

**Instructions:**

General notes: **Blue** text indicates items to be populated by the user.  
**Black** text indicates items not to be altered by the user.

**Input & Results Worksheet:**

1. Per ER 1110-1-1300, 26 Mar 93, Section 9.d.(3): "...The cost engineer has the responsibility for application of contingencies to properly weight the uncertainties associated with each major construction cost item or feature in coordination with input with other members of the project development team." Therefore, the cost engineer shall be responsible for developing this worksheet.
2. Enter the **Project Name** in cell C2.
3. Select the **Project Development Stage** in cell C3.
4. Select the **Risk Category** in cell C4.  
**Low Risk:** Simple-No life safety  
**Moderate Risk:** Typical-Possible life safety  
**High Risk:** Complex-Life safety
5. Enter the **Total Construction Contract Cost** in cell D6. Note this does not include 01 Lands and Damages, 30 Planning, Engineering and Design or 31 Construction Management.
6. Create the **Feature of Work** list based on appropriately selected items from the estimate's Work Breakdown Structure (WBS). Note the 01 Lands and Damages cost and contingency shall be provided by Real Estate. Item 12 (Remaining Items) in the list accounts for all WBS items not specifically selected for analysis. This value is calculated automatically. Items 12, 13 and 14 are constants and are not to be modified.
7. Select the appropriate **CWWBS** number and description from the pull down menu in column B. Note that there is no pull down tab for the Remaining Items since it likely includes items from multiple CWWBS items. Note that Planning, Engineering, & Design and Construction Management can not be changed.
8. Enter the corresponding **Contract Cost** for the **Feature of Work** Items.

**PDT Involvement Worksheet:**

1. Fill in the appropriate team members names and office. The list is an example and is subject to change per project.
2. Input meeting date.

**Risk Register Worksheet:**

The Risk Register lists each Risk Element in the blue row. Each **Feature of Work** will be listed for each Risk Element in column B:D. A number in column A is designated to reflect each **Risk Element**.

1. Select the Concerns for each **Feature of Work** for each Risk Element from the pull down menu in column E.
2. Enter the PDT Discussions & Conclusions for each **Feature of Work** for each Risk Element in column M:Q.
3. Select the **Likelihood** from the pull down menu in column R:S.
4. Select the **Impact** for the pull down menu in column U:V.

**WBS Risk Matrix Worksheet:**

No action is needed on this worksheet. All values self-populate. The WBS Risk Matrix serves as a summary.

**CWWBS Worksheet:**

This worksheet is for reference only.

**Input & Results Worksheet:**

1. Return to this worksheet to see the calculated results.  
No other input is needed on this sheet. All calculations occur from input values from other worksheets.
2. The **Total Weighted Construction Contingency** will be located in cell F28. This is the value to apply to the entire Construction Contract Cost.
3. The contingency rates for the 30 and 31 accounts are located in cell F29 and F30 respectively.

# Abbreviated Risk Analysis

## Pomeroy, OH - Section 14 Feasibility (Recommended Plan)

Meeting Date: 7-May-14

### PDT Members

Note: PDT involvement is commensurate with project size and involvement.

Project Management:	Kevin Nelson
Planner:	Megan Wilburn
Study Manager:	NAME
Contracting:	NAME
Real Estate:	Elizabeth Cooper
Relocations:	NAME
OTHER:	NAME
Engineering & Design:	NAME
Technical Lead:	Rebecca Bennett
Geotech:	Andrew Keffer
H&H	NAME
Civil:	NAME
Structural:	NAME
Mechanical:	NAME
Electrical:	NAME
Cost Engineering:	Thomas Rice
Construction:	NAME
Operations:	NAME
Environmental:	NAME
VE	NAME
DOT & PF Sponsor	NAME
DOT & PF Sponsor	NAME
OTHER:	NAME

	<u>Term</u>	<u>Definition</u>
Terminology	Risk Analysis ER 1110-2-1302, 15 Sep 08, page 19	<p>a. Cost risk analysis is the process of identifying and measuring the cost impact of project uncertainties on the estimated TPC. It shall be accomplished as a joint analysis between the cost engineer and the designers or appropriate PDT members that have specific knowledge and expertise on all possible project risks.</p> <p>(1) PDTs are required to prepare a formal cost risk analysis for all decision documents requiring Congressional authorization for projects exceeding \$40 million (TPC)(see appendix B). Where cost risk analysis is required, it is anticipated that the cost risk analysis will be performed once the recommended plan is identified prior to the alternative formulation briefing milestone.</p>
	Typical Risk Elements	Factors that can introduce risk to items listed in the Selected Work Breakdown Structure Items. The ones listed are the most typical for Civil Works Projects. These Risk Elements should be reviewed and established for each project.
	Potential Risk Areas	<p>These are items from the estimate's Work Breakdown Structure, either broad or detailed, that are believed to contain some risk.</p> <p>The cost estimator defines the Work Breakdown Structure. It is recommended that the PDT select the appropriate Selected Work Breakdown Structure Items and considers all Features.</p> <p>Focus should be placed on the items with the significant risks. Appropriately identifying the Selected Work Breakdown Structure Items will lead to a more confident development of contingency.</p>

	<u>Risk Element</u>	<u>Typical Concerns</u>	Max Potential Cost Growth
Typical Risk Elements	Project Scope Growth	<ul style="list-style-type: none"> <li>• Potential for scope growth, added features and quantities?</li> <li>• Project accomplish intent?</li> <li>• Investigations sufficient to support design assumptions?</li> <li>• Design confidence?</li> <li>• Water care and diversion fully understood, planned?</li> </ul>	40%
	Acquisition Strategy	<ul style="list-style-type: none"> <li>• Contracting plan firmly established?</li> <li>• 8a or small business likely?</li> <li>• Requirement for subcontracting?</li> <li>• Accelerated schedule or harsh weather schedule?</li> <li>• High-risk acquisition limits competition, design/build?</li> <li>• Limited bid competition anticipated?</li> <li>• Bid schedule developed to reduce quantity risks?</li> </ul>	30%
	Construction Elements	<ul style="list-style-type: none"> <li>• Accelerated schedule or harsh weather schedule?</li> <li>• High risk or complex construction elements, site access, in-water?</li> <li>• Water care and diversion plan?</li> <li>• Unique construction methods?</li> <li>• Special mobilization?</li> <li>• Special equipment or subcontractors needed?</li> <li>• Potential for construction modification and claims?</li> </ul>	15%
	Quantities for Current Scope	<ul style="list-style-type: none"> <li>• Level of confidence based on design and assumptions?</li> <li>• Possibility for increased quantities due to loss, waste, or subsidence?</li> <li>• Appropriate methods applied to calculate quantities?</li> <li>• Sufficient investigations to develop quantities?</li> <li>• Quality control check applied?</li> </ul>	20%
	Specialty Fabrication or Equipment	<ul style="list-style-type: none"> <li>• Unusual parts, material or equipment manufactured or installed?</li> <li>• Confidence in suppliers' ability?</li> <li>• Confidence in contractor's ability to install?</li> <li>• Ability to reasonably transport?</li> <li>• Risk of specialty equipment functioning first time? Test?</li> </ul>	50%
	Cost Estimate Assumptions	<ul style="list-style-type: none"> <li>• Reliability and number of key quotes?</li> <li>• Assumptions related to prime and subcontractor markups/assignments?</li> <li>• Assumptions regarding crew, productivity, overtime?</li> <li>• Site accessibility, transport delays, congestion?</li> <li>• Overuse of Cost Book, lump sum, allowances?</li> <li>• Lack confidence on critical cost items?</li> </ul>	25%
	External Project Risks	<ul style="list-style-type: none"> <li>• Potential for severe adverse weather?</li> <li>• Political influences, lack of support, obstacles?</li> <li>• Unanticipated inflations in fuel, key materials?</li> <li>• Potential for market volatility impacting competition, pricing?</li> </ul>	20%

**Abbreviated Risk Analysis**

Project (less than \$40M): **Pomeroy, OH - Section 14**  
 Project Development Stage/Alternative: **Feasibility (Recommended Plan)**  
 Risk Category: **Low Risk: Typical Construction, Simple**

Alternative: **Recommended Plan**

Meeting Date: **3/9/2016**

Total Estimated Construction Contract Cost = \$ **1,153,206**

	CWWBS	Feature of Work	Contract Cost	% Contingency	\$ Contingency	Total
	01 LANDS AND DAMAGES	Real Estate	\$ 21,700	5.00%	\$ 1,085	\$ 22,785
1	16 BANK STABILIZATION	General Conditions	\$ 108,274	17.93%	\$ 19,409	\$ 127,683
2	16 BANK STABILIZATION	Riprap	\$ 918,023	30.27%	\$ 277,858	\$ 1,195,881
3	16 BANK STABILIZATION	Excavation, Culverts, Erosion Control	\$ 93,754	17.93%	\$ 16,807	\$ 110,561
4	18 CULTURAL RESOURCE PRESERVATION	Mitigation for Historic Sandstone Wall	\$ 33,154	6.97%	\$ 2,312	\$ 35,466
5			\$ -	0.00%	\$ -	\$ -
6			\$ -	0.00%	\$ -	\$ -
7			\$ -	0.00%	\$ -	\$ -
8			\$ -	0.00%	\$ -	\$ -
9			\$ -	0.00%	\$ -	\$ -
10			\$ -	0.00%	\$ -	\$ -
11			\$ -	0.00%	\$ -	\$ -
12	All Other	Remaining Construction Items	\$ 0	0.0%	\$ -	\$ 0
13	30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	\$ 172,981	7.09%	\$ 12,267	\$ 185,247
14	31 CONSTRUCTION MANAGEMENT	Construction Management	\$ 86,490	7.09%	\$ 6,133	\$ 92,624
XX	FIXED DOLLAR RISK ADD (EQUALLY DISPERSED TO ALL, MUST INCLUDE JUSTIFICATION SEE BELOW)				\$ -	

Totals								
	Real Estate	\$	21,700	5.00%	\$	1,085	\$	22,785.00
	Total Construction Estimate	\$	1,153,206	27.44%	\$	316,386	\$	1,469,592
	Total Planning, Engineering & Design	\$	172,981	7.09%	\$	12,267	\$	185,247
	Total Construction Management	\$	86,490	7.09%	\$	6,133	\$	92,624
Total		\$	1,434,377	23%	\$	335,871	\$	1,770,248
					<b>Base</b>	<b>50%</b>	<b>80%</b>	
			<b>Range Estimate (\$000's)</b>		\$1,434k	\$1,636k	\$1,770k	

\* 50% based on base is at 5% CL

**Fixed Dollar Risk Add:** (Allows for additional risk to be added to the risk analysis. Must include justification. Does not allocate to Real Estate.

## Pull Down Menus

WBS Item		
General Conditions	\$	108,274
Riprap	\$	918,023
Excavation, Culverts, Erosion Control	\$	93,754
Mitigation for Historic Sandstone Wall	\$	33,154
	0 \$	-
	0 \$	-
	0 \$	-
	0 \$	-
	0 \$	-
	0 \$	-
	0 \$	-
Remaining Construction Items	\$	0
Planning, Engineering, & Design	\$	172,981
Construction Management	\$	86,490

Alternative Formulation	10	Feasibility (Recommended Plan)	Low Risk: Typical Construction, Simple
Feasibility (Alternatives)	7		Moderate Risk: Typical Project Construction Type
Feasibility (Recommended Plan)	5		High Risk: Complex Project or Unique Type Construction
PED 60%	4		
PED 90%	3		
Construction Period	2		

View  
Yes  
No

Likelihood  
Very LIKELY  
Likely  
Possible  
Unlikely

Impact  
Negligible  
Marginal  
Moderate  
Significant  
Critical

Risk Element	Low Risk: Simple Project-No Life Safety	Moderate Risk: Typical Project or Possible Life Safety	High Risk: Complex Project or Life Safety
Project Scope Growth	40%	75%	200%
Acquisition Strategy	30%	30%	30%
Construction Elements	15%	25%	50%
Quantities for Current Scope	20%	20%	40%
Specialty Fabrication or Equipment	50%	75%	75%
Cost Estimate Assumptions	25%	35%	45%
External Project Risks	20%	40%	60%
	200%	300%	500%

Risk Level					
Very Likely	2	3	4	5	5
	1	2	3	4	5
Possible	0	1	2	3	4
	0	0	1	2	3
Unlikely					
	Negligible	Marginal	Moderate	Significant	Critical

Very Likely	2	3	4	5	5
Likely	1	2	3	4	5
Possible	0	1	2	3	4
Unlikely	0	0	1	2	3
	Negligible	Marginal	Moderate	Significant	Critical

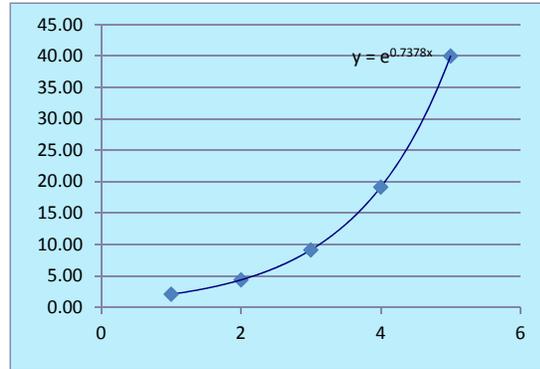


Pomeroy, OH - Section 14 Recommended Plan  
 Feasibility (Recommended Plan)  
 Abbreviated Risk Analysis

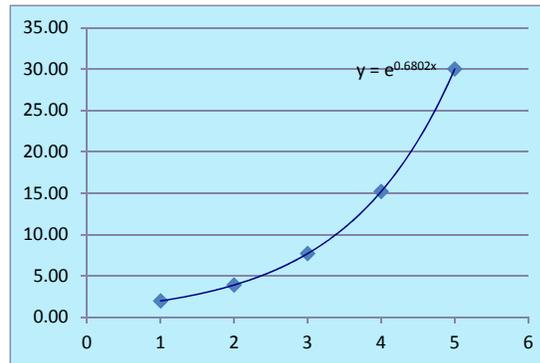
**Risk Evaluation**

<u>WBS</u>	<u>Potential Risk Areas</u>	Project Scope Growth	Acquisition Strategy	Construction Elements	Quantities for Current Scope	Specialty Fabrication or Equipment	Cost Estimate Assumptions	External Project Risks	Cost in Thousands
01 LANDS AND DAMAGES	Real Estate								\$21,700
16 BANK STABILIZATION	General Conditions	1	2	1	2	0	1	0	\$108
16 BANK STABILIZATION	Riprap	2	3	1	3	0	2	1	\$918
16 BANK STABILIZATION	Excavation, Culverts, Erosion Control	1	2	1	2	0	1	0	\$94
18 CULTURAL RESOURCE PRESERVATION	Mitigation for Historic Sandstone Wall	0	1	0	0	0	0	0	\$33
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
0	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
All Other	Remaining Construction Items	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$0
30 PLANNING, ENGINEERING, AND DESIGN	Planning, Engineering, & Design	1	0	0	0	0	0	0	\$173
31 CONSTRUCTION MANAGEMENT	Construction Management	1	0	0	0	0	0	0	\$86
									<b>\$1,413</b>
<b>Risk</b>		\$ 50	\$ 79	\$ 90	\$ 62	\$ -	\$ 37	\$ 17	<b>\$335</b>
<b>Fixed Dollar Risk Allocation</b>		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	<b>\$0</b>
	Risk	\$ 50	\$ 79	\$ 90	\$ 62	\$ -	\$ 37	\$ 17	<b>\$335</b>
<b>Total</b>									<b>\$1,747</b>

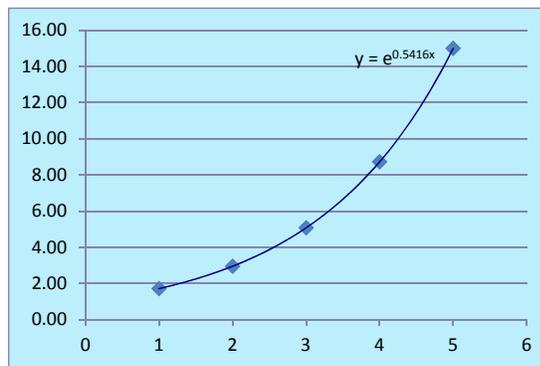
<b>Project Scope Growth</b>	Max Potential Cost Growth	40 %	
	x	y	
	0	0	0.00%
	1	2.09	2.09%
	2	4.37	4.37%
	3	9.15	9.15%
	4	19.13	19.13%
	5	40.00	40.00%
	y	=	a^x
	a	=	y^(1/x)
a	=	2.091279	



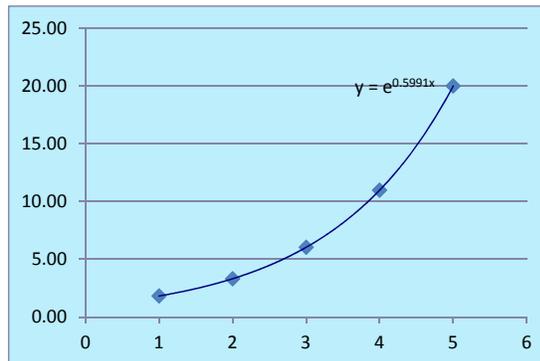
<b>Acquisition Strategy</b>	Max Potential Cost Growth	30 %	
	x	y	
	0	0	0.00%
	1	1.97	1.97%
	2	3.90	3.90%
	3	7.70	7.70%
	4	15.19	15.19%
	5	30.00	30.00%
	y	=	a^x
	a	=	y^(1/x)
a	=	1.97435	



<b>Construction Elements</b>	Max Potential Cost Growth	15 %	
	x	y	
	0	5	5.00%
	1	1.72	6.72%
	2	2.95	7.95%
	3	5.08	10.08%
	4	8.73	13.73%
	5	15.00	20.00%
	y	=	a^x
	a	=	y^(1/x)
a	=	1.718772	



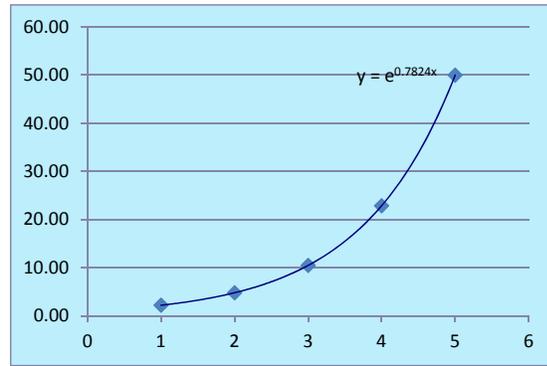
<b>Quantities</b>	Max Potential Cost Growth	20 %	
	x	y	
	0	0	0.00%
	1	1.82	1.82%
	2	3.31	3.31%
	3	6.03	6.03%
	4	10.99	10.99%
	5	20.00	20.00%
	y	=	a^x
	a	=	y^(1/x)
a	=	1.820564	



Max Potential Cost Growth		
50 %		
x	y	a^x
0	0	0.00%
1	2.19	2.19%
2	4.78	4.78%
3	10.46	10.46%
4	22.87	22.87%
5	50.00	50.00%

y	=	a^x
a	=	y^(1/x)
a	=	2.186724

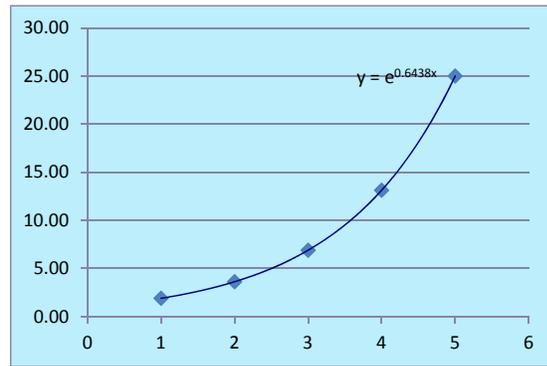


Max Potential Cost Growth		
25 %		
x	y	a^x
0	0	0.00%
1	1.90	1.90%
2	3.62	3.62%
3	6.90	6.90%
4	13.13	13.13%
5	25.00	25.00%

y	=	a^x
a	=	y^(1/x)
a	=	1.903654

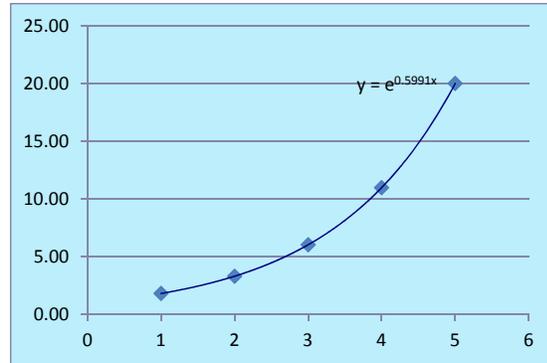
95



Max Potential Cost Growth		
20 %		
x	y	a^x
0	0	0.00%
1	1.82	1.82%
2	3.31	3.31%
3	6.03	6.03%
4	10.99	10.99%
5	20.00	20.00%

y	=	a^x
a	=	y^(1/x)
a	=	1.820564



**Pomeroy, OH - Section 14**  
**Feasibility (Recommended Plan)**  
**Abbreviated Risk Analysis**

	<u>Project Scope Growth</u>		<u>Acquisition Strategy</u>		<u>Construction Elements</u>		<u>Quantities for Current Scope</u>		<u>Specialty Fabrication or Equipment</u>		<u>Cost Estimate Assumptions</u>		<u>External Project Risks</u>		<u>Σ</u>	<u>Σ of \$</u>
	40%		30%		15%		20%		50%		25%		20%	200%		
General Conditions	2.09%	\$ 2,264	3.90%	\$ 4,221	6.72%	\$ 7,275	3.31%	\$ 3,589	0.00%	\$ -	1.90%	\$ 2,061	0.00%	\$ -		\$ 19,409
Riprap	4.37%	\$ 40,149	7.70%	\$ 70,652	6.72%	\$ 61,680	6.03%	\$ 55,395	0.00%	\$ -	3.62%	\$ 33,268	1.82%	\$ 16,713		\$ 277,858
Excavation, Culverts, Erosion Control	2.09%	\$ 1,961	3.90%	\$ 3,655	6.72%	\$ 6,299	3.31%	\$ 3,107	0.00%	\$ -	1.90%	\$ 1,785	0.00%	\$ -		\$ 16,807
Mitigation for Historic Sandstone Wall	0.00%	\$ -	1.97%	\$ 655	5.00%	\$ 1,658	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -		\$ 2,312
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
0	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
Remaining Construction Items	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -	FALSE	\$ -		\$ -
Planning, Engineering, & Design	2.09%	\$ 3,618	0.00%	\$ -	5.00%	\$ 8,649	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -		\$ 12,267
Construction Management	2.09%	\$ 1,809	0.00%	\$ -	5.00%	\$ 4,325	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -	0.00%	\$ -		\$ 6,133
		\$ 49,800.50		\$ 79,182.06		\$ 89,884.95		\$ 62,091.26		\$ -		\$ 37,114.14		\$ 16,713.20		\$ 334,786.11
		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52		\$ 1,153,205.52
		4.32%		6.87%		7.79%		5.38%		0.00%		3.22%		1.45%	29.03%	27.44% Check

**Civil Works Work Breakdown Structure**

(CWWBS)

Reference ETL 110-2-573 03 Sep 08, Table 2-1.

**01 LANDS AND DAMAGES**

- 01 18 GENERAL REVALUATION REPORT (GRR)
- 01 19 LIMITED REVALUATION REPORT (LRR)
- 01 20 PROJECT DESIGN MEMORANDUM
- 01 21 FEATURE DESIGN MEMORANDUM
- 01 23 CONSTRUCTION CONTRACT(S) DOCUMENTS

**02 RELOCATIONS**

- 02 01 ROADS, Construction Activities
- 02 02 RAILROADS, Construction Activities
- 02 03 CEMETERIES, UTILITIES, AND STRUCTURES, Construction Activities

**03 RESERVOIRS**

**04 DAMS**

- 04 01 MAIN DAM
- 04 02 SPILLWAY
- 04 03 OUTLET WORKS
- 04 04 POWER INTAKE WORKS
- 04 05 AUXILIARY DAMS
- 04 06 MUNICIPAL AND INDUSTRIAL WATER DELIVERY FACILITIES

**05 LOCKS**

**06 FISH AND WILDLIFE FACILITIES**

- 06 01 FISH FACILITIES AT DAMS
- 06 02 FISH HATCHERY, (Including Trapping and Release Facilities)
- 06 03 WILDLIFE FACILITIES AND SANCTUARIES

**07 POWER PLANT**

- 07 01 POWERHOUSE
- 07 02 TURBINES AND GENERATORS
- 07 03 ACCESSORY ELECTRICAL EQUIPMENT
- 07 04 MISCELLANEOUS POWER PLANT EQUIPMENT
- 07 05 TAILRACE
- 07 06 SWITCHYARD

**08 ROADS, RAILROADS, AND BRIDGES**

- 08 01 ROADS
- 08 02 RAILROADS

**09 CHANNELS AND CANALS (Except Navigation Ports and Harbors)**

- 09 01 CHANNELS
- 09 02 CANALS

**10 BREAKWATERS AND SEAWALLS**

**11 LEVEES AND FLOODWALLS**

- 11 01 LEVEES
- 11 02 FLOODWALLS

**12 NAVIGATION, PORTS AND HARBORS**

- 12 01 PORTS
- 12 02 HARBORS

**13 PUMPING PLANT**

**14 RECREATION FACILITIES**

**15 FLOODWAY CONTROL AND DIVERSION STRUCTURES**

**16 BANK STABILIZATION**

**17 BEACH REPLENISHMENT**

**18 CULTURAL RESOURCE PRESERVATION**

**19 BUILDINGS, GROUNDS, AND UTILITIES**

**20 PERMANENT OPERATING EQUIPMENT**

**30 PLANNING, ENGINEERING, AND DESIGN**

- 30 11 PROJECT COOPERATION AGREEMENT
- 30 12 PROJECT MANAGEMENT PLAN
- 30 18 GENERAL REEVALUATION REPORT (GRR)
- 30 19 LIMITED REEVALUATION REPORT (LRR)
- 30 20 PROJECT DESIGN MEMORANDUM
- 30 21 FEATURE DESIGN MEMORANDUM

30 23 CONSTRUCTION CONTRACT(S) DOCUMENTS  
30 24 VALUE ENGINEERING ANALYSIS DOCUMENTS  
30 25 PROJECT OR FUNCTIONAL ELEMENT CLOSEOUT  
30 26 PROGRAMS AND PROJECT MANAGEMENT DOCUMENTS

**31 CONSTRUCTION MANAGEMENT**

31 12 PROJECT MANAGEMENT PLAN  
31 23 CONSTRUCTION CONTRACT(S) DOCUMENTS  
31 26 PROGRAMS AND PROJECT MANAGEMENT DOCUMENTS

**32 HAZARDOUS AND TOXIC WASTE**

32 01 MOB, DEMOB & PREPARATORY WORK  
32 02 SYSTEMS STARTUP/OPERATIONS/MAINTENANCE  
32 03 INSTITUTIONAL ACTIONS  
32 04 SURFACE WATER CONTROL  
32 05 COLLECTION & INJECTION OF GROUND WATER  
32 06 COLLECTION & DISPOSAL OF WASTES  
32 07 CONTAIN & RESTORE CONTAMINATED GROUND WATER  
32 08 CONTAINMENT FOR WASTES  
32 10 TREAT-WASTES/CONTAMINATED SOIL & WATER  
32 11 AIR POLLUTION AND LANDFILL GAS CONTROL  
32 12 INNOVATIVE TECHNOLOGIES  
32 13 SUPPORTING FACILITIES  
32 14 PRIME CONTRACTOR'S INDIRECT COST