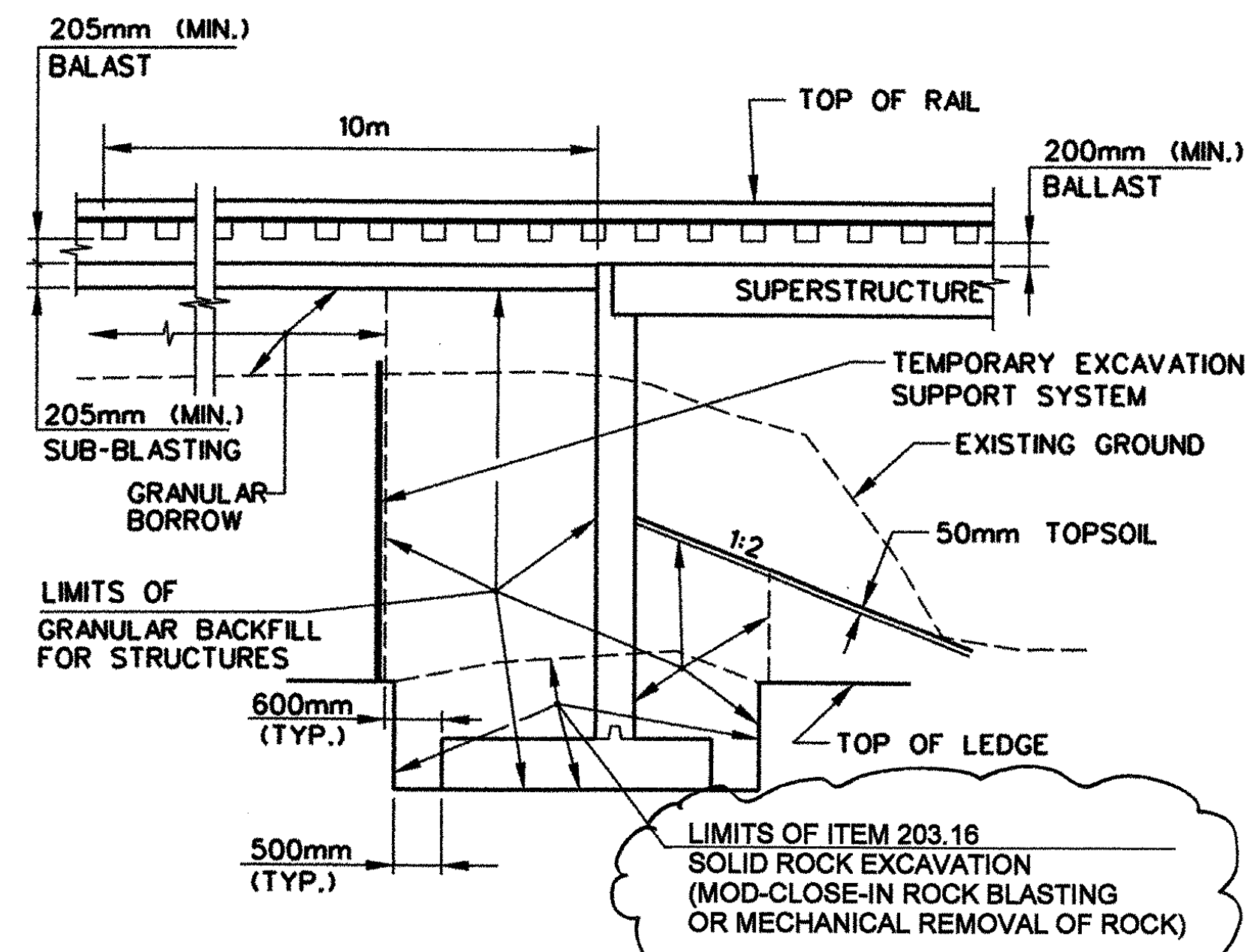


**TRANSVERSE BRIDGE SECTION**  
SCALE 1:40

SEE PAGE 53 FOR EXCAVATION LIMITS  
ITEM 203.15 COMMON EXCAVATION  
ITEM 204.25 STRUCTURE EXCAVATION, AND  
ITEM 529.15 REMOVAL OF STRUCTURE



**TYPICAL ABUTMENT SECTION**  
(NOT TO SCALE)

STRESS TABLE		
GIRDER	SPAN 30.7 meters	
	SHEARS (END OF BEAM)	MOMENTS (MIDSPAN)
DL (E80)	871 kN	7,327 kN-m
LL (E80)	1,344 kN	6,585 kN-m
IMP (40%)	337 kN	3,582 kN-m
CENTRIFUGAL	45 kN	34.3 kN-m
<b>TOTAL</b>	<b>2,797 kN</b>	<b>17,837 kN-m</b>

STRESS TABLE		
FLOOR BEAM	SPAN 6.2m	
	SHEARS (END OF BEAM)	MOMENTS (MIDSPAN)
DL (E80)	26.3 kN	41.7 kN-m
LL (E80)	132.6 kN	309.9 kN-m
IMP (15%)	68.0 kN	159.0 kN-m
CENTRIFUGAL	7.0 kN	n/a kN-m
<b>TOTAL</b>	<b>234 kN</b>	<b>510.7 kN-m</b>

PROPERTIES	
A <sub>web</sub> = 47,625 mm <sup>2</sup>	S <sub>topflange</sub> = 1.323x10 <sup>6</sup> mm <sup>3</sup>
I <sub>x(gross)</sub> = 1.394x10 <sup>11</sup> mm <sup>4</sup>	S <sub>botflange</sub> = 1.323x10 <sup>6</sup> mm <sup>3</sup>
I <sub>x(net)</sub> = 1.384x10 <sup>11</sup> mm <sup>4</sup>	

PROPERTIES	
A <sub>web</sub> = 6780 mm <sup>2</sup>	S <sub>x</sub> = 4.220x10 <sup>6</sup> mm <sup>3</sup>
I <sub>x</sub> = 1.29x10 <sup>9</sup> mm <sup>4</sup>	

STRESS		
SHEAR	BENDING (TENSION IN BOT. FLANGE)	DEFLECTION (LL-D)
f <sub>s</sub> = 58,730 kPa	f <sub>b</sub> = 164,870 kPa	Δ max = 45 mm
ALL f <sub>s</sub> = 120,000 kPa	ALL f <sub>b</sub> = 189,000 kPa	ALL Δ = 48 mm
BENDING (COMPRESSION IN TOP FLANGE)		
	f <sub>bc</sub> = 163,580 kPa	
	ALL f <sub>bc</sub> = 187,900 kPa	

STRESS		
SHEAR	BENDING (TENSION IN BOT. FLANGE)	DEFLECTION (LL-D)
f <sub>s</sub> = 34,760 kPa	f <sub>b</sub> = 153,900 kPa	Δ max = 7 mm
ALL f <sub>s</sub> = 120,000 kPa	ALL f <sub>b</sub> = 189,000 kPa	ALL Δ = 9 mm
BENDING (COMPRESSION IN TOP FLANGE)		
	f <sub>bc</sub> = 120,870 kPa	
	ALL f <sub>bc</sub> = 162,300 kPa	

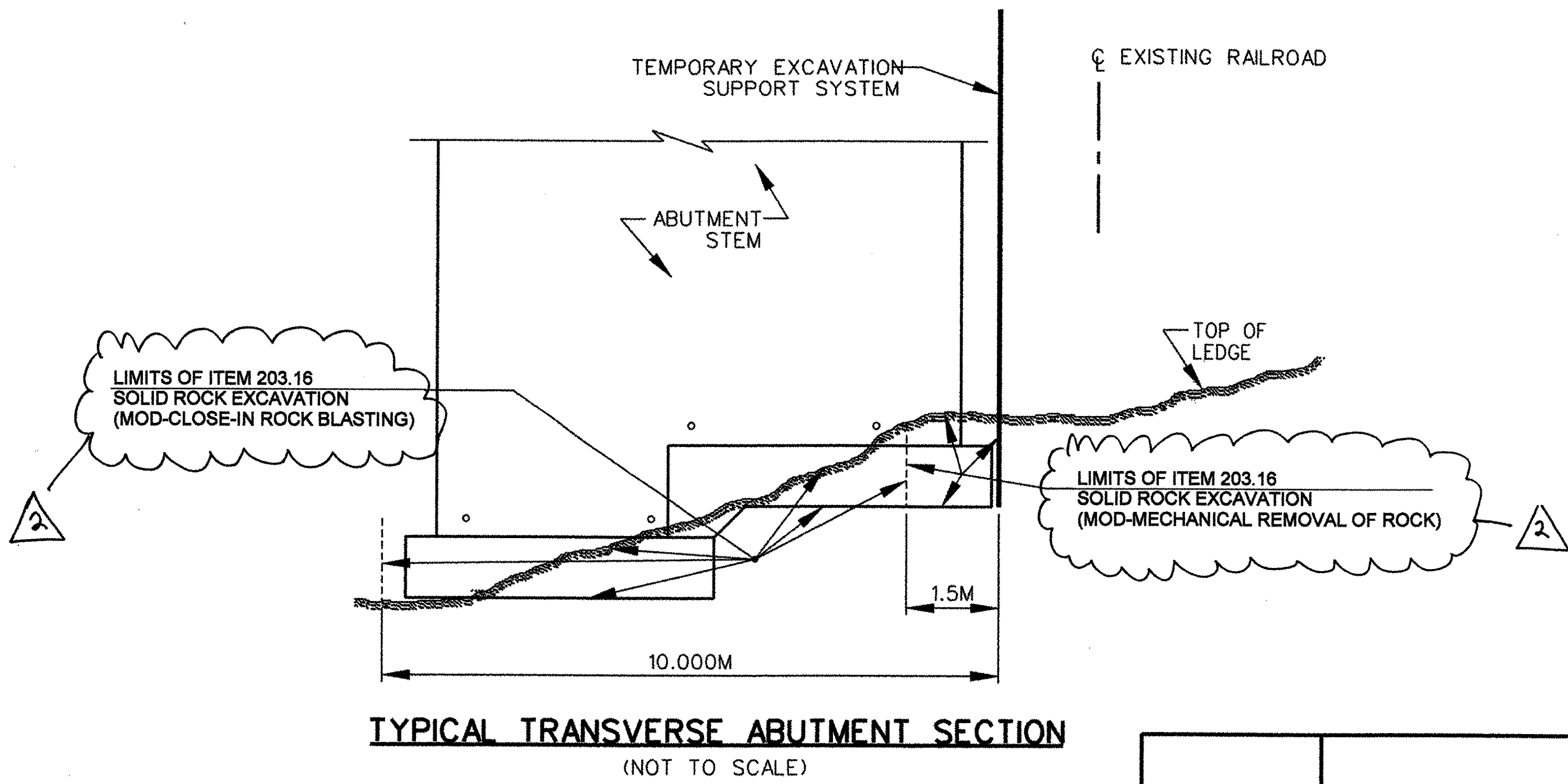
FATIGUE (FRACTURE CRITICAL)	
(BASE METAL & WELD METAL FLANGE TO WEB CONNECTION)	BENDING
Max LL, MP (mean) =	79,833 kPa
STRESS RANGE	79,833 kPa
STRESS CATEGORY	B
ALLOW. STRESS RANGE	110,000 kPa

FATIGUE	
(BASE METAL BOT. FLANGE)	BENDING
Max LL, MP (mean) =	151,300 kPa
STRESS RANGE	151,300 kPa
STRESS CATEGORY	A
ALLOW. STRESS RANGE	165,500 kPa

PROPOSED STRUCTURE	
STRUCTURE GEOMETRY:	
1. STRUCTURE TYPE	SINGLE SPAN HALF-THRU GIRDER
2. CLEAR SPAN LENGTH(S)	29.5 meters
3. VERTICAL CLEARANCE ABOVE ROADWAY	4.95 meters
4. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?	N/A

EXISTING STRUCTURE	
1. STRUCTURE TYPE	SINGLE SPAN STEEL DECK GIRDER YEAR BUILT: 1937
2. CLEAR SPAN (NORMAL TO ROADWAY)	9.9 meters
3. VERTICAL CLEARANCE ABOVE ROADWAY	4.35 meters

DESIGN CRITERIA	
1. DESIGN LIVE LOAD AREMA	COOPERS E80
2. DESIGN SPAN	TO & BRG. 30.7m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL	70 - 88 kPa ON LEDGE 950 kPa
4. ALLOWABLE LOAD FOR PILING	N/A TYPE N/A ESTIMATED LENGTH N/A
5. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO	M270M GR 345 WEATHERING STEEL TENSION 185 MPa
6. ALLOWABLE STRESS FOR REINFORCING STEEL AASHTO	M31M GRADE 400 TENSION 185 MPa COMPRESSION 138 MPa
7. ALLOWABLE STRESS FOR CONCRETE HIGH PERFORMANCE CLASS A	f <sub>c</sub> 30 MPa f <sub>c</sub> N/A



**TYPICAL TRANSVERSE ABUTMENT SECTION**  
(NOT TO SCALE)

2 Addendum two, Excavation notes Dec 6, 2002

Plot Date: 10-10-2002  
File: rt9br302

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

Town Of	BRATTLEBORO	Bridge No.	62.56
Highway No.	VT. ROUTE 9	Log Sta.	
		Surv. Sta.	
NEW ENGLAND CENTRAL RAILROAD OVER VT. ROUTE 9			
PRELIMINARY INFORMATION			
Designed By	LM	Drawn By	DHL/LB
Checked By	GJB	Date	Bridge Design Supervisor
			JHR
PROJECT	BRATTLEBORO	PROJECT NO.	NH 010-2(2)
I.G.C. Info.			
Bridge Sheet No.		Sheet 4	of 145