

WOODIN AVE BRIDGE  
CITY OF CHELAN

**TABLE 1. SERVICE LOAD FOOTING ROTATIONS IN DEGREES**

	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9
<b>Baseline Analysis</b>								
<i>Dead Load Only</i>	0.03	0.03	0.02	0.03	0.02	0.02	0.02	0.02
<i>Group I Loading</i>	0.04	0.04	0.03	0.04	0.04	0.03	0.04	0.03
<i>Group VII Loading</i>	0.11	0.10	0.08	0.08	0.08	0.07	0.07	0.10
<b>New Concrete Superstructure</b>								
<i>Dead Load Only</i>	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.01
<i>Group I Loading</i>	0.01	0.02	0.01	0.01	0.01	0.01	0.01	0.02
<i>Group VII Loading</i>	0.17	0.15	0.11	0.11	0.11	0.11	0.11	0.16
<b>New Steel Superstructure</b>								
<i>Dead Load Only</i>	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.02
<i>Group I Loading</i>	0.02	0.03	0.03	0.03	0.03	0.03	0.02	0.05
<i>Group VII Loading</i>	0.12	0.11	0.08	0.08	0.08	0.08	0.08	0.13

**TABLE 2. SERVICE LOAD FOOTING PRESSURES IN KIPS PER SQUARE FOOT**

	PIER 2	PIER 3	PIER 4	PIER 5	PIER 6	PIER 7	PIER 8	PIER 9
<b>Baseline Analysis</b>								
<i>Group I Loading</i>	5.6	5.6	5.3	5.2	5.2	5.3	5.3	5.6
<i>Group VII Loading</i>	6.8	7.4	7.2	7.1	7.1	7.2	7.2	7.2
<b>New Concrete Superstructure</b>								
<i>Group I Loading</i>	9.0	8.4	7.6	7.6	7.5	7.6	7.4	9.1
Increase From Baseline	61%	49%	44%	45%	45%	44%	41%	61%
<i>Group VII Loading</i>	14.5	15.6	14.6	14.5	14.5	14.6	14.5	15.6
Increase From Baseline	113%	109%	103%	104%	104%	103%	102%	115%
<b>New Steel Superstructure</b>								
<i>Group I Loading</i>	5.7	5.6	5.2	5.2	5.2	5.2	5.2	5.7
Increase From Baseline	1%	-1%	0%	0%	0%	-1%	-1%	1%
<i>Group VII Loading</i>	8.1	8.8	8.4	8.4	8.4	8.4	8.4	8.6
Increase From Baseline	19%	18%	17%	18%	18%	17%	17%	20%

**NOTE:** Baseline analysis Group I live load = HS-20  
New Superstructure (Steel & Concrete) analysis Group I live load = HS-25

**TABLE 3. REHABILITATION CONCEPT LEVEL COST ESTIMATE SUMMARY & COMPARISON  
(STRUCTURE ONLY)**

	QUANT.	UNITS	UNIT PRICE	TOTAL
<b>MOBILIZATION</b>	1	L.S.	\$ 192,145.25	\$ 192,145.25
<b>REMOVING EXISTING STRUCTURE</b>	12790	S.F.	\$ 25.00	\$ 319,750.00
<b>NEW CONCRETE SUPERSTRUCTURE</b>				
PRESTRESSED BULB TEE GIRDER	2,741	L.F.	\$ 220.00	\$ 602,910.00
CONC. CLASS 4000 (DECK)	814	C.Y.	\$ 500.00	\$ 406,861.48
CONC. CLASS 4000	719	C.Y.	\$ 450.00	\$ 323,503.33
ST. REINFORCING BAR	137,936	LB.	\$ 1.00	\$ 137,935.73
PRECAST CONCRETE RAILING (incl. tax)	859	L.F.	\$ 152.00	\$ 130,492.00
				\$ 1,601,702.55
<b>CONTINGENCY</b>	25%			\$ 528,399.45
<b>TOTAL CONCRETE BRIDGE COST</b>				<b>\$ 2,641,997.25</b>

	QUANT	UNITS	UNIT PRICE	TOTAL
<b>MOBILIZATION</b>	1	L.S.	\$ 184,059.26	\$ 184,059.26
<b>REMOVING EXISTING STRUCTURE</b>	12790	S.F.	\$ 25.00	\$ 319,750.00
<b>NEW STEEL SUPERSTRUCTURE</b>				
STRUCTURAL STEEL GIRDERS (incl. tax)	323,379	LB.	\$ 1.20	\$ 388,054.80
STRUCTURAL STEEL (incl. tax)	64,676	LB.	\$ 3.50	\$ 226,365.30
CONC. CLASS 4000 (DECK)	742	C.Y.	\$ 500.00	\$ 371,000.29
CONC. CLASS 4000	629	C.Y.	\$ 450.00	\$ 283,222.67
ST. REINFORCING BAR	123,425	LB.	\$ 1.00	\$ 123,424.59
PRECAST CONCRETE RAILING (incl. tax)	859	L.F.	\$ 150.00	\$ 128,775.00
				\$ 1,520,842.65
<b>CONTINGENCY</b>	25%			\$ 506,163.0
<b>TOTAL STEEL BRIDGE COST</b>				<b>\$ 2,530,814.9</b>

**SUMMARY OF ESTIMATED COSTS**

**CONCRETE BRIDGE \$ 2,641,997**  
**STEEL BRIDGE \$ 2,530,815**