



TYPICAL BRIDGE SECTION

SCALE: 1/4" = 1'-0"

\* TOTAL DEPTH TOLERANCE = 1/4" ±

EXISTING STRUCTURE

1. STRUCTURE TYPE	3 SPAN CONCRETE T-BEAM	OVERALL LENGTH	130 FT	INVENTORY RATING	
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS			38 FT - 54 FT - 38 FT		
3. CLEAR SPAN LENGTH(S) NORMAL TO STREAM			28 FT - 37 FT - 23 FT - 28 FT		
4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)	625 SF	VERTICAL CLEARANCE ABOVE STREAMBED	10 FT		
5. WATER SURFACE ELEVATION @ 0.25	791.0	WATER SURFACE ELEVATION @ 0.00	795.6		
6. WATER SURFACE ELEVATION AT FLOOD OF RECORD	UNKNOWN	YEAR	1938	ESTIMATED DISCHARGE	UNKNOWN
7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? YES IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR?					N/A
8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL	SILTY SAND AND GRAVEL				
9. DISPOSITION OF STRUCTURE	REMOVE				

NEW STRUCTURE

STRUCTURE GEOMETRY:	SIMPLE SPAN PLATE GIRDER	OVERALL LENGTH	113.78 FT
1. STRUCTURE TYPE			17.84 FT
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS			
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER			
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM			68 FT
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM)			695 SF
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES?			

HYDRAULIC DATA:

1. @ 2.33	1150 CFS	WATER ELEVATION	791.2	VELOCITY	8.5 FPS
0 1.0	2550 CFS	WATER ELEVATION	793.0	VELOCITY	10.7 FPS
0 25	3700 CFS	WATER ELEVATION	794.1	VELOCITY	11.8 FPS
0 50	4700 CFS	WATER ELEVATION	795.0	VELOCITY	12.6 FPS
0 100	5650 CFS	WATER ELEVATION	795.8	VELOCITY	13.4 FPS

2. DRAINAGE AREA: 27.2 SQ MI CHARACTER OF TERRAIN: ROLLING TO HILLY

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

4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE RAPID? YES

5. NATURE OF NATURAL STREAMBED: SILT, SAND & GRAVEL - ARMORED WITH ROCKS & BOULDERS

6. ESTIMATED SCOUR DEPTH: 4 FT COMMENT ON: DRIFT MODERATE ICE MODERATE

7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? YES IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? N/A

8. VERTICAL CLEARANCE ABOVE D 50: 0.4 FT AVERAGE

9. ALLOWABLE WATER SURFACE ELEVATION: 795.4 LIMITED BY: AVERAGE BOTTOM OF LOW GIRDER ELEVATION

10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE: N/A

11. AVERAGE DAILY LOW FLOW: 25 CFS DEPTH: 2.0 FT AVERAGE DAILY HIGH FLOW: 500 CFS DEPTH: 4.5 FT

12. STREAMBANK OR CHANNEL PROTECTION REQUIRED: STONE FILL TYPE III

13. DISTANCE TO EXISTING UPSTREAM STRUCTURE: 1,800 FT SPAN: 70 FT WATERWAY AREA OF FULL OPENING: 0

14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE: 4,000 FT SPAN: 40 FT WATERWAY AREA OF FULL OPENING: 0

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO	HS 25		
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL	4 KSF	ON LEDGE	N/A
3. ALLOWABLE LOAD FOR PILING	N/A	TYPE	N/A ESTIMATED LENGTH: N/A
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL AASHTO M-270	GR 50 PAINTED	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	f <sub>c</sub> 3,500 PSI	f <sub>c</sub>	1,400 PSI
	CLASS B	f <sub>c</sub>	3,500 PSI
		f <sub>c</sub>	1,400 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: X TRAFFIC CONTROL SIGNALS REQUIRED: X

MINIMUM CLEAR SPAN: 50 FT MINIMUM CLEAR HEIGHT: 8 FT MINIMUM WATERWAY AREA: X

ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE: N/A

\* SEE ROADWAY DESIGN DETAILS

ADDITIONAL DESIGN CONSIDERATIONS

STATEWIDE - SOUTHEAST REGION  
BHF MEMB(21)

SHEET 16 OF 34  
BRIDGE 46  
FOR REFERENCE ONLY

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ON CADD

LIST OF SHEETS

- BRI00 PRELIMINARY INFORMATION
- BRI01 GENERAL NOTES
- BRI02 BRIDGE QUANTITY SHEET
- BRI03 PLAN & ELEVATION
- BRI04 BORING SHEET
- BRI05 TYPICAL SECTION & DECK REINFORCING PLAN
- BRI06 FRAMING PLAN
- BRI07 DIAPHRAGM DETAILS
- BRI08 MISCELLANEOUS STRUCTURAL STEEL DETAILS
- BRI09 APPROACH SLAB DETAILS
- BRI10 BEARING DETAILS
- BRI11 CURB DETAILS
- BRI12 ABUTMENT 1 DETAILS
- BRI13 ABUTMENT 2 DETAILS
- BRI14 FOOTING REINFORCING PLAN
- BRI15 WINGWALL DETAILS
- BRI16 BACKWALL REINFORCING & CORNER DETAILS
- BRI17 END BRIDGE RAIL DETAILS
- BRI18 EXPANSION JOINT DETAILS
- BRI19 HOPPER & DOWNSPOUT DETAILS
- BRI20 SCUPPER DETAILS
- BRI21 REINFORCING STEEL SCHEDULE
- BRI22-127 CHANNEL SECTIONS

LIST OF STANDARDS

- SB-R4a-82 9-18-89 R
- SB-R4b-82 3-30-88 R

LOAD RATING ( TONS )		STATE OF VERMONT AGENCY OF TRANSPORTATION	
STRESS LEVELS	H HS 3S2 16 AXLE 3A STR 14A STR 15A SEM	Town Of	CHESTER
INVENTORY 0.55 Fy =	42 47	Bridge No.	46
POSTED 0.67 Fy =	69 76 86 72 75 82	Log Sta.	110+16
OPERATING 0.75 Fy =	94 106 121 89 93	Surv. Sta.	15+00
REVISIONS		VT. ROUTE 11 OVER THE MIDDLE BRANCH WILLIAMS RIVER	
NO.	DESCRIPTION	PRELIMINARY INFORMATION	
	BY & DATE	Designed By	D. J. HOYNE
		Drawn By	G. ROY
		Checked By	Date
		Bridge Design Supervisor	Date
		PROJECT	CHESTER
		PROJECT NO.	BRF-F 016-1(3)
		I.G.C. Info.	ZHI4.3072377B015BRG.DGNJ 77B015PI.PRF
		Bridge Sheet No.	BRI00
		Sheet	23 of 68