



EXISTING STRUCTURE *	
1. STRUCTURE TYPE	Single Span Steel Beam Br.
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	84'
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	80'
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	603 SF
5. WATER SURFACE ELEVATION AT FLOOD OF RECORD	608.2
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD	608.2
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?	No
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL	Gravel + Cobbles
9. DISPOSITION OF STRUCTURE	N/A

  

NEW STRUCTURE *	
1. STRUCTURE TYPE	Widen Existing Structure
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS	84'
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER	11'
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM	80'
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	688 SF
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?	No

HYDRAULIC DATA: \*\*

Q	CFD	WATER ELEVATION	VELOCITY
Q 2.33	0	N/A	N/A
Q 10	1950	606.7	1.8 fps
Q 25	5120	607.8	2.8 fps
Q 50	2560	608.2	3.2 fps
Q 100	2560	608.8	3.9 fps

2. DRAINAGE AREA 152 sq. Mi. CHARACTER OF TERRAIN Rolling to Mountainous

3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? Yes

4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? No IS ORDINARY RISE RAPID? No

5. NATURE OF NATURAL STREAMBED N/A

6. ESTIMATED SCOUR DEPTH 2'-6" COMMENT ON: DRIFT Moderate ICE Moderate

7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? No IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF

8. VERTICAL CLEARANCE ABOVE Q 50 0.6 Ft. Below Low Bridge Seat

9. ALLOWABLE WATER SURFACE ELEVATION LIMITED BY

10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? No IF YES, DESCRIBE

11. AVERAGE DAILY LOW FLOW None DEPTH ~ AVERAGE DAILY HIGH FLOW ~ DEPTH ~

12. STREAMBANK OR CHANNEL PROTECTION REQUIRED Stone Full Type #

13. DISTANCE TO EXISTING UPSTREAM STRUCTURE 3000' SPAN 30' WATERWAY AREA OF FULL OPENING 0

14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE 10,000' SPAN 77' WATERWAY AREA OF FULL OPENING 556 SF @ 50'

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO	H5 2.5-4.1
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL	4.0 KSF ON LEDGE N/A
3. ALLOWABLE LOAD FOR PILING	TYPE ESTIMATED LENGTH
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A 588	TENSION 27,000 PSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION	24,000 PSI COMPRESSION 20,000 PSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A	3500 PSI 1400 PSI
	CLASS B 3500 PSI 1400 PSI

TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? Yes IF YES, ON EXISTING STRUCTURE No OR ON TEMPORARY BRIDGE Yes

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

MINIMUM CLEAR SPAN 25' @ Elev 601.0 MINIMUM CLEAR HEIGHT 4 Feet MINIMUM WATERWAY AREA

ARE SIDEWALKS REQUIRED? No IF SO, ON WHAT SIDE?

\* This structure is an overflow relief structure for bridge #5. Overbank flow from bridge #5 starts at Q5. Flow over the highway occurs at a frequency of 2.5 years.

\*\* These discharges are only the portion of the Batten Kill which flows through B&B when the banks overflow.

**ADDITIONAL DESIGN CONSIDERATIONS**

See Sheet BR603 for General Notes, Sheet Index, Reference Sheets, and Standard Drawings.

See Sheet BR510 for Limits of Fill and Excavation.

STRESS LEVELS	LOAD RATING (TONS)						
	H	HS	3S2	TRUCK	3A STR.	4A STR.	5A SEMI
INVENTORY	46	54					
0.55 Fy = POSTED	69	96			73	74	87
0.67 Fy = OPERATING			116	139			
0.75 Fy =							

RECOMMENDED FOR APPROVAL Warren B. Trapp 5/29/84 STRUCTURES ENGINEER DATE

RECOMMENDED FOR APPROVAL [Signature] 6/18/84 CHIEF OF DESIGN DATE

APPROVED BY [Signature] P.E. 6-4-84 DIRECTOR OF ENGINEERING & CONSTRUCTION DATE

REVISIONS		
NO.	DESCRIPTION	BY & DATE

STATEWIDE - SOUTHWEST REGION  
BHF MEMB(20)  
SHEET 18 OF 47  
BRIDGE 6  
FOR REFERENCE ONLY

**STATE OF VERMONT AGENCY OF TRANSPORTATION**

TOWN OF Arlington Bridge No. 6  
Log Sta. 342 + 71  
HIGHWAY NO. Vt. Rte 313 Surv. Sta. 342 + 71.11  
Vt Rte 313 over the Batten Kill Backwater

**PRELIMINARY INFORMATION**  
Designed by E. Blodgett Drawn by E. Blodgett  
Checked by S. Farnsworth Bridge Design Supervisor date 3/82 F.W. Balkum date 8/84

PROJECT Arlington PROJECT NO. BRS 0108(2)  
Bridge Sheet No. BR601 Sheet 33 of 105

