

CHIMNEY HOLLOW RESERVOIR PROJECT

Construction Overview

January 8, 2020



Project Goals

Introduction

Procurement

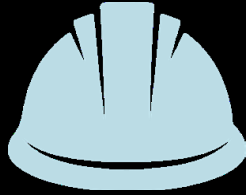
Scope of Work

Pricing

Schedule

Subcontractors

Best Practices



Safety

Zero Accidents



Quality

Focus on Dam Safety



Project Delivery

Cost & Schedule Certainty



Transparency

No Surprises



Environmental

Compliance

Proactive Construction



Collaboration

Share Stakeholder Interests

Best-Value Selection

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Prequalification

- ❑ Corporate Experience
- ❑ Safety Record
- ❑ Financial Strength

Request for Proposals

- ❑ Technical Proposals
- ❑ Interviews
- ❑ Price Proposals

“Selection and award based on the Proposer demonstrating the best value and lowest risk to the Enterprise”

Best-Value Selection

“Selection and award based on the Proposer demonstrating the best value and lowest risk to the Enterprise”

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BARNARD

People building for People.

Administrative Notice to Proceed

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Best Practices

- Construction Permits
- 3rd Party Agreements
- Value Engineering
- Formal Partnering
- Stakeholder Meetings
- Risk Workshop
- PFMA Workshop
- Document Management
- Onsite Testing
- Construction Submittals

Validate our assumptions and risk management.

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Construction – Quarry

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Construction – Main Dam

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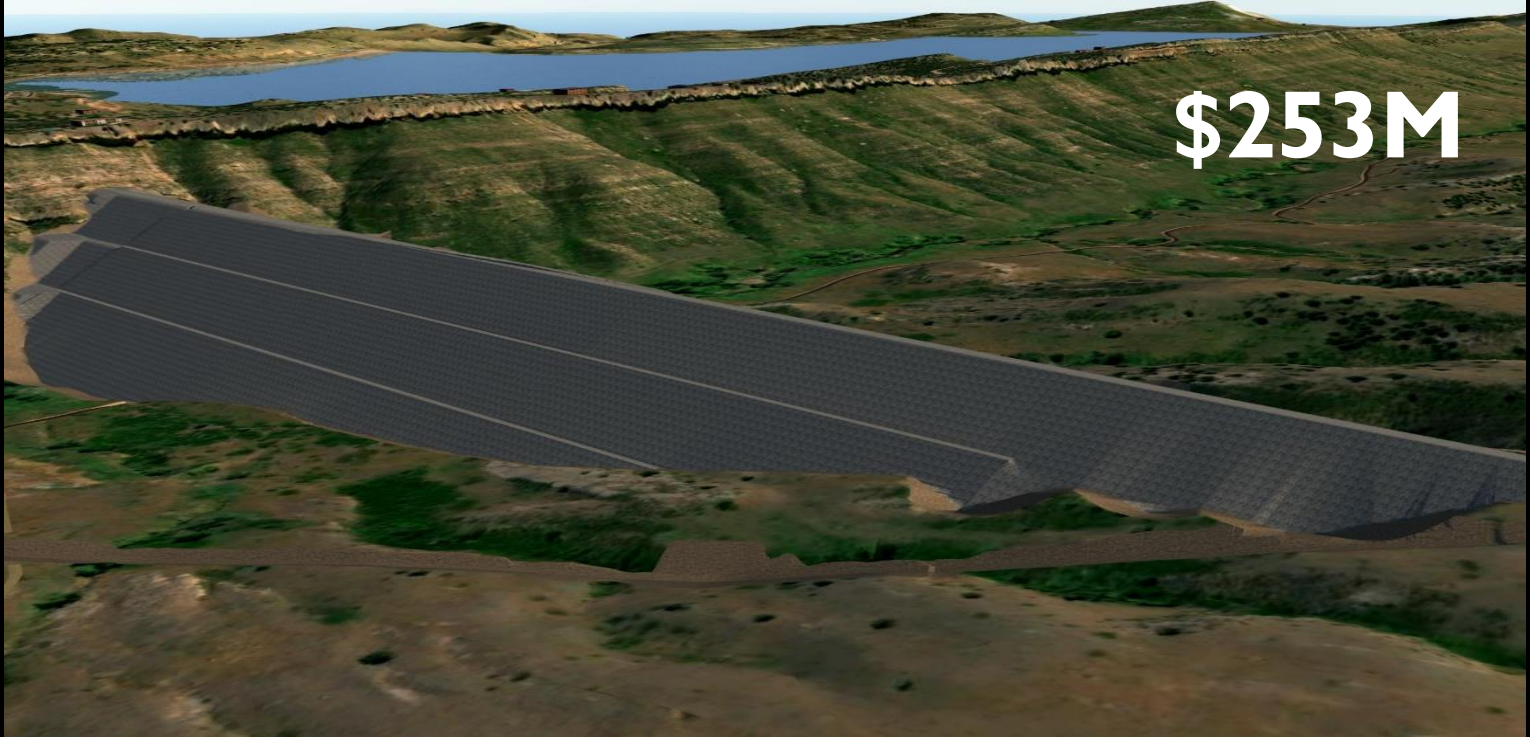
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\$253M



Construction – Main Dam

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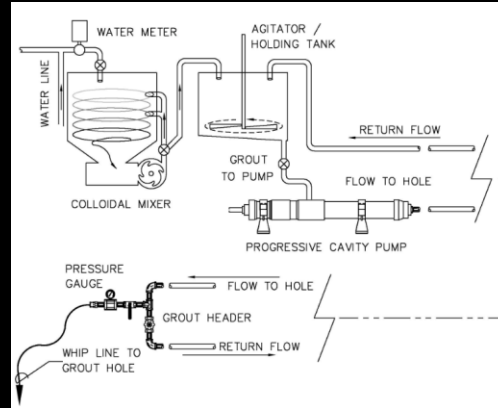
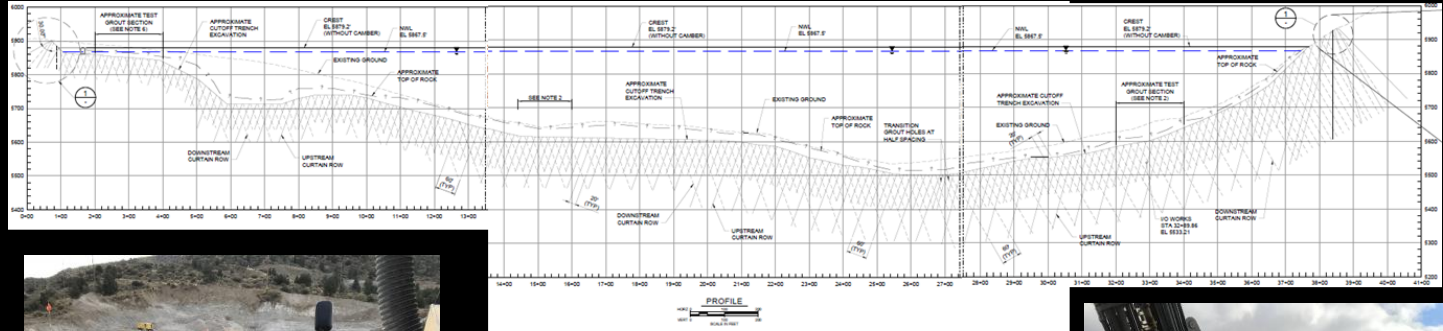
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Best Practices



Construction – Main Dam

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Construction – Conveyance & Valve House

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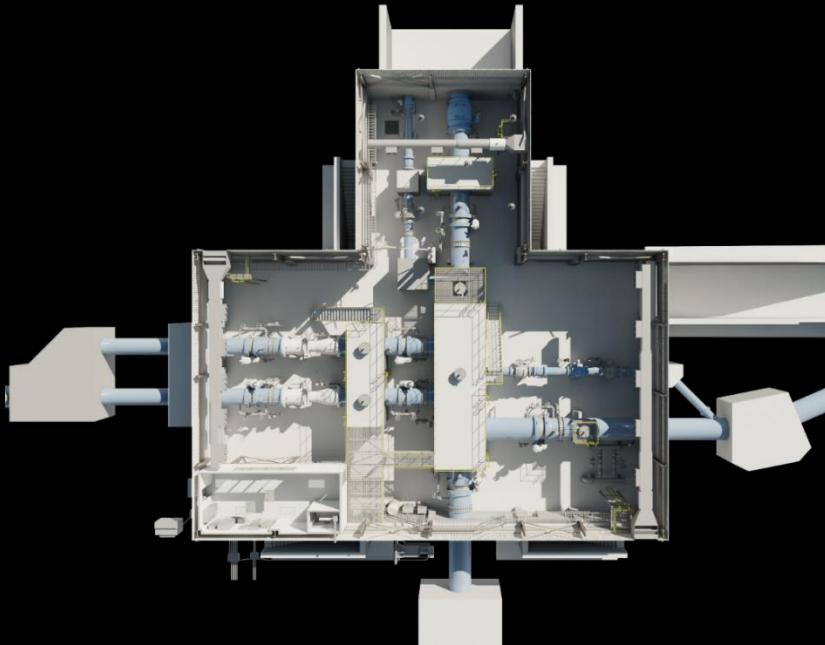
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\$77M

Construction – Conveyance & Valve House

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Construction – Tunnel and Outlet Works

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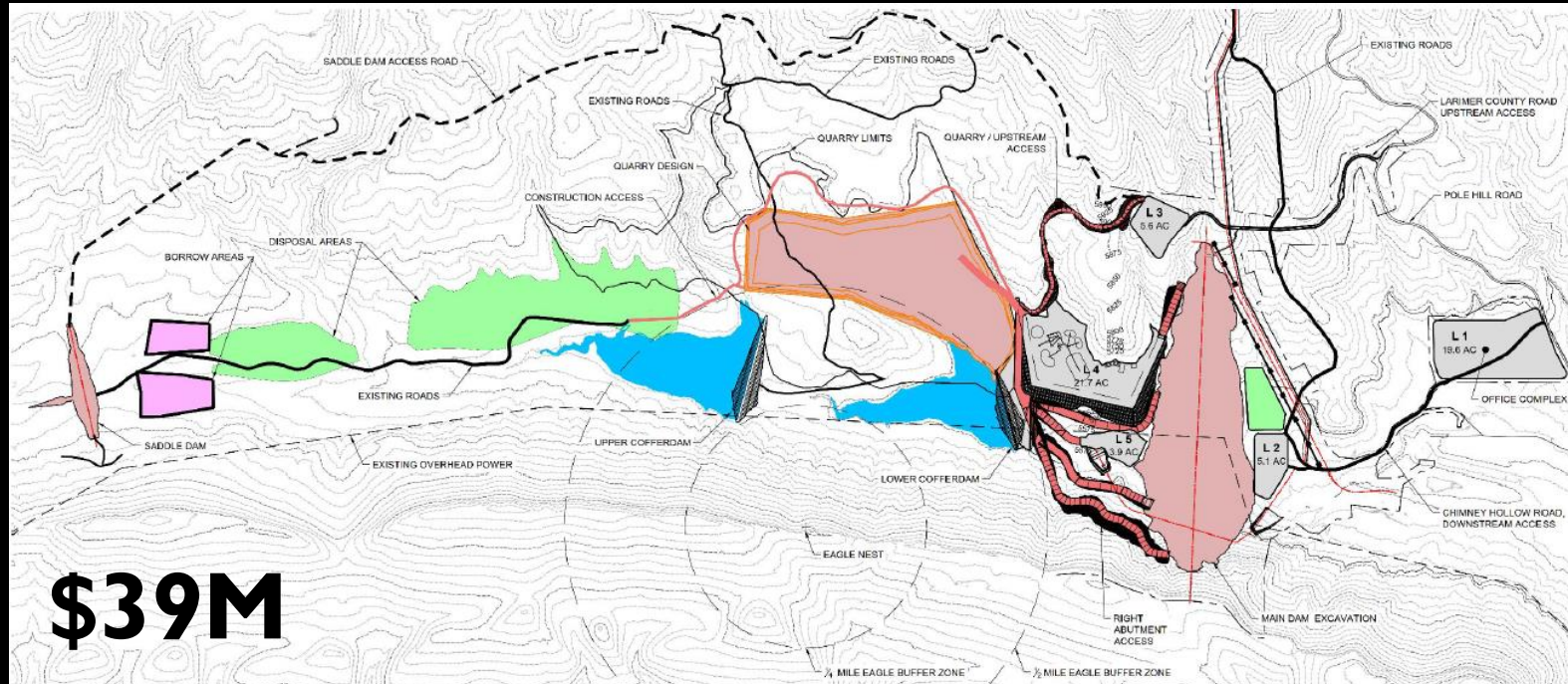
Best Practices



\$52M

Construction – General Bid Items

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Construction – Spillway

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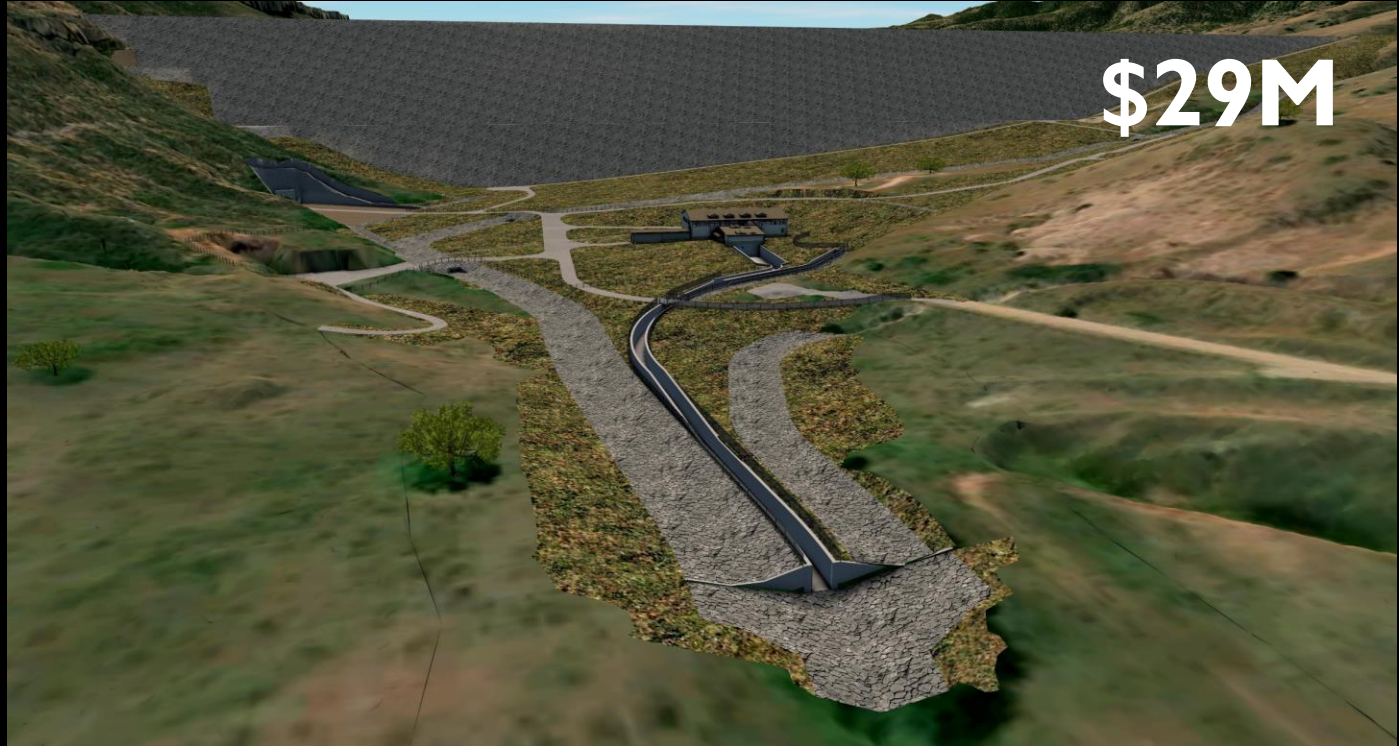
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\$29M



Construction – Access Roads

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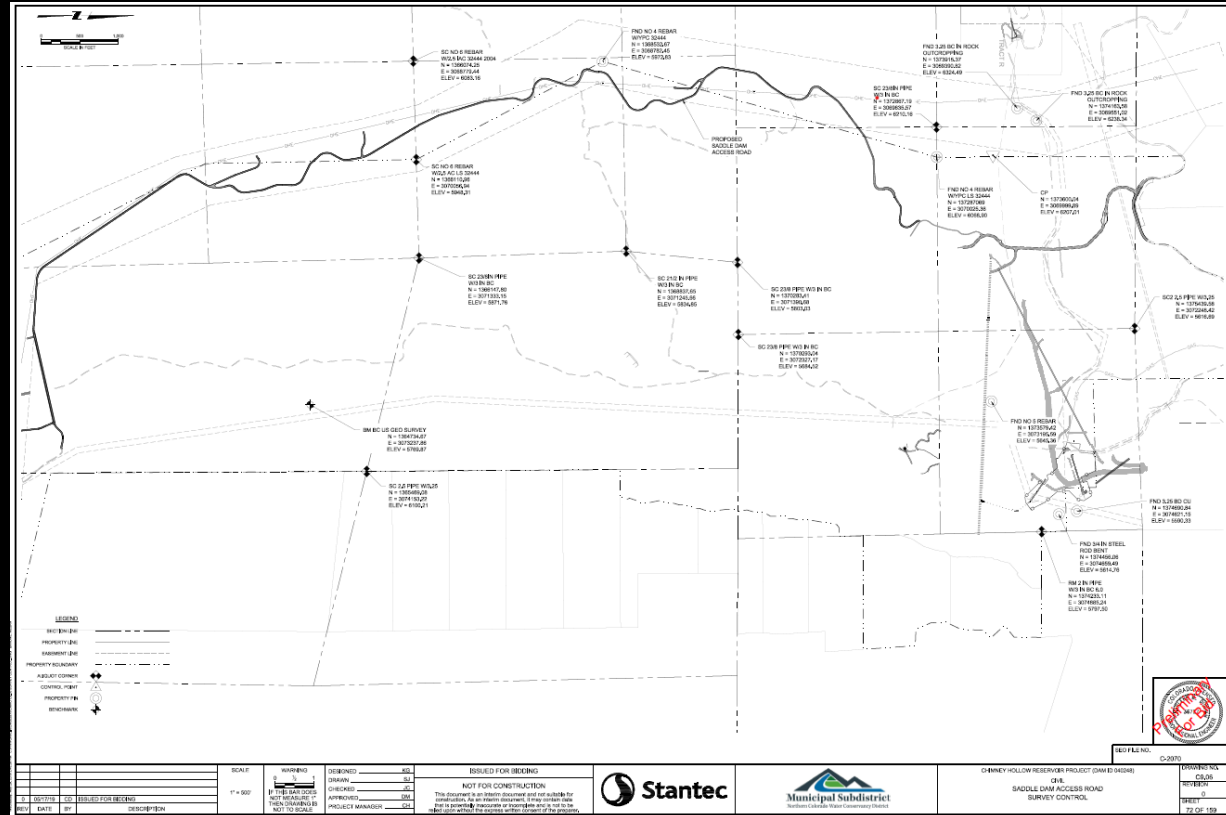
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Construction – Access Roads

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Construction – Saddle Dam

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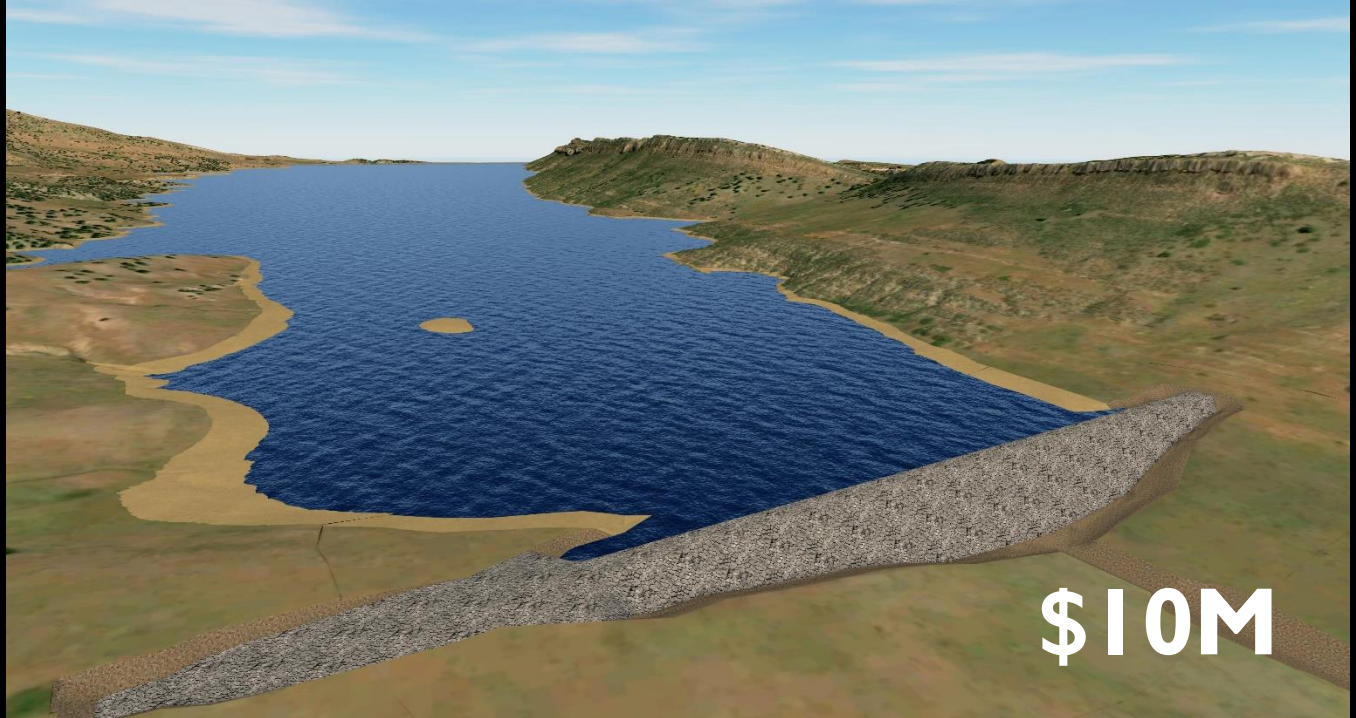
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\$10M

Price Proposal

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Bid Category	Barnard Price Proposal
Main Dam	\$ 253,182,730
Conveyance / Valve House	\$ 77,431,652
Tunnel / Outlet Works	\$ 51,528,623
General Bid Items	\$ 38,652,750
Spillway	\$ 29,095,180
Access Roads	\$ 15,799,770
Saddle Dam	\$ 9,849,945
Optional Items	\$ 5,900,000
Additional Services / Startup	\$ 3,925,000
Total	\$485,365,000

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	2020				2021				2022				2023			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Pre-Construction Services																
Main Dam (Critical)																
Excavation																
Foundation Prep/Plinth																
Drilling and Grouting																
Embankment																
Access Roads																
Larimar County Access Rd																
Saddle Dam Access Rd																
Saddle Dam																
I/O Works																
Portals																
Tunnel																
I/O Tower																
Piping and Mechanical																
Conduit																
Chimney Hollow Conduit																
Carter Lake Conduit																
I/O Conduit																
Interconnections																
Spillway																
Valve House																
Substantial Completion																

Major Subcontractors

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BARNARD



Hydraulic Asphalt Core



NICHOLSON

Foundation Grouting



Conveyance

Formal Partnering

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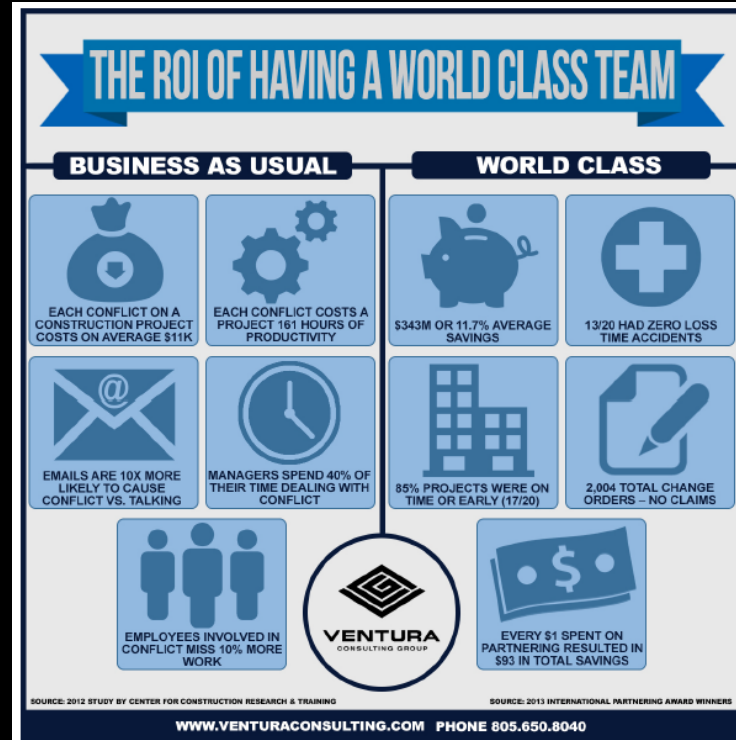
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Subcontractors

Best Practices

Establish cooperation for betterment of the Project, issue resolution and avoidance of disputes.

- identifying common, Project focused, goals
- establish a dispute escalation process
- align communication across teams.



Dispute & Resolution Board Agreement

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Best Practices

- Establish DRB of industry experts.
- Either party may request a formal hearing before the DRB.
 - DRB board issues a non-binding decision;
 - Decisions can be entered as evidence if the DRB hearing is unsuccessful in resolving the dispute;
 - Across the industry, DRB boards are very effective in leading to negotiated resolution of disputes and avoiding litigation.

Questions?

