



EXISTING STRUCTURE

1. STRUCTURE TYPE: STEEL TRUSS OVERALL LENGTH: 85' INVENTORY RATING: 117

2. SPAN LENGTH S1 CENTER TO CENTER OF BEARINGS: _____

3. CLEAR SPAN LENGTH S2 NORMAL TO STREAM: 85'

4. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 1288 S.F. VERTICAL CLEARANCE ABOVE STREAMBED: 12.00 FT

5. WATER SURFACE ELEVATION @ 0.25 C.F.S.: 1145.58 WATER SURFACE ELEVATION @ 0.50 C.F.S.: 1146.58

6. WATER SURFACE ELEVATION AT FLOOD OF RECORD: _____ YEAR: 1972 ESTIMATED DISCHARGE: _____

7. DOES ALL WATER PASS THROUGH EXISTING STRUCTURE? NO IF NOT, AT WHAT FREQUENCY AND ELEVATION DOES RELIEF OCCUR? 0.48 +/- 1985.88

8. TYPE OF SUBSTRUCTURE FOUNDATION MATERIAL: UNDETERMINED

9. DISPOSITION OF STRUCTURE: REPAIR

NEW STRUCTURE

STRUCTURE GEOMETRY:

1. STRUCTURE TYPE: 2 SPAN PRECAST/PRESTRESS VOIDED CONCRETE SLAB

2. SPAN LENGTH S1 CENTER TO CENTER OF BEARINGS: 85' BY ALONG REVISED CENTER LINE

3. VERTICAL CLEARANCE ABOVE STREAMBED OR ROAD UNDER: 18.00'

4. CLEAR SPAN LENGTH S2 NORMAL TO STREAM: 85'

5. WATERWAY AREA OF FULL OPENING (NORMAL TO STREAM): 1288 S.F.

6. ARE PROVISIONS TO BE MADE FOR PUBLIC UTILITIES? NO

NORMALIC DATA:

1. 0.25 C.F.S.	WATER ELEVATION	<u>1145.58</u>	VELOCITY	<u>1.28 F.P.S.</u>
0.50 C.F.S.	WATER ELEVATION	<u>1146.58</u>	VELOCITY	<u>3.38 F.P.S.</u>
0.75 C.F.S.	WATER ELEVATION	<u>1147.58</u>	VELOCITY	<u>5.28 F.P.S.</u>
1.00 C.F.S.	WATER ELEVATION	<u>1148.58</u>	VELOCITY	<u>7.48 F.P.S.</u>
1.25 C.F.S.	WATER ELEVATION	<u>1149.58</u>	VELOCITY	<u>9.78 F.P.S.</u>

2. DRAINAGE AREA: 38.17 AC CHARACTER OF TERRAIN: HILLY TO MOUNTAINOUS

3. ARE THERE OBJECTIONS TO A PIER IN THE STREAM? NO

4. DOES STREAM REACH ITS MINIMUM HIGH WATER ELEVATION RAPIDLY? YES IS ORDINARY RISE RAPID? YES

5. NATURE OF NATURAL STREAMBED: DRIFT SLIGHT ICE: MODERATE

6. ESTIMATED SCOUR DEPTH: _____

7. WILL ALL WATER PASS THROUGH NEW STRUCTURE? NO IF NOT, WHAT FREQUENCY AND ELEVATION WILL RELIEF OCCUR? 0.48 +/- 1985.88

8. VERTICAL CLEARANCE ABOVE 0: _____ LIMITED BY: BOTTOM OF SLAB

9. ALLOWABLE WATER SURFACE ELEVATION: 1148.58

10. IS DESIGN STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? YES IF YES, REFER TO SLICE NOTE BELOW

11. AVERAGE DAILY LOW FLOW: 0.25 C.F.S. DEPTH: 4.20' AVERAGE DAILY HIGH FLOW: 1.25 C.F.S. DEPTH: 5.80'

12. STREAMBANK OR CHANNEL PROTECTION REQUIRED: STONE FILL TYPE II

13. DISTANCE TO EXISTING UPSTREAM STRUCTURE: 500' SPAN: 44' WATERWAY AREA OF FULL OPENING: 0

14. DISTANCE TO EXISTING DOWNSTREAM STRUCTURE: 500' SPAN: 44' WATERWAY AREA OF FULL OPENING: 0

ALLOWABLE STRESSES:

1. DESIGN LIVE LOAD: MS-25 ON LEDGE: 18 K. S.F.

2. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL: 4 K. S.F. TYPE: _____ ESTIMATED LENGTH: _____

3. ALLOWABLE LOAD FOR FILLING: _____

4. ALLOWABLE STRESS FOR STRUCTURAL STEEL: ASHTO M 222 33/8 TENSION: 33/8

5. ALLOWABLE STRESS FOR REINFORCING STEEL: GRADE 60 TENSION 60000 P.S.I. COMPRESSION: 24000 P.S.I.

6. ALLOWABLE STRESS FOR CONCRETE: CLASS A 15 3000 TENSION: 1400 COMPRESSION: 1400

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: 80' MINIMUM CLEAR HEIGHT: 21' MINIMUM WATERWAY AREA: _____

ARE SIDEWALKS REQUIRED: _____ IF SO, ON WHAT SIDE: _____

* 4.0 30' CONCRETE DAM IS JUST DOWNSTREAM OF THE BRIDGE, WHICH CONTROLS THE HEAD-WATER ELEVATIONS

ADDITIONAL DESIGN CONSIDERATIONS

PRESTRESSING STEEL
1/2" Ø, 270 KSI, SEVEN WIRE STRAND, LOW RELAXATION

STRESS LEVELS	LOAD RATING (TONS)			
	H	HR	362	6 ANGLE 13A STR. 14A STR. 15A STR.
INVENTORY 0.55 P _u				
POSTED 0.87 P _u				
OPERATING 0.79 P _u				

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town of LONDONDERRY Bridge No. 28

Highway No. VT. 11 Log Sta. 125+27
Rev. Sta. 125+87.02

PRELIMINARY INFORMATION
VT. 11 OVER THE WEST RIVER
Designed By C.W. MEUNIER Drawn By K.S. CLARKE

LONDONDERRY
BRF 016-1(13)
ROW SHEET 7 OF 13