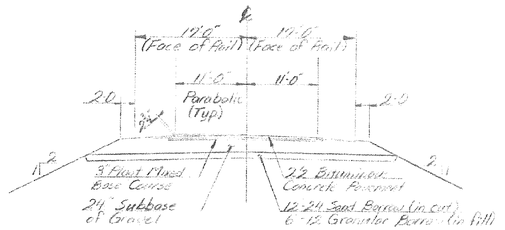
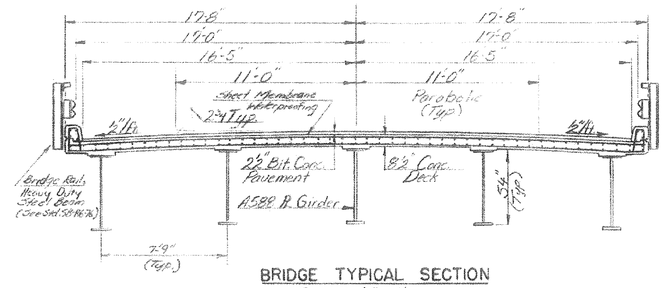
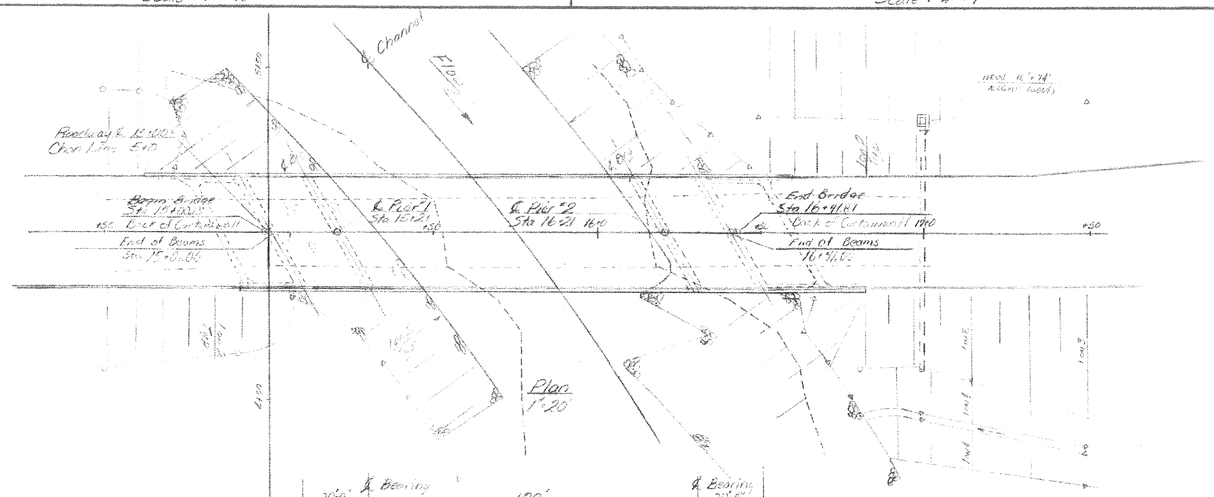
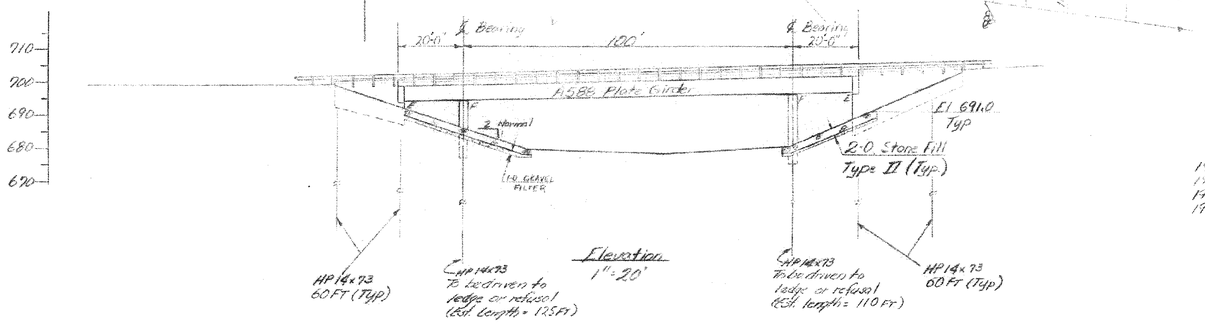


NEW HIGHWAY SECTION — BRIDGE APPROACHES
Scale: 1" = 10'

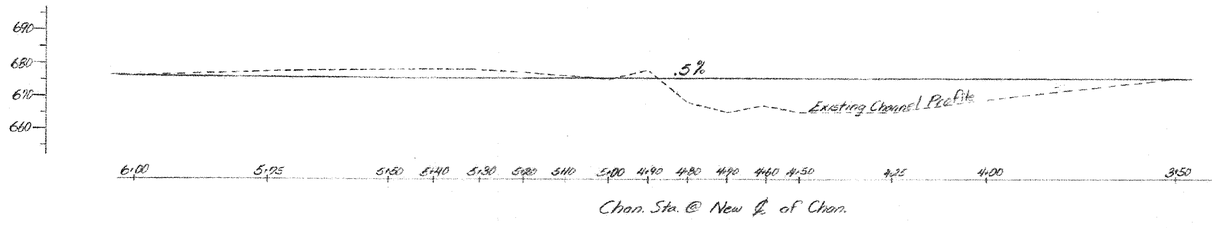


BRIDGE TYPICAL SECTION
Scale: 4" = 1'





Traffic Data
1977 MADT = 1080
1977 DHV = 175
1997 AADT = 1550
1997 DHV = 230
T = 5%
D = 67%



EXISTING STRUCTURE

1. RATED LOADING OF EXISTING STRUCTURE H15
2. TYPE OF EXISTING STRUCTURE 3 Span Concrete T-Beam
3. UNDERCLEARANCE ELEVATION OF EXISTING STRUCTURE _____ SPAN(S) OF EXISTING STRUCTURE 20' for each Span
4. WHAT DISPOSITION SHOULD BE MADE OF EXISTING STRUCTURE? Remove EST. COST OF REMOVAL $5,000
5. SHOULD EXISTING STRUCTURE BE USED TO MAINTAIN TRAFFIC DURING CONSTRUCTION OF NEW STRUCTURE? No
6. ORDINARY HIGH WATER SURFACE ELEVATION AT EXISTING STRUCTURE 686.7 WATERWAY TO ORDINARY H.W. _____
7. FLOOD OF RECORD WATER SURFACE ELEVATION AT EXISTING STRUCTURE 690.3 YEAR 1973 EST. DISCHARGE 3770 cfs
8. SPAN OF EXISTING STRUCTURE UPSTREAM 67'-67'-67' WATERWAY AREA (FULL OPENING) 1960 sf
   SPAN OF EXISTING STRUCTURE DOWNSTREAM 63' WATERWAY AREA (FULL OPENING) 1000 sf
9. TYPE OF FOUNDATION UNDER EXISTING SUBSTRUCTURE Sand / Sandy Silt
10. DOES ALL WATER AT FLOOD ELEVATION PASS THROUGH EXISTING STRUCTURE? yes RELIEF ELEVATION N/A
11. ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF N/A

NEW STRUCTURE

1. RECOMMENDED TYPE OF STRUCTURE 3 Span Continuous Composite Cantilever
2. RECOMMENDED OVERALL STRUCTURE LENGTH 140'
   CLEAR SPAN LENGTH(S) NORMAL TO STREAM 86.60'
   SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 20 FT Cantilever - 100 FT - 20 FT Cantilever
3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? YES ✓ NO _____
4. DOES STREAM REACH ITS MAXIMUM HIGH WATER ELEVATION RAPIDLY? No IS ORDINARY RISE RAPID? No
5. NATURE OF NATURAL STREAMBED: Sand & Silt
6. EST. SCOUR DEPTH 10.4 COMMENT ON: DRIFT Moderate ICE Heavy
7. DRAINAGE AREA IN ACRES 63.840 CHARACTER OF TERRAIN Rolling to Mountainous
8. VELOCITY OF STREAM AT DESIGN STAGE 4.5 fps DESIGN DISCHARGE Q 50 = 3970 cfs
9. IS ALL WATER INTENDED TO PASS THROUGH NEW STRUCTURE? yes AREA FULL OPENING _____
10. ORDINARY HIGH WATER ELEVATION AT NEW STRUCTURE 686.0
11. DESIGN HIGH WATER ELEVATION AT NEW STRUCTURE 689.3 (Q50) (SOURCE OF INFORMATION) Computed
12. VERTICAL CLEARANCE ABOVE DESIGN STAGE _____
13. CHECK DISCHARGE = 1.3 X DESIGN DISCHARGE 5100 cfs (Q100) CHECK DISCHARGE WATER SURFACE ELEV. 690.0 (Q100)
14. ALLOWABLE WATER SURFACE ELEVATION 692.86' LIMITED BY Low Bridge Cost
15. IS DESIGN STAGE AFFECTED BY DOWNSTREAM CONDITIONS? No IF YES - DESCRIBE _____
16. ARE SIDEWALKS REQUIRED? No IF SO ON WHAT SIDE? — CLEAR WIDTH _____
17. TRAFFIC TO BE MAINTAINED UNDER ITEM NO. 638.11 ONE OR TWO WAYS TWO ESTIMATED COST _____
18. PROVISIONS TO BE MADE FOR PUBLIC UTILITIES _____
19. ESTIMATED ALLOWABLE LOAD FOR SPREAD FOOTINGS N/A DESIGN MAX. FOOTING PRESSURE N/A
20. PILING DESIGN LOAD Pier #1 - 96 T ESTIMATED LENGTH Pier #1 - 125 FT, Pier #2 - 110 FT TYPE HP 14 x 73
21. DESIGN SPECIFICATIONS:
    DESIGN LOAD
    A.A.S.H.O. HS25 - 44
    ALLOWABLE STRESSES
    STRUCTURAL STEEL: TENSION 27 KSI, COMPRESSION 24 KSI
    REINFORCING STEEL: Grade 60 TENSION 24 KSI, COMPRESSION 20 KSI
    CONCRETE: f'_c 3.5 KSI, f_c 1.4 KSI

ADDITIONAL DESIGN CONSIDERATIONS

Index of Sheets

BR100 Preliminary Information Sheet
BR101 Geometry Sheet
BR102 Boring Sheet
BR103 Bridge Plan & Elevation
BR104 Superstructure Details
BR105 Slab Reinforcing & Typical Section
BR106 Curb & Railing Details
BR107 Bearing Device & Scupper Details
BR108 Abut. #1 Plan & Elevation
BR109 Wingwall #1 & #2
BR110 Tie Beam & Approach Slab Details
BR111 Abut. #2 Plan & Elevation
BR112 Wingwall #3 & #4
BR113 Pier Details
BR114-115 Reinforcing Steel Schedule
— — Channel Sections

Standards:
SCB-D1-75 Rev. 4/13/78
SCB-D6-75 Rev. 1-3-79 Detail A, B, D & E
SCB-D7-71 Rev. 12-15-76 Detail C & F

STATEWIDE – N.E. REGION
BHF MEMB(19)
SHEET 38 OF 80
BRIDGE No. 174
FOR REFERENCE ONLY

SHEET REVISED 3-13-80

RECOMMENDED FOR APPROVAL _____ BRIDGE ENGINEER DATE
RECOMMENDED FOR APPROVAL _____ ASSISTANT CHIEF ENGINEER DATE
APPROVED BY _____ CHIEF ENGINEER DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE
1	#17 CHANGED ITEM No. FROM 638.10 -ONE-WAY TO 638.11 TWO-WAY	3/80 SJB

STATE OF VERMONT
DEPARTMENT OF HIGHWAYS

TOWN OF COVENTRY	Bridge No.
	Log Sta.
HIGHWAY NO. US 5	Surv. Sta. 15+71
PRELIMINARY INFORMATION	
US 5 OVER THE BLACK RIVER	
Designed by A. Elwood	Drawn by R. HOLBROOK
Checked by A. Elwood date 11-78	Bridge Design Supervisor R.S. Haupt date 11-78
PROJECT COVENTRY	PROJECT NO. BRS 0113 (2)
Bridge Sheet No. 100	Sheet 9 of 38

BR-2