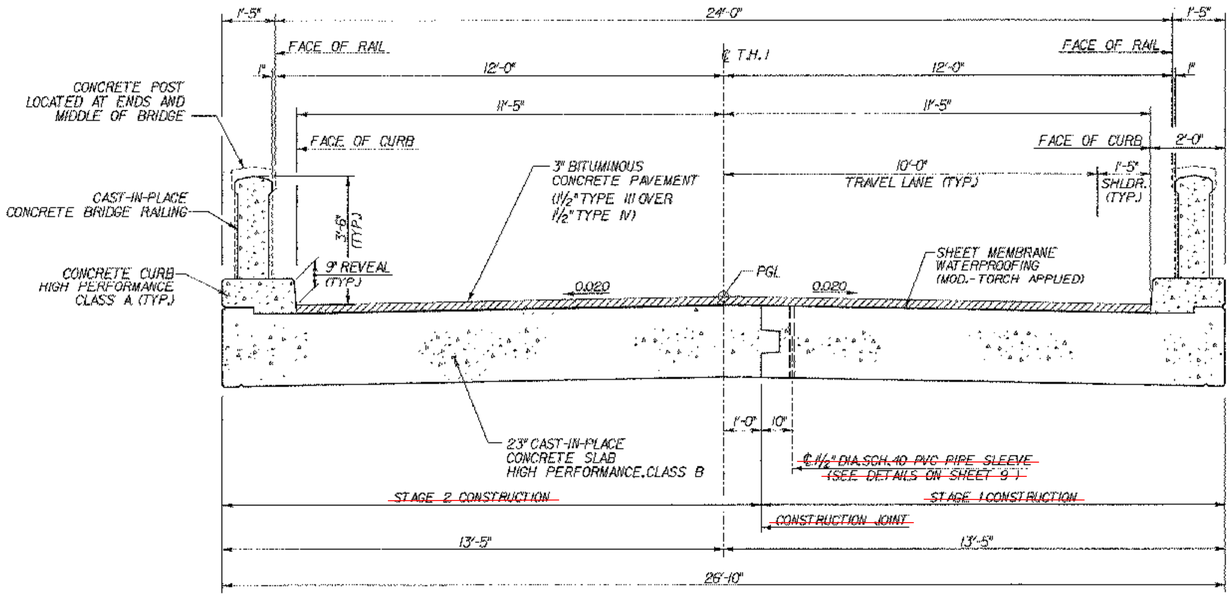
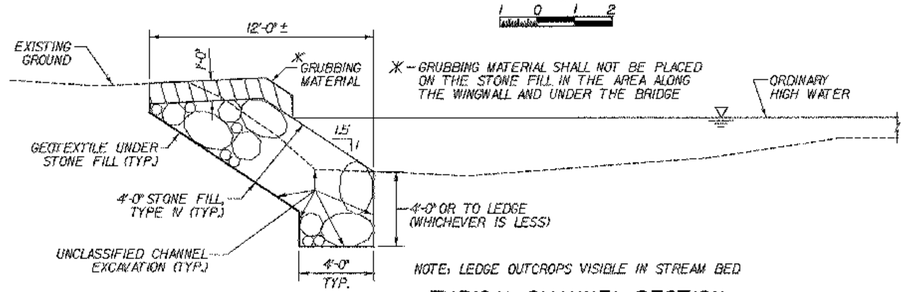


TYPICAL BRIDGE SECTION

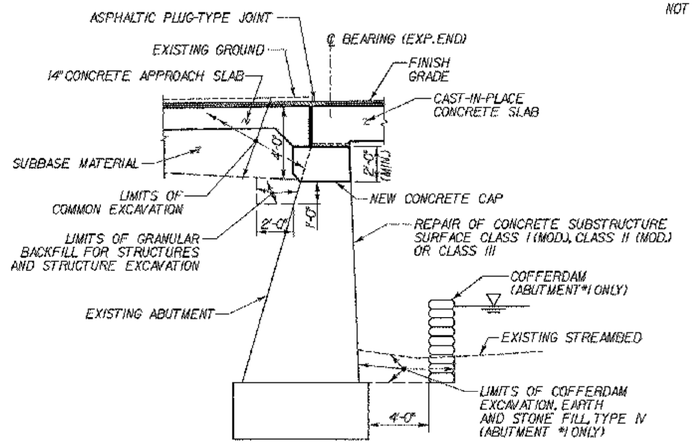
SCALE ½" = 1'-0



NOTE: LEDGE OUTCROPS VISIBLE IN STREAM BED

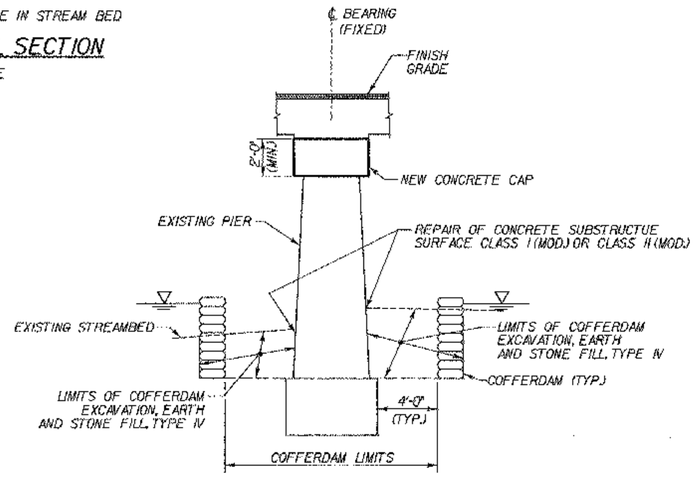
TYPICAL CHANNEL SECTION

NOT TO SCALE



ABUTMENT EARTHWORK SECTION

NOT TO SCALE



PIER EARTHWORK SECTION

NOT TO SCALE

Dufresne-Henry

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

(NO CHANGE FROM EXISTING)

DRAINAGE AREA= 50.5 square miles
CHARACTER OF TERRAIN= Mountainous, mostly forested with some flood plain relief
CHARACTER & TYPE OF STREAM= Perennial, moderate relief, sinuous
NATURE OF STREAMBED= Sand, gravel, cobble, boulders and ledge

Q2.33= 1500 cfs — Q50= 4550 cfs
Q10= 3000 cfs — Q100= 5200 cfs
Q25= 3850 cfs — Q500= 6700 cfs

DATE OF FLOOD OF RECORD= November, 1927
WATER SURFACE ELEV.= Unknown ESTIMATED DISCHARGE= Unknown
NATURAL STREAM VELOCITY @ Q25 = 9.3 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: Confluence with Tabor Branch 70 feet downstream of Bridge #10 C
WATERSHED STORAGE 0.5% HEADWATERS ___ UNIFORM THROUGHOUT WATERSHED X IMMEDIATELY ABOVE SITE ___

EXISTING STRUCTURE

STRUCTURE TYPE: Two-span Concrete T beam bridge YEAR BUILT? 1925
CLEAR SPAN (NORMAL TO STREAM)= 64 feet
VERTICAL CLEARANCE ABOVE STREAMBED= 10.5 feet
WATERWAY OF FULL OPENING= 600 square feet
DISPOSITION OF STRUCTURE= Rehabilitate
TYPE OF MATERIAL UNDER SUBSTRUCTURE= Unknown

WATER SURFACE ELEV. @ Q2.33= 658.6 ft VELOCITY= 6.5 fps
Q10= 659.9 ft " 9.8 fps
Q25= 661.2 ft " 11.4 fps
Q50= 662.1 ft " 12.9 fps
Q100= 664.4 ft " 7.2 fps

LONG TERM STREAM BED CHANGES: Approximately 2 feet of local scour along the northern abutment
IS THE ROADWAY OVERTOPPED BELOW THE Q100? Yes FREQUENCY= 25 Year
RELIEF ELEVATION= 663.6 ft DISCHARGE OVER ROAD @ Q100= 450 cfs

UPSTREAM STRUCTURE: TOWN= Corinth DISTANCE= 2.5 miles
HIGHWAY NO.= VT 25 STRUCTURE NO.= 12
STRUCTURE TYPE= Concrete T-beam bridge
CLEAR SPAN= 38 feet CLEAR HEIGHT= 10 feet
YEAR BUILT= 1940 FULL WATERWAY= Unknown

DOWNSTREAM STRUCTURE: TOWN= Bradford DISTANCE= 2.0 miles
HIGHWAY NO.= VT 25 STRUCTURE NO.= 9
STRUCTURE TYPE= Concrete T-beam bridge
CLEAR SPAN= 113 feet CLEAR HEIGHT= 14 feet
YEAR BUILT= 1983 FULL WATERWAY= Unknown

PROPOSED STRUCTURE

STRUCTURE TYPE: N/A - Existing structure will be rehabilitated
CLEAR SPAN (NORMAL TO STREAM)=
VERTICAL CLEARANCE ABOVE STREAMBED=
WATERWAY OF FULL OPENING=

WATER SURFACE ELEV. @ Q2.33= ___ VELOCITY= ___
Q10= ___ " = ___
Q25= ___ " = ___
Q50= ___ " = ___
Q100= ___ " = ___

IS THE ROADWAY OVERTOPPED BELOW THE Q100? ___ FREQUENCY: ___
RELIEF ELEVATION: ___ DISCHARGE OVER ROAD @ Q100= ___

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE= 663.1 feet
VERTICAL CLEARANCE= @ Q25= 1.9 feet

SCOUR= 5.5 feet maximum pier and contraction scour at Q50. The presence of ledge may limit scour.
REQUIRED CHANNEL PROTECTION= Type IV, Stone Fill

PERMIT INFORMATION

AVERAGE DAILY FLOW 100 cfs
ORDINARY LOW WATER= 50 cfs DEPTH= 0.5 feet
ORDINARY HIGH WATER= 650 cfs DEPTH= 3.0 feet

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO HS-25
2. DESIGN SPAN 36'+36'=72'
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL ___ ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO GRADE N/A
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A f'_c = 4000 PSI f_c=1600 psi
   CONCRETE, HIGH PERFORMANCE CLASS B f'_c = 3500 PSI f_c=1400 psi

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? YES IF YES, ON EXISTING STRUCTURE YES OR ON TEMPORARY BRIDGE NO
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY N/A TRAFFIC CONTROL SIGNALS REQUIRED N/A
   MINIMUM CLEAR SPAN (NORMAL TO STREAM) N/A MINIMUM CLEAR HEIGHT N/A
   MINIMUM WATERWAY AREA N/A
   ARE SIDEWALKS REQUIRED? N/A IF SO, ON WHAT SIDE?
   STRUCTURE TYPE N/A

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY A=2.17	31	47					
POSTED A=1.55	43	66	77		51	53	87
OPERATING A=1.30		78	91	98	61	64	

STRENGTH RF = $\frac{\phi M_N - 1.3\,M_{DL}}{A \times M_{LL+I}}$

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2003	1700	240	61	4	120
2023	2200	310	61	3	110

18 kip ESAL for flexible pavement from 2003 to 2023 = 1,163,000
18 kip ESAL for flexible pavement from 2003 to 2043 = 2,801,000
Design speed= 35

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of CORINTH	Bridge No. IOC
Highway No. T.H. 1	Log Sta.
	Surv. Sta.

TOWN HIGHWAY NO. 1 OVER WAITS RIVER

PRELIMINARY INFORMATION SHEET

Designed By S. BURBANK	Drawn By A. THIBAULT
Checked By M. CHENETTE Date 05/03	Bridge Design Supervisor M. CHENETTE Date 05/03
PROJECT CORINTH	PROJECT NO. TH2-9352
DH CAD Drawing Name: ...\Cor-Prelhf.dgn	Plot Date: 05/07/2003
Bridge Sheet No.	Sheet 2 of 28