supreme Court with Baca Ditch Co. over water transferred to Baca Joint Ditch. Outcome should not alter classification.

**Usual Entitlements**

- Share of stock: General effectiveness (class. 3 Units)

- In Trinidad division, shares of stock

**Usual irrigation season:**

- April 15 to October 15

**Length:**

- 150

**Supply normally not adequate during heavy seasonal needs.**

**Quality is good at upper end to some salinity in Hoehne area-leaching reduces salt to safe levels.**

**Entitlements per unit of interest:**

- Pro-rate share of water

**Transferrable with approval of board.**

## Quantitative Analysis of Water Supply

| Items         | Season total | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov |
|---------------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|------|-----|-----|-----|
| Supply: direct flow | 1.21 |     |     |     |     |     |     |     |     |      |     |     |     |
| Storage       | 1.21         |     |     |     |     |     |     |     |     |      |     |     |     |
| Total         | 2.10         |     |     |     |     |     |     |     |     |      |     |     |     |
| Desirable delivery | 2.10 |     |     |     |     |     |     |     |     |      |     |     |     |
| Effective delivery | 1.21 |     |     |     |     |     |     |     |     |      |     |     |     |

**Rating:** 58 Cl. IIIa

**Basis of appraisal (supply):**

- Ac. ft. per sh

- 0.40

**Distribution in percent of season total:**

- 3 shares per acre

### Graphical Analysis of Water Supply

- Basis of supply data - diverted records less estimated losses.

- Basis of per acre deliveries and classification - 3 shares per acre

### Normal Supply vs Desirable Dist

### Seasonal Supply - Acre Ft. per Acre

<table>
<thead>
<tr>
<th>Months of the Season</th>
<th>Years as above</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class</td>
<td>Acre Feet per Acre</td>
</tr>
<tr>
<td>YEAR</td>
<td>ACREDS IRRIGATED</td>
</tr>
<tr>
<td>------</td>
<td>------------------</td>
</tr>
<tr>
<td>1947</td>
<td>3,600</td>
</tr>
<tr>
<td>48</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td></td>
</tr>
<tr>
<td>1950</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td></td>
</tr>
<tr>
<td>52</td>
<td></td>
</tr>
<tr>
<td>53</td>
<td></td>
</tr>
<tr>
<td>54</td>
<td></td>
</tr>
<tr>
<td>1955</td>
<td></td>
</tr>
<tr>
<td>56</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td></td>
</tr>
<tr>
<td>58</td>
<td></td>
</tr>
<tr>
<td>59</td>
<td></td>
</tr>
<tr>
<td>1960</td>
<td></td>
</tr>
<tr>
<td>61</td>
<td></td>
</tr>
<tr>
<td>62</td>
<td></td>
</tr>
<tr>
<td>63</td>
<td></td>
</tr>
<tr>
<td>64</td>
<td></td>
</tr>
<tr>
<td>1965</td>
<td></td>
</tr>
<tr>
<td>66</td>
<td></td>
</tr>
<tr>
<td>67</td>
<td></td>
</tr>
<tr>
<td>68</td>
<td></td>
</tr>
<tr>
<td>69</td>
<td></td>
</tr>
</tbody>
</table>

Ave/Div. | 531 | 1,006 | 1,570 | 1,355 | 1,154 | 610 | 502 | 6,728 |
Ave Div. Per/Ac. | 1.15 | 0.28 | 0.43 | 0.37 | 0.32 | 0.17 | 0.14 | 1.86 |

Water Commissioner's records of diversions to Baca Joint ditch-includes Baca Ditch

* BASED ON NORMAL OUTSTANDING SHARES AT _______ SHARES FOR _______ ACRES
and Picketwire Ditch Company, Inc.
<table>
<thead>
<tr>
<th>YEAR</th>
<th>ACREs IRRIGATED</th>
<th>WATER SUPPLY</th>
<th>direct flow-acre-feet</th>
<th>TOTAL</th>
<th>PER ACRE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DIV.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>DEL.</td>
</tr>
<tr>
<td>1947</td>
<td>3200</td>
<td>Based on diversions to Baca Joint Ditch less</td>
<td>9,440</td>
<td>2.95</td>
<td>2.06</td>
</tr>
<tr>
<td>48</td>
<td></td>
<td>estimated requirement of the Baca Ditch for</td>
<td>7,764</td>
<td>2.43</td>
<td>1.70</td>
</tr>
<tr>
<td>49</td>
<td></td>
<td>4.0 cfs of Priority 3 which is always assumed</td>
<td>8,076</td>
<td>2.52</td>
<td>1.73</td>
</tr>
<tr>
<td>50</td>
<td></td>
<td>to be available. Baca Ditch needs estimated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>at 4.0 cfs for 150 days annually for a total</td>
<td>2,828</td>
<td>0.89</td>
<td>0.62</td>
</tr>
<tr>
<td>51</td>
<td></td>
<td>of 1200 acre-feet per year. The irrigation</td>
<td>2,756</td>
<td>0.86</td>
<td>0.60</td>
</tr>
<tr>
<td>52</td>
<td></td>
<td>season is about 180 days; however, the Baca</td>
<td>7,410</td>
<td>2.32</td>
<td>1.65</td>
</tr>
<tr>
<td>53</td>
<td></td>
<td>would hardly use the full amount over this</td>
<td>3,828</td>
<td>1.20</td>
<td>0.84</td>
</tr>
<tr>
<td>54</td>
<td></td>
<td>entire period.</td>
<td>3,058</td>
<td>0.95</td>
<td>0.67</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4,216</td>
<td>1.32</td>
<td>0.92</td>
</tr>
<tr>
<td>56</td>
<td></td>
<td></td>
<td>2,676</td>
<td>0.84</td>
<td>0.59</td>
</tr>
<tr>
<td>57</td>
<td></td>
<td></td>
<td>7,634</td>
<td>2.38</td>
<td>1.67</td>
</tr>
<tr>
<td>58</td>
<td></td>
<td></td>
<td>7,196</td>
<td>2.25</td>
<td>1.58</td>
</tr>
<tr>
<td>59</td>
<td></td>
<td></td>
<td>3,768</td>
<td>1.18</td>
<td>0.83</td>
</tr>
<tr>
<td>1960</td>
<td></td>
<td></td>
<td>3,566</td>
<td>1.12</td>
<td>0.78</td>
</tr>
<tr>
<td>61</td>
<td></td>
<td></td>
<td>8,422</td>
<td>2.63</td>
<td>1.85</td>
</tr>
<tr>
<td>62</td>
<td></td>
<td></td>
<td>4,702</td>
<td>1.47</td>
<td>1.06</td>
</tr>
<tr>
<td>63</td>
<td></td>
<td></td>
<td>2,684</td>
<td>0.84</td>
<td>0.59</td>
</tr>
<tr>
<td>64</td>
<td></td>
<td></td>
<td>2,682</td>
<td>0.84</td>
<td>0.59</td>
</tr>
<tr>
<td>1965</td>
<td></td>
<td></td>
<td>6,822</td>
<td>2.13</td>
<td>1.50</td>
</tr>
<tr>
<td>66</td>
<td></td>
<td></td>
<td>3,840</td>
<td>1.20</td>
<td>0.84</td>
</tr>
<tr>
<td>67</td>
<td></td>
<td></td>
<td>4,498</td>
<td>1.41</td>
<td>0.99</td>
</tr>
<tr>
<td>68</td>
<td></td>
<td></td>
<td>13,752</td>
<td>4.30</td>
<td>3.00</td>
</tr>
<tr>
<td>69</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

AVE. 5,528 1.73 1.21

Delivery based on estimated diversion less 30% for canal loss.

* BASED ON NORMAL OUTSTANDING SHARES AT 120 SHARES FOR 40 ACRES
NAME OF COMPANY OR DISTRICT: Picketwire Ditch Company, Inc.
LOCATION: Trinidad, Colorado

### Average Seasonal Supply 1947 to 1968

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Actual</th>
<th>Total Effective</th>
<th>% of Full Supply</th>
<th>Water Supply Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apr.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jun.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>July</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aug.</td>
<td>1.70</td>
<td>1.21</td>
<td>58</td>
<td>IIIa</td>
</tr>
<tr>
<td>Sept</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Seasonal Supply in Acre Feet Per Acre

**Basis of Supply Data:** Water diversion records

**Basis for Classification:** 3 shares per acre

Estimated average farm requirement for full supply: 2.10 acre ft. per acre.

Main canal losses: 20%
Lateral losses: 10%

Diversion requirement full supply: 3.20 acre ft. per acre.
Picketwire Ditch Company, Inc. - cont.

General discussion.

The Picketwire Ditch Company was formed through Consolidation of three of the four ditch companies operating the Baca Joint Ditch diverting from the Purgatoire (Las Animas) River near the city limits of the city of Trinidad.

The three ditch companies initially involved were Lujan Irrigating Ditch Company, Chicosa Irrigating Ditch Company and Northside Irrigating Ditch Company. The fourth ditch company involved is the Baca Irrigating Ditch Company. The water of the Baca Ditch Company will continue to be carried by the Picketwire Ditch Company under contract. In addition some private water decreed to the El Moro Ditch and transferred to the Baca Joint Ditch for carriage under a 99 year contract is involved. These private rights have been considered as being represented by 38 shares equivalent in quantity per share to shares held by the Lujan Irrigating Ditch Company, and are now being exchanged for shares in the Picketwire Ditch Company on this basis.

Each of the four ditch companies operating the Baca Joint Ditch were incorporated as separate entities each claiming a different reach of the ditch. The upper end belonged to the Baca Irrigating Ditch Company, the next section to the Lujan Irrigating Ditch Company and the two lower branches to the Northside Irrigating Ditch Company and Chicosa Irrigating Ditch Company respectively. Upon consolidation the ditch was operated as a whole and the water divided into equal divisions between the last three ditches named after delivering the Baca Irrigating Ditch its 4.0 cfs of priority No. 3 water.

The Picketwire Ditch Company was incorporated as a non-profit organization on January 8, 1968 with 11,000 shares of common stock at a par value of $1.00 each authorized. Each of the three consolidating companies was allotted 3000 shares for exchange, with 2000 to be used for exchange with private water interests.

Lujan Irrigating Ditch Company

This company was first incorporated as a mutual ditch company on 11-4-1883. The stock was represented by 96 shares at no par value all of which were outstanding. These shares were exchanged for shares in the Picketwire Ditch Company, Inc., on the basis of 1 share of Lujan for 31.25 shares of Picketwire. The irrigators who held shares under the Lujan Irrigating Ditch Company could have a somewhat better water supply based on the number of shares of Picketwire per acre. Any variation in supply from the average can be computed from the graph provided.

Chicosa Irrigating Ditch Company

This company was first incorporated as a mutual ditch company 12-19-1906. The stock was represented by 133 shares at a par value of $100 each. These shares were first set up for exchange at 22.56 shares of Picketwire for each share of Chicosa; however, the Chicosa Irrigating Ditch Company elected to
retire 13 shares of their stock to put the exchange on the same basis as the Northside Irrigating Ditch Company. The final exchange rate will be 25 shares of Picketwire for each share of Chicosa, based on 120 shares of Chicosa and 3000 shares of Picketwire. The Chicosa Irrigating Ditch Company had a small debt at the time of the consolidation. This debt is to be retired over a five year period through a special assessment of 10¢ per year per share of Picketwire stock.

Northside Irrigating Ditch Company

This company was first incorporated as the Northside Ditch Company, but went defunct and was incorporated as the Northside Irrigating Ditch Company in 1925. The stock was represented by 120 shares of no par value. These shares were exchanged for shares in the Picketwire Ditch Company, Inc. on the basis of 1 share of Northside for 25 shares of Picketwire. The Northside Irrigating Ditch Company also had some indebtedness at the time of the consolidation, which is to be retired over five years through a special assessment of 10¢ per year per share of Picketwire stock.

El Moro rights in the Baca Ditch

The general decree of 8-10-1903 awarded Priority No. 8 in the amount of 4.0 cfs to the El Moro Ditch, in turn transferring 1.27 cfs to the Chicosa Ditch. The court of 5-1-1916 transferred 1.55 cfs of the water remaining in the El Moro Ditch to the Baca Ditch. The decree of 8-10-1903 awarded Priority 77 to the Cordova Ditch in the amount of 4.0 cfs, and this water was apparently transferred to the El Moro Ditch a short time later. Court of 5-1-1916 transferred 2.70 cfs of this amount to the Baca Ditch.

This El Moro water has been carried under a 99 year contract with the joint owners of the Baca Ditch under agreement whereby the Baca Ditch delivered to them 39¾ shares of water equivalent in quantity per share to the shares held by the Lujan Irrigating Ditch Company. This water is now being exchanged for shares in the Picketwire Ditch Company on the same basis as the exchange with the Lujan Irrigating Ditch Company. The exchange is based on 38 shares of El Moro at 31.25 shares of Picketwire Ditch Company stock for each share of El Moro water. This transfer will account for an additional 1188 shares of Picketwire Ditch Company stock, plus the 9000 shares involved in the exchange with the three joint owners of the Baca Ditch.

An irrigation report on the proposed Trinidad Project made by the U.S. Bureau of Reclamation considered only 2,428 acres as irrigable under the joint Baca Ditch. If the acreage under the new ditch is limited to this acreage, it may become necessary to revise the share requirement per acre under the Picketwire Ditch Company, Inc.
The Purgatoire River Water Conservancy District was organized under Colorado State Statutes on December 2, 1960. The district was created to facilitate the regulation and distribution of the waters of the Purgatoire River through construction of the Trinidad Project, to underwrite repayment costs of the irrigation portion of the project, and for operation of the project when completed.

The Trinidad Dam and Reservoir was authorized for construction by the Corps of Engineers under Public Law 85-500, 85th Congress, S.3910, July 3, 1958 as described in H.D. 325, 84th Congress, 2nd Session, January 1956. The project is designed as a multi-purpose facility to serve the functions of flood control, irrigation, fish and wildlife, and recreation. The irrigation function will consist of regulating the water supply for the existing privately developed irrigated area in the semiarid Purgatoire River Basin just below the town of Trinidad in south central Colorado. Eleven privately owned ditch systems serve the area primarily by direct flow rights from the Purgatoire River. One of the ditch systems, the Model Land and Irrigation Company, has a 20,000 acre-foot storage right and a storage reservoir; however, the capacity of the reservoir has been reduced to less than 6,000 acre-feet by sedimentation. The plan of the new project operation includes the transfer of this storage right to the new Trinidad Reservoir for delivery to project lands. The irrigation aspects of the project will be handled by the U.S. Bureau of Reclamation.

**Project Features**

The principal feature of the project is the Trinidad Dam being constructed by the Corps of Engineers some three miles west of the town of Trinidad. The dam, located on the Purgatoire River, is a rolled earthfill structure with a maximum height of 200 feet above the streambed, a crest length of 6,650 feet, and outlet works capacity of 4,920 cfs.

The dam will back up a reservoir with initial space allocation of 114,500 acre-feet broken down as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Acre-Feet</th>
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<tbody>
<tr>
<td>Irrigation</td>
<td>20,000</td>
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<tr>
<td>Flood Control</td>
<td>51,000</td>
</tr>
<tr>
<td>Joint use</td>
<td>39,000</td>
</tr>
<tr>
<td>Fish and Recreation</td>
<td>4,500</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>114,500</strong></td>
</tr>
</tbody>
</table>

The joint use capacity will be used for irrigation and sedimentation during the estimated 75 year life of the project. The 20,000 acre-feet of irrigation capacity will be provided by transfer of the Model Reservoir storage decree.

The project is intended to provide supplemental water for some 19,717 acres of land presently irrigated under the 11 ditch systems in the project area.

Following is a map showing the district boundary and the irrigated areas.
Project Costs

The total cost of construction of the project was estimated at $21,980,000. Of this amount, $13,190,900 was allocated to flood control, and $2,353,500 was allocated for the establishment and maintenance of a permanent fishing pool—both as non-reimbursable costs. The remainder of the costs estimated at $6,435,600 are allocated to irrigation storage use and must be repaid by the District on behalf of those who will benefit therefrom.

Project Repayment

The Purgatoire River Water Conservancy District entered into a contract (No. 14-06-700-6279) for repayment of the $6,435,600 allocated to irrigation benefits on February 10, 1967. This amount is to be paid over 70 years following a five year development period.

Annual installment payments are to commence December 31 of the next year following the end of the development period. The amount of each annual installment shall be determined in accordance with a variable repayment plan as described herein, provided that in deriving each annual water supply index factor, if it is found that the land within the District irrigable area which lies under any ditch receiving project water, receives an effective water supply of 75% or less, than the water supply index factor for the entire District for that year shall be 75% or less and the District shall make no construction cost payment for that year. On or before October 15 of each year, the Secretary of the Department of the Interior shall advise the District of the amount of the annual installment due and payable the following December 31st.

The method for computing the annual payments under the variable repayment plan as presented in the contract between the United States and the Purgatoire Water Conservancy District follows:

**Variable Repayment Plan**

1. The annual construction charge installment for any calendar year shall be determined by multiplying the base annual installment by the product of the water supply index factor and the price index factor.

   a. The base annual installment is the amount obtained from dividing the District repayment obligation established in this contract by 70.

   b. The water supply index factor for the current year shall be determined from the following table:
The percent of consumptive water use requirement which represents the adequacy of the irrigation water supply shall be determined by multiplying by 100 the decimal fraction derived from dividing the total effective water supply (acre-feet) by the consumptive use requirement (acre-feet). The total effective water supply is the effective precipitation plus headgate diversions minus canal, lateral and farm losses. The formula thus becomes:

\[
\% \text{ of consumptive use req.} = \frac{\text{Eff. Prec.} + \text{headgate div.} - \text{farm losses}}{\text{Consumptive use requirement}} (\text{a.f.)})
\]

1. **Effective precipitation** shall be computed as 72 percent of the total precipitation during the current year on the project irrigable area. Total precipitation shall be measured in feet at two locations: the Town of Model, and the Trinidad Airport. The measurements from the gauges at these two locations shall be averaged by assigning the value of 31 percent to the Model gauge and 69 percent to the Trinidad Airport gauge. The weighted average precipitation for the current year thus obtained shall be converted to acre-feet of total precipitation by multiplying the amount of that precipitation by the official project irrigable area (19,717 acres).
2. **Headgate diversion** shall be the total amount of water diverted by all ditch companies during the irrigation season. The amount of water diverted by each ditch company shall be measured in acre-feet at the point of diversion from the Purgatoire River by the use of measuring devices which shall have been installed, operated and maintained in conformity with such specifications and standards as may from time to time be established by the Secretary and the Colorado State Engineer.

3. Canal, lateral and farm losses are presently computed to be 51 percent of the headgate diversion.

4. **The consumptive use requirement** for the District irrigable area (19,717 acres) is hereby determined to be 45,300 acre-feet or 2.30 acre feet/acre. This requirement is the average annual amount for the District irrigable area for the period 1925-1957 computed using the Lowry-Johnson method.

   c. The **price index factor** shall be determined by dividing the current National agricultural parity ratio by 94 which represents the long-term parity ratio of agricultural prices received to prices paid. Current National agricultural parity ratio, as used in this contract, is the simple average of the monthly National agricultural parity ratios for the twelve (12) months for which such ratios are available immediately preceding the month in which notice of payment is given. The monthly National parity ratios as determined by the Secretary of Agriculture under the provisions of the Agricultural Act of 1948 (P.L.80-897, 62 Stat. 1297), as it may be amended from time to time, shall be used in this computation.

The construction of the project was also contingent upon the execution of satisfactory contracts between the District and each of the ditch companies or groups whereby they would agree to abide by the Operating Principles and Operating Criteria developed for the operation of the project water supply. Contracts were executed by 11 ditch companies and 2 water user groups setting out the direct flow rights recognized as being owned by each company and establishing a repayment obligation amount and basis of payment for each ditch company. Following is a schedule of the obligation established for each organization.
In addition to the contractual obligation of each ditch organization, the city of Trinidad has contracted to pay to the District a sum of $30,000 annually during the period of the District's repayment obligation to the United States in recognition of the flood control benefits resulting to the city and its inhabitants from construction of the project. The money is to be put in a trust for use of the District in meeting its annual operation, maintenance and repayment obligations, District operating expenses and other purposes as needed.

The average cost per acre-foot used in arriving at the basis of payment is to be derived by dividing that year's repayment obligation of the District by the number of acre-feet of water delivered from the District water supply to the entire project irrigated area in such irrigation season.

**Project Operating Principles and Operating Criteria**

The repayment contract between the United States and the Purgatoire River Water Conservancy District makes reference to documents entitled Operating Principles and Operating Criteria as Exhibits A and B. These exhibits set out procedures for handling delivery of private water rights as well as project water supplies in considerable detail. The two agreements are reproduced in their entirety since they provide the basis for project function:
OPERATING PRINCIPLES
TRINIDAD DAM AND RESERVOIR PROJECT

Preamble

The Trinidad Dam and Reservoir Project as reported in House Document No. 325, 84th Congress, 2d Session, and as authorized by the Flood Control Act of 1958, will be operated in such a manner as to secure the greatest practicable benefits from the regulation and use of the flows of the Purgatoire River consistent with the laws and policies of the State of Colorado and of the United States including the Arkansas River Compact. The objectives and principles governing the operation of the Trinidad Dam and Reservoir Project to secure such benefits are contained within the following articles.

Article I - OBJECTIVES
Article II - DEFINITION OF TERMS
Article III - FLOOD CONTROL
Article IV - IRRIGATION
Article V - FISHERY AND RECREATION
Article VI - REVIEW AND AMENDMENT

The operation of the Trinidad Dam and Reservoir involves the regulation of the flows of the Purgatoire River for flood control, irrigation use, and recreation including a permanent fishery pool. The project plan provides for:

1. Control of floods originating above the reservoir for benefit of the city of Trinidad and downstream reaches.

2. Optimum beneficial use of the available water for irrigation within the project area consistent with the protection of downstream non-project rights as set forth in House Document No. 325, 84th Congress, 2d Session, which provides:

(a) Transfer of the storage decree of the Model Land and Irrigation Company for 20,000 acre-feet annually from the present site to the proposed Trinidad Reservoir.
(b) Storage in the Trinidad Reservoir of flood flows originating on the Purgatoire River above the dam site which would otherwise spill from John Martin Reservoir.

(c) Storage in Trinidad Reservoir of the winter flows of the Purgatoire River historically diverted for winter irrigation of project lands.

3. The maintenance of a minimum pool for enhancement of recreation and fishery values.

4. The construction of the Trinidad Dam and Reservoir with the following allocated capacities:

- Flood control .................. 51,000 acre-feet
- Irrigation ...................... 20,000 acre-feet
- Permanent fishery pool .......... 4,500 acre-feet
- Joint use* ...................... 39,000 acre-feet

Total capacity 114,500 acre-feet

* For irrigation and sediment accumulation

**Article II - DEFINITION OF TERMS**

Definition of terms as used herein:

1. "Reservoir" means the reservoir presently planned and authorized for construction on the Purgatoire River above the city of Trinidad, Colorado.

2. "District" means the Purgatoire River Water Conservancy District, that entity created and existing under laws of the State of Colorado to contract for repayment to the United States of an appropriate share of the project costs allocated to the irrigation use. The District shall also be the agency responsible for the regulation of irrigation water supplies within the District boundaries in the manner set forth therein.

3. "Unused Sediment Capacity" means that portion of the 39,000 acre-feet of reservoir capacity allocated to joint use but unoccupied by sediment at any given time.

4. "Irrigation Capacity" means the 20,000 acre-feet of reservoir capacity allocated to irrigation plus the unsedimented portion of the joint use capacity.
5. "Permanent Fishery Pool Capacity" means the 4,500 acre-feet of reservoir capacity allocated to fishery and recreation.

6. "Permanent Fishery Pool" means the quantity of water stored in the permanent fishery pool capacity.

7. "Flood Control" means the temporary storage of flood waters at any reservoir pool level as necessary to alleviate flood damages through the city of Trinidad and downstream reaches.

8. "Flood Control Capacity" means the 51,000 acre-feet of capacity exclusively allocated to flood control lying initially above m.s.l. reservoir elevation 6229.6.

9. "Reservoir Inflow" is to be expressed in mean daily cubic feet per second of time and means that total flow of water entering the reservoir, comprising measured flows at the inflow gaging stations and other unmeasured inflows entering the reservoir, less such flow of water as may be acquired by the State of Colorado for filling and maintaining the permanent fishery pool.

10. "District Irrigable Area" means only the 19,717 acres of Class 1, 2 and 3 irrigable lands to be served lying within District boundaries.

11. "Irrigation Season" means that period of the year, as determined annually by the District, during which water may be beneficially applied to the District irrigable area, provided the irrigation season will not begin earlier than April 1 or end later than October 15, except as modified by the District with the consent of the Secretary of Interior.

12. "Nonirrigation Season" means that period of the year other than the irrigation season.

13. "District Storage Right" means those rights under which the District may store water in the irrigation capacity for use on the District irrigable area.

14. "District Water Supply" means that water supply of the Purgatoire River subject to District administration for irrigation use within the District irrigable area.

15. "Colorado State Engineer" means the Colorado State Engineer or such other administrative agency having jurisdiction and control over the distribution of the waters of the State of Colorado.

16. "Operating Agency" means the U.S. Army Engineer District, Albuquerque, New Mexico, Corps of Engineers
Article III - FLOOD CONTROL

Trinidad Reservoir shall be operated for flood control benefits in accordance with regulations prescribed by the Secretary of the Army and the following operating principles:

1. All potentially damaging inflows shall be temporarily detained as necessary to limit the flow insofar as possible to a nondamaging flow, currently estimated to be 5,000 c.f.s., downstream from the Trinidad Reservoir.

2. All flood waters stored in the flood control capacity shall be released at the maximum nondamaging rate insofar as practicable.

3. Any inflow, other than that stored for irrigation use, temporarily retained below the bottom of the flood control capacity for flood control purposes, shall be released by the operating agency at such a rate, time, and quantity as may be ordered by the Colorado State Engineer, but within nondamaging flow in the channels below the reservoir.

Article IV - IRRIGATION

Administration of the irrigation capacity in Trinidad Reservoir and the distribution of water to the District irrigable area will be made by the District in accordance with House Document No. 325, 84th Congress, 2d Session, and these operating principles. Agreements, satisfactory to the Secretary of the Interior, shall be entered into between the District and the ditch companies and other owners of affected water rights to insure that these principles and the operation described herein shall be adopted.

The principles and provisions under which the District will administer water supplies to the District irrigable area are contained in the following four parts of this Article: "Water Rights", "Limits of Land and Water Use", "District Water Supply", and "Operation and Exercise of Water Rights".

A. Water Rights

Accomplishment of the following conditions is necessary under the laws of the State of Colorado to provide the District with the right to regulate the flows of the Purgatoire River in the manner described herein:

1. The water users within the District shall assign the right to the exercise of all the decreed direct flow water rights within the District boundaries to the District for administration by the District at such times and to the degree outlined in these principles. The right to the exercise of the following water rights, all in Water District No. 19, shall be so assigned.
2. Waters of the Purgatoire River shall be stored by the District in the irrigation capacity of Trinidad Reservoir under rights created under Colorado law; said rights, defined as the District storage right, include:

(a) The Model storage right, being the right to store 20,000 acre-feet of water from the flows of the Purgatoire River, under reservoir priority No. 10 in Water District No. 19 at a rate of flow not exceeding 700 cubic feet per second of time under date of appropriation of January 22, 1908, as decreed by the District Court of Las Animas County, Colorado, on January 12, 1925, which right shall by appropriate statutory proceedings be transferred from the place of storage as originally decreed to the site of the reservoir; and

(b) Such other rights to store water in the reservoir as the District may lawfully acquire by appropriation or purchase.

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### B. Limits of Land and Water Use

In order that the Trinidad Dam and Reservoir Project may provide an optimum beneficial use of water for irrigation within the District, the following limitations on land and water use shall apply:

1. The acreage irrigated by the District water supply shall be limited to the 19,717 acres classified as 1, 2 and 3 irrigable land lying within the District boundaries. These 19,717 acres of the District irrigable area shall be composed as nearly as practicable of the following acreages under individual ditches:

   - **Baca**: 2,297 acres
   - **Chilili**: 114 "
   - **El Moro**: 163 "
   - **Johns Flood**: 1,893 "
   - **Model**: 6,337 "
   - **South Side**: 6,318 "
   - **Victor Florez**: 22 "
   - **Hoelman**: 1,763 "
   - **Burns & Duncan**: 272 "
   - **Lewelling & McCormick**: 378 "
   - **Salas**: 160 "

   **Total**: 19,717 acres

2. All water deliveries to the 19,717 acres of the District irrigable area will be limited during the irrigation season to the irrigation requirements at the farm headgate as determined by the District. Allowance for canal and lateral losses on the individual ditch systems will also be determined by the District.
3. No water deliveries for irrigation of the 19,717 acres of the District irrigable area will be made during the non-irrigation season.

C. District Water Supply

1. That water supply of the Purgatoire River subject to District administration for irrigation use within the District irrigable area, defined as the District water supply, consists of:

   (a) The water stored under the District storage right in the irrigation capacity.

   (b) The stream gains to the Purgatoire River below Trinidad Dam that are divertible to the District irrigable area for irrigation use through the District’s exercise of the rights listed in IV.A.1.

   (c) That portion of the reservoir inflow bypassed to the river below Trinidad Dam which is subject to diversion to the District irrigable area through the District’s exercise of the water rights listed in IV.A.1.

2. The District water supply will be allocated by the District to the ditches within the District to provide each acre of the District irrigable area an equitable share of the District water supply after allowance has been made for individual ditch transportation losses, provided such allocation will not exceed the irrigation requirements at the farm headgate.

D. Operation and Exercise of Water Rights

The principles governing operation of the irrigation capacity and the District’s exercise of the assigned direct flow water rights listed under IV.A.1. and the District storage right are hereinafter set forth as they apply to operations during the entire year as well as to operations during either the non-irrigation season or irrigation season.

1. Non-interference with Downstream Water Rights

   (a) Bypasses to the river shall be made at any time during the year to satisfy downstream senior rights as ordered by the Colorado State Engineer to the extent that such demands are not met by stream gains or otherwise satisfied but are limited to the extent as determined by the Colorado State Engineer to actually benefit such rights without unnecessary waste through channel losses.
(b) Reservoir inflow in excess of the amount stored under the transferred Model right may be detained in the reservoir at such times as John Martin Reservoir is reasonably expected to spill; to the extent that John Martin Reservoir would have spilled, such detained water shall be considered to have been stored under the District storage right and become part of the District water supply. Such detained water which does not become a part of the District water supply shall be released as called for by the Colorado State Engineer in the amounts and at such times as he shall determine that such releases may be required to avoid a material depletion of the water of the Arkansas River as defined in Article 3 of the Arkansas River Compact, C.R.S., 1953, 148-9-1.

(c) Except as provided by paragraph (b) above, any water temporarily detained in the reservoir as a result of the reservoir inflow exceeding the design outlet capacity of the reservoir shall be released as soon as possible.

(d) All releases from the reservoir, as set forth in (a), (b), and (c) above, shall be passed down the Purgatoire River without interference by water users in the District irrigable area.

2. District Operation, Non-irrigation Season

(a) During the non-irrigation season the District will provide an allowance for stock watering purposes of not more than a daily mean flow of five second-feet or its volume equivalent measured at a gage to be located near and above the Baca River headgate. If the stream gains from the Trinidad Dam to the said gage are insufficient to fulfill the allowance, an equivalent volume of reservoir inflow will be released to satisfy stock water demands within the allowance.

(b) During the non-irrigation season the District will exercise the direct flow water rights and the District storage right only at such times and to the degree as necessary to assure:

1. That the maximum possible storage of reservoir inflow is accrued.

2. The stock water allowance is distributed in a manner determined equitable by the District.

3. District Operation - Irrigation Season

(a) During the irrigation season, except at such times as provided for in IV.D.3.(c) below, the District shall exercise the direct flow water rights and the District storage right only at such times and to the degree necessary to assure:
(1) That stream gains to the river below Trinidad Dam which are divertible to the District irrigable area and such reservoir inflow which is bypassed to the river for District irrigation use will be equitably distributed to the District irrigable area as part of the allocated District water supply.

(2) That the District storage right can be fully exercised to store reservoir inflow in excess of that bypass to the river as may be required under D.1.(a) and D.3.(a)(1) above.

(b) During the irrigation season water stored in the irrigation capacity will be released as needed to fulfill or partially fulfill the irrigation requirements of the District irrigable area as part of the allocated District water supply.

(c) During the irrigation season, when the irrigation capacity is empty as determined by the District, the District will relinquish its exercise of the direct flow water rights provided that if the reservoir inflow and stream gains below Trinidad Dam which are divertible to the District irrigable area exceed the irrigation requirement and such excess is storable under the District storage right, the District will resume the exercise of the direct flow rights and exercise of the District storage right as in D.3.(a)(2) above.

4. Evaporation and Seepage Losses

In the accounting for water in storage, evaporation and seepage losses due to water stored in the irrigation capacity shall be determined using the most recent data available by the Colorado State Engineer and the District with the cooperation of the operating agency.

**Article V - FISHERY AND RECREATION**

The permanent fishery pool shall be operated in accordance with the following principles:

1. Water for the initial and subsequent fillings and for replacing evaporation and seepage losses will be acquired by the State of Colorado without interference to the District water supply or without additional cost to the District or the United States for the Trinidad Project as envisioned in House Document No. 35.

2. In the accounting for water in storage, evaporation and seepage losses due to the permanent fishery pool shall be determined using the most recent data available by the Colorado State Engineer and the District with the cooperation of the operating agency.
3. There shall never be any release of water from the permanent fishery pool except upon the request of the Colorado Game, Fish, and Parks Commission to the Colorado State Engineer.

**Article VI - REVIEW AND AMENDMENT**

These operating principles may be subject to review and amendment not more than once a year at the request of any of the parties' signatory; provided, that at least one review shall be accomplished within the first 10 years following completion of the Trinidad Dam and at least one review be accomplished every 10 years thereafter. The primary object of such reviews will be obtaining optimum beneficial use of water as conditions change, operating experience is gained, and more technical data become available.
EXHIBIT B

PURGATOIRE RIVER WATER CONSERVANCY DISTRICT OPERATING CRITERIA

These operating criteria set forth in detail the criteria governing the District's administration of the District water supply in conformity with the general principles and provisions contained in the "Operating Principles - Trinidad Dam and Reservoir Project." The District shall be responsible for administering the delivery of the District water supply to the irrigable lands within District boundaries in accordance with these operating criteria and the above mentioned general operating principles.

Agreements, satisfactory to the Secretary of the Interior, shall be entered into between the District and the ditch companies and other owners of affected water rights to insure that these criteria and the operation described herein shall be adopted. In order that the repayment ability of the District will not be impaired, such agreements shall include provision for differential water charges within the District irrigable area reflecting payment capacities by land classes and variation in benefits accruing to each ditch system.

The details of the operating criteria are contained in the following five parts:

Part A - "Definitions"
Part B - "Allocations"
Part C - "Operations"
Part D - "Evaporation and Seepage"
Part E - "Exercise of Water Rights"

Provisions for review and amendment of these operating criteria are contained in Part F - "Review and Amendment".

Part A - Definitions

The definition of terms as used in the "Operating Principles - Trinidad Dam and Reservoir Project" applies in these criteria in addition to the following definitions as used herein:

1. "General Operating Principles" means the Operating Principles - Trinidad Dam and Reservoir Project.

2. "Model Space Reservation" means the 6,000 acre-feet of space reserved within the irrigation capacity of Trinidad Reservoir for storing water, as available, for the exclusive use of the Model Land and Irrigation Company.
3. "Model Account" means the quantity of water in storage within the Model space reservation which will be used for the exclusive diversion to Model lands.

4. "Project Account" means the quantity of water in storage within the irrigation capacity of Trinidad Reservoir, other than that in the Model Account, which will be used for diversion to the entire District irrigable area.

5. "Transferred Model Right" means the Model storage right of 1908 which will be transferred from its present site and owner to Trinidad Reservoir and the District and made part of the District storage right.

Part B - Allocations

As set forth in Article IV of the General Operating Principles, an allocation will be made to provide each acre of the District irrigable area an equitable share of the District water supply, provided such allocation will not exceed the irrigation requirement at the farm headgate. The following details shall apply to the allocation:

1. In advance of the irrigation season the District shall determine the reasonable minimum District water supply expected to be available for allocation for the following irrigation season. This determination shall be based on the water currently in storage, plus the reasonable minimum reservoir inflow and stream gains below Trinidad Dam which are forecasted to be available to the District during the irrigation season, less the reservoir evaporation chargeable to the irrigation capacity and less that quantity reserved for the Model Land and Irrigation Company as provided for in B.1.(a) below.

   (a) In advance of the irrigation season the District shall reserve for the exclusive use of the Model Land and Irrigation Company a maximum of 1,200 acre-feet of that water presently in storage credited to the Model Account and that which will be credited during the following irrigation season to the Model Account in the manner hereafter set forth in Part C - "Operations".

2. In advance of the irrigation season, the District shall make the initial allotment based on the reasonable minimum District water supply expected to be available for allocation as determined in B.1 above.

3. The allotment shall be expressed as the total volume of water in acre-feet available at the river for the lands lying under each of the ditch systems so as to provide with an allowance for the canal and lateral losses of the individual ditch systems, each acre of the District irrigable area an equitable share at the farm headgate except as set forth in B.4.(e) below.
4. The initial allotment shall be made in the following manner:

(a) That part of the expected reasonable minimum District water supply that consists of stream gains below Trinidad Dam which are divertible to the District irrigable area and reservoir inflow used directly for irrigation shall be equitably allocated as part of the initial allotment to each acre of the District irrigable area.

(b) The water presently in storage credited to the Model Account and the reasonable minimum expected to be credited to the Model Account during the following irrigation season, exclusive of that reserved under B.1.(a) above, shall be allocated as part of the initial allotment to the acreage of the Model Land and Irrigation Company, but limited to the extent that such allotment plus the allocation made under B.4.(a) above, will not exceed irrigation requirements.

(c) The water presently in storage credited to the Project Account and the reasonable minimum expected to be credited to the Project Account during the following irrigation season shall be allocated as part of the initial allotment to each acre of the District irrigable area other than those of the Model Land and Irrigation Company so that each acre receives an allotment equivalent to that of the acreage of the Model Land and Irrigation Company.

(d) The Project Account not allocated under B.4.(c) above shall be equitably allocated as part of the initial allotment to each acre of the District irrigable area.

(e) If the Project Account is insufficient to furnish an allotment equivalent to that allocated from the Model Account as in B.4.(b) above, then the initial allotment to the acreage of the Model Land and Irrigation Company will exceed the initial allotment to the other acres of the District irrigable area.

5. If, as the irrigation season advances, more water than expected becomes available as the District water supply, an additional allotment will be added to the existing allotment according to the provisions in B.4 above.

6. Any part of an allotment that remains unused at the end of the irrigation season shall revert to the account from which it was allocated.

7. Each ditch will be responsible for administering and maintaining records of District allocations to landowners under that ditch so as to assure proper scheduling and delivery of each landowner's allotment.
8. Any future increase in transportation efficiencies derived from improved facilities shall accrue to the benefit of those responsible for the improvement of facilities to the extent such water will still be used beneficially and in accordance with the General Operating Principles.

9. Nothing herein shall be construed to prevent rental of part or all of an allocation from one portion of the District irrigable area to another.

Part C - Operations

The water stored in the irrigation capacity will be credited to two accounts, the Model Account and the Project Account. The following criteria apply to the operation of these two accounts.


   (a) Water credited to the Model Account shall be stored only in the Model space reservation. Water shall be stored in the Model space reservation under the transferred Model right in the manner set forth in C.2.(a) and C.2.(b) below.

   (b) Water credited to the Project Account may be stored in any of the irrigation capacity not occupied by the Model Account so long as such storage does not interfere with the crediting of water to the Model Account.

   (c) The cumulative total of water credited to the Model Account shall be limited to 6,000 acre-feet in any one year period beginning at the end of the irrigation season and the maximum quantity in the Model Account, including holdover storage, shall be limited to 6,000 acre-feet at any time.

   (d) That quantity reserved for the exclusive use of the Model Land and Irrigation Company under B.1.(a) shall be retained in the Model Account until the Project Account is determined empty by the District at which time it will become available for the exclusive use on the lands of the Model Land and Irrigation Company within the District irrigable area.

2. Manner of Crediting

   (a) Storing during the non-irrigation season

      (1) Reservoir inflow stored under the transferred Model right during the non-irrigation season will be credited one-third to the Model Account, and two-thirds to the Project Account until the limitations defined in C.1.(c) above are reached, after which all reservoir inflow storable under the transferred Model right will be credited to the Project Account.
(2) All reservoir inflow storable in the unused sediment capacity during the non-irrigation season shall be stored and credited to the Project Account.

(b) Storing during the irrigation season

(1) Of the first 300 second-feet of reservoir inflow, that portion not required for the current actual irrigation requirements shall be stored and credited to the Project Account.

(2) During the irrigation season, inflow to the reservoir in excess of a daily mean of 300 cubic feet per second of time or current actual irrigation requirements, whichever is greater, shall be stored in the Model Account until filled; thereafter such excess shall be stored in the Project Account until filled, at which time any excess may be utilized under Model direct-flow rights and John Flood rights up to a total of 323.63 cubic feet per second.

(3) All reservoir inflow storable in the unused sediment capacity during the irrigation season shall be stored and credited to the Project Account.

3. Manner of Release

When the reservoir inflow and stream gains below Trinidad Dam which are divertible to the District irrigable area are insufficient to meet District irrigation requirements, releases will be made from the irrigation capacity within allotments to augment the available direct-flow supplies. These releases will be made as part of the allocated District water supply from the two accounts as follows:

(a) Such releases for land, other than lands of the Model Land and Irrigation Company, shall be charged to the Project Account.

(b) When the Model Account is over 1,200 acre-feet such releases for lands of the Model Land and Irrigation Company shall be charged to the Model Account.

(c) When the Model Account is 1,200 acre-feet or less such releases for lands of the Model Land and Irrigation Company shall be charged to the Project Account.

(d) The 1,200 acre-feet maximum reserved for the exclusive use of the Model Land and Irrigation Company under B.1.(a) shall be released at the request of the Model water users after the Project Account is determined empty by the District.
4. The daily deliveries of the District water supply will largely be governed by the requests by the ditches to receive water remaining in their allotments for their lands. However, the District shall reserve the right to maintain a schedule of diversions when necessary to reduce transportation losses and to facilitate irrigation practices.

Part D - Evaporation and Seepage Losses

As provided in the General Operating Principles, the evaporation and seepage losses to water stored in the irrigation capacity or the permanent fishery pool capacity shall be determined using the most recent data available by the Colorado State Engineer and the District with the cooperation of the operating agency. The following criteria are necessary to accomplish the accounting of water stored in the reservoir.

1. Evaporation Losses

(a) The evaporation loss to be charged against the irrigation capacity shall be determined as the evaporation from the water surface area that would occur if the water stored under the District storage right for irrigation use were the only water stored in Trinidad Reservoir.

(b) The evaporation loss to be charged against the permanent fishery pool shall be determined as the increase in evaporation occurring as a result of the increase in reservoir water surface area occasioned by the addition of the permanent fishery pool to water stored within the irrigation capacity.

2. Seepage Losses

The proportion of the reservoir seepage loss resulting from water stored in the irrigation capacity or the permanent fishery pool capacity shall be the proportion of water stored in that capacity to the total water stored in the reservoir.

(a) The proportion of reservoir seepage loss resulting from water stored in the irrigation capacity shall be charged against the District water supply.

(b) The proportion of reservoir seepage loss resulting from the permanent fishery pool shall be charged against the District water supply to the extent it is divertible in a manner consistent with these operating principles for irrigation or stock water use, except that if there is no District water supply available such reservoir seepage will be replaced by reservoir inflow.
(1) If the reservoir inflow is insufficient for making such replacement, the deficit will be charged against a future District water supply.

(c) The proportion of reservoir seepage loss resulting from the permanent fishery pool not divertible in a manner consistent with these operating principles for irrigation or stock water use shall be charged against the permanent fishery pool.

Part E - Exercise of Water Rights

As provided in Article IV of the General Operating Principles, the District may not exercise any of the direct flow water rights when the irrigation capacity is determined to be empty by the District. When the irrigation capacity is determined to be empty, the reservoir inflow and stream gains below Trinidad Dam which are divertible to the District irrigable area may be diverted by the water right owners exercising their rights in priority and the Model Land and Irrigation Company may use the quantity of water reserved under B.I.(a), provided no diversion be made in excess of the irrigation requirement for any portion of the District irrigable area. Whenever reservoir inflow and stream gains below Trinidad Dam which are divertible to the District irrigable area should thereafter exceed such requirements, the District shall resume exercise of the direct flow water rights and shall store the excess under the District storage right.

The following details shall apply in determining when the irrigation capacity is empty.

1. The District shall declare in writing to the Colorado State Engineer, the Colorado Fish, Game and Parks Commission, the operating agency, and the District water users, the date, ten days in advance, on which the irrigation capacity will be considered empty and diversion by priority appropriation begin. Such data shall be based on the date the irrigation capacity, less that quantity reserved under B.I.(a), would be drawn down to less than one day's run of water if used to fully satisfy the current irrigation requirement of the District irrigable area.

2. The manner in which the ditches request delivery of their allotment shall not affect the declared date.

3. The declared date may be adjusted to compensate for changing water supply conditions. Notice of such adjustment shall be given by the District to the parties listed in E.I. above by whatever means the District shall find most likely to convey such notice to said parties in relation to the circumstances of such adjustment.
4. The date the irrigation capacity is determined to be empty shall also be the date the Project Account is considered empty and the District water supply considered consumed.

Part F - Review and Amendment

These operating criteria may be subject to review by the District and the Bureau of Reclamation once each year during the development period of the Trinidad Dam and Reservoir Project, and subject to at least one review every 10 years thereafter. The object of such reviews will be amending these criteria to obtain the optimum beneficial use of water as conditions change, operating experience is gained, and more technical data become available.
Water Supply and Requirement

The water supply under the 11 ditch systems in the project area has historically been very erratic with stream flows such that for most of the irrigation season only the most senior direct flow rights receive water. The construction of the Trinidad Dam and Reservoir on the main stream above the project area is expected to provide a reasonably assured water supply for the 19,717 acres of class 1, 2 and 3 land considered as irrigable.

The average annual water requirement for project lands is computed in the irrigation report for the Trinidad Project as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Acre-Feet Per Acre</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumptive use requirement of crops</td>
<td>2.30</td>
</tr>
<tr>
<td>Less effective precipitation</td>
<td>0.78</td>
</tr>
<tr>
<td>Crop irrigation requirement</td>
<td>1.52</td>
</tr>
<tr>
<td>Add farm losses (30%)</td>
<td>0.65</td>
</tr>
<tr>
<td>Farm delivery requirement</td>
<td>2.17</td>
</tr>
<tr>
<td>Add canal and lateral losses (30%)</td>
<td>0.93</td>
</tr>
<tr>
<td>Diversion requirement at canal headgates</td>
<td>3.10</td>
</tr>
</tbody>
</table>

Conclusion

The dam for the Trinidad Reservoir is under construction and it is anticipated the first water will be available for irrigation use in the 1977 season. Water is to be delivered to the project area based on the need under each of the ditch systems. The operation of the Project should assure an increased water supply for most of the land designated as irrigable; however, it appears doubtful that a full water supply will be available at all times. Several years of operation will be needed to determine just how effective the water supply will be. The length of repayment period and the provisions for reduced payment in years of short supply would tend to indicate that there may be period of shortage.

An attempt will be made to update reports on each of the irrigation companies between now and the time indicated for delivery of project water.

9-1975