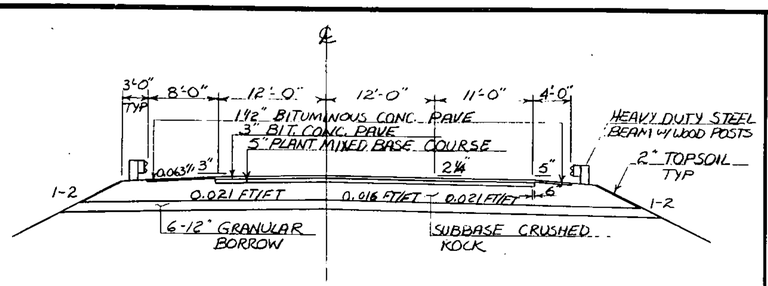
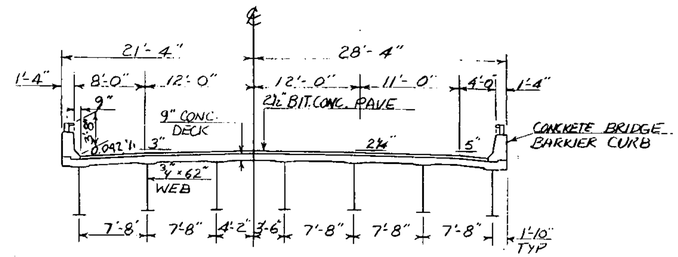


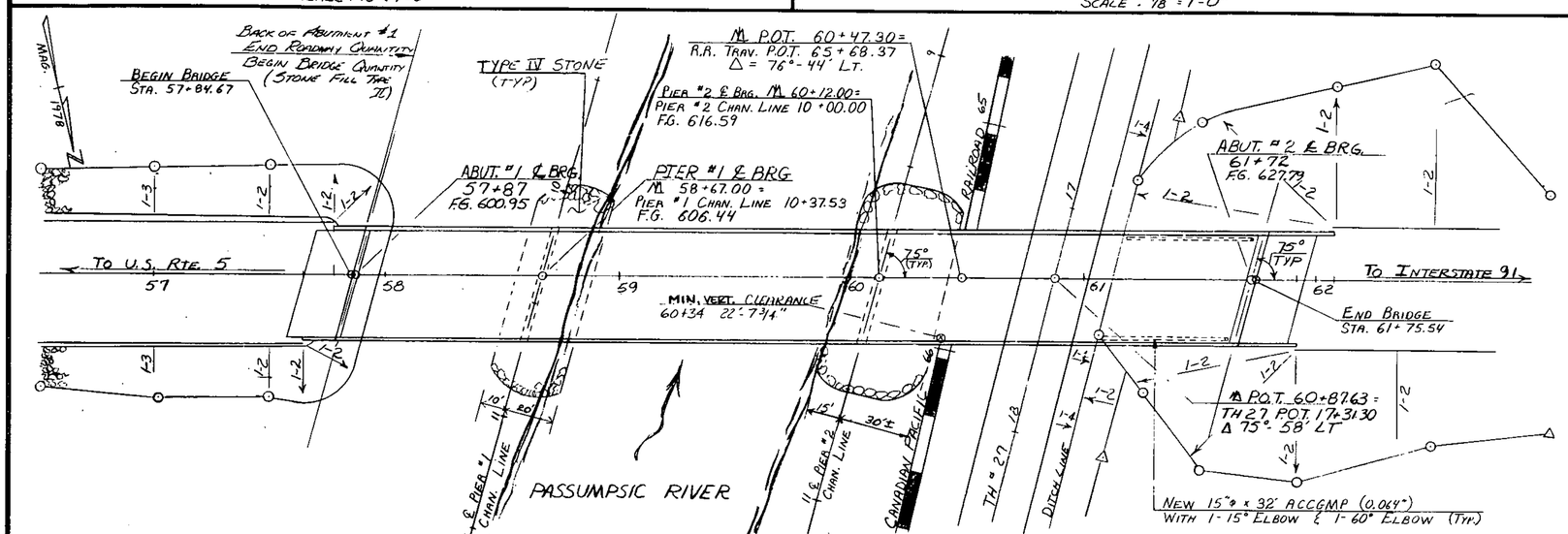
NEW HIGHWAY SECTION — BRIDGE APPROACHES

SCALE: 1/8" = 1'-0"



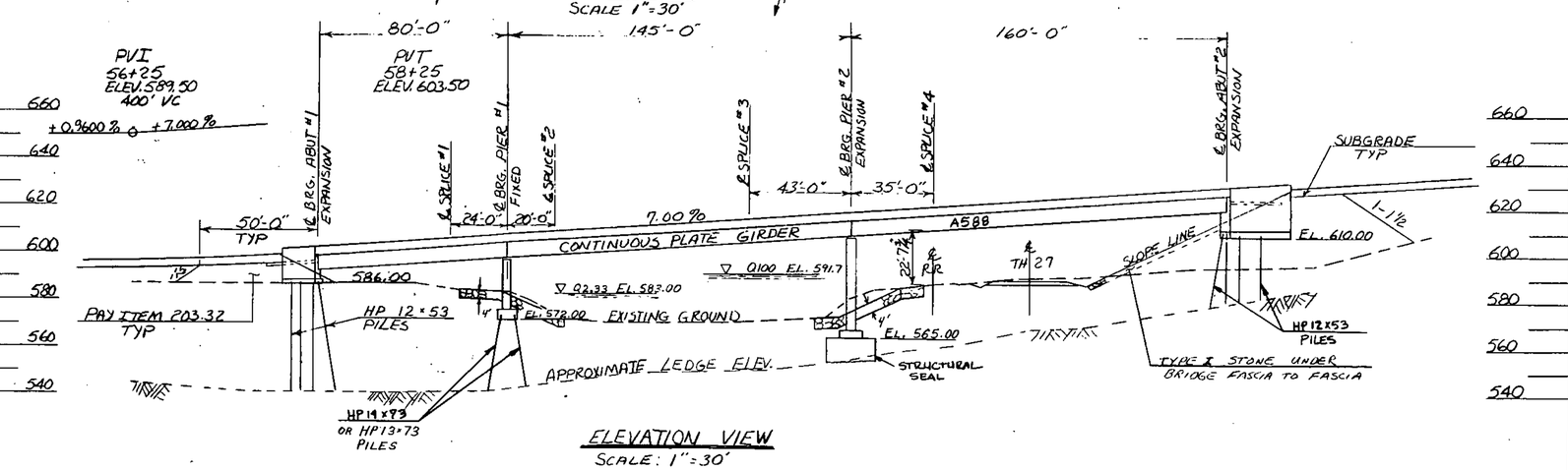
BRIDGE TYPICAL SECTION

SCALE: 1/8" = 1'-0"



PLAN VIEW

SCALE 1"=30'



ELEVATION VIEW

SCALE: 1"=30'

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General Notes and List of Bridge Standards are on Sheet BR 104.

NEW STRUCTURE

STRUCTURE GEOMETRY:

1. STRUCTURE TYPE 3 SPAN CONTINUOUS COMPOSIT PLATE GIRDER OVERALL LENGTH 390'-10½
2. SPAN LENGTH(S) CENTER TO CENTER OF BEARINGS 80' 145' 160'
3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER RAILROAD UNDER 22'-7¾"
4. CLEAR SPAN LENGTH(S) NORMAL TO STREAM 335 AT ELEV 598 FROM FACE ABUT #1 TO SLOPE TH 27
5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM) 3400 S.F. TO Q100
6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

HYDRAULIC DATA:

1. Q 2.33 6010 CFS WATER ELEVATION 583.0 VELOCITY 4.7 FPS
   Q 10 11000 CFS WATER ELEVATION 585.7 VELOCITY 5.7 FPS
   Q 25 17000 CFS WATER ELEVATION 588.1 VELOCITY 6.8 FPS
   Q 50 22000 CFS WATER ELEVATION 590.1 VELOCITY 7.4 FPS
   Q 100 27500 CFS WATER ELEVATION 591.7 VELOCITY 8.1 FPS
2. DRAINAGE AREA 242 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? YES
5. NATURE OF NATURAL STREAMBED SAND AND SILTY SAND
6. ESTIMATED SCOUR DEPTH 4 TO 8 FT COMMENT ON: DRIFT MODERATE ICE MODERATE TO HEAVY
7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? NO IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? Q 100
   ADDITIONAL WATERWAY AREA PROVIDED BY RELIEF NOT DETERMINED
8. VERTICAL CLEARANCE ABOVE Q 100 1.7 FT
9. ALLOWABLE WATER SURFACE ELEVATION ELEV. LIMITED BY Q 100
10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO IF YES, DESCRIBE
11. AVERAGE DAILY LOW FLOW 2.5 CFS DEPTH 3.0 FT AVERAGE DAILY HIGH FLOW 600 CFS DEPTH 8.5 FT
12. STREAMBANK OR CHANNEL PROTECTION REQUIRED TYPE IV STONE
13. DISTANCE TO EXISTING UPSTREAM STRUCTURE 3300 FT. SPAN 98 FT WATERWAY AREA OF FULL OPENING 1550 FT² Q *
14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE 6000 FT. SPAN 138 FT WATERWAY AREA OF FULL OPENING 2750 FT² Q *
15. STREAM BOTTOM ELEVATION AT STRUCTURE, APPROXIMATELY 571.0

* OPENING TO BOTTOM OF PIERS

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD AASHTO HS 25-44
2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 4 KSF ON LEDGE 10 KSF
3. ALLOWABLE LOAD FOR PILING 69 TONS & 96 TONS TYPE HP12x53 & HP14x73 ESTIMATED LENGTH+ SEE BELOW
4. ALLOWABLE STRESS FOR STRUCTURAL STEEL ASTM A 588 TENSION 27 KSI
5. ALLOWABLE STRESS FOR REINFORCING STEEL GRADE 60 TENSION 24 KSI COMPRESSION 20 KSI
6. ALLOWABLE STRESS FOR CONCRETE CLASS A f_c 3.5 KSI f_c 1.4 KSI
   CLASS B f_c 3.5 KSI f_c 1.4 KSI

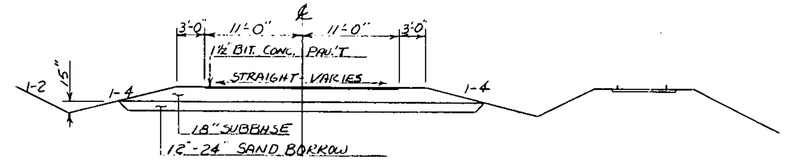
TRAFFIC MAINTENANCE:

1. IS TRAFFIC TO BE MAINTAINED? *SEE NOTE IF YES, ON EXISTING STRUCTURE N/A OR ON TEMPORARY BRIDGE N/A
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY N/A TRAFFIC CONTROL SIGNALS REQUIRED
   MINIMUM CLEAR SPAN MINIMUM CLEAR HEIGHT MINIMUM WATERWAY AREA
   ARE SIDEWALKS REQUIRED? IF SO, ON WHAT SIDE?

* TRAFFIC ON TH 27, THE CANADIAN PACIFIC RAILROAD AND US #5 SHALL BE MAINTAINED AT ALL TIMES DURING THE CONSTRUCTION OF THIS PROJECT. ALL EXPENSES INCURRED BY MEETING THIS REQUIREMENT SHALL BE INCLUDED UNDER ITEM 637.10 MAINTENANCE OF TRAFFIC FOR BRIDGE PROJ.

+ESTIMATED PILE LENGTHS ABUT #1 50', PIER #1 35' AND ABUT #2 40'.

ADDITIONAL DESIGN CONSIDERATIONS



TH #27 TYPICAL UNDER BRIDGE

SCALE 1/8" = 1'-0"

CANADIAN PACIFIC RAILROAD

LOAD RATING (TONS)

STRESS LEVELS	TRUCK H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY 0.55 Fy =	56	59					
POSTED 0.67 Fy =	87	95	103		92	90	99
OPERATING 0.75 Fy =			126	136			

RECOMMENDED FOR APPROVAL W.M. Smith STRUCTURES ENGINEER 5/28/81 DATE

RECOMMENDED FOR APPROVAL Arthur J. Gross CHIEF OF DESIGN 5/29/81 DATE

APPROVED BY S.J. Cope, PE DIRECTOR OF ENGINEERING & CONSTRUCTION MAY 28 1981 DATE

REVISIONS

NO.	DESCRIPTION	BY & DATE

STATE OF VERMONT
AGENCY OF TRANSPORTATION

TOWN OF ST. JOHNSBURY	Bridge No. 1
HIGHWAY NO. I91 NORTHERN CONNECTOR	Log Sta. Surv. Sta. 60+0
I91 NORTHERN CONNECTOR OVER PASSUMPSIC RIVER	
PRELIMINARY INFORMATION	
Designed by G.V. SPILAK	Drawn by W. STODDARD
Checked by A. ELWOOD date 3-81	Bridge Design Supervisor R.S. HAUPT date 3-81
PROJECT ST. JOHNSBURY	PROJECT NO. DP-FF 041-1(10
Bridge Sheet No. BR 100	Sheet 58 of 229

BRUNING 44-131 40151

BR-2