

Research Proposal:
The Boulder [Hoover] Dam Project
HIST 380

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December 5, 2014

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1 Introduction

There are many ways to make a piece of history interesting. There can be a great struggle, a clash of personalities, or a watershed moment. The Hoover Dam leaves its mark in a different way: literally. The Hoover Dam is so large it commands interest. Typically, interesting pieces of history only tangentially interact with engineering consideration. Sure, the Union won the civil war through its better equipped manufacturing sector and means of production, but that fact remains a footnote rather than the main story. The Hoover Dam is different. It is an engineering feat. The central point is the demonstration that humans can control the world to carry out their plans.

2 Focus of the Research

While the design of the Hoover Dam is fascinating, it has been remarked on before. Instead, this project would like to focus on the interaction between engineering considerations and political ones. What modifications had to be made to the design for it to make it out of the planning process, through the gears of government, and into the canyon?

3 Impetus for the Research

While reading *Big Dams of the New Deal Era*, an interesting fact was stumbled across: there are two styles of dam design, massive and structural. Massive design relies on the weight of the structure to resist the water piled behind it. The engineering work is in minimizing the weight (therefore raw materials, therefore cost) of the structure. Still, there is some minimum weight required to resist the water, and the cost of the materials to do so is immense.

The other method of dam construction is structural construction. This style uses geometry to reduce the amount of material needed, at the cost of more engineering design work.

Interestingly, the Hoover Dam is a dam in the massive style. It was specifically chosen to be more expensive to construct. Why is this? Was the unoptimized design chosen as a sort of welfare system? Was it massive to allow many men jobs constructing it? Did the engineers not feel comfortable with the additional design work required to fit a structural dam? Did the overseers of the project in government feel that the massive dam would impress the populace more, or be more safe?

The engrossing thing is the interaction between engineering work and political pressure.

4 Documents for Further Research

4.1 Online Resources

4.1.1 Boulder Canyon Project: Final Reports

https://vufind.carli.illinois.edu/vf-iit/Record/hat_583409

These reports were compiled in 1948 and again in 1950. They cover the geography and history of the site, as well as the flooding and other problems that sought relief through the dam. They also include the legislative and financial work done on the project.

4.1.2 Mineral resources and possible industrial development in the region surrounding Boulder dam project

<http://babel.hathitrust.org/cgi/pt?id=uc1.b3904776;view=1up;seq=7>

This document will shed some light on some peripheral benefits of the dam, and their interaction in influencing the design.

4.1.3 Modification of Boulder Canyon Project

<http://babel.hathitrust.org/cgi/pt?id=mdp.39015067182397;view=1up;seq=5>

This hearing before the House of Representatives about changes to the Dam Project, which is clearly a political influence on the project.

4.2 Hard Copy or Microfilm held in IIT Archives

4.2.1 Boulder Canyon Project

DOC.I27.21

A Government Printing Office report on the project, this is held in Galvin's non-circulating stacks.

4.2.2 Expansion of Boulder Canyon project and facilitation of incorporation

CIS 74 S441-63

This is a Senate proceeding, with similar utility to the House proceeding listed above.

4.2.3 Specifications, schedule, and drawings. Hoover Dam

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The final reports tell the end result of the project, polished and stitched into a cohesive narrative. This collection contains the engineering material generated by the design team. By tracing design revisions back to hearings in congress and other external events, we can see the effect of politics.