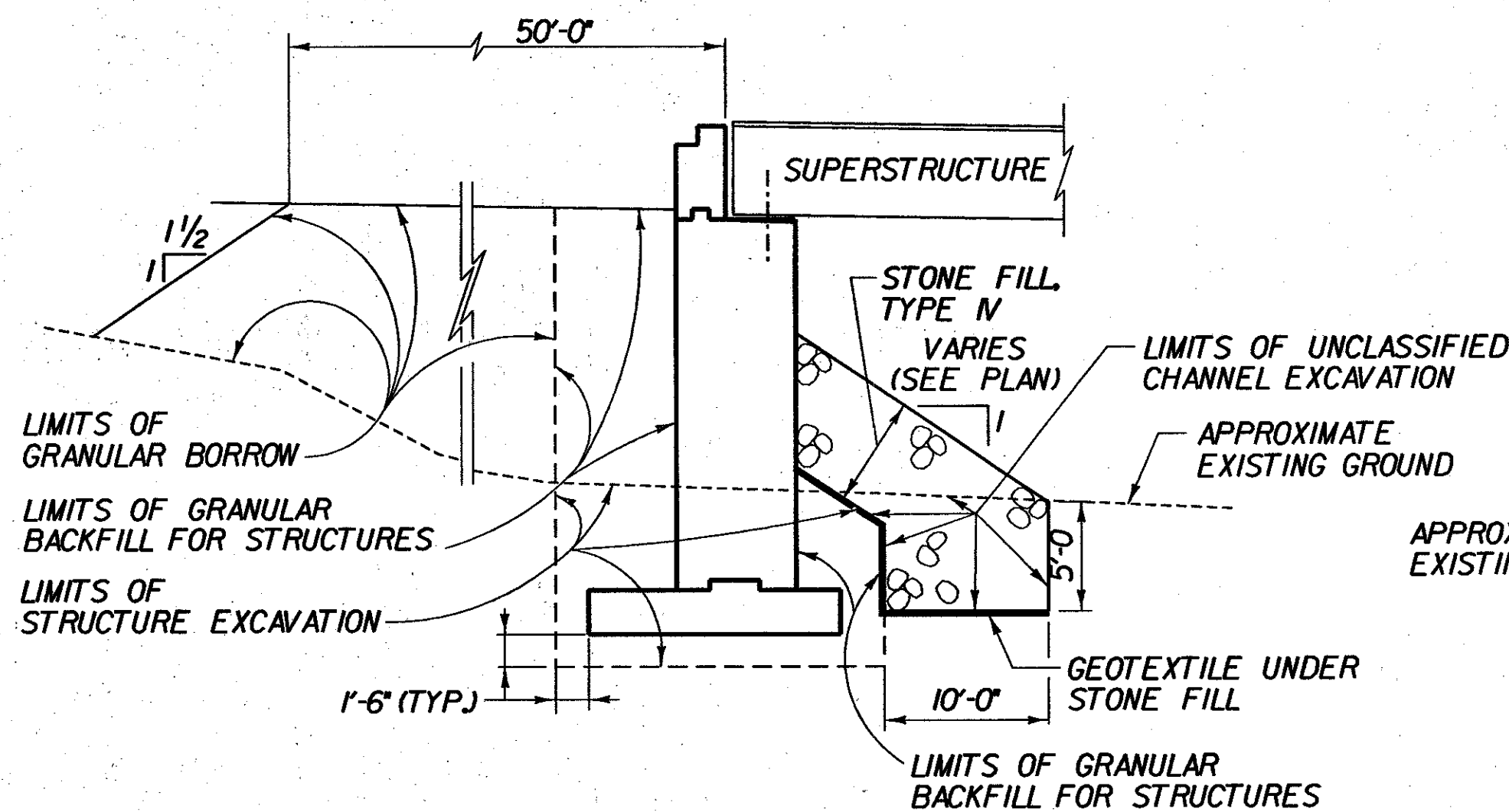
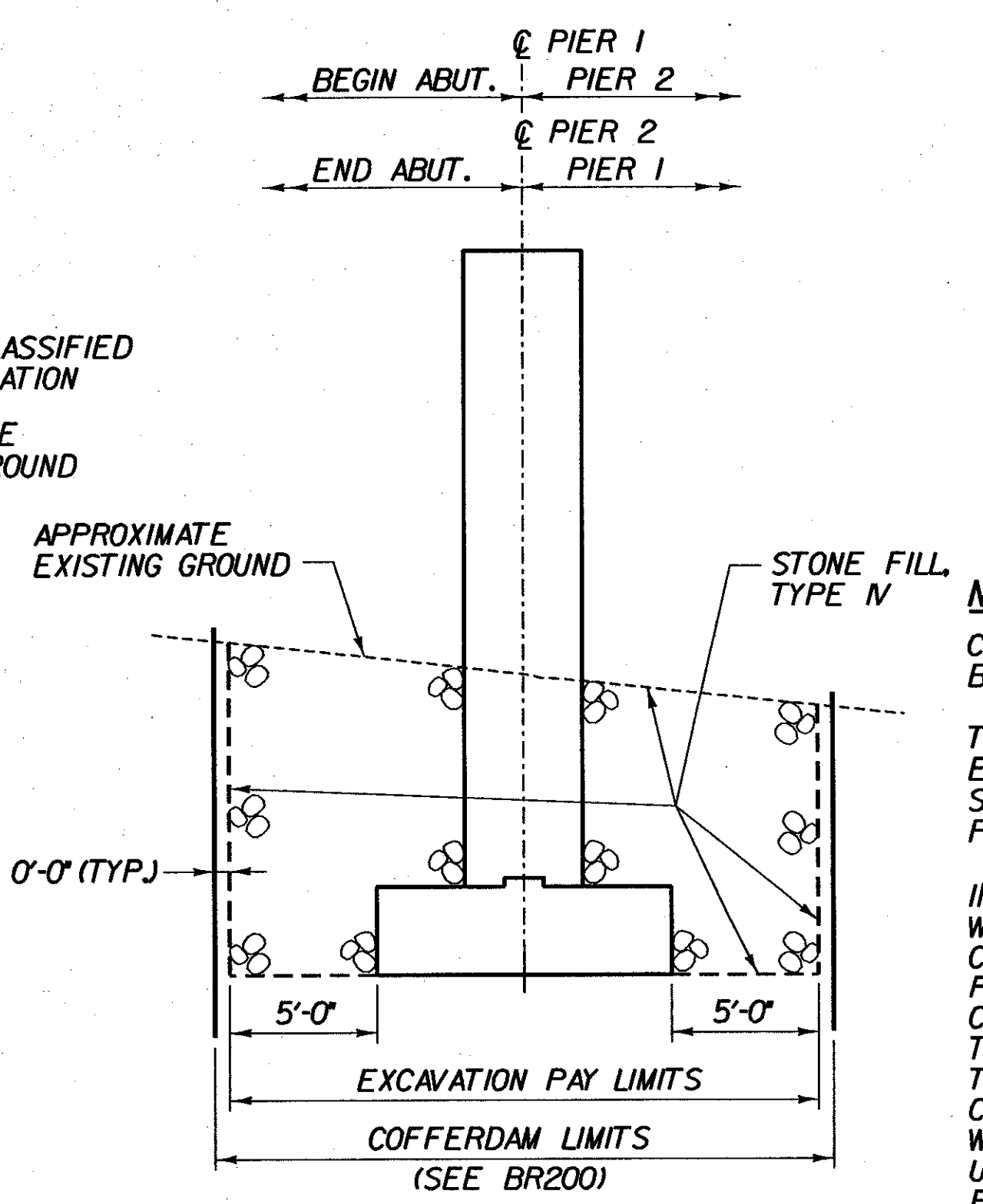


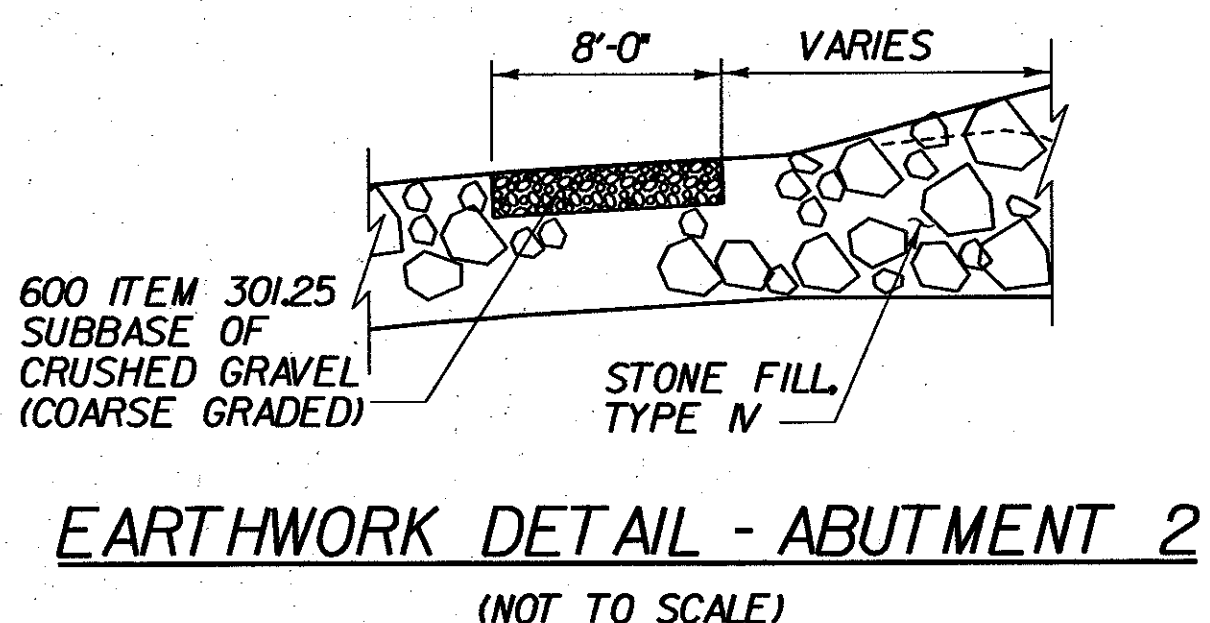
TYPICAL BRIDGE SECTION - BR 25  
(NOT TO SCALE)



TYPICAL ABUTMENT SECTION - BR 25  
(NOT TO SCALE)



TYPICAL PIER SECTION - BR 25  
(NOT TO SCALE)



EARTHWORK DETAIL - ABUTMENT 2  
(NOT TO SCALE)

FILE NAME: I:\9751\STN15\BR025\25.sno.abt.dgn DATE/TIME: 02/20/02 USER: J2225

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA: 97 SQUARE MILES  
 CHARACTER OF TERRAIN: MOUNTAINOUS AND FORESTED  
 CHARACTER & TYPE OF STREAM: PERENNIAL, FLASHY, SUB TO SUPERCRITICAL AND SINUOUS  
 NATURE OF STREAMBED: GRAVEL, COBBLES TO LARGE BOULDERS  
 02.33= 2700 cfs      050= 1500 cfs  
 010= 6000 cfs      0100= 13800 cfs  
 025= 8900 cfs      0500= 22500 cfs  
 DATE OF FLOOD OF RECORD: SEPTEMBER 1938  
 WATER SURFACE ELEV.: UNKNOWN      ESTIMATED DISCHARGE: UNKNOWN  
 NATURAL STREAM VELOCITY & FLOOD OF RECORD @ 050 = 12.6 fps  
 ICE CONDITIONS: MODERATE      DEBRIS: MODERATE  
 DOES THE STREAM REACH MAXIMUM HIGHWATER ELEVATION RAPIDLY? YES  
 IS ORDINARY RISE RAPID? YES  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES  
 IF YES, DESCRIBE: SEARSBURG AND SOMERSET RESERVOIRS ARE UPSTREAM OF THIS SITE  
 WATERSHED STORAGE: 4%      HEADWATERS: UNIFORM THROUGHOUT WATERSHED X  
 IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: THREE SPAN COCONCRETE T-BEAM BRIDGE      YEAR BUILT: 1934  
 CLEAR SPAN (NORMAL TO STREAM): 105 FT  
 VERTICAL CLEARANCE ABOVE STREAMBED: 20 FT  
 WATERWAY OF FULL OPENING: 1100 sq ft  
 DISPOSITION OF STRUCTURE: REMOVE  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: UNKNOWN  
 WATER SURFACE ELEV. @ 02.33= 1523.7 ft      VELOCITY: 9.1 fps  
 010= 1527.6 ft      "      13.5 fps  
 025= 1530.1 ft      "      14.5 fps  
 050= 1532.0 ft      "      15.7 fps  
 0100= 1534.0 ft      "      15.5 fps

LONG TERM STREAM BED CHANGES: NONE NOTED  
 IS THE ROADWAY OVERTOPPED BELOW THE O100? NO      FREQUENCY: ABOVE O100  
 RELIEF ELEVATION: 1535 ft DISCHARGE OVER ROAD @ O100: NONE  
 UPSTREAM STRUCTURE #1: TOWN: N/A - SEARSBURG RESERVOIR      DISTANCE: 1.5 MI UPSTREAM  
 HIGHWAY NO.:      STRUCTURE NO.:  
 STRUCTURE TYPE:      CLEAR HEIGHT:  
 YEAR BUILT:      FULL WATERWAY:  
 UPSTREAM STRUCTURE #2: TOWN:      DISTANCE:  
 HIGHWAY NO.:      STRUCTURE NO.:  
 STRUCTURE TYPE:      CLEAR HEIGHT:  
 YEAR BUILT:      FULL WATERWAY:  
 DOWNSTREAM STRUCTURE: TOWN: WILMINGTON      DISTANCE: 1.8 MI  
 HIGHWAY NO.: 113      STRUCTURE NO.: 57  
 STRUCTURE TYPE: SINGLE SPAN PLATE GIRDER BRIDGE  
 CLEAR SPAN: 96 ft      CLEAR HEIGHT: 13 ft  
 YEAR BUILT: 1985      FULL WATERWAY: 200 sq ft

PROPOSED STRUCTURE

STRUCTURE TYPE: 3 SPAN CONTINUOUS CURVED PLATE GIRDER  
 CLEAR SPAN (NORMAL TO STREAM): 159 FT  
 VERTICAL CLEARANCE ABOVE STREAMBED: 20 FT  
 WATERWAY OF FULL OPENING: 1800 SQ FT  
 WATER SURFACE ELEV. @ 02.33 = 1523.4 ft      VELOCITY = 8.5 fps  
 010 = 1527.2 ft      "      13.4 fps  
 025 = 1529.4 ft      "      14.8 fps  
 050 = 1532.2 ft      "      15.5 fps  
 0100 = 1532.6 ft      "      15.7 fps  
 IS THE ROADWAY OVERTOPPED BELOW THE O100? NO      FREQUENCY: ABOVE O100  
 RELIEF ELEVATION: 1533 ft DISCHARGE OVER ROAD @ O100: NONE  
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 1533.9 ft  
 VERTICAL CLEARANCE @ 050 = 2.8 ft  
 SCOUR: O100: 8 FT OF PIER SCOUR AND NO CONTRACTION SCOUR  
 REQUIRED CHANNEL PROTECTION: TYPE IV STONE FILL

PERMIT INFORMATION

AVERAGE DAILY FLOW: 200 cfs\*      DEPTH: 1 ft  
 ORDINARY LOW WATER: 90 cfs\*      DEPTH: 3 ft  
 ORDINARY HIGH WATER: 1200 cfs\*      DEPTH: 3 ft

ADDITIONAL COMMENTS

\* OPERATION OF THE SEARSBURG RESERVOIR PENSTOCK MAY HAVE AN EFFECT ON THESE FLOW RATES.

- DESIGN CRITERIA:  
 1. DESIGN LIVE LOAD AASHTO HS-20  
 2. DESIGN SPAN 239'-4" ON LEDGE  
 3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 4TSE  
 4. ALLOWABLE LOAD FOR PILING SEE DRILLED SHAFT NOTES, BR3 TYPE SEE DRILLED SHAFT NOTES, BR3 ESTIMATED LENGTH SEE DRILLED SHAFT NOTES, BR3  
 5. STRUCTURAL STEEL AASHTO M270 GRADE 50 W UNPAINTED  
 6. REINFORCING STEEL AASHTO GRADE 60 W BULLET STEEL  
 7. CONCRETE CLASS A (OC/OA) - f'c=4000 PSI  
 CLASS B (BPC-B) - f'c=3500 PSI  
 CLASS A (BPC-A) - f'c=4000 PSI

TRAFFIC MAINTENANCE:  
 1. IS TRAFFIC TO BE MAINTAINED? YES      IF YES, ON EXISTING STRUCTURE YES      OR ON TEMPORARY BRIDGE  
 2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY      TRAFFIC CONTROL SIGNALS REQUIRED  
 MINIMUM CLEAR SPAN (NORMAL TO STREAM):      VERTICAL CLEARANCE ABOVE STREAMBED:  
 WATERWAY OF FULL OPENING:  
 ARE SIDEWALKS REQUIRED?      IF SO, ON WHAT SIDE?  
 STRUCTURE TYPE:

LOADING LEVELS (LOAD FACTOR)	LOAD FACTOR LOAD RATING (TONS)						
	H	HS	3S2	6 AXLE	3A,STR.	4A,STR.	5A,SEM
INVENTORY A = 2.17; B = 1.00	31	56					
POSTED A = 1.55; B = 1.40	44	79	288		266	268	277
OPERATING A = 1.30; B = 1.67	52	94	343	353	317	319	

YEAR	PROJECTED TRAFFIC DATA				
	ADT	DHV	% D	% T	% ADTT
2000	-	-	-	-	-
2020	-	-	-	-	-

20 year ESAL for flexible pavement from 2000 to 2020: 4,825,000  
 40 year ESAL for flexible pavement from 2000 to 2040: 17,229,000  
 Design speed: 100 KMH

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

Town Of SEARSBURG      Bridge No. 25  
 Log Sta.  
 Highway No. VT. RTE. 9      Surv. Sta. 120+00  
 VT. RTE. 9 OVER DEERFIELD RIVER  
 PRELIMINARY INFORMATION - BR 25  
 Designed By D. VIENI      Drawn by K. DETRICK/Wm. WEATHERBY  
 Checked By M. OLSTAD      Date 2/2002      Bridge Design Supervisor M. OLSTAD      Date 2/2002  
 PROJECT SEARSBURG - WILMINGTON      PROJECT NO. NHF 010-118  
 I.G.C. Info.  
 Bridge Sheet No. BR201      Sheet 127 of 435