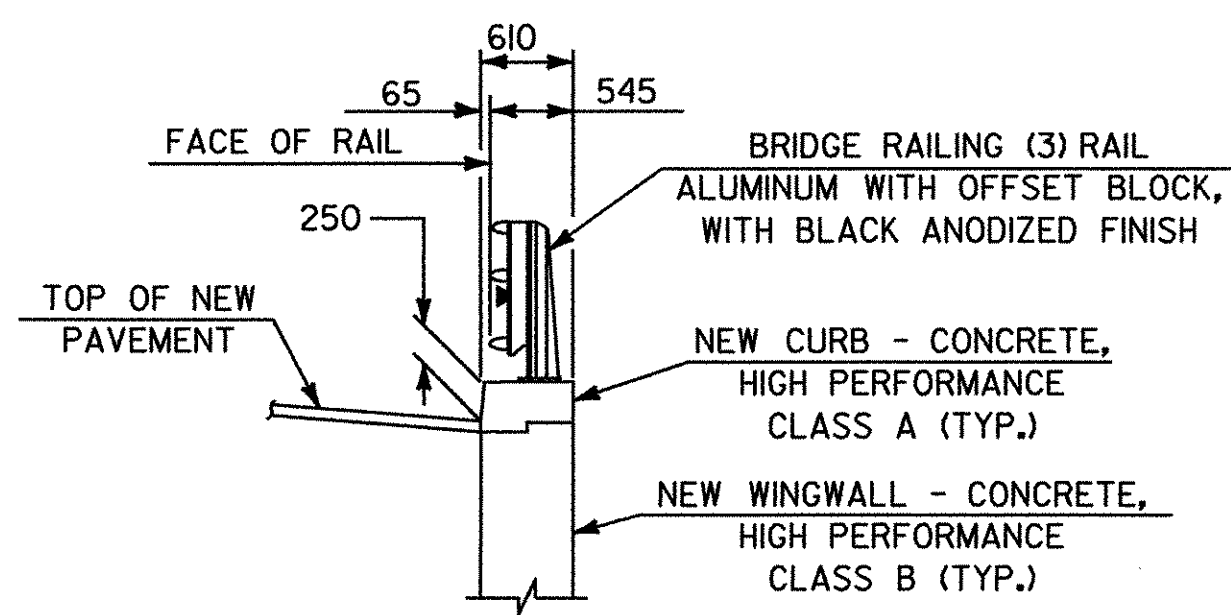


* DIMENSIONS ARE RADIAL.

TYPICAL SECTION



TYPICAL SECTION AT

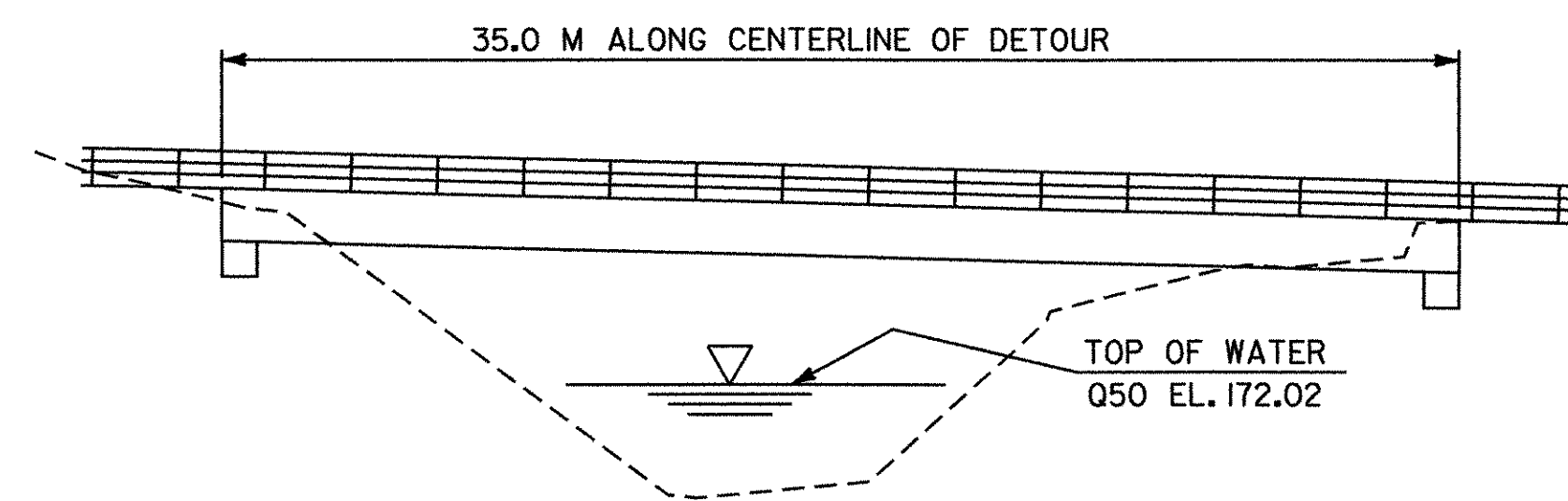
NEW WINGWALL NO.'S 2 AND 3



INDEX OF BRIDGE SHEETS

- BR100 PRELIMINARY INFORMATION SHEET
- BR101 BRIDGE QUANTITY SHEET
- BR102 GENERAL NOTES
- BR103 BRIDGE PLAN AND ELEVATION
- BR104 TYPICAL ABUTMENT AND WINGWALL SECTIONS
- BR105 BORING INFORMATION SHEET - 1
- BR106 BORING INFORMATION SHEET - 2
- BR107 BORING INFORMATION SHEET - 3
- BR108 BORING INFORMATION SHEET - 4
- BR109 DECK REINFORCING PLAN AND SECTIONS
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- BR111 FRAMING PLAN AND GIRDER ELEVATION
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- BR115 ABUTMENT NO. 1 FIXED BEARING
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- BR124 WINGWALL NO. 2 AND 3 ELEVATIONS
- BR125 WINGWALL NO. 1, 2 AND 3 SECTIONS
- BR126 ABUTMENT NO. 1 BACKWALL DETAILS & SECTIONS
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- BR128 RETAINING WALL PLAN AND ELEVATION
- BR129 RETAINING WALL DETAILS
- BR130 ABUTMENT NO. 1 AND 2 FOOTING REINFORCEMENT
- BR131 APPROACH SLAB DETAILS
- BR132 ALUMINUM BRIDGE RAILING DETAILS 1 OF 3
- BR133 ALUMINUM BRIDGE RAILING DETAILS 2 OF 3
- BR134 ALUMINUM BRIDGE RAILING DETAILS 3 OF 3
- BR135 REINFORCING BAR SCHEDULE
- BR136 REINFORCING BAR SCHEDULE

TEMPORARY BRIDGE NOTE:
 BEGIN ABUTMENT SHALL BE SET BEHIND ROCK LEDGE.
 END ABUTMENT SHALL BE SET TO AVOID HISTORICALLY SENSITIVE AREAS (STONE WALL AND POTASH PUMP).



TEMPORARY BRIDGE INFORMATION

NOT TO SCALE

HYDROLOGIC DATA

DRAINAGE AREA= 55.4 sq.km.
 CHARACTER OF TERRAIN= HILLY
 CHARACTER & TYPE OF STREAM= DEEP, GORGE-LIKE CHANNEL
 NATURE OF STREAMBED= LEDGE
 Q2.33= 24.5 cms Q50= 95.8 cms
 Q10= 53.8 cms Q100= 117.8 cms
 Q25= 73.1 cms Q500= 184.3 cms
 DATE OF FLOOD OF RECORD= NONE DOCUMENTED
 WATER SURFACE ELEV. @ N/A ESTIMATED DISCHARGE= N/A
 NATURAL STREAM VELOCITY @ Q25 = 4.2 mps
 ICE CONDITIONS= MINOR DEBRIS= MINOR
 DOES THE STREAM REACH MAXIMUM HIGH WATER ELEVATION RAPIDLY? NO
 IS ORDINARY RISE RAPID? NO
 IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES
 IF YES, DESCRIBE, BACK WATER PRODUCED BY A DAM IMPOUNDMENT 76.2 m DOWNSTREAM
 WATERSHED STORAGE= HEADWATERS UNIFORM THROUGHOUT WATERSHED IMMEDIATELY ABOVE SITE

EXISTING STRUCTURE

STRUCTURE TYPE= SINGLE SPAN STEEL GIRDER W/ TWO CONCRETE SLABS YEAR BUILT= 1926
 CLEAR SPAN (NORMAL TO STREAM)= 14.4 m
 VERTICAL CLEARANCE ABOVE STREAMBED= 8.6 m
 WATERWAY OF FULL OPENING= 80.3 SQUARE METERS
 DISPOSITION OF STRUCTURE= REMOVE
 TYPE OF MATERIAL UNDER SUBSTRUCTURE= LEDGE
 WATER SURFACE ELEV. @ Q2.33= 169.79 m VELOCITY= 3.10 mps
 Q10= 170.48 m " 3.87 mps
 Q25= 170.84 m " 4.21 mps
 Q50= 171.22 m " 4.52 mps
 Q100= 171.55 m " 4.78 mps

LONG TERM STREAM BED CHANGES= NONE NOTED
 IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY= _____
 RELIEF ELEVATION= _____ DISCHARGE OVER ROAD @ Q100= _____

UPSTREAM STRUCTURE= TOWN= HARTLAND DISTANCE= 2134.00 m
 HIGHWAY NO.= VT RTE. 12 STRUCTURE NO.= 2
 STRUCTURE TYPE= SINGLE SPAN STEEL BEAM BRIDGE W/ CONCRETE DECK
 CLEAR SPAN= 12.80 m CLEAR HEIGHT= 3.35 m
 YEAR BUILT= 1931 FULL WATERWAY= 42.70 sm
 DOWNSTREAM STRUCTURE= TOWN= HARTLAND DISTANCE= 396.00 m
 HIGHWAY NO.= T.H. 46 STRUCTURE NO.= 20
 STRUCTURE TYPE= SINGLE SPAN STEEL BEAM BRIDGE W/ CONCRETE DECK
 CLEAR SPAN= 12.80 m CLEAR HEIGHT= 4.72 m
 YEAR BUILT= 1956 FULL WATERWAY= UNKNOWN

PROPOSED STRUCTURE

STRUCTURE TYPE= SIMPLE SPAN MULTI-STEEL CURVED GIRDER
 CLEAR SPAN (NORMAL TO STREAM)= 16.5 m
 VERTICAL CLEARANCE ABOVE STREAMBED= 5.7 m
 WATERWAY OF FULL OPENING= 84.2 SQUARE METERS
 WATER SURFACE ELEV. @ Q2.33= 169.79 m VELOCITY= 3.10 mps
 Q10= 170.47 m " 3.87 mps
 Q25= 170.84 m " 4.21 mps
 Q50= 171.20 m " 4.52 mps
 Q100= 171.66 m " 4.78 mps
 IS THE ROADWAY OVERTOPPED BELOW THE Q100? NO FREQUENCY= _____
 RELIEF ELEVATION= _____ DISCHARGE OVER ROAD @ Q100= _____
 MINIMUM LOW ELEVATION OF SUPERSTRUCTURE= 174.1 m
 VERTICAL CLEARANCE @ Q100 = 2.44 m
 SCOUR= 0.0 m
 REQUIRED CHANNEL PROTECTION= NONE

PERMIT INFORMATION

AVERAGE DAILY FLOW= 1.2 cms
 ORDINARY LOW WATER= 0.6 cms DEPTH= 0.3 m
 ORDINARY HIGH WATER= 14.2 cms DEPTH= 0.9 m

ADDITIONAL COMMENTS

DESIGN CRITERIA:

1. DESIGN LIVE LOAD AASHTO MS 22.5
2. DESIGN SPAN 43.90 m
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE 480 KPa
4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO GRADE M270 GRADE 345W TENSION 190 MPa*
6. REINFORCING STEEL GRADE 420
7. CONCRETE, HIGH PERFORMANCE CLASS A f_c = 30 MPa
 CONCRETE, HIGH PERFORMANCE CLASS B f_c = 25 MPa

*WORKING STRESS METHOD IS USED TO DESIGN THE CURVED STEEL PLATE GIRDER. THE BRIDGE SHALL BE LOAD RATED USING THE LOAD FACTOR METHOD.

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 ONE TRAFFIC CONTROL SIGNALS REQUIRED YES
 MINIMUM CLEAR SPAN (NORMAL TO STREAM)= 35 m VERTICAL CLEARANCE ABOVE STREAMBED= 5.85m (TO CLEAR HISTORIC STONEWALL)
 WATERWAY OF FULL OPENING= 95.0 sq. m
 ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? _____
 STRUCTURE TYPE= _____

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2001	4600	630	55	2	310
2021	6100	800	55	2	320

20 year ESAL for flexible pavement from 2001 to 2021 = 2,074,000
 40 year ESAL for flexible pavement from 2001 to 2041 = _____
 Design speed= 30 km/hr Functional Classification= Rural Local Road

LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	M	MS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY A =	47	50					
POSTED A =	66	70	75		68	68	73
OPERATING A =		83	90	97	81	82	

RF = 0.9 M_N - 1.3 M_{DL}
 A x M_{LL+1}

STATE OF VERMONT AGENCY OF TRANSPORTATION

Town Of HARTLAND Bridge No. 60
 Highway No. U.S. ROUTE 5 Log Sta. _____
 Surv. Sta. _____
 U.S. ROUTE 5 OVER LULLS BROOK

PRELIMINARY INFORMATION SHEET

Designed By S. BAKI 12/98 Drawn By W. GAYNOR 12/98
 Checked By S. BAKI Date 12/98 Bridge Design Supervisor J. MECZKOWSKI Date 12/98

PROJECT HARTLAND PROJECT NO. BRS No. 0113(22)