

**STATE OF VERMONT
AGENCY OF TRANSPORTATION**

PRELIMINARY INFORMATION SHEET (BRIDGE)

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: N/A

DRAINAGE AREA : Approximately 5.5 sq. mi.
 CHARACTER OF TERRAIN : Hilly and mountainous, mostly forested
 STREAM CHARACTERISTICS : Sinuus, slightly incised with minimal floodplain
 NATURE OF STREAMBED : Gravel, cobbles, boulders and ledge

PEAK FLOW DATA

Q 2.33 =	<u>300 cfs</u>	Q 50 =	<u>1100 cfs</u>
Q 10 =	<u>650 cfs</u>	Q 100 =	<u>1275 cfs</u>
Q 25 =	<u>900 cfs</u>	Q 500 =	<u>Unknown</u>

DATE OF FLOOD OF RECORD	1927	
ESTIMATED DISCHARGE:	Unknown	
WATER SURFACE ELEV.:	Unknown	
NATURAL STREAM VELOCITY:	@ Q25 = 5.8 fps	
ICE CONDITIONS:	Moderate	
DEBRIS:	Moderate	
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY?		Unknown
IS ORDINARY RISE RAPID?	Unknown	
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?		No
IF YES, DESCRIBE:		

WATERSHED STORAGE: < 1% HEADWATERS: _____
UNIFORM: X
IMMEDIATELY ABOVE SITE: _____

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE:	<u>Single span concrete encased steel beam bridge</u>	
YEAR BUILT:	<u>1920</u>	
CLEAR SPAN(NORMAL TO STREAM):	<u>12'-4"</u>	
VERTICAL CLEARANCE ABOVE STREAMBED:		<u>5'-6"</u>
WATERWAY OF FULL OPENING:	<u>68 sq. ft.</u>	
DISPOSITION OF STRUCTURE:	<u>Remove and replace structure</u>	
TYPE OF MATERIAL UNDER SUBSTRUCTURE:	<u>See borings</u>	

WATER SURFACE ELEVATIONS AT:

Q2.33 =	<u>536.61 feet</u>	VELOCITY =	<u>7.13 fps</u>
Q10 =	<u>539.60 feet</u>	"	<u>11.81 fps</u>
Q25 =	<u>541.54 feet</u>	"	<u>6.99 fps</u>
Q50 =	<u>543.00 feet</u>	"	<u>3.63 fps</u>
Q100 =	<u>542.35 feet</u>	"	<u>5.77 fps</u>

LONG TERM STREAMBED CHANGES: None noted

IS THE ROADWAY OVERTOPPED BELOW Q100:	Yes
FREQUENCY:	Q25
RELIEF ELEVATION:	541.3 feet
DISCHARGE OVER ROAD @Q100:	1.05 feet

UPSTREAM STRUCTURE

TOWN:	Brattleboro	DISTANCE:	1.6 miles
HIGHWAY #:	TH 4 (Halladay Brook Road)	STRUCTURE #:	D16
CLEAR SPAN:	20'	CLEAR HEIGHT:	9'
YEAR BUILT:	2005	FULL WATERWAY:	
STRUCTURE TYPE:	Single Span Concrete Slab		

DOWNSTREAM STRUCTURE

TOWN:	Brattleboro	DISTANCE:	1340'
HIGHWAY #:	Private Road (Winding Hill Road)	STRUCTURE #:	Private
CLEAR SPAN:		CLEAR HEIGHT:	
YEAR BUILT:		FULL WATERWAY:	
STRUCTURE TYPE:			

LRFR LOAD RATING FACTORS

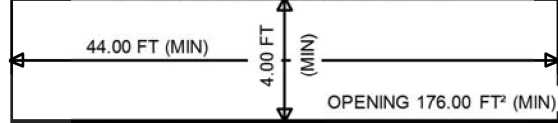
LOADING LEVELS	TRUCK						
	H-20	HL-93	3S2	6 AXLE	3A STR	4A STR	5A SEM
TONNAGE	20	36	36	66	30	34.5	38
INVENTORY							
POSTING							
OPERATING							
COMMENTS:							

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT	20 year ESAL for flexible pavement from 2012 to 2032 : 40000
2012	460	50	76	2.1	10	40 year ESAL for flexible pavement from 2012 to 2052 : 93000
2032	490	55	76	3.6	20	Design Speed : 25 mph

TEMPORARY BRIDGE PROFILE ALONG TEMP CL

BOTTOM OF BEAMS ELEV. = 539.24 FT



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STRUCTURE TYPE:

CLEAR SPAN(NORM
VERTICAL CLEARAN
WATERWAY OF FUL

WATER SURFACE E

Q2.33 =	<u>536.04</u>
Q10 =	<u>537.56</u>
Q25 =	<u>538.24</u>
Q50 =	<u>538.9</u>
Q100 =	<u>539.2</u>

IS THE ROADWAY OF
FREQUENCY:
RELIEF ELEVATION:
DISCHARGE OVER F

AVERAGE LOW ELE
VERTICAL CLEARAN

SCOUR: Footin

REQUIRED CHANNEL

PERM

AVERAGE DAILY FLOW
ORDINARY LOW WATER
ORDINARY HIGH WATER

TEM

STRUCTURE TYPE:
CLEAR SPAN (NORM
VERTICAL CLEARAN
WATERWAY AREA C

ADDI

* Temporary bridge

1. MAINTAIN TRAFFIC
2. TRAFFIC SIGNALS
3. SIDEWALKS ARE

1. DESIGN LIVE LOAD
2. FUTURE PAVEMENT
3. DESIGN SPAN

4. MIN. MID-SPAN PC
5. PRESTRESSING S
6. PRESTRESSED O
7. PRESTRESSED O
8. CONCRETE, HIGH
9. CONCRETE, HIGH
10. CONCRETE, HIGH
11. CONCRETE, CLAS
12. REINFORCING ST
13. STRUCTURAL ST
14. SOIL UNIT WEIGHT
15. NOMINAL BEARIN
16. SOIL BEARING RE
17. NOMINAL BEARIN
18. ROCK BEARING R
19. NOMINAL AXIAL P
20. PILE YIELD STRE
21. PILE SIZE
22. EST. PILE LENGTH
23. PILE RESISTANCE
24. LATERAL PILE DE
25. BASIC WIND SPEE
26. MINIMUM GROUND
27. SEISMIC DATA

PROJECT NAME:

PROJECT NUMBER

FILE NAME: r10j06
PROJECT LEADER:
DESIGNED BY:
PRELIMINARY INFO