

PMGT 501 Bridge Reconstruction

Work Breakdown Structure (WBS)

1	Task Level 1 Name	2	Sub Task 2 Name	3	Sub Task 3 Name	4	Sub Task 4 Name	5	Sub Task 5 Name	6	Sub Task 6 Name
1	Project Capital Cost	1.1	Overhead	1.1.1	Site Indirect Costs						
				1.1.2	Head Office Overhead						
				1.1.3	Unallocated Costs						
				1.1.4	Bonding & Insurance						
		1.2	Construction	1.2.1	Facilities	1.2.1.1	Buildings				
						1.2.1.2	Building Services				
				1.2.2	Site Work	1.2.2.1	Existing Conditions	1.2.2.1.1	Bridge Demolition	1.2.2.1.1.1	Staging
										1.2.2.1.1.2	Communications Plan
										1.2.2.1.1.3	Weather Plan
										1.2.2.1.1.4	Traffic Detour Plan
										1.2.2.1.1.5	Detour Construction
										1.2.2.1.1.6	Traffic Signage
										1.2.2.1.1.7	Traffic Diversion
										1.2.2.1.1.8	Traffic Control
										1.2.2.1.1.9	Road Surface Protection
										1.2.2.1.1.10	Demolition
										1.2.2.1.1.11	Debris Removal
										1.2.2.1.1.12	Surface Cleaning
						1.2.2.2	Earthwork	1.2.2.2.1	Dewatering		
								1.2.2.2.2	Grading Earth		
								1.2.2.2.3	Earth Excavation		
								1.2.2.2.4	Embankment Construction		
								1.2.2.2.5	Erosion Control		
								1.2.2.2.6	Sub-grade Preparation		
								1.2.2.2.7	Structural Excavation		
								1.2.2.2.8	Structural Backfill		
								1.2.2.2.9	Rock Stabilization		
								1.2.2.2.10	Soil Stabilization		
								1.2.2.2.11	Rock Excavation		
								1.2.2.2.12	Shoring		
						1.2.2.3	Paving				
						1.2.2.4	Landscaping				
						1.2.2.5	Site Improvements				
						1.2.2.6	Utilities				
						1.2.2.7	Traffic Control				
				1.2.3	Infrastructure	1.2.3.1	Walls				
						1.2.3.2	Bridges	1.2.3.2.1	Bridges	1.2.3.2.1.1	Foundation Preparation
										1.2.3.2.1.2	Footing Excavation
										1.2.3.2.1.3	Abutment Backfill
										1.2.3.2.1.4	Mud Slab Concrete
										1.2.3.2.1.5	Mass Concrete
										1.2.3.2.1.6	Footing Concrete
										1.2.3.2.1.7	Substructure Concrete
										1.2.3.2.1.8	Deck Concrete
										1.2.3.2.1.9	Approach Slab Concrete
										1.2.3.2.1.10	Barrier Wall Concrete
										1.2.3.2.1.11	Concrete Slope Paving

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1	Task Level 1 Name	2	Sub Task 2 Name	3	Sub Task 3 Name	4	Sub Task 4 Name	5	Sub Task 5 Name	6	Sub Task 6 Name
										1.2.3.2.1.12	Reinforcing Steel
										1.2.3.2.1.13	Welded Wire Fabric
										1.2.3.2.1.14	Dowels
										1.2.3.2.1.15	Stressing Systems
										1.2.3.2.1.16	Pre-cast Concrete Girders
										1.2.3.2.1.17	Structural Grouting
		1.3	Equipment	1.3.1	Construction Equipment						
				1.3.2	Operations Vehicles						
				1.3.3	Transit Vehicles						
		1.4	Engineering & Design	1.4.1	Site Investigation						
				1.4.2	Engineering Design						
				1.4.3	Resident Engineering						
		1.5	Capital Cost Escalation								
		1.6	Capital Cost Risk								
2	Project Development	2.1	Proposal	2.1.1	Proposal Preparation						
				2.1.2	Financial Modeling						
		2.2	Financial Close	2.2.1	Legal Due Diligence						
				2.2.3	Financial Due Diligence						
				2.2.3	Success Fees						
		2.3	Concessionaire Overhead	2.3.1	Management Salaries						
				2.3.2	General Expenses						
				2.3.3	Office Facilities						
				2.3.4	Office Services						
				2.3.5	Public Relations						
				2.3.6	Travel & Subsistence						
				2.3.7	Municipal Taxes						
		2.4	Development Escalation								
		2.5	Development Risk								
3	Operations & Maintenance	3.1	Operations	3.1.1	Staff Salaries						
				3.1.2	Overhead						
				3.1.3	Energy						
				3.1.4	Consumables						
				3.1.5	Insurance & Bonding						
		3.2	Maintenance	3.2.1	Facility Maintenance						
				3.2.2	Road & Site Work Maintenance						
				3.2.3	Infrastructure Maintenance						
				3.2.4	Rolling Stock Maintenance						
				3.2.5	Service Vehicle Maintenance						
		3.3	Transfer	3.3.1	Demobilization						
				3.3.2	Legal & Audit						
		3.4	O&M Escalation								
		3.5	O&M Risk								