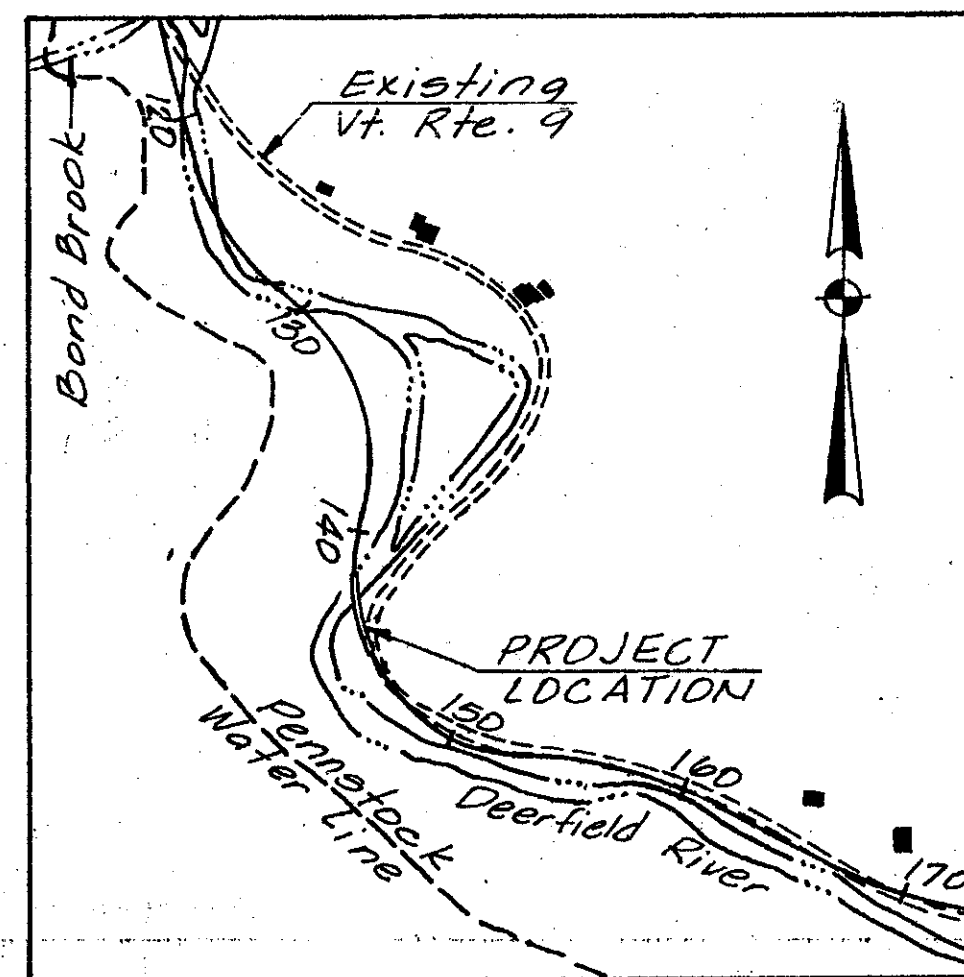


LIST OF BRIDGE SHEETS

BR400 PRELIMINARY INFORMATION	BR412 BEARING TABLES
BR401 QUANTITY SHEET	BR413 MISCELLANEOUS DETAILS
BR402 PLAN, ELEVATION AND GENERAL NOTES	BR414 ABUTMENT 1 PLAN
BR403 BORING LOGS	BR415 ABUTMENT 1 FOOTING PLAN
BR404 TYPICAL SECTION	BR416 ABUTMENT 1 ELEVATION
BR405 DECK REINFORCING	BR417 ABUTMENT 1 WINGWALL ELEVATIONS
BR406 FRAMING PLAN	BR418 ABUTMENT 1 SECTIONS
BR407 GIRDER DETAILS	BR419 APPROACH SLAB 1 DETAILS
BR408A EXPANSION JOINT DETAILS	BR420 ABUTMENT 2 PLAN, ELEVATION & SECTION
BR408B EXPANSION JOINT PLAN	BR421 WINGWALL 3 & 4 ELEVATIONS AND SECTION
BR408C CURB PLATE DETAILS	BR422 APPROACH SLAB 2 DETAILS
BR409A LEFT CURB PLATE DETAILS	BR423 PIER 1 PLAN AND ELEVATION
BR409B RIGHT CURB PLATE DETAILS	BR424 PIER 2 PLAN AND ELEVATION
BR409C DOWNSPOUT DETAILS	BR425 DRILLED SHAFT DETAILS
BR410 EXPANSION BEARING DETAILS	BR426 REINFORCING STEEL SCHEDULE 1
BR411 FIXED BEARING DETAILS	BR427 REINFORCING STEEL SCHEDULE 2



FINAL HYDRAULICS REPORT

PROPOSED STRUCTURE

STRUCTURE TYPE: 3 SPAN CONTINUOUS CURVED PLATE GIRDER

CLEAR SPAN (NORMAL TO STREAM): 189 ft

VERTICAL CLEARANCE ABOVE STREAM: 23 ft

WATERWAY OF FULL OPENING: 3850 sq ft

WATER SURFACE ELEV. @ Q2.33 = 1591.2 ft VELOCITY = 9.8 fps

Q10 = 1593.8 ft " = 11.5 fps

Q25 = 1595.2 ft " = 12.4 fps

Q50 = 1595.7 ft " = 13.2 fps

Q100 = 1598.8 ft " = 13.8 fps

IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY ABOVE Q100

RELIEF ELEVATION: 1602 ft DISCHARGE OVER ROAD @ Q100: NONE

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1607.4 ft

VERTICAL CLEARANCE @ Q50 = 11.7 ft (average clearance)

SCOUR: 8 FT OF PIER SCOUR (MAX) AND NO CONTRACTION SCOUR

REQUIRED CHANNEL PROTECTION: TYPE IV STONE FILL

PERMIT INFORMATION

AVERAGE DAILY FLOW: 200 cfs*

ORDINARY LOW WATER: 90 cfs* DEPTH: 1 ft

ORDINARY HIGH WATER: 1200 cfs* DEPTH: 3 ft

ADDITIONAL COMMENTS

* OPERATION OF THE SEARSBURG RESERVOIR PENSTOCK MAY HAVE AN EFFECT ON THESE FLOW RATES.

HYDROLOGIC DATA

DRAINAGE AREA: 97.3 SQUARE MILES

CHARACTER OF TERRAIN: MOUNTAINOUS AND FORESTED

CHARACTER & TYPE OF STREAM: PERENNIAL, FLASHY AND SINUOUS

NATURE OF STREAMBED: GRAVEL, COBBLES TO LARGE BOULDERS

Q2.33= 2700 cfs Q50= 11300 cfs

Q10= 5000 cfs Q100= 13800 cfs

Q25= 8900 cfs Q500= 22500 cfs

DATE OF FLOOD OF RECORD: SEPTEMBER 1938

WATER SURFACE ELEV.: UNKNOWN ESTIMATED DISCHARGE: UNKNOWN

NATURAL STREAM VELOCITY @ FLOOD OF RECORD @ Q50 = 12.1 fps

ICE CONDITIONS: MODERATE MODERATE DEBRIS:

DOES THE STREAM REACH MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES

IS ORDINARY RISE RAPID? YES

IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES

IF YES, DESCRIBE SEARSBURG AND SOMERSET RESERVOIRS ARE UPSTREAM OF THIS SITE

WATERSHED STORAGE: 4% HEADWATERS: UNIFORM THROUGHOUT WATERSHED

IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: N/A - BRIDGE 25B IS A NEW STRUCTURE YEAR BUILT: ---

CLEAR SPAN (NORMAL TO STREAM): ---

VERTICAL CLEARANCE ABOVE STREAM: ---

WATERWAY OF FULL OPENING: ---

DISPOSITION OF STRUCTURE: ---

TYPE OF MATERIAL UNDER SUBSTRUCTURE: UNKNOWN

WATER SURFACE ELEV. @ Q2.33= --- VELOCITY= ---

Q10= --- " = ---

Q25= --- " = ---

Q50= --- " = ---

Q100= --- " = ---

LONG TERM STREAM BED CHANGES: ---

IS THE ROADWAY OVERTOPPED BELOW THE Q100? --- FREQUENCY: ---

RELIEF ELEVATION: --- DISCHARGE OVER ROAD @ Q100: ---

UPSTREAM STRUCTURE: TOWN: SEARSBURG DISTANCE: 0.5 mi

HIGHWAY NO.: VT ROUTE 9 STRUCTURE NO.: 25

STRUCTURE TYPE: THREE SPAN CONC. T-BEAM BRIDGE

CLEAR SPAN: 105 ft CLEAR HEIGHT: 20 ft

YEAR BUILT: 1934 FULL WATERWAY: 1200 sq ft

DOWNSTREAM STRUCTURE: TOWN: WILMINGTON DISTANCE: 1.4 mi

HIGHWAY NO.: 11-31 STRUCTURE NO.: 57

STRUCTURE TYPE: SINGLE SPAN PLATE GIRDER BRIDGE

CLEAR SPAN: 26 ft CLEAR HEIGHT: 13 ft

YEAR BUILT: 1985 FULL WATERWAY: 1200 sq ft

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO: HS 25-44

2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 8 Ksf @ ABUTMENTS ON LEDGE N.A.

3. ALLOWABLE LOAD FOR DRILL SHAFTS @ PIERS (SEE DRILLED SHAFT NOTES ON BR3)

4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A.A.S.H.T.O. #4270 TENSION: 270 K.S.I.

5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION: 24 K.S.I. COMPRESSION: N.A.

6. ALLOWABLE STRESS FOR CONCRETE CLASS A: 4.0 K.S.I. CLASS B (HPC-B): 3.5 K.S.I. CLASS A (HPC-A): 5.0 K.S.I.

TRAFFIC MAINTENANCE:

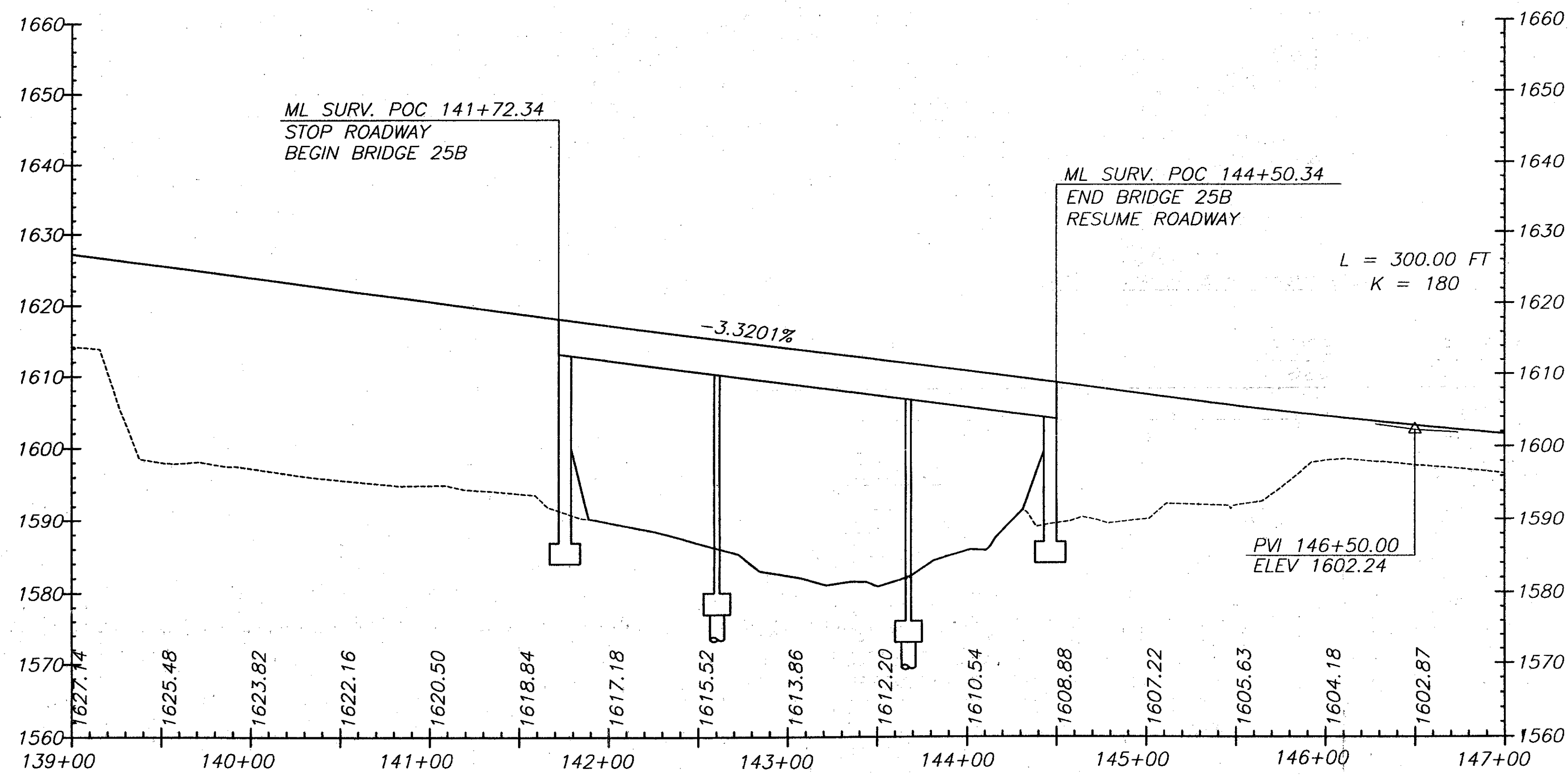
1. IS TRAFFIC TO BE MAINTAINED? Yes IF YES, ON EXISTING STRUCTURE OR ON TEMPORARY BRIDGE

2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY TRAFFIC CONTROL SIGNALS REQUIRED

MINIMUM CLEAR SPAN MINIMUM CLEAR HEIGHT MINIMUM WATERWAY AREA

ARE SIDEWALKS REQUIRED? IF SO, ON WHAT SIDE?

Traffic will be maintained on new bridge when existing Vt. Rte. 9 bridge is removed.



LOAD RATING (TONS)

LOAD FACTOR	TRUCK					
	H	HS	3S2	6 AXLE	3A STR	5A SEMI
INVENTORY	39	55				
A=2.17; B=1.00 POSTED	55	77	111	95	97	102
A=1.55; B=1.40 OPERATING	92	132	154	114	115	

RECOMMENDED FOR APPROVAL: STRUCTURES ENGINEER DATE

RECOMMENDED FOR APPROVAL: CHIEF OF DESIGN DATE

APPROVED BY: DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE
1	Load Factor Rating NETC Rail added Silica Fume Concrete Curb Pot Bearing Type & Orientations revised Approach Slab Details revised Scuppers removed Expansion Joint changed	TLG 11/99

ADDITIONAL DESIGN CONSIDERATIONS

For General Notes, see Sheet BR402

STATE OF VERMONT
JIMOTHY L. GRANT
NO. 7645
STRUCTURAL I
LICENSED PROFESSIONAL ENGINEER
8/25/2000

MJ
MCFARLAND - JOHNSON ENGINEERS, INC.

STATE OF VERMONT AGENCY OF TRANSPORTATION

TOWN OF SEARSBURG Bridge No. 25B

Highway No. ROUTE 9 Log Sta. 143+11

PROJECT: SEARSBURG-WILMINGTON F-D10-1 (18)

Bridge Sheet No. BR400 Sheet 202 of 435

Designed by J.J.R. Drawn by J.J.R.

Checked by R.P.J. date 11/85 Bridge Design Supervisor W.T.S. date 2/85

M.J. Job No. 89-3302
M.J. Br. No. 2
M.J. Saf. No. 1
2887-d 8/20/00