

BRIDGE CCODE	R.R. BRIDGE NO.	FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
	199	8	N D	MG-1-010 KOSI 917		66	

BILL OF MATERIALS **TO BE INSTALLED BY CONTRACTOR**

HARDWARE				TIMBER			
ITEM	DESCRIPTION	NUMBER	REMARKS	ITEM	DESCRIPTION	NUMBER	REMARKS
Drift Bolt	3/4" # x 2'-4"	352		Bent 1 Backwall	9"x18"x4'-9"	2	
Drift Bolt	3/4" # x 2'-2"	152		Bent 1 Backwall	9"x18"x28'-0"	2	
Drift Bolt	3/4" # x 1'-5"	25		Bent 1 Backwall	9"x18"x20'-0"	3	
Bolt w. 4" #				Bent 1 Backwall	9"x18"x22'-0"	3	
Split Ring	3/4" # x 1'-3"	12		Bent 1 Cap	8"x16"x36'-6"	2	
Bolt	3/4" # x 1'-5" or	75		Bent 1 Pile	12" # x 15'-0"	2	
Log Screw	3/4" # x 10"	32		Pile-All Bents	12" # x 35'-0"	151	
Bolt	3/4" # x 1'-7"	127		5 Pile Bent Cap	8"x16"x14'-0"	12	
Bolt	3/4" # x 1'-9"	57		5 Pile Bent Bracing	4"x8"x17'-0"	12	
Bolt w. 4" #				5 and 10 Pile Bent			
Split Ring	3/4" # x 1'-5"	24		Bracing	4"x8"x18'-0"	20	
Bolt	3/4" # x 1'-10"	152		Bracing Block	9"x12"x1'-6"	54	
Bolt w. 20.G				6 Pile Bent Cap	8"x16"x16'-0"	4	
Washer	3/4" # x 2'-0"	350		6 Pile Bent Brace	4"x8"x20'-0"	4	
Bolt	3/4" # x 2'-0"	35		6 Pile Bent Brace	4"x10"x18'-0"	4	
Bolt	3/4" # x 2'-1"	35		6 Pile Bent Brace	8"x10"x16'-0"	1	
Bolt	3/4" # x 2'-3"	12		7 Pile Bent Cap	8"x16"x18'-6"	6	
Bolt	3/4" # x 2'-9"	4		7 Pile Bent Brace	4"x8"x15'-0"	12	
Bolt	3/4" # x 3'-5"	8		7 Pile Bent Brace	4"x10"x20'-0"	6	
Bolt	1" # x 1'-3"	115		9 Pile Bent Cap	8"x16"x23'-6"	2	
Bolt	1" # x 2'-2"	231		9 Pile Bent Cap	8"x16"x24'-0"	2	
Bolt	1" # x 2'-3"	52		9 Pile Bent Brace	4"x10"x24'-0"	4	
Bolt	1" # x 1'-11"	155		9 Pile Bent Brace	4"x8"x16'-0"	8	
Bolt	3/4" # x 5"	175		10 Pile Bent Cap	8"x16"x26'-0"	4	
Bolt	3/4" # x 7"	352		10 Pile Bent Brace	4"x10"x27'-0"	4	
Bolt	3/4" # x 13"	352		11 Pile Bent Cap	8"x16"x28'-6"	2	
O.G. Spikes	3/4" # x 7"	252		11 Pile Bent Brace	4"x8"x19'-0"	4	
Boat Spike	3/4" # x 8"	42		11 Pile Bent Brace	4"x10"x30'-0"	2	
				12 Pile Bent Cap	8"x16"x31'-0"	2	
				12 Pile Bent Brace	4"x8"x20'-6"	4	
				12 Pile Bent Brace	4"x10"x32'-6"	2	
				13 Pile Bent Cap	8"x16"x33'-6"	2	
				13 Pile Bent Brace	4"x8"x21'-0"	4	
				13 Pile Bent Brace	4"x10"x35'-0"	2	
				Stringer	10"x18"x29'-0"	41	
				Stringer	10"x18"x28'-0"	42	To be field cut to 1 usable piece
				Stringer	10"x18"x28'-0"	3	To be field cut to 2 usable pieces
				Stringer	10"x18"x14'-0"	26	
				Stringer	10"x18"x29'-0"	1	
				Stringer	10"x18"x30'-0"	1	
				Stringer Spacer	7"x18"x1'-6"	87	2 to be cut into 7"x18"x8"
				Long Ties-Open Deck	8"x8"x22'-6"	19	
				Long. Bracing	6"x8"x13'-0"	4	
				Long. Bracing	6"x8"x11'-0"	2	
				Long. Bracing	6"x8"x18'-0"	2	
				Long. Bracing	6"x8"x15'-6"	3	
				Long. Bracing	6"x8"x17'-0"	4	
				Long. Bracing	6"x10"x18'-6"	22	
				Long. Bracing	6"x10"x16'-0"	14	
				Long. Bracing	6"x10"x21'-0"	2	
				Long. Bracing	6"x10"x15'-0"	9	
				Long. Bracing	6"x10"x10'-6"	4	
				Long. Bracing	6"x10"x11'-6"	2	
				Ballast Retainer	8"x14"x300'	1	
				Binder Plate	3"x16"x300'	1	
				Rail Post	4"x4"x4'-2"	176	
				Railing	3"x8"x465'-0"	1	
				Railing	2"x4"x465'-0"	1	
				Ballast Plate	4"x12"	16,500 Sq. Ft.	

Notes:
 Rail posts shall be placed every fourth tie in open deck area and continue every 4'-6" in ballast deck area. Splices in railing shall be alternated.
 All timbers and piling shall be untreated. Bore grooves for split rings with Teco split ring cutter head 14-M. Do not cut out material inside of grooves.
 All bolts through timber shall have a 3" x 3" cut washer under both nut and head. Use approved lock nuts on all bolts.
 Holes for 3/4" # Bolts shall be 3/4" #.
 Holes for 1" # Bolts shall be 1" #.
 Holes for 3/4" # Drift Bolts shall be 3/4" #.
 All stringers except 28'-0" and 14'-0" lengths to be field cut.
 All bracing may be trimmed in field if necessary.
 All holes for bracing to be field drilled. Ties shall be placed 14" O.C.
 Ties shall be bored in field.
 Walks, Railings, and Refuge Platforms shall be placed as directed. See Standard Plan B15-6545-2.
 All piles are 12" #.
 All piling to be driven to obtain not less than 30 tons bearing.
 For depth of preboring for piles see "Bent Details-Trestle sheet 2 of 2".

STRINGER STRESSES (DL+LL):

Loading	Bending	Hor. Shear
E 72	1550 P.S.I.	108 P.S.I.

QUANTITIES	
Untreated Timber	26 MBM

**BILL OF MATERIALS
 TRESTLE
 BURLINGTON NORTHERN, INC.
 RAILWAY UNDERPASSES**

U.S. HIGHWAY NO.10
 MORTON COUNTY