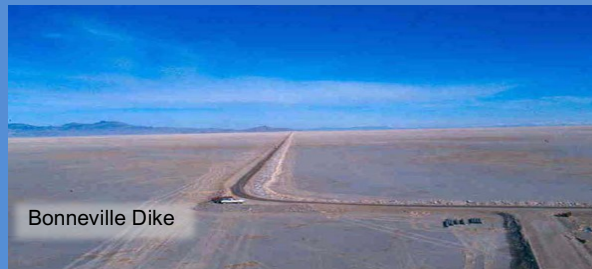
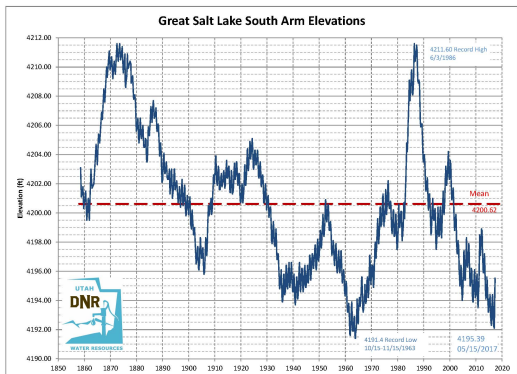


# West Desert Pumps



Pumping Plant & Outlet Canal



Bonneville Dike



Aerial View of Inlet Canal



Newfoundland Dike

Flooding of Great Saltair



**Division of Water Resources**

1595 W North Temple  
Salt Lake City, UT 84114



The purpose of the West Desert pumps is to control flooding of the Great Salt Lake.

The total cost to build the project was \$60 million dollars.

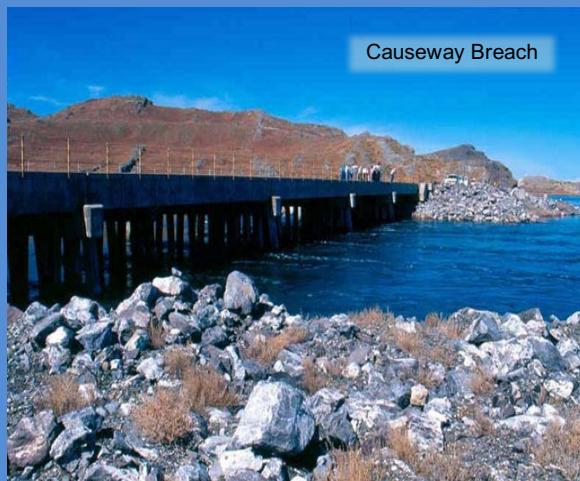
The pumps operated from April 10, 1987 to June 30, 1989. 2.73 million acre-feet, approximately 8 trillion gallons, of water was pumped through the system at that time.

The system components include a causeway breach, access road and bridges, inlet canal, pumping plant, outlet canal and the West Pond (confined by the Bonneville and Newfoundland dikes).

*The Following summarizes each component of the system.*

#### **Causeway Breach:**

- Constructed in 1959 by Southern Pacific Railroad to replace timber trestle constructed circa 1900
- Allowed influx of lake water from the South arm (majority of lake inflow)
- Provided some mixing of the North and South arm brine

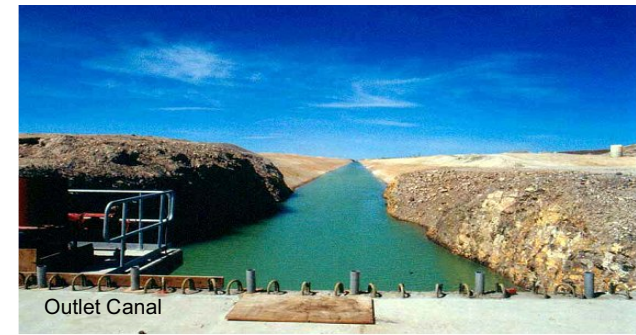
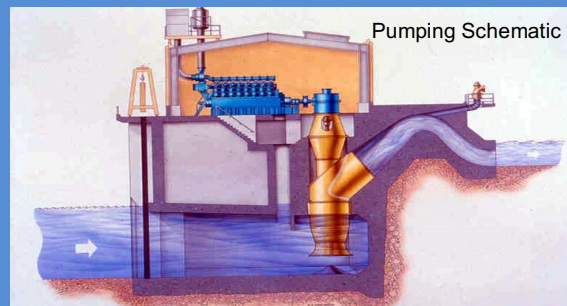


#### **Access Roads and Bridges:**

- 10 miles long from Lakepoint to Hogup
- Four bridges: three 150 feet long and one 180 feet long.
- Cost: \$23 million
- Designer: Eckhoff, Watson and Preator Engineering
- Contractor: Southern Pacific Transportation Company.

#### **Pumping Plant:**

- Three Ingersoll-Rand, Vertical Pumps:
  - Impellers: 10 ft. diameter
  - Pumps: 4,500 gpm each
- Three Dresser-Rand 3,500 hp engines
  - Size: 28x12x18 ft.
  - Weight: 81.4 tons (162,800 lbs)
- Fuel: Natural Gas
- Cost: \$18 million (includes cost of inlet and outlet canals)
- Designer: Eckhoff, Watson and Preator Engineering and Morrison-Knudsen Engineers, San Francisco
- Contractor: Layton Construction Company, Inc.



#### **Outlet Canal:**

- Length: 4.1 miles
- Bottom elevation: 4,207-4,210 ft.
- Bottom width: 75-100 ft.
- Top width: 120-50 ft.
- Operating depth: 10-11 ft.

#### **West Pond:**

- **Newfoundland Dike**
  - Length: 8.1 miles
  - Height: 3-7 ft.
  - Cost: \$2.5 million
  - Designer: Bingham Engineering
  - Contractor: Herm Hughes and Sons
- **Bonneville Dike**
  - Length: 24.4 miles
  - Height: 3-6 ft.
  - Cost: \$3.9 million
  - Designer: Chen Northern Engineers
  - Contractor: W.W. Clyde and Company