# ANIMAS-LA PLATA PROJECT
COLORADO AND NEW MEXICO

DESIGN DATA FOR
SPECIFICATIONS DESIGNS AND ESTIMATES
DURANGO PUMPING PLANT

## TABLE OF CONTENTS

**Introduction**

A. General Maps
   1. Animas-La Plata Project General Map .................................................. 3
   2. Durango Pumping Plant General Map ....................................................... 3
   3. Durango Pumping Plant Site Map ............................................................ 3
   4. Utility Relocation Map (NOT IN THIS PACKAGE) ........................................ 3

B. General Description of Local Conditions
   1. Site Location and Description ................................................................. 4
   2. Transportation Facilities, Distances, and Restrictions .............................. 4
   3. Local Freight and Trucking Rates ............................................................ 5
   4. Housing Availability ..................................................................................... 5
   5. Utility Locations, Availability, and Rates ................................................ 7
   6. Climatic Conditions ...................................................................................... 8

C. Surface Data
   1. Survey Control ............................................................................................ 9
   2. Topographic Maps and Calma-CADD Models ................................................ 10
   3. Photographs .................................................................................................. 10

D. Foundation Data
   1. Geological Information ............................................................................... 11
   2. Hydrogeochemical Site Characterization .................................................... 11

E. Construction Materials Data
   1. Materials Investigations Summary, Sampling, and Analysis ......................... 13
   2. Location of and Distance to Borrow Area ................................................... 13
   3. Location of and Distance to Excavation Waste Areas .................................... 13
   4. Data on Local Commercial Concrete Plants ............................................... 13
   5. Road Surfacing Materials ............................................................................ 14
   6. Local Precast Concrete, Brick, and Masonry Firms ..................................... 14

F. Hydrologic Data
   1. Reservoir Data ............................................................................................. 15
   2. Gaging Stations Locations and Discharge Records ....................................... 19
   3. Maximum Water Levels Expected During Construction ............................... 20
   4. Powerplant Tailwater Curves (Not Applicable) ........................................... 20
   5. Data on Water Supply Source ...................................................................... 20
   6. Water Characteristics and Quality ............................................................... 22

G. Operating Data - Power Plants (Not Applicable)

H. Operating Data - Pumping Plants
   1. Anticipated Types and Quantities of Trash at the Intake .............................. 25
   2. Water Use and Distribution Requirements .................................................. 25
   3. Discharge Line Conditions and Requirements .............................................. 26
   4. Hydraulic Characteristics of Intake Channel ................................................ 27
   5. Incoming Powerline Location and Direction ................................................ 27
6. Electrical Data ........................................... 27
7. Recommended Number of Pumps and Pump Sizes ....................... 28
8. Requirements for Measurement of Plant Discharge ..................... 29
9. Interest Rate for Economic Studies ................................ 29
10. Pumping Power Rate for Economic Studies .......................... 29

I. Miscellaneous Data
1. Existence of Other Transmission Lines in the Area .................. 30
2. Availability of Plant Equipment Repair Shops ........................ 30
4. Requirements for Protection and Preservation of Fish .................. 30
5. Recommended Type of Structure for the Pumping Plant ................. 31
6. Housed and Open O&M Storage Requirements .......................... 31
7. Recommended Period for Construction ................................ 31
8. Security Requirements ........................................... 32
10. Requirements for Public Safety ..................................... 32
11. Future Plans for Pumping Expansion ................................ 33
12. Potable Water Standards and Water Treatment Requirements .......... 33
13. Wastewater Treatment and Disposal Requirements ..................... 33
14. Need for Attended Operation During and Following a Nuclear Attack 33
15. Commitments for Delivery of Water .................................. 33
16. Need for Special Protection From Falling Rocks or Boulders ......... 33
17. Vegetation Clearing Requirements ................................... 34
18. State and Local Building Codes ..................................... 34
19. Special Exhaust, Heating, or Ventilating Requirements ............... 34
20. Water for Construction Purposes .................................... 34
21. Right-Of-Way Boundaries .......................................... 34
22. Disposition of Existing Facilities in Construction Area .............. 34
23. Office Space Requirements .......................................... 35
24. Special Construction Safety Requirements ............................ 35

J. Cost Data
1. Removal of Buildings in Construction Area ........................... 36
2. Information on Local Labor Supply ................................... 36
3. Information on Other Local Construction Projects ..................... 36
4. Impact of Construction on Local School Facilities .................... 37
5. Estimate of Costs for Easements ..................................... 37
6. Estimates of Costs for Relocations ................................... 38

K. Environmental Considerations
1. Historical and Archaeological Values .................................. 39
2. The Need for Blending Structures with Surroundings ................... 39
3. Ecological, Aesthetic, and Environmental Aspects Peculiar to Site . 40
4. Future Land Use Adjacent to Project Facilities ....................... 41
5. Noise Limits ....................................................... 41
6. Special Environmental Requirements ................................... 42
7. Impact of Moving Construction Materials on Existing Roads ......... 43
8. Background on the Need for Fish Facilities .......................... 43
9. Disposal of Special Excavation Problem Materials ..................... 44
10. Seeding and Replanting Requirements ................................ 44
11. Restrictions on Use of Soil Herbicides ................................ 44

L. Plant Uprating (Not Applicable)
1. Large Synchronous Machine Armature Rewinds (Not Applicable)
ANIMAS-LA PLATA PROJECT
COLORADO AND NEW MEXICO

DESIGN DATA FOR
SPECIFICATIONS DESIGNS AND ESTIMATES
DURANGO PUMPING PLANT

LIST OF FIGURES AND TABLES

Figure 1 - Animas-La Plata Project Design/Construction Schedule 2
Table 1 - Freight Rates to Durango, Colorado 6
Table 2 - Project Water Supply and Irrigated Lands 17
Figure 2 - Ridges Basin Reservoir Capacity Allocations 18
ANIMAS-LA PLATA PROJECT
COLORADO AND NEW MEXICO

DESIGN DATA FOR
SPECIFICATIONS AND DESIGNS
DURANGO PUMPING PLANT

LIST OF PHOTOGRAPHS

<table>
<thead>
<tr>
<th>Photograph Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN-69-406-1070</td>
<td>View looking southwest towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN-69-406-1071</td>
<td>View looking west towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN-69-406-1072</td>
<td>View from base of Smelter Mountain looking southeast towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN-69-406-1073</td>
<td>View from Colorado Highway 3 looking northwest towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN-69-406-1074</td>
<td>View looking west towards Smelter Mountain</td>
</tr>
<tr>
<td>CN-69-406-1075</td>
<td>View from Colorado Highway 3 looking west towards the southern end of the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN-69-406-1076</td>
<td>View from existing haul road looking east</td>
</tr>
<tr>
<td>CN-69-406-1077</td>
<td>View looking southwest towards Smelter Mountain</td>
</tr>
<tr>
<td>CN-69-406-1078</td>
<td>View looking south towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN 69-406-1079</td>
<td>View from river launching site at Gateway Park looking south towards the Durango Pumping Plant site</td>
</tr>
<tr>
<td>CN 69-406-1080</td>
<td>View from Gateway Park looking west towards Durango the Pumping Plant site</td>
</tr>
<tr>
<td>CN 69-406-1081</td>
<td>View from U.S. Highway 550/160 bridge crossing looking northwest</td>
</tr>
</tbody>
</table>
ANIMAS-LA PLATA PROJECT
COLORADO AND NEW MEXICO

DESIGN DATA FOR
SPECIFICATIONS DESIGNS AND ESTIMATES
RIDGES BASIN DAM AND RESERVOIR

LIST OF APPENDICES

Restricted Use Plan ................................................. A
Climatological Data .................................................. B
Animas River Gaging Stations ..................................... C
Water Quality Data ..................................................... D
Environmental Commitment Plan ................................. E

PRELIMINARY DESIGN DATA SUBMITAL
ANIMAS-LA PLATA PROJECT
COLORADO AND NEW MEXICO

DESIGN DATA FOR
SPECIFICATIONS DESIGNS AND ESTIMATES
DURANGO PUMPING PLANT

LIST OF DRAWINGS

Animas-La Plata Project General Map ......................... 69-406-1551
Durango Pumping Plant Location Map ......................... 69-406-1914
Durango Pumping Plant Site Map ............................. 69-406-1915