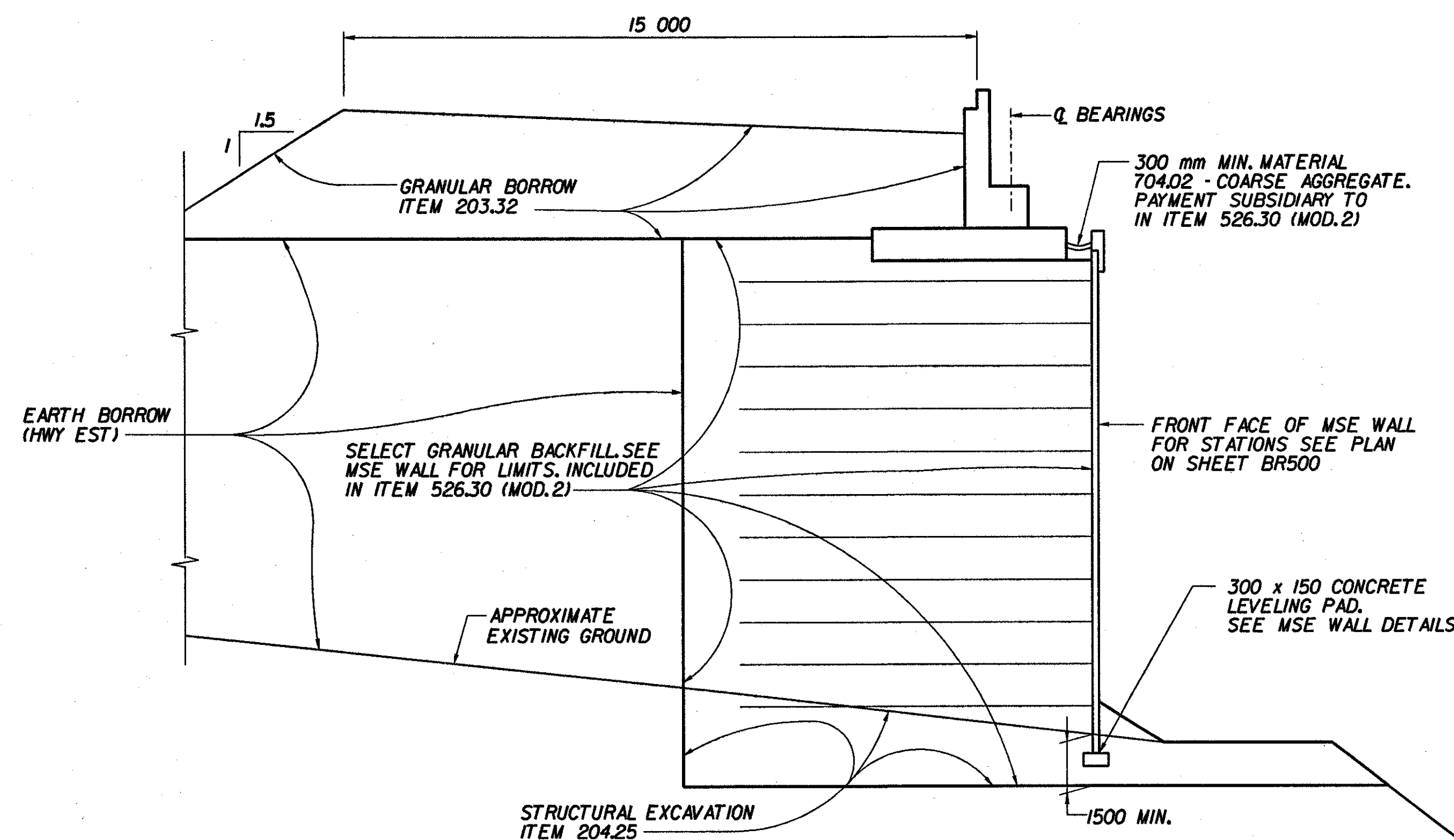
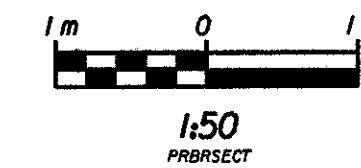
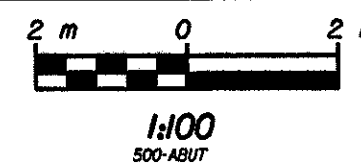


TYPICAL BRIDGE SECTION



EARTHWORK DETAIL  
ABUTMENT 1 SHOWN - ABUTMENT 2 SIMILAR



MATERIAL ITEM	TOLERANCE
PAVEMENT	: 5 mm TOTAL THICKNESS
AGGREGATE SURFACE COURSE	: 10 mm
BASE COURSE	: 10 mm
SUBBASE	: 30 mm
SAND BORROW	: 30 mm
GRANULAR BORROW	: 30 mm

HYDROLOGIC DATA

DRAINAGE AREA: 182 ha  
 CHARACTER OF TERRAIN: PRIMARILY UNDEVELOPED WOODED AREAS  
 CHARACTER & TYPE OF STREAM: SMALL PERENNIAL STREAM THAT IS MILDY SINUOUS  
 NATURE OF STREAMBED: COBBLES, SMALL DIA. STONES AND SAND  
 02.33: 162 m<sup>3</sup>/sec      050: 287 m<sup>3</sup>/sec  
 010: 227 m<sup>3</sup>/sec      0100: 312 m<sup>3</sup>/sec  
 025: 222 m<sup>3</sup>/sec      0500: 36 m<sup>3</sup>/sec  
 DATE OF FLOOD OF RECORD: UNGAGED STREAM; FLOOD OF RECORD UNKNOWN  
 WATER SURFACE ELEV.: ESTIMATED DISCHARGE:  
 NATURAL STREAM VELOCITY @ 050: 4.16 m/sec  
 ICE CONDITIONS: MINOR      DEBRIS: MINOR  
 DOES THE STREAM REACH MAXIMUM HIGH-WATER ELEVATION RAPIDLY? YES  
 IS ORDINARY RISE RAPID? YES  
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? NO  
 IF YES, DESCRIBE: N/A  
 WATERSHED STORAGE: MINIMAL HEADWATERS UNIFORM THROUGHOUT WATERSHED  
 IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE: N/A      YEAR BUILT: \_\_\_\_\_  
 CLEAR SPAN (NORMAL TO STREAM): \_\_\_\_\_  
 VERTICAL CLEARANCE ABOVE STREAMBED: \_\_\_\_\_  
 WATERWAY OF FULL OPENING: \_\_\_\_\_  
 DISPOSITION OF STRUCTURE: \_\_\_\_\_  
 TYPE OF MATERIAL UNDER SUBSTRUCTURE: \_\_\_\_\_  
 WATER SURFACE ELEV. @ 02.33: \_\_\_\_\_ VELOCITY: \_\_\_\_\_  
 010: \_\_\_\_\_  
 025: \_\_\_\_\_  
 050: \_\_\_\_\_  
 0100: \_\_\_\_\_  
 LONG TERM STREAM BED CHANGES: \_\_\_\_\_  
 IS THE ROADWAY OVERTOPPED BELOW THE 0100? \_\_\_\_\_ FREQUENCY: \_\_\_\_\_  
 RELIEF ELEVATION: \_\_\_\_\_ DISCHARGE OVER ROAD @ 0100: \_\_\_\_\_  
 UPSTREAM STRUCTURE: TOWN: N/A      DISTANCE: \_\_\_\_\_  
 HIGHWAY NO.: \_\_\_\_\_      STRUCTURE NO.: \_\_\_\_\_  
 STRUCTURE TYPE: \_\_\_\_\_  
 CLEAR SPAN: \_\_\_\_\_      CLEAR HEIGHT: \_\_\_\_\_  
 YEAR BUILT: \_\_\_\_\_      FULL WATERWAY: \_\_\_\_\_  
 DOWNSTREAM STRUCTURE: TOWN: N/A      DISTANCE: \_\_\_\_\_  
 HIGHWAY NO.: \_\_\_\_\_      STRUCTURE NO.: \_\_\_\_\_  
 STRUCTURE TYPE: \_\_\_\_\_  
 CLEAR SPAN: \_\_\_\_\_      CLEAR HEIGHT: \_\_\_\_\_  
 YEAR BUILT: \_\_\_\_\_      FULL WATERWAY: \_\_\_\_\_

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN STEEL GIRDER BRIDGE-CURVED ALIGNMENT, STRAIGHT GIRDER  
 CLEAR SPAN (NORMAL TO STREAM): 43.3 m  
 VERTICAL CLEARANCE ABOVE STREAMBED: 18.0 m  
 WATERWAY OF FULL OPENING: 643 m<sup>2</sup>  
 WATER SURFACE ELEV. @ 02.33: EL. 198.58      VELOCITY: 3.12 m/sec  
 010: EL. 198.59      = 3.78 m/sec  
 025: EL. 198.60      = 4.17 m/sec  
 050: EL. 198.60      = 4.16 m/sec  
 0100: EL. 198.61      = 4.40 m/sec  
 IS THE ROADWAY OVERTOPPED BELOW THE 0100? NO      FREQUENCY: N/A  
 RELIEF ELEVATION: N/A      DISCHARGE OVER ROAD @ 0100: N/A  
 AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 216.67 m  
 VERTICAL CLEARANCE @ 0100 = 18.0 m  
 SCOUR: N/A  
 REQUIRED CHANNEL PROTECTION: NONE

PERMIT INFORMATION

AVERAGE DAILY FLOW: 0.1 m<sup>3</sup>/sec  
 ORDINARY LOW WATER: 0.1 m<sup>3</sup>/sec      DEPTH: 0.10 m  
 ORDINARY HIGH: 0.7 m<sup>3</sup>/sec      DEPTH: 0.08 m

ADDITIONAL COMMENTS



DESIGN CRITERIA:  
 1. DESIGN LIVE LOAD AASHTO MS 22.5  
 2. DESIGN SPAN 46.90 m  
 3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL 200 kPa ON LEDGE N/A  
 4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A  
 5. STRUCTURAL STEEL AASHTO M270M GRADE 345W  
 6. REINFORCING STEEL GRADE 420  
 7. CONCRETE CLASS A 0C/0A f<sub>c</sub> 30 MPa  
 CONCRETE CLASS B f<sub>c</sub> 25 MPa  
 TRAFFIC MAINTENANCE:  
 1. IS TRAFFIC TO BE MAINTAINED? N/A IF YES, ON EXISTING STRUCTURE \_\_\_\_\_ 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: \_\_\_\_\_

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	M	MS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A=2.17; B=1.00	33*	46*					
POSTED A=1.55; B=1.40	66*	84*	97*		85*	86*	93*
OPERATING A=1.30; B=1.67		100*	116*	104*	101*	103*	

$STRENGTH\ RF = \frac{M_N}{M_{LL+I}} - 1.3 \frac{M_{DL}}{M_{LL+I}}$       \* SERVICEABILITY RF = B  $\left[ \frac{.95 F_y S_{LL+I} - M_{DL}}{1.67 M_{LL+I}} - \frac{M_{DL}}{M_{LL+I}} \right]$

PROJECTED TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	% ADTT
2000	5300	675	52	7	370
2020	6600	840	52	7	460

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 km/h

STATE OF VERMONT  
AGENCY OF TRANSPORTATION

Town Of BENNINGTON      Bridge No. BR500  
 Highway No. VT. RTE. 9      Log Sta. \_\_\_\_\_  
 Surv. Sta. 14+900  
 VT. RTE. 9 OVER AIRPORT BROOK EAST

PRELIMINARY INFORMATION

Designed By M. GOGUEN      Drawn by B. WEATHERBY  
 Checked By P. PERKINS 11/01      Bridge Design Supervisor M. OLSTAD Date 11/01  
 PROJECT BENNINGTON-HOOSICK      PROJECT NO. D.P.J. 0146(1)  
 I.G.C. Info. \_\_\_\_\_  
 Bridge Sheet No. BR501      Sheet 231 OF 473