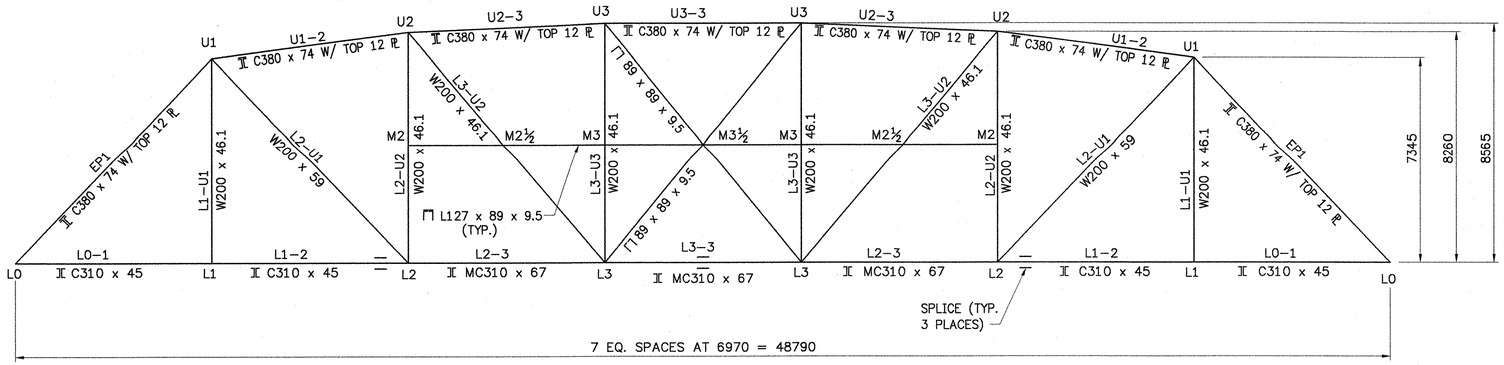
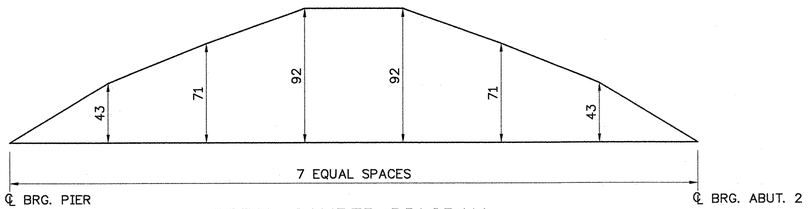


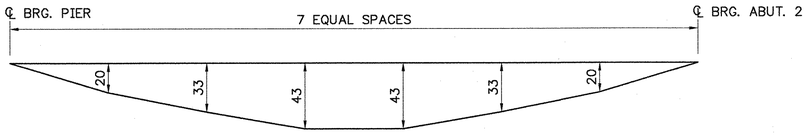
ELEVATION VIEW

SCALE 1:100



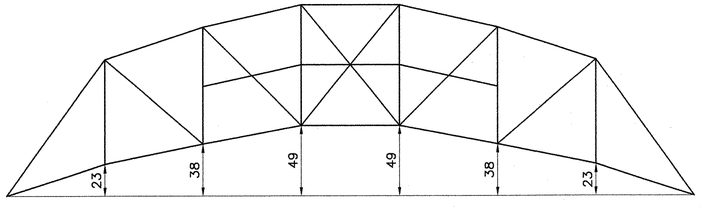
TOTAL CAMBER DIAGRAM

SCALE: HORIZONTAL 1:200
VERTICAL 1:20000



DEAD LOAD DEFLECTION

SCALE: HORIZONTAL 1:200
VERTICAL 1:20000



RESIDUAL CAMBER DIAGRAM

SCALE: HORIZONTAL 1:200
VERTICAL 1:20000

NOTE: THIS CAMBER TO BE RETAINED AFTER DEAD LOAD IS APPLIED.

TRUSS CONNECTION NOTES

1. THE TRUSS FABRICATOR SHALL COMPLETE THE CONNECTION DETAILS, INCLUDING THE NUMBER AND SPACING OF BOLTS, AND THE THICKNESS AND GEOMETRY OF THE GUSSET OR CONNECTION PLATES, WHILE PREPARING THE SHOP AND ERECTION DRAWINGS IN ACCORDANCE WITH THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDING AND BRIDGES, MARCH 7, 2000. REFER TO THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, 17TH EDITION, AND ITS LATEST REVISIONS, THE VERMONT AGENCY OF TRANSPORTATION 2001 STRUCTURES MANUAL AND THE CONTRACT DOCUMENTS FOR SPECIFIC CONNECTION DESIGN REQUIREMENTS. THE FABRICATOR SHALL SUBMIT THE CONNECTION DETAILS TO THE VERMONT AGENCY OF TRANSPORTATION FOR APPROVAL. THE CONNECTION DESIGN SHALL BE COMPLETED BY A VERMONT LICENSED PROFESSIONAL ENGINEER. ALL CONNECTIONS SHOWN ARE SCHEMATIC ONLY.
2. MAIN TRUSS MEMBERS SHALL BE DESIGNED FOR THE LOADS GIVEN IN THE TABLE BELOW.
3. SECONDARY MEMBER CONNECTIONS, INCLUDING ALL PORTAL MEMBERS, TOP STRUTS AND SWAY BRACING, AND TOP AND BOTTOM LATERAL BRACING, SHALL BE DESIGNED FOR 75% OF THE DESIGN STRENGTH OF THE CONNECTED MEMBER. FOR SECONDARY CONNECTIONS THE NUMBER OF BOLTS SHOWN SHALL BE THE MINIMUM NUMBER OF BOLTS PROVIDED (ACTUAL NUMBER OF BOLTS REQUIRED PER DESIGN MAY EXCEED THE MINIMUM SHOWN). THE MINIMUM GUSSET OR CONNECTION PLATE THICKNESS SHALL BE AS SHOWN.
4. FLOOR BEAM, STRINGERS, INTERMEDIATE DIAPHRAGM, AND BOTTOM CHORD SPLICE COONECTIONS ARE SHOWN.
5. BOLTED TRUSS CONNECTIONS AND SPLICES SHALL BE DESIGNED AS "SLIP CRITICAL" AS DEFINED IN AASHTO 10.24.1.4 AND AASHTO 10.56.1.4 USING CLASS "B" SLIP COEFFICIENTS. WHERE THE TRUSS CONNECTIONS ARE SUBJECT TO LINEAR LOADS, THE FORMULA GIVEN IN AASHTO 10.57.3.1 SHALL BE CHECKED. IN ADDITION ALL BOLTED TRUSS CONNECTIONS AND SPLICES SHALL BE CHECKED AS BEARING TYPE CONNECTIONS. DESIGN JOINTS WITH BOLT THREADS EXCLUDED FROM THE SHEAR PLANE.
6. IN ACCORDANCE WITH AASHTO 10.18.1.1, CONNECTIONS AND SPLICES FOR MAIN TRUSS MEMBERS SHALL BE DESIGNED FOR SERVICE LOAD AND LOAD FACTOR DESIGN USING THE AVERAGE OF REQUIRED DESIGN STRENGTH AND MAXIMUM DESIGN STRENGTH OF THE MEMBER AT THE POINT OF THE CONNECTION, BUT NOT LESS THAN 75% OF THE MAXIMUM DESIGN STRENGTH OF THE MEMBER.
7. BOLTED CONNECTIONS FOR TRUSS COMPRESSION MEMBERS SHALL BE DESIGNED WITH ENDS IN CLOSE CONTACT PER AASHTO 10.18.3 AND SHALL BE FABRICATED AND ERECTED WITH CLOSE INSPECTION AND DETAILED WITH MILLED ENDS IN FULL CONTACT BEARING. BOLTED CONNECTIONS FOR TRUSS TENSION MEMBER CONNECTIONS AND SPLICES SHALL BE DESIGNED IN ACCORDANCE WITH AASHTO 10.18.4.
8. HIGH STRENGTH BOLTS FOR THE TRUSS CONNECTIONS SHALL REQUIRE TESTING AND RE-CERTIFICATIONS SHALL BE CHECKED TWO WEEKS AFTER INITIAL TIGHTENING IN ACCORDANCE WITH SPECIAL PROVISIONS.

SUMMARY OF MAXIMUM TRUSS LOADS

MEMBER TYPE	TRUSS MEMBER DESIGNATIONS	TENSION OR COMPRESSION	TOTAL DEAD LOADS (kN)	LIVE LOAD IMPACT FACTOR	MAXIMUM SERVICE LOAD (2) (4) (kN)	MAXIMUM DESIGN LOAD (2) (5) (kN)	MAXIMUM OVERLOAD (2) (6) (kN)	MAXIMUM FATIGUE LOAD (3) (4) (kN)
BC	L0–1, L1–2	T	1043	1.3 (1)	1553	2462	1967	1406
		C						
BC	L2–3	T	1550	1.3 (1)	2295	3629	2919	2088
		C						
BC	L3–3	T	1779	1.3 (1)	2593	4078	3280	2368
		C						
EP	EP1	T						
		C	1522	1.3 (1)	2264	3587	2865	2050
TC	U1–2, U2–3, U3–3	T						
		C	1815	1.3 (1)	2652	4189	3384	2421
TV	L1–U1	T	331	1.3	773	1389	1070	603
		C						
TV	L2–U2	T		1.3	471	253	195	
		C	203	1.3	39	845	651	368
TV	L3–U3	T	28	1.3	86	359	277	120
		C		1.3	177	206	159	44
MTD	L2–U1	T	739	1.3	1213	1987	1530	1030
		C						
MTD	L3–U2	T	383	1.3	788	1372	1057	632
		C						
CTCB	U3–L3, L3–M3½, M3½–U3	T	29	1.3	204	415	320	136
		C				283	218	65
HTB	M2–2½, M2½–3, M3–3½	N/A	N/A	N/A	N/A	N/A	N/A	N/A

NOTES

1. FOR TOP AND BOTTOM CHORD MEMBERS, THE IMPACT FACTOR OF 30% IS CONSERVATIVE FOR LANE LOADS. FOR THE TRUSS LENGTH IN THE IMPACT EQUATION I=17.5%
2. LIVE LOAD IS BASED ON MS22.5 TRUCK AND LANE LOADS FOR SERVICE (ASD) LOAD, MAXIMUM DESIGN (LFD) LOAD, AND OVERLOAD.
3. LIVE LOAD IS BASED ON MS18 TRUCK AND LANE LOADS FOR FATIGUE LOAD.
4. SERVICE LOAD (ASD) AND FATIGUE LOAD COMBINATION= 1.0DL + 1.0(LL+I)
5. MAXIMUM DESIGN (LFD) LOAD COMBINATION= 1.3(1.0(DL) + 1.67(LL+I)) = 1.3(DL) + 2.17(LL+I)
6. OVERLOAD COMBINATION= 1.0(DL) + 1.67(LL+I)
7. ALL MAIN TRUSS MEMBERS AND PLATES SHALL REQUIRE A CHARPY V-NOTCH TEST. SEE SECTION 714.01 OF STANDARD SPECIFICATIONS.

MEMBER TYPE

EP	END POST
TC	TOP CHORD
BC	BOTTOM CHORD
MTD	MAIN TRUSS DIAGONAL
TV	TRUSS VERTICAL
CTCB	CENTER TRUSS CROSS BRACING
HTB	HORIZONTAL TRUSS BRACING

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STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of JAMAICA	Bridge No. 80
	Log Sta.
Highway No. VT. ROUTE 100	Surv. Sta.

VT. ROUTE 100 OVER THE WEST RIVER

ELEVATION – TRUSS

Designed By LKP	Drawn By. MWS
Checked By LMM Date 2/02	Bridge Design Supervisor LMM Date 2/02
PROJECT JAMAICA	PROJECT NO. BRF 013-1(8)
I.G.C. Info.	
Bridge Sheet No.	Sheet 69 Of 116

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