

Independent Cost Estimate

ISOLATED CONVEYANCE FACILITIES - EAST and ALL TUNNEL OPTIONS

Submitted to:

The Delta Habitat Conservation and Conveyance Program



Presented to:

BDCP Steering Committee



February 11, 2010 - Sacramento, California

5RMK SCOPE –

- ❖ Fully Independent Cost Estimate for the Isolated Conveyance Facility (All Tunnel and East Options)
 - Estimate Quality – Class 3 as defined by the Association for the Advancement of Cost Estimating International Practices
 - Estimate based on 10% design – Utilizing deterministic and stochastic estimating methods
- ❖ Level 2 Construction Schedule
 - One for each option
 - 100 to 250 activities
- ❖ Check & Revise Client Provided Quantities (if required)
- ❖ Presentation of Estimate
- ❖ Final Report

BASIS OF ESTIMATE

- ❖ Documents – Draft Conceptual Engineering Reports
- ❖ Data Received in January 4th Kick-off Meeting:
 - Quantity take-off prepared by DHCCP
 - Estimated cost for – bridges, utility relocations, instruments and controls
 - All available geotechnical information
 - System maps delineating possible borrow areas
 - Final Conceptual Engineering Report – East Option
- ❖ Pricing
 - **Labor** – prevailing wages as published by the California State Dept of Industrial Relations
 - **Equipment** – ownership and operating cost as published by the US Army Corps Engineers
 - **Major Materials** – based on budgetary quotes received from US vendors
 - Estimating Software – SharpeSoft / Heavy Bid

3. Facility Cost & Comparison to DHCCP Estimate

Facility Focus

- ❖ Canal
- ❖ Pipelines
- ❖ Siphons
- ❖ Tunnels

3. Facility Cost & Comparison to DHCCP Estimate

Facility Focus – Canal Cost (\$s in 1000s)

Major Item	* 5RMK Estimate	DHCCP Estimate	Variance
Excavation	688,542	876,725	-188,183
Haul Road	143,670	7,813	135,857
Slurry Cut Off	58,971	100,000	-41,029
Toe Roads	85,378	35,818	49,560
Clear & Grub	6,109	57,291	-51,182
All Other Items	<u>164,319</u>	<u>160,275</u>	<u>4,044</u>
TOTAL	1,146,989	1,237,922	-90,933

* 5RMK numbers include field overhead and mark-up

3. Cost Total & Comparison to DHCCP Estimate

Facility Focus - Pipeline Costs (\$s in 1,000s)

Major Item	5RMK Estimate	DHCCP Estimate	Variance
Dewatering	24,350	9,575	14,475
Excavation	22,348	24,977	-2,629
Pipe Procurement	283,882	120,212	163,670
Place & Bed Pipe	42,698	28,101	14,597
Pipe Backfill	128,605	102,352	26,253
Pumping Plant Transition	68,128	59,323	8,805
Pipeline to Canal Transition	<u>86,019</u>	<u>46,955</u>	<u>39,064</u>
TOTAL	656,029	391,495	264,534

3. Facility Cost & Comparison to DHCCP Estimate

Facility Focus - Siphons Costs (\$s in 1,000s)

Major Item	5RMK Estimate	DHCCP Estimate	Variance
U/S & D/S Transitions	154,816	67,416	87,400
Box Culvert Section	589,742	818,377	-228,635
Overall TOTAL (Columns do not Total)	913,610	1,072,110	-158,500

3. Facility Cost & Comparison to DHCCP Estimate

Facility Focus – Tunnel 3 Costs (\$s in 1,000s)

Major Item	5RMK Estimate	DHCCP Estimate	Variance
Labor	1,022,900	637,000	385,900
Small Tools & Supplies	102,300	15,900	86,400
50% Markup Labor	511,500	276,600	234,900
Jet Grout at Safe Havens & Int. Shafts	69,300	0	69,300
Main Line Power Supply to Contractors	60,000	0	60,000
Mobilization w/o P&E or Roads & Pads	71,200	0	71,200
Plant & Equipment	614,600	530,700	83,900
Bond	100,600	24,300	76,300
Power Consumption	<u>284,000</u>	<u>29,400</u>	<u>254,600</u>
TOTAL EST & VARIANCE (Columns do not total)	5,029,700	3,731,100	1,298,600

4. Cost Variances – 5RMK to DHCCP Estimate

Facility Focus – Summary of Major Facility Variances (\$s in 1,000s)

Facility	5RMK Estimate	DHCCP Estimate	Variance
Canal	1,146,989	1,237,922	-90,933
Pipelines	656,029	391,495	264,534
Siphons	913,610	1,072,110	-158,500
Tunnels	<u>5,029,700</u>	<u>3,731,100</u>	<u>1,298,600</u>

4. Cost Variances – 5RMK to DHCCP Estimate

Estimate Summary (\$s in 1,000s)

	All Tunnel Option	ICF East
Direct Cost Items	7,507,000	5,191,000
Tunnel Contingency	1,989,000	286,000
All Other Contingency	456,000	1,093,000
Estimated Construction Cost	9,952,000	6,571,000
PM / CM / Final Design	1,791,000	1,183,000
Estimated Cost	11,744,000	7,753,000
DHCCP Estimates	\$9.7B - \$10.5B	\$7.9B to \$8.5B
Delta	<\$1.2 B>	<\$0.2B>



5RMK Inc. 720 W. Idaho Str. - Suite 44 Boise, Idaho 83702

P.O. Box 140017 Boise, Idaho 83714

www.5RMK.com

Email - i5RMK@aol.com