7/30 N9

STATE OF VERMONT

AGENCY OF TRANSPORTATION

Demo'd

HISTORIC METAL TRUSS BRIDGE PLAN

FOR

CLARENDON BRIDGE NO. 7

VERMONT ROUTE 7-B

OVER THE COLD RIVER

CLARENDON, VERMONT

August 1995

DRAFT

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U. Memo from Wayne A. Jarvis, D.T.A. District 3 to Frank E. Aldrich, Director of Maintenance, Clarendon Br. 7, Dated October 31, 1989

1.0 INTRODUCTION

1.1 Executive Summary

Clarendon Bridge No. 7 is a steel Parker through truss built in 1928 which carries VT Route 7-B over the Cold River. The trusses span 150' and are spaced 23' center to center of trusses. The vertical clearance to the portals is 14'-10" and the curb to curb width is 19'-10" (See Sketch and Photos in Section 2.2). The bridge has been closed to traffic since 1989.

The truss top chords are composed of box shaped sections made up of two channels with a riveted top cover plate. The bottom chord consists of paired channels separated by batten plates attached at the flanges. Truss verticals and diagonals are rolled I-beam sections. The floor system consists of rolled steel floorbeams and stringers supporting a reinforced concrete deck. The superstructure is supported by reinforced concrete abutments. The bridge is of standardized design that is represented in many bridges of the post flood reconstruction era. The bridge was closed to all traffic in 1989 because of heavy deterioration of the bottom chord. Since the bridge's closing, the bottom chord of the east truss at the south abutment has failed. It has severed from the end post at the bearing and now rests directly on the abutment. The entire structure at this corner has dropped approximately 11".

The portion of the trusses above the roadway is in marginal condition with heavy rust throughout all the members. The bottom chords and members at or below the level of the deck have heavy rust and section loss. The bottom chord nodes have severe section loss, both on the gusset plates and the members within the nodes. The floor system is in poor condition with heavy rust, perforations, and section loss. The abutments are in poor condition with extensive cracking and spalling especially where the east truss has dropped onto the south abutment seat. Heavy efflorescence, rust, spalling, and cracking are typical throughout the entire substructure. In general the structure is in very poor condition. Rehabilitation of this structure would require extensive work to all components.

VT Route 7 presently serves as the main bypass for the VT Route 7-B crossing of the Cold River in Clarendon. The estimated ADT on VT Route 7-B would be 1225 vehicles per day for 1995, if the structure were open to traffic. The detour length from the north approach to the south approach is 0.7 miles via VT Route 7 and some local roads. The detour routes are well established and either end of the bridge can be easily accessed from route 7.

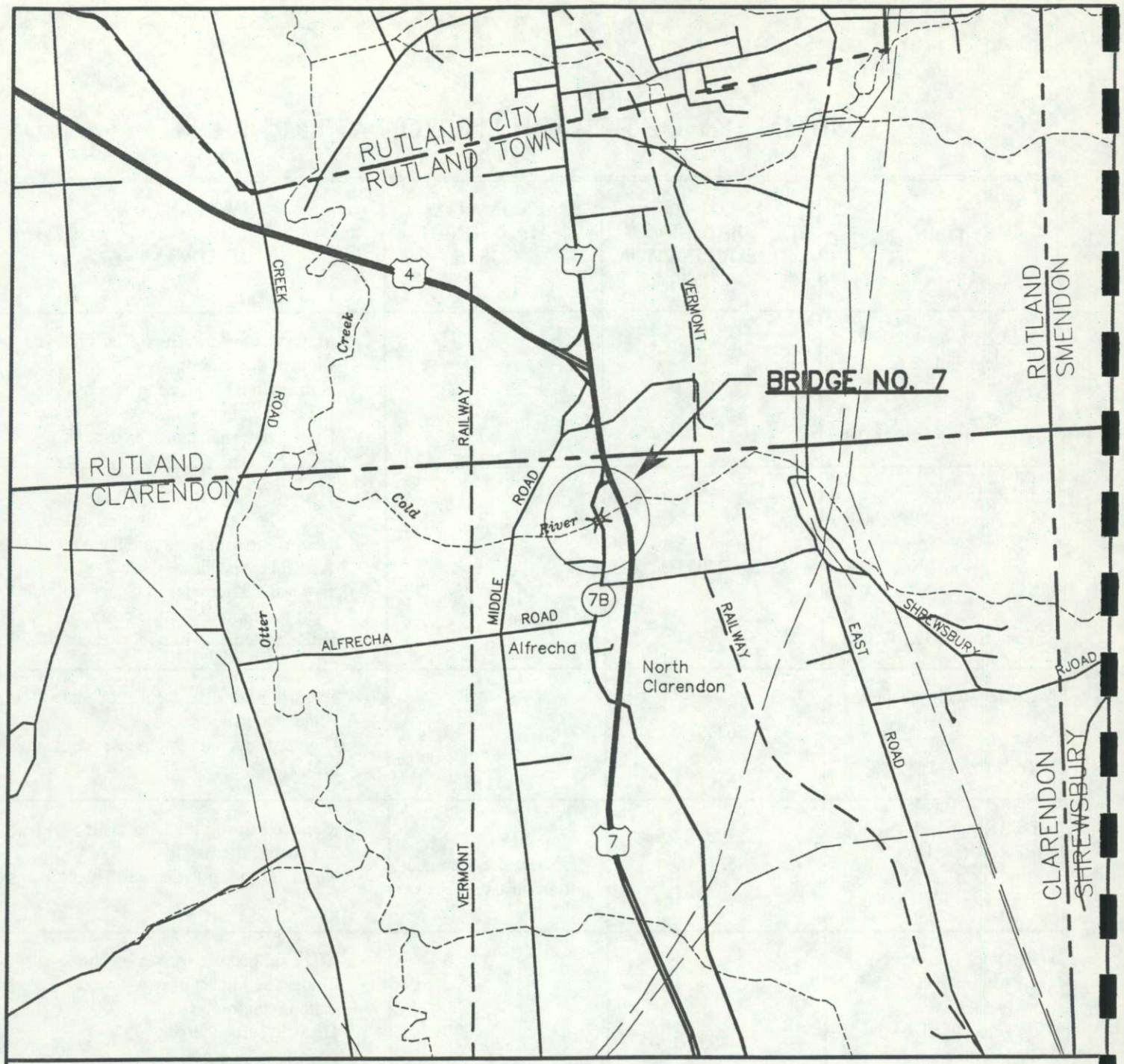
This 1928 Parker through truss is historically significant as a representative example of bridges built as a result of the 1927 flood. The structure is an important feature of the local streetscape and area surrounding the bridge. The bridge is also listed on the National Register of Historic Places. The trusses were fabricated by the American Bridge Company.

The conclusion of this study is that, unfortunately, the deterioration is so extensive and widespread that it is not economically feasible to rehabilitate this bridge. Therefore, the most desirable alternate is Alternate F, 'Documentation and Demolition'. This leads to the possibility of importing another truss from this study to replace this structure. The town is interested in constructing a bicycle path in this area. The truss that is brought in could be used as part of this path. This scenario would also help to protect the character of the neighborhood as well as providing the opportunity to preserve another, more worthy truss. A study should be undertaken

to determine the feasibility of relocating another truss from this study. A hydraulic study should be completed as part of this study. The results of this study will determine the bridge length and number of spans and thus determine which truss or trusses could be used at this site. The estimated cost to complete Alternate F for this bridge is approximately $70,000.

SUMMARY OF REHABILITATION ALTERNATES

ALTERNATE	ESTIMATED BRIDGE REHABILITATION COST	ESTIMATED ADDITIONAL COSTS	ADVANTAGES & DISADVANTAGES
A: Rehab for Limited Vehicle Use Total Cost=$830,000	$830,000		- Maintains historic trusses on site. - Limited vehicle use. - Non essential bridge for area traffic. - Expensive alternate. - High future maintenance costs.
B: Rehab for Unrestricted Vehicle Use Total Cost=$1,240,000	$1,240,000		- Historic bridge maintained on site. - Non essential bridge for area traffic. - Historic truss altered to adhere to AASHTO standards. - Expensive alternate. - High future maintenance costs. - Fatigue problems in steel may result.
C: Rehab for Adaptive Use Total Cost=$630,00	$630,000		- Historic bridge maintained on site. - Clubs and pedestrian use. - High cost compared to new pedestrian bridge.
D: Relocation for Adaptive Use Total Cost=$770,000	$620,000	$150,000 for new site prep and transportation costs	- Remove historic truss from site. - Expensive alternate. - Negative impact to site aesthetics.
E: Other Preservation Alternatives: Use trusses as ornamental fascia treatment on a new bridge. Total Cost=$1,600,000	$470,000	New Bridge $1,130,000	- Maintain historic trusses on site. - Limits site impact of new bridge. - Land taking required. - Historic truss altered. - Expensive alternate. - Full service bridge not needed at this site. - Work in waterway required.
F: Documentation and Demolition Total Cost=$70,000	$70,000		- Historic resource lost. - Least expensive alternate. - Creates location for relocating another truss from this study.



GRID NORTH

1 0 1 2 KILOMETERS
1 0 1 MILES

LEGEND

- ROADWAYS
- RIVERS
- RAILROADS
- TOWN BOUNDARY
- TRANSMISSION LINE
- BRIDGE

BUS. (802) 658-2220 FAX (802) 658-3629
ENGINEERS INCORPORATED OF VERMONT
Engineers • Surveyors
The Maltex Building
431 Pine St., Burlington, VT 05401

LOCATION MAP

BRIDGE NO. 7
VT 7B OVER
COLD RIVER
CLARENDON, VERMONT

FILE: 76

©

2.0 STRUCTURAL CONDITIONS AND SITE EVALUATION

2.1 Observations

On June 14, 1994, a field crew from Lichtenstein performed a cursory inspection of the structure. This inspection entailed verifying geometry, observing the overall condition of the structure, evaluating the condition of structural members and quantifying "worst case" situations. The substructure was evaluated for stability and possible upgrading alternates. The alignment of the approach roadways, and the adequacy and alignment of the waterway opening were noted.

Approaches: The approach roadway is a bituminous concrete pavement and has a width of 24'-0". The bridge roadway width is 19'-10" curb to curb. VT Route 7-B is relatively level in the vicinity of the bridge and there are moderate horizontal curves at each approach. The bridge was closed approximately six (6) years ago and concrete barriers have been placed at each approach to block traffic (see photo 1 in sec. 2.2).

Deck: The bridge has a reinforced concrete deck which is in poor condition. Random areas of map cracking and rust staining exist throughout the overlay. The overlay has an uneven riding surface throughout the bridge deck. The concrete curbing has areas of cracking and spalling with isolated rust stains. The underside has extensive map cracking with active leakage and heavy efflorescence.

Superstructure: The trusses are in critical condition with areas of severe deterioration and one (1) localized failure. The east truss has completely severed at the south abutment between L0U1 and the railing end post. As a result of this failure, the entire truss has dropped 11" down onto the abutment seat (See Photo 3). At the north abutment at L7 of both trusses, the inside gusset plates are severed full height between L7U6 and the railing end posts. The truss diagonal and vertical members have heavy rust losses with perforations in the webs along with major section loss in the flanges at the roadway level. The bottom chords have 50% loss on the channel webs and inside bottom flanges. Batten plates and horizontal gusset plates are completely deteriorated at numerous locations. The gusset plates at the bottom chord nodes have major section loss and perforations at many locations. The rocker bearings are overexpanded which has caused the end floorbeam to come in contact with the backwall.

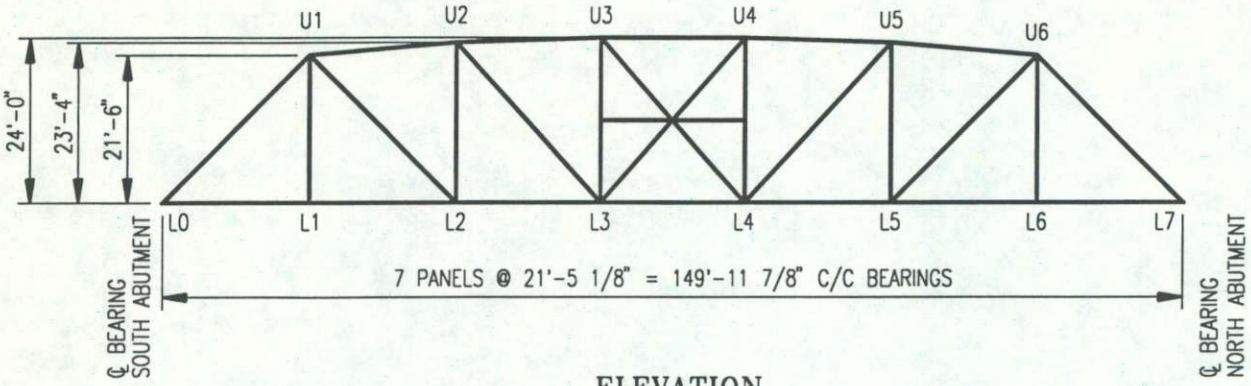
The floor system flanges have minor section loss. Heavy deterioration, section loss, and perforations in the webs of the floorbeams and stringers are typical throughout the entire structure.

Substructure: The existing substructure is in poor condition. The east truss dropping onto the south abutment has caused a 3/4" wide crack which extends from the seated truss and bearing down the face of the south abutment stem (See Photo 4). Numerous cracks with efflorescence leakage, heavy scale, and large surface spalls are also present in the abutment stems and backwalls.

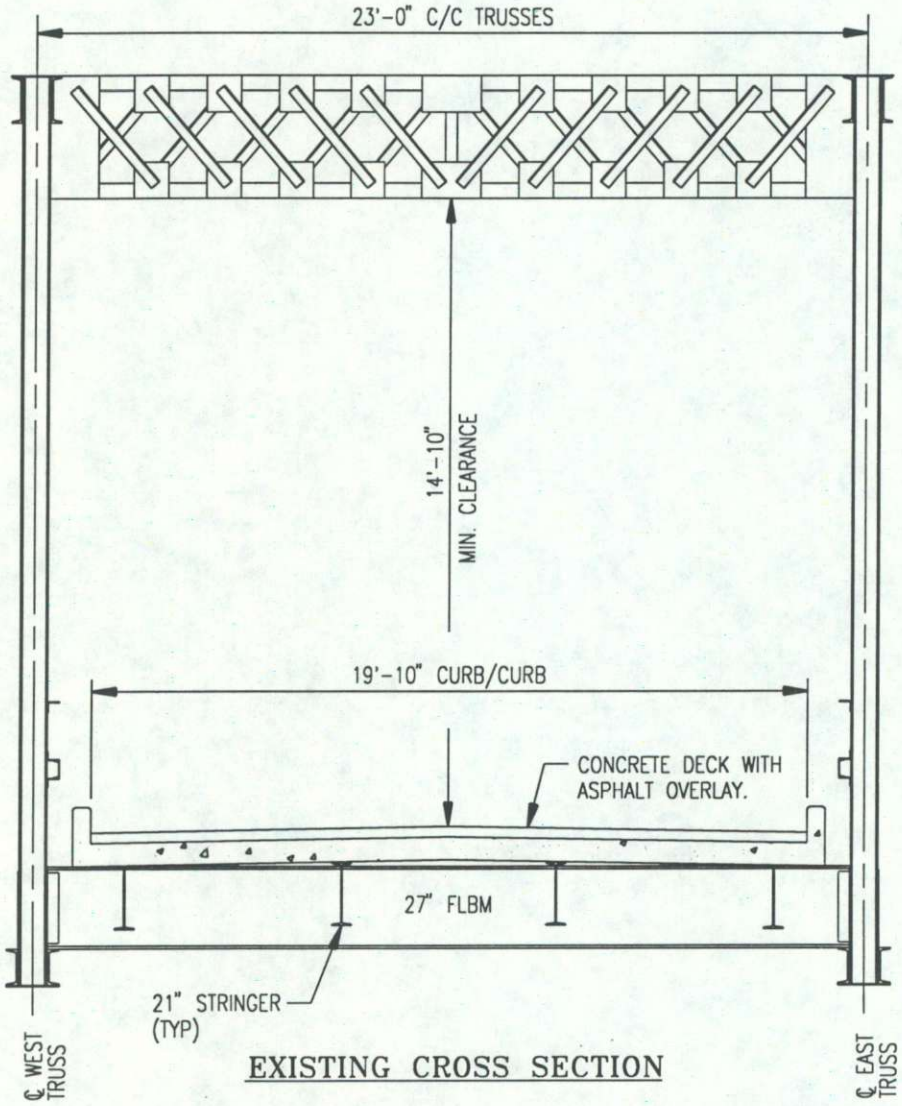
Waterway: The Cold River flows in a westerly direction under the bridge. There is an accumulation of large stones at the north abutment and mid-channel of the river. The mid-channel build up has directed channel flow toward the north abutment.

Safety Features: An ineffective combination of metal beam rails and wood posts is present on the approaches. These safety features are not connected to the bridge. The bridge rail is composed of a channel member and angles which are attached to the interior verticals and diagonal members of the trusses. Heavy deterioration and perforations are present in the bridge rail. The failure at the south abutment has bent and twisted the bridge rail at this location.

Structural Rating: The bridge was closed in 1989 due to heavy deterioration. At the present time, local failure has taken place.



ELEVATION



EXISTING CROSS SECTION

VERMONT AGENCY OF TRANSPORTATION
METAL TRUSS BRIDGE STUDY

CLARENDON BRIDGE NO. 7
ROUTE 7-B OVER
THE COLD RIVER

TOWN: CLARENDON COUNTY: RUTLAND

Lichtenstein
WATERTOWN, CT.

POOR QUALITY
ORIGINAL PAGES 1-2

A.G. LICHTENSTEIN
CONSULTING ENGINEERS

DATE: JUNE 14, 1995

PROJECT: 1762

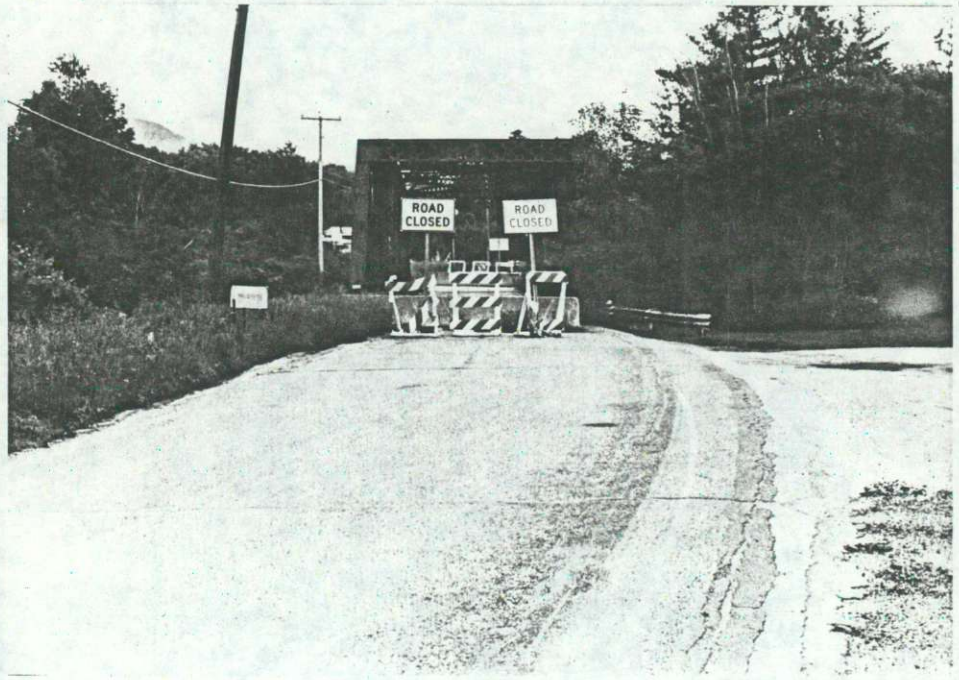
BRIDGE IDENTIFICATION: CLARENDON BRIDGE NO. 7

FEATURE CARRIED: VERMONT ROUTE 7-B

FEATURE CROSSED: THE COLD RIVER

LOCATION: CLARENDON, VERMONT

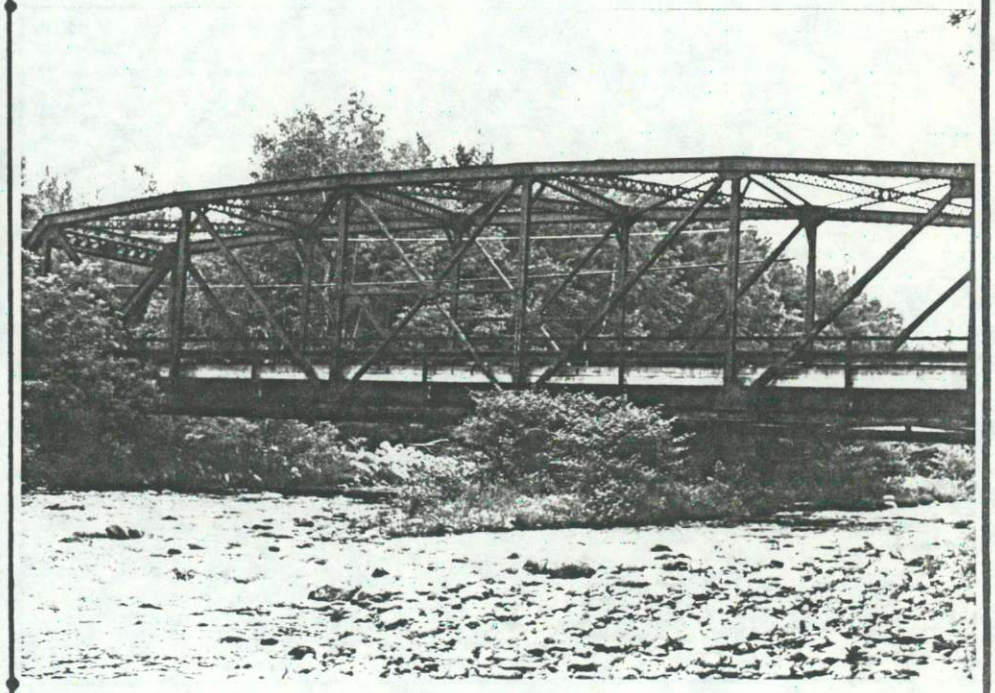
PHOTO NO. 1



DESCRIPTION:

BRIDGE FROM NORTH APPROACH

PHOTO NO. 2



DESCRIPTION:

WEST ELEVATION

A.G. LICHTENSTEIN
CONSULTING ENGINEERS

DATE: JUNE 14, 1995

PROJECT: 1762

BRIDGE IDENTIFICATION: CLARENDON BRIDGE NO. 7

FEATURE CARRIED: VERMONT ROUTE 7-B

FEATURE CROSSED: THE COLD RIVER

LOCATION: CLARENDON, VERMONT

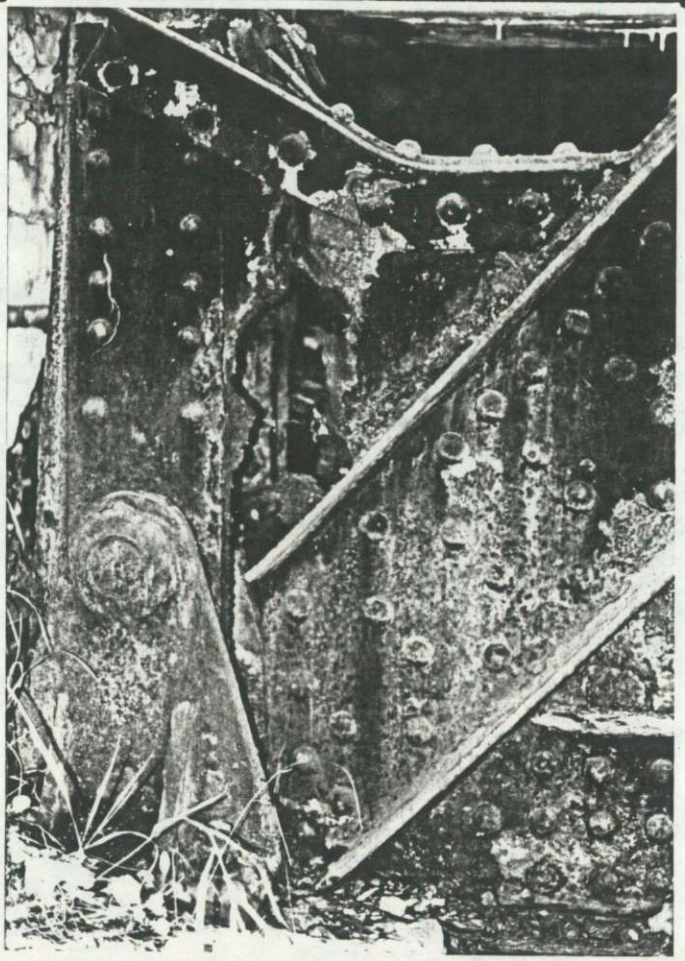
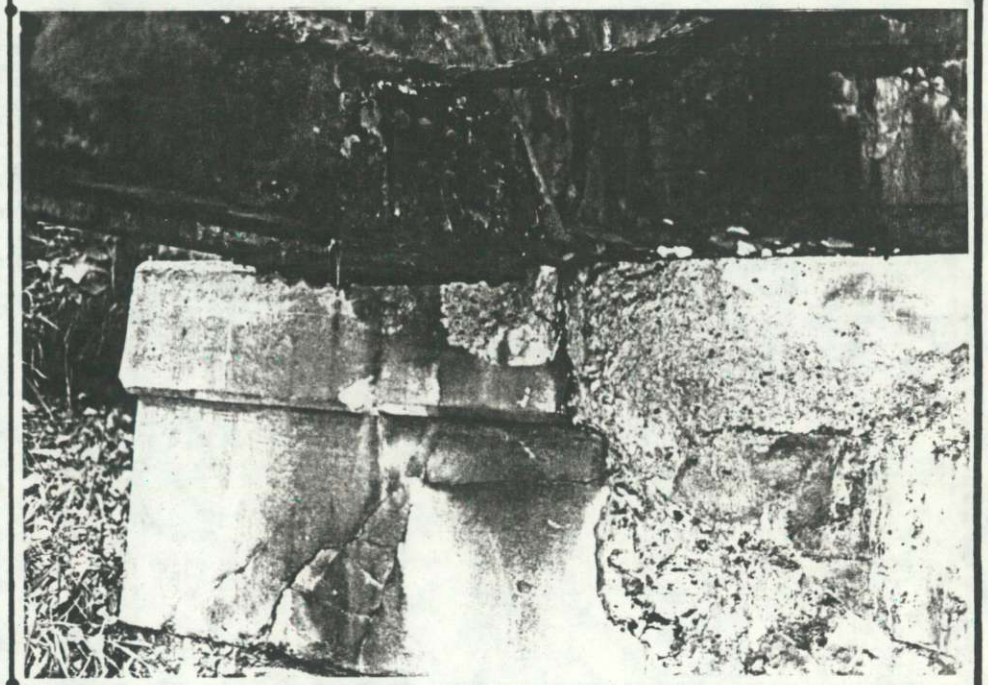


PHOTO NO. 3

DESCRIPTION:

EAST TRUSS FASCIA AT SOUTH ABUTMENT. TRUSS SEVERED FROM THE END POST AND BEARING AT THE VERTICAL GUSSET PLATES, DROPPING 11"±.

PHOTO NO. 4



DESCRIPTION:

SOUTH ABUTMENT AT EAST TRUSS BEARING. ABUTMENT WITH CRACKS AND SPALLS WHERE TRUSS IS SEATED ON ABUTMENT SEAT.

2.3 Hydraulic Information

A search and review of existing information pertaining to the hydraulic capacity of this bridge have been performed at the Vermont Agency of Transportation's Structures Division and at the Hydraulics Section of VAOT. In addition, a meeting with the Vermont Agency of Natural Resources, Flood Plain Engineer was held in order to determine if any pertinent hydraulic information was available at this source. Based on these investigations and meetings it was determined that no hydraulic information was available for this bridge site.

The field visit to the bridge site did not show any evidence of flood flows commonly reaching bridge superstructure. There was no evidence of damage to any bridge members from flood-borne debris.

3.0 TRAFFIC ANALYSIS AND EVALUATIONS

3.1 Traffic Counts and Projections

Existing traffic information was obtained from the VAOT Traffic Research Section. At this location Automatic Recorder counts at Station R450 indicate that the 1988 ADT was 870 vehicles per day. Since this bridge is currently closed, traffic counts are not possible at this location. However, based on a review of historic traffic counts taken at Station R449, (just north of the bridge), and at Station R450 (just south of the bridge) indicates traffic counts of 560 vehicles per day in 1980. Based on this information local historic traffic growth indicates a growth factor of 5% per year between the years of 1980 to 1988.

Since the bridge is unsafe and has been closed for several years, the most recent traffic count near the bridge occurred in 1988. Based on an average annual growth rate of 5% per year, the ADT's and DHV's for 1995 and the year 2015 if the bridge were in service would be projected at:

1995	ADT	=	1225
2015	ADT	=	3250
1995	DHV	=	210
2015	DHV	=	520

3.2 Local Planning and Zoning

The Town of Clarendon is located in Rutland County and is part of the Rutland Regional Planning District. Zoning regulations are currently in effect.

The Town of Clarendon will have an estimated population of 3,181 by the year 1995 and an estimated population of 4,448 by the year 2015. This represents an annual net population increase for the area of approximately 1.8% per year with a net overall increase of approximately 43% in the total population by the year 2015. This is based on the Vermont Population Projections, which is published by the Vermont Health Care Authority (1993).

3.3 Road System

Bridge Number 7 is a single span, 150-foot through truss bridge. The bridge has a roadway width of 19'10" and crosses the Cold River on VT 7-B in North Clarendon. The bridge has been closed for several years.

Route 7-B is a state numbered route and is approximately 24 feet in width in the vicinity of the bridge. VT 7-B intersects with VT 7 approximately 0.3 miles north of the bridge. Current traffic volumes on the approach roadway are low and consist primarily of local residents.

3.4 AASHTO Geometric Standards

Based on a 1995 DHV of 210 vehicles per hour, the minimum AASHTO bridge clear width for this bridge is 24 feet. Since, the bridge is currently 20 feet in width, the existing bridge does not meet the AASHTO minimum bridge width criteria, based solely on traffic. However, since this bridge structure is greater than 100 feet in length, other factors (such as the clear width provided, the traffic volume, truck traffic, the remaining life of the structure, pedestrian volume, snow storage, design speed and accident record) need to be evaluated. In certain cases where the truck traffic over a bridge is light, the minimum clear width may be reduced by 2 feet, provided that the reduced clear width is not less than the approach traveled way width.

The AASHTO minimum width for new road construction based on a 1995 DHV of 210 vehicles per hour and a design speed of 30 MPH is 38 feet. This width would consist of two 11-foot lanes with two 8- foot shoulders. However, in order to satisfy the twenty year traffic projections to the year 2015 in which the DHV is 520 vehicles per hour, the AASHTO minimum width for new road construction would be 40 feet and consist of two 12-foot lanes with two 8-foot shoulders.

The AASHTO minimum width for new bridge construction is 30 feet for the design year 2015 based on a DHV of 520 vehicles per hour. This width would consist of two 12-foot lanes with two 3-foot shoulders. Since this bridge is more than 100 feet in length, the travel way plus 3-foot shoulder on each side is acceptable. In any case, the roadway approach design (paved roadway width) should match the bridge structure and provide the same bridge clear width as the roadway paved width. Construction other than these minimums would require a design exception and would require justification to the Federal Highway Administration (FHWA).

3.5 Alternative Route

Vermont 7-B is a state numbered route. However, this bridge has been closed for several years. The bridge was mainly servicing area residents. The closing of the bridge has caused little inconvenience to the local residents as access to route 7, from either end of the bridge is less than 0.5 miles away. All emergency and service vehicles can access the area from route 7.

4.0 NATURAL AND CULTURAL RESOURCES

4.1 National Wetland Inventory

After review of the National Wetland Inventory (NWI) Maps, the area in the vicinity of existing bridge crossing has been identified as an R30WZ wetland, which classifies this wetland as a permanent, open water, upper perennial, riverine. A copy of the appropriate section of the NWI Map illustrating the present crossing is enclosed in the appendix of this report.

4.2 Significant Habitat

The Agency of Natural Resources, Fish & Wildlife Department's, 1990 Significant Habitat for Clarendon was reviewed to establish the presence of any known rare plants or animals, significant natural communities, state natural/fragile areas and the likely presence of winter deer ranges within the immediate vicinity of the existing bridge crossing. The closest winter deer range identified on these maps is approximately 1 mile east of the bridge and would most likely not be a factor with regards to this bridge. The map also indicates that there are no known rare plants or animals, significant natural communities or state natural/fragile areas within the vicinity of the existing river crossing. A copy of the 1990 Significant Habitat Map for Clarendon is enclosed in the appendix of this report.

4.3 Hazardous Waste Materials

The Vermont Geographic Information System (GIS) data file was reviewed for the presence of hazardous waste sites within the vicinity of the existing bridge crossing. From this review, no known hazardous waste sites have been identified for this site location. A copy of the GIS map of this area is enclosed in the appendix of this report.

4.4 Historical Significance

Based on a site visit, review of local historic information which was provided in the Town Master Plan, review of the VANR 1986 Vermont Rivers Study and from discussions with Town Officials, no known historic buildings are believed to exist in the immediate vicinity of this bridge site. From review of the VANR 1986 Vermont Rivers Study, it is known that historic buildings do exist in the general vicinity of this bridge site. However, these identified buildings should not be a factor with regards to this bridge.

Also, of particular historic interest is the VT 7-B truss bridge. This bridge is significant as a representative example of the bridges built as a result of the 1927 flood, a major episode in Vermont's 20th century history and an engineering effort of heroic proportions. The bridge uses the standardized design and economical construction which characterized the State's efforts to rebuild a large number of bridges as quickly as possible. The Parker through truss was used for nearly all spans greater than 150 feet. Rolled I-beams (of mostly one size) were used throughout where earlier bridges had built up members, thus saving fabrication time and expense. The

American Bridge Company was one of the country's largest fabricators and a major supplier of Vermont bridges in the post-flood era.

4.5 Archaeological Significance

The Agency of Natural Resources, 1986 Vermont Rivers Study identifies this area in the vicinity of the existing bridge structure as having expected archaeological sensitivity. Areas of close proximity to water courses such as the Cold River have been known to contain both prehistoric and historic artifacts. For this reason a Phase I-A archeological investigation is usually performed during the conceptual study phase for any alternative which significantly affects earth work beyond the present limits of earth disturbance.

4.6 Water Quality

The Vermont Water Resources Board recently published (July 1994) a Vermont Water Quality Standards Report which identifies the Cold River as a Class B waterway within the area of the existing bridge crossing. Class B waters are waters of a quality that consistently exhibits good aesthetic value and provides a high quality habitat for aquatic biota, fish and wildlife. These rivers can be used as a source of public water supply with filtration and disinfection, irrigation and other agricultural uses, swimming and recreation. The VANR 1986 Vermont Rivers Study has identified the Cold River as a fishery known to contain Brown, Rainbow and Brook Trout.

4.7 Public Parks and Recreation Areas

Communications with the Clarendon Town Clerk during October 1994 identified no public parks or recreation areas within close proximity to the existing bridge structure.

5.0 EVALUATION OF ALTERNATES AND COST ESTIMATES

A. Alternate A - Rehabilitation/Restoration on Site for Limited Vehicle Use

At the present time, the bridge is closed because of extensive deterioration and localized failure of the trusses. The truss verticals and diagonals above roadway level are in marginal condition with heavy rust throughout. The substructure is in poor condition. The steps necessary to reopen the bridge for limited vehicle use would be as follows:

- Remove the existing concrete deck and floor system.
- Perform extensive repairs to the trusses with plating or replacement of all members at or below deck level.
- Repair deteriorated concrete on the abutments.
- Jack trusses and replace bearings.
- Blast clean and paint the trusses.
- Install a new floor system.
- Install a new timber deck system.
- Install appropriate bridge rail and transition guide rail on the approaches.

The construction cost to complete these repairs is estimated to be $830,000 and would provide a 20' wide bridge with an approximate capacity of H20. A temporary bridge or detour are not needed because the bridge is already closed.

B. Alternate B - Rehabilitation/Reinforcement on Site for Unrestricted Vehicle Use

In order to achieve unrestricted vehicle use on this bridge extensive modifications would be needed to conform to the requirements of the estimated future ADT calculation of 3250 for the year 2015. The AASHTO minimum width for a bridge with an ADT of 3250 is 30'. This would increase the curb to curb measurement by almost 10'. The steps necessary to rehabilitate the bridge for unlimited operation are:

- Remove deck and floor system.
- Remove portal bracing.
- Lift and move trusses off abutments for cleaning, repair and painting.

- Remove and replace substructure.
- Replace bearings.
- Replace bottom chord and complete other member repairs.
- Blast clean and paint the trusses.
- Install a new deck and floor system.
- Install appropriate bridge rail and transition guide rail on the approaches.

The construction cost to complete these repairs is estimated to be $1,240,000.

C. Alternate C - Restoration/Rehabilitation in Place for Adaptive Use

There are various clubs in the area which could make use of Route 7-B as an alternate for cyclists, snowmobiles, and pedestrians to avoid VT Route 7, which is a busy divided highway. The bridge has been closed for almost six (6) years and residential dwellings can be accessed via other routes. The town is also considering constructing a bicycle path in this area.

The work required for conversion to an adaptive use structure would be similar to Alternate A, except that a narrower deck could be used and fewer truss repairs would be needed. The construction cost to complete these repairs is estimated to be $630,000.

D. Alternate D - Relocation to New Site for Adaptive Use

Rehabilitation of the existing trusses for use at an alternate site would be similar to Alternate C. The trusses would need to be dismantled for relocation due to their large size. A new site would have to be identified and additional costs would be associated with transportation to the new site and the construction of new abutments.

The bridge construction cost to complete these repairs is estimated to be $770,000 including assumed transportation and new substructure costs.

E. Alternate E - Other Preservation Alternates

One preservation alternative for the trusses is to construct a new vehicular bridge at the site and reuse the trusses as ornamental fascia treatments on the new structure. The trusses would be independent of the new structure carrying only their self weight and, therefore, member repairs would be reduced. The span length of the new bridge would have to be tailored to approximately match that of the trusses. The existing top bracing and end portals would have to be replaced to accommodate the wider structure.

The estimated construction cost for this work would be approximately $470,000 for the truss repairs. The replacement bridge would cost approximately $1,130,000. The estimated construction cost for the project would total $1,600,000.

F. Alternate F - Documentation and Demolition

Should it be determined that there is not a use for this bridge, documentation and demolition would cost approximately $70,000.

VERMONT HISTORIC METAL TRUSS STUDY 06-Oct-95

TOWN/BRIDGE No: CLAREDON 7

ALTERNATE A - REHAB IN PLACE FOR 1-LANE LIMITED USE

	EXISTING		PROPOSED
TOTAL BRIDGE LENGTH =	153		
C/C TRUSS BEARINGS =	150		
DECK WIDTH =	21		21
C/C TRUSSES =	23		23
TRUSS ELEVATION AREA =	5900	(total)	
ROADWAY WIDTH =	19.8		19.8
STRUCTURAL CAPACITY =	UNKNOWN		H20

	QUANTITY	UNIT	UNIT PRICE	TOTAL
PARTIAL REMOVAL OF STRUCTURE (DECK & FLOOR SYSTEM)	3213	SF	$12.00	$38,556.00
JACK AND SHORE TRUSSES	1	EA	$20,000.00	$20,000.00
TRUSS PAINTING(w/$10,000 MOB.)	5900	SF	$42.00	$257,800.00
TRUSS REPAIRS	600	LF	$190.00	$114,000.00
STEEL FLOOR BEAMS	3150	SF	$15.00	$47,250.00
FABRIC PAD BEARING ASSEMBLY	4	EA	$650.00	$2,600.00
GLUE LAM TIMBER DECK (12")	3213	SF	$47.00	$151,011.00
BITUMINOUS OVERLAY w/MEMBRANE	3213	SF	$2.50	$8,032.50
CONCRETE REPAIRS	5	CY	$1,500.00	$7,500.00
ABUTMENT CAP	60	LF	$350.00	$21,000.00
RAILINGS (BRIDGE)	306	LF	$80.00	$24,480.00
APPROACH GUARD RAIL	120	LF	$20.00	$2,400.00
			SUBTOTAL =	$694,629.50
			20% CONTINGENCY =	$138,925.90
			PROJECT TOTAL =	$830,000.00

VERMONT HISTORIC METAL TRUSS STUDY 06-Oct-95

TOWN/BRIDGE No: CLAREDON 7

ALTERNATE B- REHABILITATION/REINFORCEMENT IN PLACE FOR UNRESTRICTED VEHICLE USE

	EXISTING		PROPOSED
TOTAL BRIDGE LENGTH =	153		
C/C TRUSS BEARINGS =	150		
DECK WIDTH =	19.83		32
C/C TRUSSES =	23		33
TRUSS ELEVATION AREA =	5900	(total)	
ROADWAY WIDTH =	19.8		30
STRUCTURAL CAPACITY =	UNKNOWN		HS20

	QUANTITY	UNIT	UNIT PRICE	TOTAL
PARTIAL REMOVAL OF STRUCTURE (DECK & FLOOR SYSTEM)	3034	SF	$12.00	$36,407.88
LIFT&MOVE TRUSSES	1	EA	$20,000.00	$20,000.00
TRUSS PAINTING(w/$10,000 MOB.)	5900	SF	$42.00	$257,800.00
TRUSS REPAIRS	1200	LF	$190.00	$228,000.00
STEEL FLOOR SYSTEM	4800	SF	$39.00	$187,200.00
FABRIC PAD BEARING ASSEMBLY	4	EA	$650.00	$2,600.00
CONCRETE DECK	4896	SF	$19.00	$93,024.00
BIT. CONCRETE OVERLAY	4896	SF	$2.50	$12,240.00
NEW PORTAL BRACING (TRUSS, BRACING, EXC)	10000	LB	$4.00	$40,000.00
NEW ABUTMENT (8'ht.)& WINGS	130	LF	$1,000.00	$130,000.00
RAILINGS (BRIDGE)	306	LF	$80.00	$24,480.00
APPROACH GUARD RAIL	120	LF	$20.00	$2,400.00

SUBTOTAL = $1,034,151.88

20% CONTINGENCY = $206,830.38

PROJECT TOTAL = $1,240,000.00

VERMONT HISTORIC METAL TRUSS STUDY 06-Oct-95

TOWN/BRIDGE No: CLAREDON 7

ALTERNATE C- RESTORATION/REHABILITATION IN PLACE FOR ADAPTIVE USE

	EXISTING		PROPOSED
TOTAL BRIDGE LENGTH =	153		
C/C TRUSS BEARINGS =	150		
DECK WIDTH =	19.83		12
C/C TRUSSES =	23		23
TRUSS ELEVATION AREA =	5900	(total)	
ROADWAY WIDTH =	19.8		10
STRUCTURAL CAPACITY =	UNKNOWN		PED

	QUANTITY	UNIT	UNIT PRICE	TOTAL
PARTIAL REMOVAL OF STRUCTURE (DECK & FLOOR SYSTEM)	3034	SF	$12.00	$36,407.88
JACKING AND SHORING TRUSSES	1	EA	$20,000.00	$20,000.00
TRUSS PAINTING(w/$10,000 MOB.)	5900	SF	$42.00	$257,800.00
TRUSS REPAIRS	400	LF	$190.00	$76,000.00
STEEL FLOOR BEAMS	3519	SF	$15.00	$52,785.00
FABRIC PAD BEARING ASSEMBLY	4	EA	$650.00	$2,600.00
GLUE LAM TIMBER DECK (6")	1836	SF	$24.00	$44,064.00
BIT. SURFACE TREATMENT	1836	SF	$1.50	$2,754.00
CONCRETE REPAIRS	5	CY	$1,500.00	$7,500.00
RAILINGS (BRIDGE)	306	LF	$80.00	$24,480.00
APPROACH GUARD RAIL	120	LF	$20.00	$2,400.00
			SUBTOTAL =	$526,790.88
			20% CONTINGENCY =	$105,358.18
			PROJECT TOTAL =	$630,000.00

VERMONT HISTORIC METAL TRUSS STUDY 06-Oct-95

TOWN/BRIDGE No: CLAREDON 7

ALTERNATE D- RELOCATION TO NEW SITE FOR ADAPTIVE USE

	EXISTING		PROPOSED
TOTAL BRIDGE LENGTH =	153		
C/C TRUSS BEARINGS =	150		
DECK WIDTH =	19.83		12
C/C TRUSSES =	23		23
TRUSS ELEVATION AREA =	5900	(total)	
ROADWAY WIDTH =	19.8		10
STRUCTURAL CAPACITY =	UNKNOWN		PED

	QUANTITY	UNIT	UNIT PRICE	TOTAL
PARTIAL REMOVAL OF STRUCTURE (DECK & FLOOR SYSTEM)	3034	SF	$12.00	$36,407.88
TRUSS PAINTING(w/$10,000 MOB.)	5900	SF	$42.00	$257,800.00
TRUSS REPAIRS	600	LF	$191.00	$114,600.00
STEEL FLOOR BEAMS	500	SF	$15.00	$7,500.00
FABRIC PAD BEARING ASSEMBLY	4	EA	$650.00	$2,600.00
GLUE LAM TIMBER DECK (10")	1836	SF	$39.00	$71,604.00
BIT. SURFACE TREATMENT	1836	SF	$1.50	$2,754.00
RAILINGS (BRIDGE)	306	LF	$80.00	$24,480.00
APPROACH GUARD RAIL	120	LF	$20.00	$2,400.00
			SUBTOTAL =	$520,145.88
			20% CONTINGENCY =	$104,029.18
			TOTAL =	$620,000.00
DISASSEMBLY, REASSEMBLY AND TRANSPORTATION	1	LS	$50,000.00	$50,000.00
NEW ABUTMENTS AT NEW SITE	100	LF	$1,000.00	$100,000.00
			TOTAL ADDITIONAL COST =	$150,000.00
			PROJECT TOTAL =	$770,000.00

VERMONT HISTORIC METAL TRUSS STUDY 06-Oct-95

TOWN/BRIDGE No: CLAREDON 7

ALTERNATE E- ORNAMENTAL FASCIA TREATMENT ON NEW BRIDGE

	EXISTING		PROPOSED
TOTAL BRIDGE LENGTH =	153		
C/C TRUSS BEARINGS =	150		
DECK WIDTH =	19.83		34
C/C TRUSSES =	23		35
TRUSS ELEVATION AREA =	5900	(total)	
ROADWAY WIDTH =	19.8		30
STRUCTURAL CAPACITY =	UNKNOWN		H20

	QUANTITY	UNIT	UNIT PRICE	TOTAL
PARTIAL REMOVAL OF STRUCTURE (DECK & FLOOR SYSTEM)	3034	SF	$12.00	$36,407.88
LIFTING & MOVING TRUSSES	1	EA	$20,000.00	$20,000.00
TRUSS PAINTING(w/$10,000 MOB.)	5900	SF	$42.00	$257,800.00
TRUSS REPAIRS	400	LF	$190.00	$76,000.00
FABRIC PAD BEARING ASSEMBLY	4	EA	$650.00	$2,600.00
			SUBTOTAL =	$392,807.88
			20% CONTINGENCY =	$78,561.58
			REHAB TOTAL =	$470,000.00
NEW BRIDGE (34x160)	5440	SF	$200.00	$1,088,000.00
APPROACH WORK	100	LF	$400.00	$40,000.00
			NEW BRIDGE TOTAL =	$1,130,000.00
			PROJECT TOTAL =	$1,600,000.00

6.0 CONCLUSIONS AND RECOMMENDATIONS

A. Alternate A - Rehabilitation/Restoration in Place for Limited Vehicle Use

This alternate is considered undesirable because of the extensive and widespread deterioration over the entire structure. The bridge would still have a narrow roadway width and would have a structural rating below the current standard. The repairs would result in a structure that is likely to require a great deal of maintenance in the future. There is also the concern that the fatigue life of the bridge would be exceeded. For these reasons this alternate is not recommended.

B. Alternate B - Rehabilitation/Reinforcement in Place for Unrestricted Vehicle Use

This alternate is not desirable because it would require extensive alterations to the trusses. The structure would have to be widened by almost 50% to accommodate AASHTO's minimum width requirement and the structural capacity would have to raised to HS20 (36 tons). The entire bottom chord and many members would have to be completely replaced. The portals and top chord bracing would need to be replaced. These repairs would have to be completed in a manner that does not detract from the historic look of the structure. The remaining members, if any, would have to be studied to insure that their fatigue life is not exceeded. The resulting bridge would likely have high future maintenance costs. The estimate shows that it is less expensive to construct a new bridge than to rehabilitate this structure for unlimited vehicle use. For this reason and the complications noted above this alternate is not considered desirable.

C. Alternate C - Restoration/Rehabilitation in Place for Adaptive Use

This alternate is also undesirable because of the large quantity of repairs require to satisfactorily upgrade the structure. The bridge would likely have high maintenance costs. The estimated cost for this alternate is greater than what it would cost to construct a new pedestrian bridge at this location. Therefore, this alternate is considered undesirable.

D. Alternate D - Relocation to New Site for Adaptive Use

This alternate is not desirable due to prohibitive costs. The expense of repairs is similar to Alternate C plus costs associated with transportation and a new substructure. A study at or for a new site would have to be done to find an adequate and suitable place for this bridge to be used as an adaptive structure. The removal of this bridge has a large negative impact on the character of the neighborhood. For these reasons, this alternate is not recommended.

E. Alternate E - Other Preservation Alternates

Reusing the existing trusses as an ornamental fascia can only be possible if the new span length approximately matches the length of the existing structure. To meet the recommended AASHTO requirement, the bridge's width would be increased by nearly 50%. The cost of the rehabilitation work is quite high for their use as a decoration. From a preservation standpoint the character (function) of the historic truss is changed, therefore, this alternate is not recommended.

F. Alternate F - Documentation and Demolition

This is the recommended alternate for this structure. The amount and extent of the deterioration in all components of this bridge make rehabilitating the structure prohibitively expensive. All the estimated costs of the alternates considered in this study seemed to be very high for the benefit they offer. Therefore, this alternate is the most reasonable for this structure. After demolition of this bridge the possibility of importing another truss from this study should be considered. The town is planning to build a bicycle path in this area. The new truss could be used to carry the path. The truss would help to minimize the site impact and help the neighborhood retain character. This would also allow for the preservation of a more worthy truss bridge from this study. A complete hydraulic analysis would determine if there is an acceptable truss within a reasonable distance that can be relocated to this site.

APPENDICES

Appendix A - Project Approach

A.1 Purpose and Objectives of the Study

The purpose of this study is to establish a preservation plan that will address which of Vermont's historic metal trusses can be preserved to meet current and future usage demands, by what methods and at what cost. The study identifies those bridges which are good candidates for preservation opportunities and those which are not.

The objective is to preserve these structures, while at the same time provide a transportation system that is safe, efficient, and economical. This is to be achieved without destroying their historical or technological significance or setting.

The conclusions and recommendations from our comprehensive study were made after thoroughly investigating each of the six following alternates:

A. Rehabilitation/Restoration in Place for Limited Vehicle Use
B. Rehabilitation/Reinforcement in Place for Unrestricted Vehicle Use
C. Restoration/Rehabilitation in Place for Adaptive Use
D. Relocation to New Site for Adaptive Use
E. Other Preservation Alternates
F. Documentation and Demolition

A.2 Introduction to Methodology

A multi-disciplined approach was necessary for this study because most of the pre-1930 metal truss bridges were built to accommodate different traffic usage and volume. The two primary factors controlling this study are structural condition/capacity, and present and future traffic needs and capacity. A. G. Lichtenstein & Associates (Lichtenstein) performed the structural evaluation, while Dubois & King (D & K) conducted the traffic study. The structural evaluation provided the necessary information on load carrying capacity, structural condition, and overall condition at the bridge site. This information was used to decide whether or not a structure was worth rehabilitating, and if so, it was used to develop feasible repair schemes that would serve the function desired. The traffic analysis was needed to determine the existing and long term transportation needs of the communities and regions adjacent to each bridge site.

A.3 Structural Evaluation Methodology

The first step in the structural evaluation was a comprehensive search of The Vermont Agency Of Transportation's (VAOT's) bridge files. Depending on availability, the following information was collected for each bridge.

- Structural Ratings
- Up to date Structural Inventory and Appraisal Forms
- Previous Inspection Reports

- Rehabilitation Plans

- Correspondence: This supplied information on critical conditions and structural deterioration, load postings, previous repairs, future plans for the given structure and the recent history of the bridge.

In addition to the file search, a search was performed at Public Records for original design plans. The State Historic Preservation Office was visited, and a Historic Sites & Structures Survey was retrieved for each structure.

The information gathered was studied in preparation for a field inspection. Current bridge inspections gave information on critical areas of heavy deterioration or damage that would affect the capacity of the structure to carry live load. "As built" structural ratings were reviewed to ascertain the load carrying potential of each bridge. Each town involved was contacted and informed of the study and was told which structure was being inspected, and the inspection date and time.

Inspection entailed a field evaluation to observe those portions of the bridge which are structurally or geometrically deficient as identified in the inspection reports prepared by the VAOT. The condition of members that are critical to the continued use of the structure were noted. Areas of heavy deterioration were quantified and critical connections were detailed. The inspection was conducted from the ground below the bridge, the bottom and top chord, and the roadway. Other pertinent information such as bridge geometrics (horizontal, vertical and approach clearances), waterway adequacy, approach conditions, and safety features was also gathered.

Aside from the structural field inspection, our in-house bridge historian visited each bridge and noted both the bridge's historical significance and the surrounding historical resources. Historic districts were identified if the structure was included.

From the information collected from the sources noted and the field inspections, structural alternates and repair schemes were studied. Where the VAOT as-built structural ratings were available, ratings were adjusted using engineering judgement to more closely depict the existing "as-inspected" load carrying capacity of the structure. For each of the alternates investigated, repair schemes were developed and cost estimates were determined.

A.4 Traffic Evaluation Methodology

The traffic evaluation portion of this study began by a thorough record search of all available resource files. In this search, all available traffic information on record was obtained. This record search was conducted at the VAOT Planning and Research Section, the VAOT Bridge Section, and at each Regional Planning Commission. In addition, each site was field inspected where the geometric conditions were evaluated. A field inspection sheet was filled out at each bridge site in order to evaluate geometric conditions, vicinity conditions, street characteristics and possible alterative route locations (where applicable). A meeting was also arranged with each town manager or selectmen and a brief questionnaire was filled out in order to help ascertain the sites current traffic and future planning issues which might affect each bridge site.

Depending on the availability of information for each bridge location, the following information was collected:

- Automatic Traffic Recorder (ATR) Counts.
- ATR Station History (1975 thru 1992).
- 1992 Route Log (which denotes roadway structural section and maintenance history for state number roadways and FAS roadways).
- 1992 Route Log Average Annual Daily Traffic (AADT).
- High Accident Locations 1986-1990 Data from the VAOT - Planning Division, Planning Research Section.
- Turning Movement Data Base as of June 1994 from the VAOT - Planning Division, Traffic Research Section.
- A set of Town Highway Maps (which depict the locations of ATR Counts).
- A set of County Maps (which depict cultural resources and locations).
- Project file information (where a bridge site is in the capital improvement program and some work has been done on it).
- Bridge Inspection Reports.
- Regional Transportation Plans for each Regional Planning Commission.
- Town Plan for each town.
- Town Zoning Plan for each town.
- A Site Inspection Sheet which was compiled for each site to denote roadway and vicinity conditions, alternative route evaluation, and traffic characteristics.
- Town Historic Bridge Field Questionnaire.
- Field photographs depicting existing site and geometric conditions.

After a review of existing traffic data from all available information sources, an estimate of the 1995 average daily traffic and vehicle classification was made at each bridge site. This was done based on one of three different methods.

Method One: Where recent Average Daily Traffic (ADT) and vehicle classifications for bridge sites have been taken on state and town highways and the information is currently available, this information has been incorporated for the preparation of this report. All traffic data was reviewed with respect to the application of appropriate seasonal adjustment factors. Based on estimated regional and local growth rates, the adjusted ADT count was then projected to a 1995 base year ADT.

Method Two: Where ADT and vehicle classifications for bridge sites were unavailable or considered outdated (greater than five years), a 7-day, 24-hour traffic count was taken at the bridge site location. The traffic data was then adjusted utilizing appropriate seasonal adjustment factors. Based on estimated regional or local growth rates, the adjusted ADT count was then projected to a 1995 base year ADT.

Method Three: Where the bridge site was located on a dead end town highway, the ADT was estimated based on Institute of Transportation Engineers (ITE) trip generation rates for the particular land use characteristics of the dead end highway.

The 1995 base year traffic was then projected to estimate a 20-year (2015) ADT using a regional or local estimated growth rate. The design hourly volume was then estimated based on the 1995 and 2015 ADT and the highway class. In the case where a permanent counter was located on the highway near the bridge site location, the projected growth rate obtained from the historical counter was used for estimating the ADT and the DHV.

In certain circumstances where future land use changes or changes in the surrounding roadway network have occurred or are anticipated to occur in the foreseen future, adjustments to the forecasted traffic projections have been made. In these particular circumstances where there is foreseen future development, land use changes or an anticipated change in future traffic circulation, the particular circumstances were discussed and presented in this report. All assumptions used to develop appropriate adjustment factors are identified and an average forecasted traffic adjustment factor is given.

The minimum required geometric standards for bridge widths are based on American Association of State Highway and Transportation Officials (AASHTO), "A Policy on Geometric Design of Highway and Streets". The AASHTO minimum bridge width standards presented in this report are based on the estimated 1995 base year ADT for existing bridge structure evaluations. Where a new bridge or reconstruction is proposed, 20 year traffic projections to the year 2015 have been made.

The minimum bridge structure clear width is based on the volume of current traffic as summarized below. The bridge structure clear width is defined as the lessor of the distance between the bridge curbs or rails.

MINIMUM STRUCTURAL CAPACITIES AND MINIMUM ROADWAY WIDTHS FOR BRIDGES TO REMAIN IN PLACE[1]

Traffic Volume	Design Loading Structural Capacity Minimum	Minimum Bridge Clear Width
ADT (0 to 50)	H-10	20*
ADT (51 to 250)	H-15	20
ADT (250+)	H-15	22
DHV (100 to 200)	H-15	22
DHV (200 to 400)	H-15	24
DHV (Over 400)	H-15	28

*For one lane bridges 18 ft. may be acceptable.

[1] "A Policy on Geometric Design of Highways and Streets", AASHTO 1990, Local Roads and Streets, Table V-10, Pg. 428.

For roads where there is very little truck traffic, the minimum clear width may be reduced by 2 feet, provided that the reduced clear width is not less than the approach traveled way width. Where bridge structures are greater than 100 feet in length, the minimum roadway clear width shall be evaluated on a case-by-case basis. Other factors which were taken into consideration are the clear width provided, the traffic volume, the remaining life of the structure, pedestrian volume, snow storage, design speed, accident records, and any other pertinent factors.

For proposed roadway construction, the minimum width of traveled way and graded shoulder is a function of the design speed of the roadway and the estimated design volume of traffic. The graded shoulder width is measured from the edge of travel way to the point of intersection of the shoulder slope with the side slope. In mountainous terrain or locations where heavy earthwork would be involved, the graded shoulder width in a cut location may be decreased up to 2 feet. However, in no case can the roadway width be less than 18 feet. The AASHTO minimum standards are summarized in the following table.

MINIMUM ROADWAY WIDTHS (FT.) FOR PROPOSED CONSTRUCTION[2]

Design Speed (mph)	Current ADT Less than 250	Current ADT 250-400	Current ADT Over 400	DHV 100-200	DHV 200-400	DHV 400 & Over
			Width of Traveled Way			
20	18	20	20	20	22	24
30	18	20	20	20	22	24
40	20	20	22	22	22	24
50	20	20	22	22	24	24
60	20	22	22	22	24	24
			Width of Graded Shoulder (Each Side)			
All Speeds	2	2	4	6	8	8

[2] "A Policy on Geometric Design of Highways and Streets", AASHTO 1990, Local Roads and Streets, Pg. 426.

For proposed bridge reconstruction, the minimum bridge clear width may be less than the roadway width required for new construction. The difference occurs primarily in the shoulder requirements. The minimum bridge clear width is summarized as follows. In this table the minimum traveled way width presented is the width of traveled way presented in the next table for new roadway construction.

MINIMUM BRIDGE WIDTHS (FT.) FOR PROPOSED CONSTRUCTION[3]

Traffic Volume	Min. Bridge Clear Width
ADT- 400 and under	Traveled way + 2 ft (each side)
ADT- over 400	Traveled way + 3 ft (each side)
DHV- under 400	Traveled Way + 3 ft (each side)
DHV- 400 and over	Approach roadway width

[3] "A Policy on Geometric Design of Highways and Streets", AASHTO 1990, Local Roads and Streets, Pg. 427.

STATE OF VERMONT
Division for Historic Preservation
Montpelier, VT 05602

HISTORIC SITES & STRUCTURES SURVEY
Bridge Survey Inventory Form

SURVEY NUMBER: 1105-27
FIELD SITE NUMBER: RU-24
Negative File Number: 85-A-279

UTM REFERENCES:
Zone/Easting/Northing

18/664215/4825910

U.S.G.S. QUAD. MAP:
Rutland 7.5'

LOCATION:

Route 7-B
STREET, ROUTE or TOWN HIGHWAY
Cold River
FEATURE CROSSED

County: Rutland
Town: Clarendon
Village: North Clarendon

COMMON NAME:

OWNER: State of Vermont
ADDRESS: Agency of Transportation
Montpelier, Vermont 05602

AOT Bridge Number (BCN):
01370007

Still in Use? Yes [X] No []

Original Use: Highway [X] Railroad []
Other [] _____

Designer:
Fabricator: American Bridge Company
Contractor:

MATERIAL/DESIGN/FORM:	DATE:
Steel/Parker/Through Truss (ex.: Steel/Warren/Through Truss)	1928

GENERAL DESCRIPTION

Construction Details

Metal Trusses: Pinned Connections [] Riveted [X] Bolted [] Other []

Masonry arches: Ashlar [] Rubble [] Rubble w/ cut ring stones [] Other []
Type of Stone: _____

Concrete arches:

Other Features: Builder's Plate [X] Other Date [] Portal Ornament [] Railing [X]
Sidewalks [] Inclined End Panels [X] Segmental Top Chord [X] Skewed [] Other []

Abutments: Ashlar [] Rubble [] Poured Concrete [X] Other [] _____

Alterations: Structural Reinforcement [] New Deck [] Repointing [] Relocated []
Replaced Railing [] Other [] _____

DIMENSIONS

Number of Spans: 1 Overall Length: 153

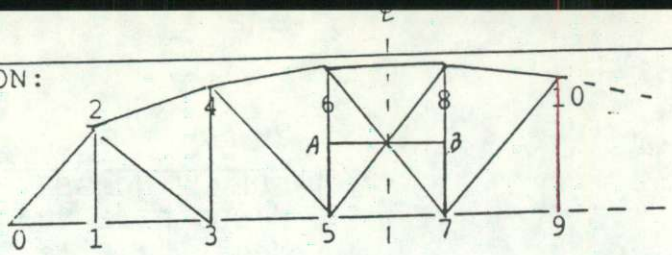
SPAN #	LENGTH	# PANELS	WIDTH	HEIGHT OVER FEATURE CROSSED	DEPTH of TRUSS	PORTAL CLEARANCE
1	150	7	24.5	7.3	c.26	14.9

SURROUNDING ENVIRONMENT: Open Land [] Woodland [] "Road-side Strip" Development []
Scattered Buildings [] Moderately Built-up [X] Densely Built-up []
Residential [X] Commercial [] Agricultural [] Industrial [] Other [] _____

Related Features:

B

ADDITIONAL DESCRIPTION:



Top chord: Box girder with latticed underside, 17x12".
Bottom chord: Two channels with stay plates at 6' intervals.
Center-panel diagonals (6-7, 5-8): Paired angles with stay plates at 2.5' intervals.
All other verticals and diagonals: Rolled I-beams.
Horizontal stiffener (A-B): Paired angles with lacing.
Struts and top bracing: Paired angles with lacing.
Portal strut: Angles in crossing pattern.
Floor system: I-section floor beams and stringers, concrete-slab deck.
Rail: Built up of angles and channels.

STATEMENT OF SIGNIFICANCE:

This bridge is significant as a representative example of the bridges built as a result of the 1927 flood, a major episode in Vermont's 20th century history and an engineering effort of heroic proportions. The bridge uses the standardized design and economical construction which characterized the state's efforts to re-build a large number of bridges as quickly as possible. The Parker through truss was used for nearly all spans greater than 150'. Rolled I-beams (of mostly one size) were used throughout where earlier bridges had built-up members, thus saving fabrication time and expense.

The American Bridge Company was one of the country's largest fabricators and a major supplier of Vermont bridges in the post-flood era.

REFERENCES:

Vermont Highway Commission, Biennial Report, 1928, table facing p.60.

SKETCH MAP (Indicate North in Circle)

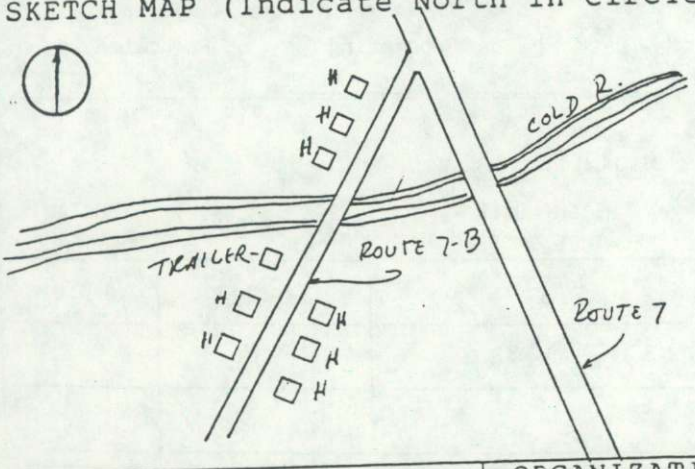


Plate Information:

American Bridge Company

USA 1928

RECORDED BY: Matt Roth

ORGANIZATION: Historic Resource Consultants

DATE RECORDED: June 28, 1985

POOR QUALITY
ORIGINAL

VERMONT HIGHWAY DEPARTMENT

BRIDGE INVENTORY SYSTEM

GENERAL AND STRUCTURAL INFORMATION
LONG STRUCTURES

ROUTE NO. VT 78
ROUTE LOG BRIDGE NO 7
TOWN CLARENDON
DISTRICT 3

DATE 04/29/86

DONE BY

A. GENERAL DATA

BEGIN CARD 1

1

1. PROGRAM NUMBER 0137000 7
2. COUNTY 11
3. 05
4. SPECIAL SITUATIONS 14 2100001
5. 20 3200708
6. ROUTE LOG STATION NUMBER 28 0027099
7. 35 03
8. FEDERAL CITY CODE 37
9. 43 1
10. OTHER ROUTE NUMBER 42 0000000
11. 46 5
12. NAME OF FEATURE CROSSED COLD RIVER
13. MAINTENANCE CONTROL SECTION NUMBER 71 0723
14. 75 15
15. HISTORICAL SIGNIFICANCE 77 3
16.

BEGIN CARD 2

2 AUTO DUP CC 2-14

17. 15 1
18. HYDRAULIC REPORT AVAILABLE? YES 1, NO 2 16 2
19. 12
20. LOCATION 21 1.3 MI N JCT
U.S. 7 S
21. CROSS - REFERENCE 45
22. 50 04
23. FEDERAL - AID SYSTEM CODE 60 05
24. 62 01
25. FEDERAL - AID ROUTE SECTION NUMBER 64 0137
26. 68 1
27. TOLL: BRIDGE 1, ROAD 2, FREE 3 69 3
28. 70 1
29. OWNER 71 1
30. 72 204
31. ROAD SUB-SECTION NUMBER 74
32. 77 1984
33.

B. STRUCTURAL DATA

BEGIN CARD 3

3 AUTO DUP CC 2-14

34. STRUCTURE NUMBER 15
35. XXXXXX 20 EAP 69 18 0
36. 34 192
37. YEAR STRUCTURE WAS BUILT 38 197
38. 42 310
39. TYPE OF STRUCTURE, MAIN SPANS 46 000
40. 50 1
41. TYPE OF BRIDGE SURFACE 52 2
42. 54
43. LANES ON STRUCTURE 55
44. 56 0
45. NUMBER OF MAIN SPANS 58 0
46. 60 15
47. OVERALL LENGTH OF STRUCTURE, FEET 64 15
48. 68
49. SKEW ANGLE, DEGREES 70
50. 71
51. CURVED STRUCTURE? YES 1, NO 2 72 0006
52. 77 000
53. TRAFFIC SAFETY FEATURES

BEGIN CARD 4

4 AUTO DUP CC 2-14

54. 15 10
55. 18 10
56. RIGHT SIDEWALK WIDTH, FEET 21
57. 22
58. NAV. VERTICAL CLEARANCE, FEET 25
59. 28
60. MEDIAN: NONE 0, OPEN 1, CLOSED 2 30
61. 33
62. APPROACH WIDTH (INCL. SHOULDER), FEET 36 2
63. 40 2
64. TOTAL HORIZONTAL CLEARANCE (INVENTORY ROUTE) 44 2
65. 48 1
66. VERTICAL CLEARANCE OVER, FEET 52
67. 56
68. UNDER CLEARANCE (LAT. LT.), FEET 60
69. 64
70. UTILITIES (NUMBER OF TYPES) 66
71.
72. STRUCTURE FLARED? YES 1, NO 2 69
73. 73
74. N/A (SHORT STRUCTURES ONLY) COVER 76
75. 79
76. REMARKS

C. DEPARTMENT OF DEFENSE DATA

BEGIN CARD 5

5 AUTO DUP CC 2-14

77. 15 43341
78. LONGITUDE OF STRUCTURE, DEG.-MIN. 20 72580
79. 23 2
80. (IF NO, OMIT ITEMS 80 THROUGH 88) 26
81. DOD BRIDGE DESCRIPTION 31
82. 33
83. DISTANCE FROM BEGINNING OF DOD SECTION, MILES 36
84. 40 10
85. PHYSICAL VULNERABILITY 43 4
86. 46 2
87. CRITICAL FACILITY 49
88. 51

C

VT. 7B, Br. 7, Clarendon 10/2/89

Structure is a single span thru truss over Mill (Cold) River. Both approaches have moderate to sharp horizontal curves onto the structure. The approach rail on the right at abut. 1 consists of galv. steel beam on steel posts. On the left side it consists of one single wood post. Approach rail on the right at abut. 2 approach consists of 2-cable on wood posts. On the left side, it consists of painted steel beam on steel posts, without offset blocks. The deck is concrete with asphalt overlay. The asphalt has numerous random cracks. The bridge end joint at abut. 2 also has heavy cracking, with some small potholes in the asphalt. There is concrete curbing with deck drains in front of it. Some of the curbing has a few chips with steel exposed. Bridge rail consists of a built-up metal plate rail bolted to the upper truss members and intermediate posts. There is also an angle iron hand rail bolted to the upper truss members and the steel posts. The steel posts are riveted to the bottom chord. The bridge rail is very rusty. There are holes rusted through the rail at the ends of the bridge. The other side of the deck has numerous cracks with heavy leaking. The paint on the truss members is almost entirely gone. The members are covered with surface rust. Many of the verticals have holes in their webs. The remaining upper truss members have some areas of heavy rust scale and some minor holes, but appear in fairly good condition. The end portals and the upper lateral bracing appear in fairly good condition. The superstructure between the truss consists of eight rolled beam floor beams with four stringers per floor beam bay. There is also angle iron lateral bracing in each floor beam bay. Many of the angle irons have rusted completely through at their connection with the lower chord. The lower chord has areas of heavy rust scale adjacent to the spacer plates. Many of the spacer plates have rusted completely away. All of the floor beams have moderate to heavy rust scale at their ends and in areas of their top and bottom flanges. There is a hole in the bottom of the web at the right end of floor beam 1. The hole is approx. 2" wide by 2' long. The inside bearing gusset plate for the end post and adjacent floor beam is severed for its entire height. The outside gusset plate in this location has a moderate amount of surface rust with some section loss. Floor beam 8, which is directly over abut. 2, has rusted completely through its web and top flange at both ends. Presently, it is supported by what is remaining of a heavily rusted bottom flange. The deck is extended over the backwall in this location. It has started to crack directly above the floor beam on the right curb. The inside bearing gusset plate for the end post of the truss on the left side of floor beam 8 is severed for its full height. The outside gusset plate has areas of moderate to heavy section loss. The outside bearing gusset plate also has a slight bow to it. The inside bearing gusset plate on the right at abut. 2 also shows signs of cracking. Floor beam 7 has a small hole in the bottom of its web at the right end. The bearings are

pedestal with rocker bearings at abut. 2. The rockers are extended considerably in the expansion direction. Both abutments are concrete. They have random areas of moderate to heavy leaking. Abut. 2 has some popouts in its backwall. Some of the popped out concrete is leaning against the end floor beams. There is a stone berm in front of abut. 2 and also in the middle of the channel. In some areas, the middle berm is no more than 5-1/2' below the bottom chord. Structure is posted at both approaches for weight limit of 3 tons. Under the present conditions, this structure should be closed to all traffic.

VERMONT TRUSS INSPECTION CHECKLIST:

GEOMETRICS:

APPROACH ROADWAY WIDTH. 24'-0"

BRIDGE ROADWAY WIDTH. 19'-10" curb/curb

CENTER TO CENTER TRUSS. 23'-0"

VERTICAL CLEARANCES (THRU TRUSSES). 14'-10" @ ℄

SIDEWALK WIDTH. —

SAFETY DETAILS. Bridge closed barriers with bridge MBR @ South approach, Northwest approach GR @ N.E approach

SUPERSTRUCTURE:

1. REVIEW INSPECTION REPORT. ✓ 89 report. - No mention of severed gusset PLs at bearing locations
2. VIEW DEFICIENT AREAS AS NOTED ABOVE. vertical members w/ perf holes in webs & bottom 3'-6"± Bottom chord 50% deck in areas
3. LOCATE AND QUANTIFY AREAS OF HEAVY DETERIORATION. FLBM end, web, Tf gone
4. OBSERVE CRITICAL CONNECTIONS. see 3 Gusset PLs connecting L_0, L_8 to rail posts bearings severed at East truss. L_0, L_0 5ft 11" 1 of 2 gussets severed on each truss @ L_8
5. UPGRADING ALTERNATES. Repair deteriorated lower nodes. repair severed gusset PL @ bearings repair/replace floorbeams @ L_0, L_8

SUBSTRUCTURE:

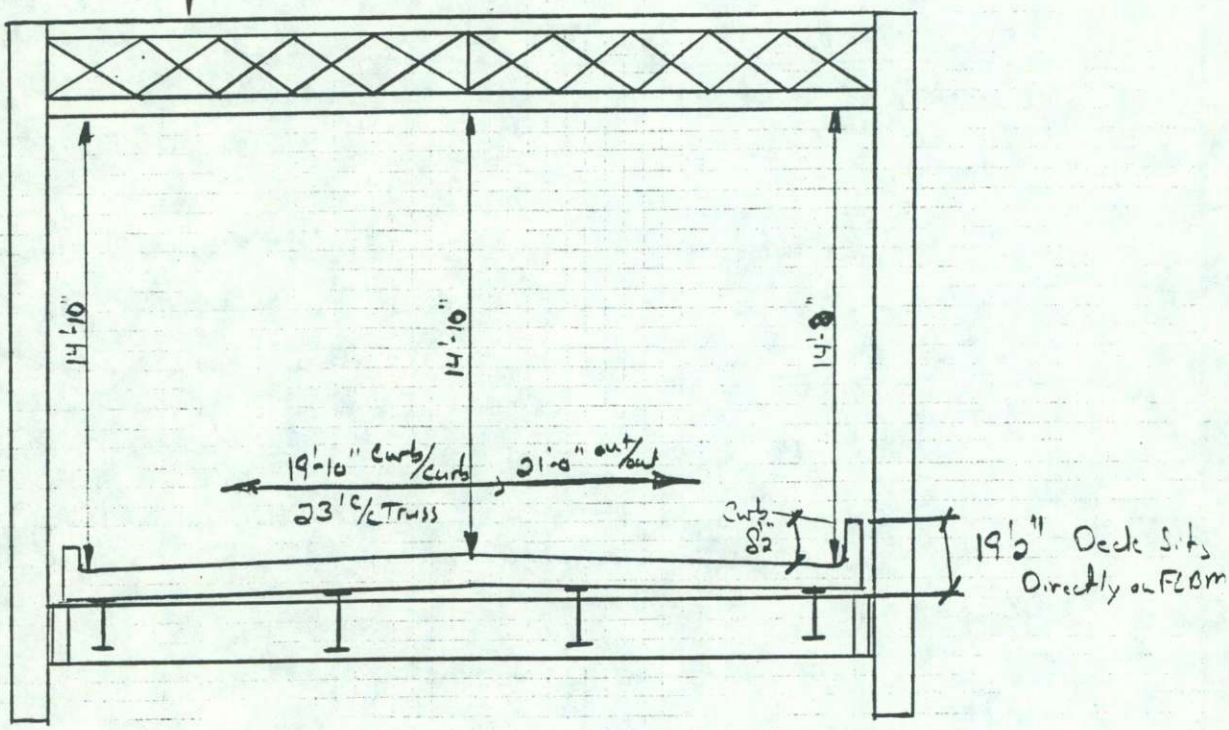
1. STABILITY. - North abutment backwall failed. No longer supporting end of deck. Concrete abutments stable except where truss is resting on it. East truss south abutment 3/4" crack ± goes up stem 4'± from bearing along the seat of abutment, and down the wingwall 3' ± out from fascia
2. ABILITY TO WIDEN. Yes. - adequate room to widen abutment.

E

FIELD NOTES

	JOB NO. 1762	BRIDGE NO. Clarendon #7
	DATE 6/14/94	SHEET
PREPARED BY: A.G. LICHTENSTEIN	CREW JGM, EF	

The Portal Bracing & Truss Members Above Rdwy level are in Good Condition w/ No Paint & only Mod. Rust.



Floor system: - The deck surface has random cracking thru-out w/ conc. stains coming thru. The deck underside has extensive map cracking w/ Hvy Efflo and Active leakage thru the deck.

- The stringers have hvy. rusting w/ minor section loss on the flanges due to the leakage thru the deck.
- The FLBMs have hvy. rust w/ Perf. holes in the web near the Truss Conn's. The end FLBMs are worst w/ the FLBM @ N. Abut Completely Severed except for the Bottom Flg @ Both Ends

Note: Vertical Clearances @ S. Portal Control (Shown)

Cross Section - Looking North

FIELD NOTES	JOB NO. 1762	BRIDGE NO. Clarendon #7
	DATE 6/14/94	SHEET
PREPARED BY: A.G. LICHTENSTEIN	CREW JBM, EF	

Truss Conditions

- There is severe section loss inside each end node.
  At L_0 of E. Truss, the Gusset Pl has been completely severed between L_0U_1 and the Railing End Post, this has resulted in the entire truss dropping 11" onto the abut. seat. The front of the abut. seat is cracking & spalling away under this weight.
  At L_7 of both trusses the inside gusset plate is severed full height between L_7U_6 and the railing end post. The exterior gusset plates also have huge losses. The North ends of the trusses are deflected down onto the tops of the rocker bearings.
  Both of the rocker brgs. @ the N. Abut. are overextended in expansion. The East brg. is tipped completely back. The End FLBM is in contact with the backwall.

- The diagonal members have a few small holes in the lower portions of the webs and minor (1/16-1/8) loss on roadside flanges @ the guide rail level.

- The vertical members have extensive perf. holes in the webs for the lower 3'-6" and up to 80% loss of the Roadside flange thickness behind the guide rail.

- The Bottom Chords have 50% ± loss on the inside bottom flange and lower 4" of the inside Channel web for the full length of the Bridge. The Bottom batten plates are gone @ numerous locations and both Channel webs typically have 50% loss 4" ± high @ the Batten Pl locations.

- The horizontal Gusset Pls for the lower lateral bracing are rusted away @ numerous locations with the lateral bracing severed and hanging.

- The gusset plates @ the bottom chord nodes have huge losses on the insides with perf. holes in few locations.

HISTORIC METAL TRUSS BRIDGE
SITE INSPECTION SHEET

PART A (OFFICE)

TOWN: CLARENDON
BRIDGE NO.: 7
ROUTE: VT 7-B
CROSSING: ~~MILL~~ RIVER COLD

STATE ROAD X
TOWN ROAD
DEAD END
(SEE PART C)
ALT. ROUTE
(SEE PART D)

BRIDGE

TYPE/DESIGN: STEEL/PARKER/THROUGH TRUSS
LENGTH: 150 WIDTH (FT): 24.5 LANES (FT)
NO. SPANS: 1 LOAD LIMIT: 3 YEAR BUILT 1928
HYDRAULIC OPENING:
FLOOD ELEVATION: 10 YR 50 YR 100 YR
SUFFICIENCY RATING: 48.9 COMMENTS:
ADT: 1000 YEAR: 92 SOURCE:
ESTIMATED % TRUCKS:

PART B (FIELD)

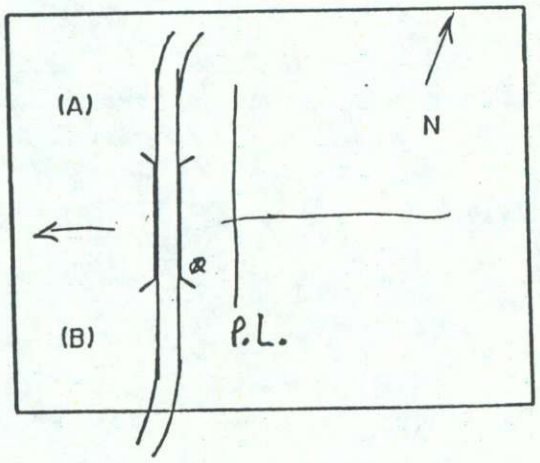
FIELD INSPECTION DATE: 8/17/94

ROADWAY

TRAVELWAY WIDTH (FT): 22 SHOULDER WIDTH (FT.) 3 pave/3+ grs
POSTED SPEED LIMIT: 30 EST POSTED LOAD LIMIT (TON) NONE
APPROACH WARNING SIGNS (A) ROAD CLOSED (B) ROAD CLOSED
APPROACH (A) ALIGNMENT (TANGENT, CURVE LT., CURVE RT.)
ESTIMATED APPROACH GRADE: (+) (-) 2
((-)approach lower than bridge)
APPROACH (B) ALIGNMENT (TANGENT, CURVE LT., CURVE RT.)
ESTIMATED APPROACH GRADE: (+) (-) 2
FIELD TRAFFIC OBSERVATIONS:

VICINITY

LAND USE: Res/Comm
MASTER PLAN: Y
ZONING MAP: Y
WETLANDS: (Y,N) N
HISTORIC: (Y,N) N
ARCHEOLOGICAL (Y,N) N
NATURAL/CULTURAL (Y,N) N



PICTURE NUMBERS (ROLL/NUMBER)

APPROACH (A): P-27
APPROACH (B): P-25
UPSTREAM: Q-2
DOWNSTREAM: Q-1
OTHERS: P-26

DESCRIPTION: SOUTHERLY ABUT. FAILURE

F.

TOWN HISTORIC TRUSS BRIDGE FIELD QUESTIONNAIRE

TOWN: CLARENDON

COMMUNITY ISSUES:

1. DOES YOUR COMMUNITY HAVE A TOWN PLANNER? WHO IS THE CONTACT?

ANS. PLANNING COMMISSION

CHAIRMAN, RICHARD BERSAW (802) 775-7247 or (802) 775-4629
1ST & 3rd Mon. meetings

2. DOES YOUR COMMUNITY HAVE A MASTER PLAN OR OTHER PLANNING DOCUMENT? CAN WE RECEIVE A COPY? YES

ANS. YES

3. DOES YOUR COMMUNITY HAVE ZONING ORDINANCES AND MAPS? ARE THERE ANY REZONING ISSUES BEING DISCUSSED AT THIS TIME? MAY WE RECEIVE A COPY OF THE ZONING MAP?

ANS. YES / YES / YES.

4. DOES YOUR COMMUNITY HAVE A BICYCLE AND/OR SNOWMOBILE CLUB? WHO IS THE CONTACT?

ANS. SNOWMOBILE CLUB (VT. GREEN MTN. SNOWFLYERS)
CONTACT: GLORIA LOOMIS
132 WALKER MOUNTAIN
N. CLARENDON VT. 05759

TOWN HISTORIC TRUSS BRIDGE QUESTIONNAIRE

TOWN: CLARENDON
BRIDGE NO.: 7
ROADWAY: VT 7-B

BRIDGE SITE ISSUES:

1. ARE THERE ANY LAND SUBDIVISIONS OR BUILDING APPLICATIONS THAT COULD IMPACT THIS BRIDGE SITE? IF ANY, PLEASE DESCRIBE THE SIZE AND NATURE OF DEVELOPMENT.

ANS. KNOW OF NONE AT THE PRESENT TIME

2. ARE THERE ANY SHORT OR LONG RANGE PLANNING ISSUES THAT MIGHT AFFECT THIS BRIDGE SITE?

ANS. ANSWER REQUIRES CONTACT WITH THE TOWN PLANNING COMMISSION

3. DOES ANYONE IN THE COMMUNITY HAVE ANY AVAILABLE ACCIDENT RECORDS (LAST 3 YEARS) THAT MAY HAVE OCCURRED AT OR NEAR THE BRIDGE SITE?

ANS. NO

4. ARE YOU AWARE OF ANY TRAFFIC COUNTS OR STUDIES WHICH MAY HAVE BEEN DONE AT OR NEAR THIS BRIDGE SITE?

ANS. NO

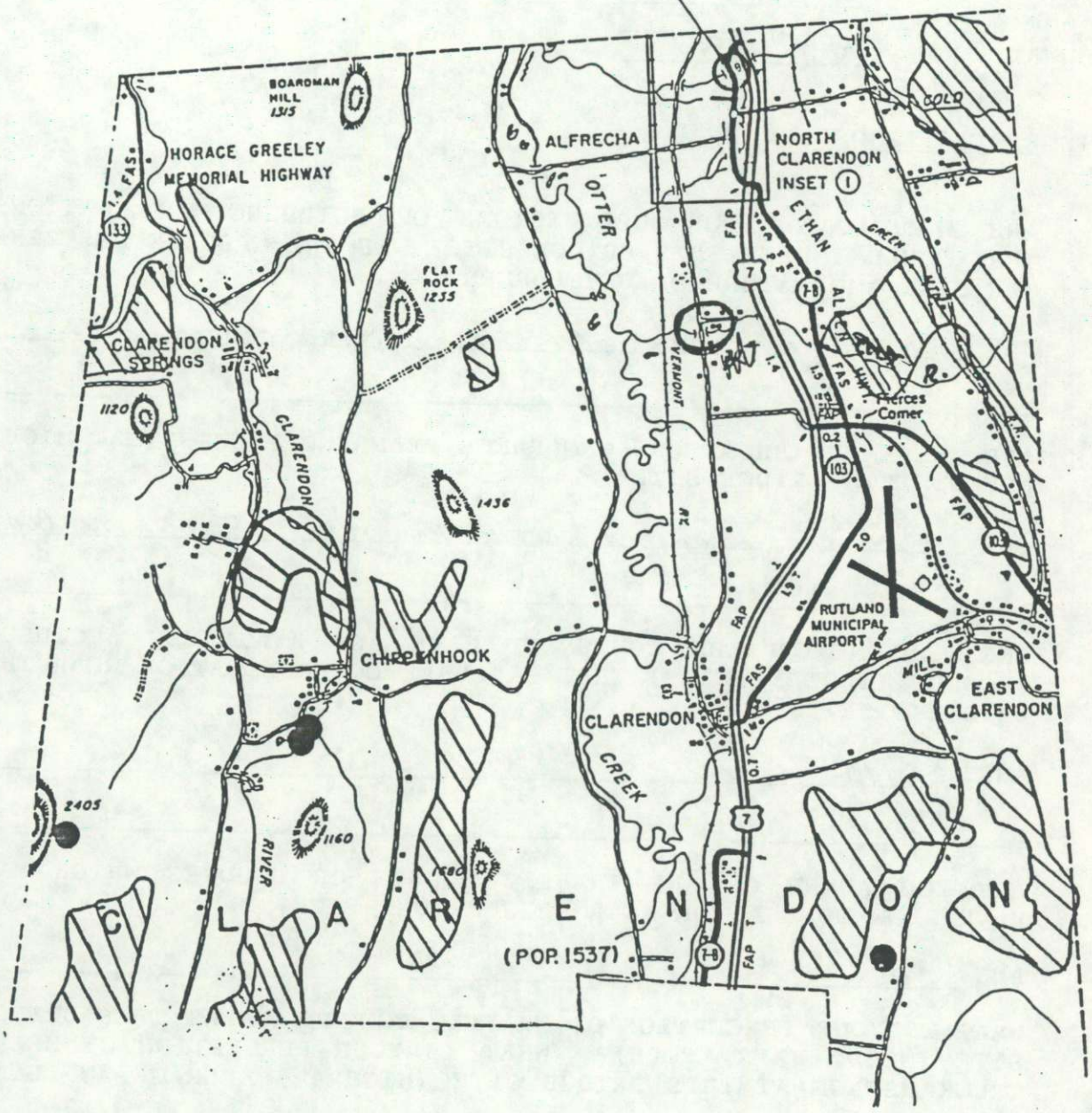
5. WHAT IS YOUR PERCEPTION OF TRAFFIC CONGESTION AT THIS BRIDGE SITE (GOOD, FAIR, POOR)? WHAT IS YOUR PERCEPTION OF HEAVY TRUCK USEAGE AT THIS BRIDGE SITE (HIGH-4%, AVERAGE-2%, LOW-1%).

ANS. * Note BRIDGE WAS CLOSED TO TRAFFIC SEVERAL YEARS AGO BY THE STATE OF VT. AGENCY OF TRANSPORTATION

6. HAS THE TOWN MADE REPAIRS TO THIS BRIDGE SITE (LAST 3 YEARS) IN THE PAST? IF SO, WHO WOULD KNOW WHAT REPAIRS WERE DONE (NAME, FIRM, PHONE NUMBER)?

ANS. STATE OWNED BRIDGE (REPAIRS ARE NOT THE TOWNS RESPONSIBILITY) CLOSED several years ago by V.A.O.T. DUE TO UNSAFE CONDITION

VT 7B
BR 7



1990 SIGNIFICANT HABITAT MAP

1" = 1 mile

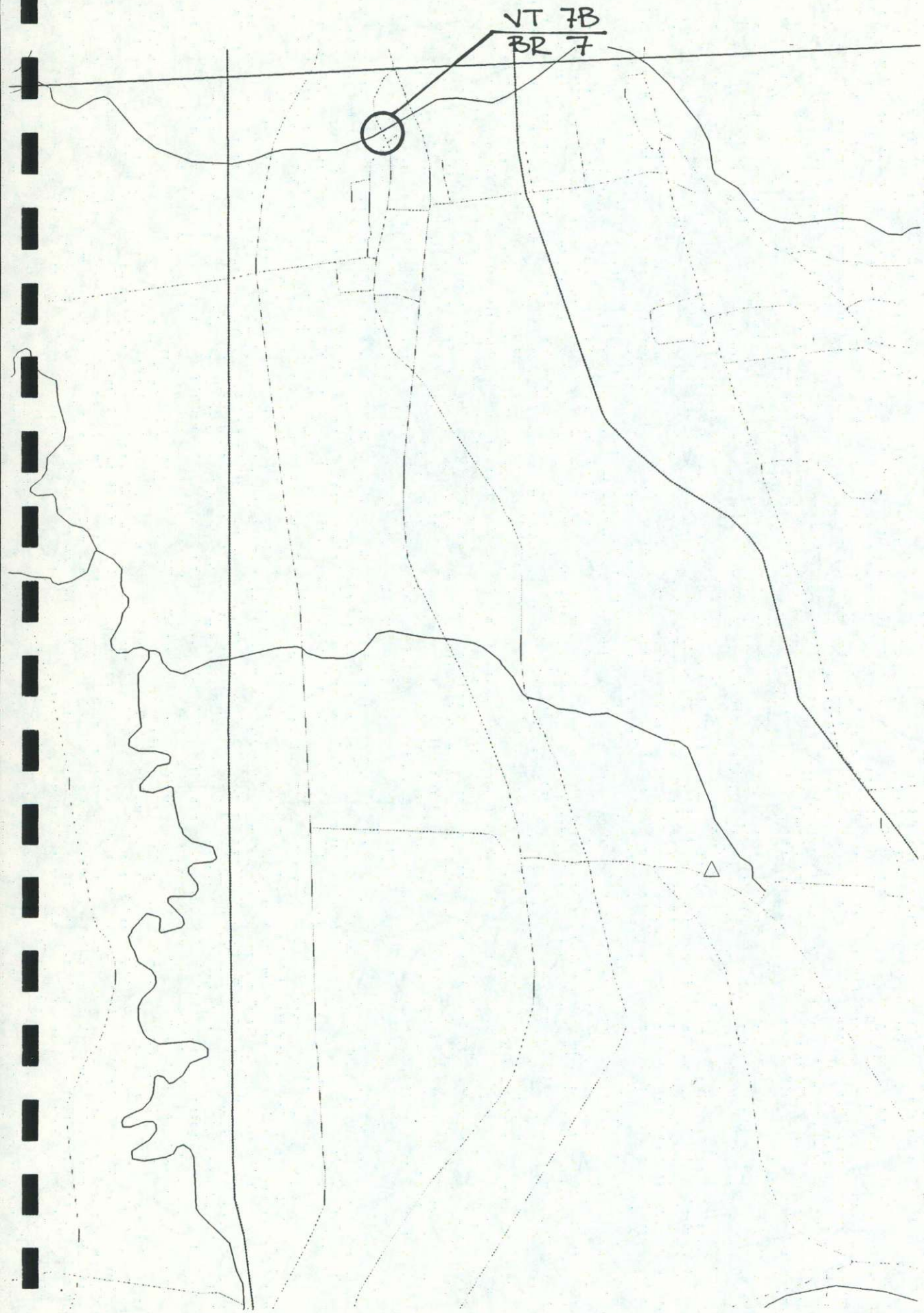
Winter deer range

Rare plants, animals, or significant natural community or state natural/fragile area

VT Dept. of Fish & Wildlife

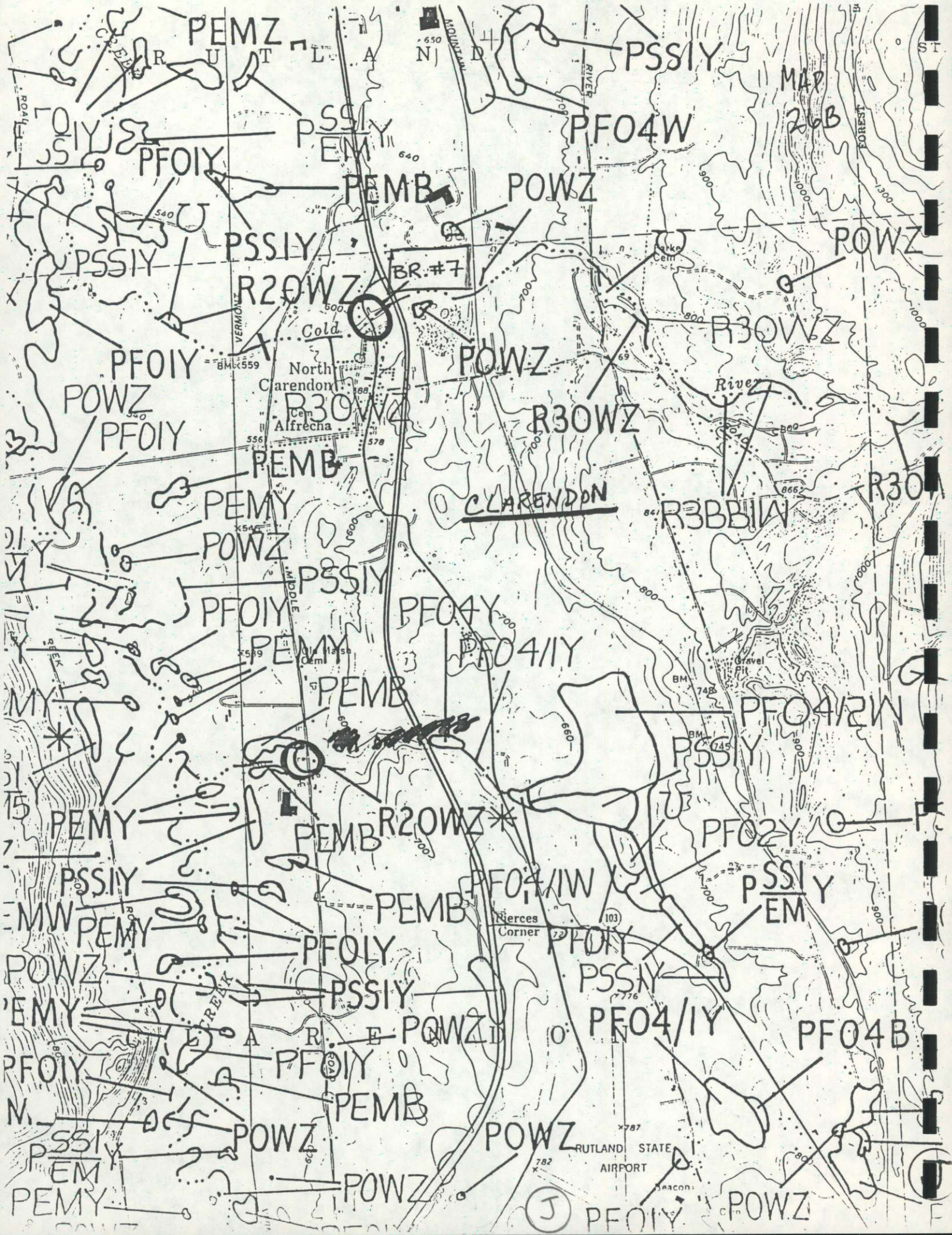
H

POOR QUALITY
ORIGINAL LIGHT



CLARENDON BR 7
PSI 2000 IN AUG T

I


PEMZ
PSS1Y
MAP 26B
PF04W
PFO1Y
PEMB
POWZ
PSS1Y
BR. #7
R20WZ
R30WZ
PFO1Y
POWZ
North Clarendon
R30WZ
PEMB
PEMY
CLARENDON
R3BB1W
POWZ
PSS1Y
PFO1Y
PF04Y
PEMY
PF04/1Y
PEMB
PF04/2W
PSS1Y
PEMY
R20WZ
PEMB
PF02Y
PSS1Y
PF04/1W
PEMB
Pierces Corner
PEMY
PFO1Y
PFO1Y
POWZ
PSS1Y
PSS1Y
PEMY
POWZ
PF04/1Y
PF04B
PFO1Y
PEMB
POWZ
POWZ
RUTLAND STATE AIRPORT
POWZ
PEMY
PFO1Y
POWZ

MAILING ADDRESS:
58 East State Street
Drawer 20
Montpelier, Vermont 05620-3201

State of Vermont
Water Resources Board

Tel.: (802) 828-2871

Location:
58 East State Street
Montpelier, Vermont

VERMONT WATER QUALITY STANDARDS
Adopted July 12, 1994

Effective August 1, 1994

K

POOR QUALITY ORIGINAL C/O

PAGES 1-3

A. Poultney River

Waters	Class	Date	Approx. Miles/Acres
Inman Pond	A	6/15/67	79 acres (Pond only)

Description

Village of Fair Haven water supply. Inman Pond and all waters within its watershed in Fair Haven.

Sucker Creek	A	7/1/71[1]	0.6 mile

Village of Fair Haven water supply. Sucker Creek and all waters within its watershed upstream of the Howard Dam and Sheldon Dam, both of which are located in Fair Haven.

B. Entire Basin

All waters located above 2,500 feet altitude National Geodetic Vertical Datum.	A	5/17/86	No record

Section 4-03. Classification of the Otter Creek Basin (Basin 3)

All waters within this basin are Class B except as provided for below:

A. Upper Otter Creek

Waters	Class	Date	Approx. Miles/Acres
Unnamed tributary to Cold River	A	2/17/61	2.0 miles

Description

City of Rutland water supply. Unnamed tributary to Cold River and all waters within its watershed upstream of its diversion into the Mendon Brook watershed in Sherburne.

Mendon Brook	A	2/17/61	6.0 miles

City of Rutland water supply. Mendon Brook and all waters within its watershed upstream of the water intake just south of Meadow Lake Drive in the Town of Mendon.

Tenney Brook	A	2/17/61	2.0 miles

Rutland-Mendon Town water supply. Tenney Brook and all waters with its watershed upstream of and including a small intake impoundment.

iles

APPENDIX A
Fish Habitat Designation

A. Warm Water Fish Habitat

All wetlands, except those designated as cold water fish habitat in paragraph B below, and the following waters are designated as warm water fish habitat for purposes of these rules:

1. Battenkill, Walloomsac, Hoosic Basin
   - (a) Lake Hancock (Sucker Pond), Stamford
   - (b) Thompsons Pond, Pownal
2. Poultney, Mettawee Basin
   - (a) All waters west of Vermont Route 22A.
   - (b) Austin Pond, Hubbardton
   - (c) Beebe Pond, Hubbardton
   - (d) Billings Marsh Pond, West Haven
   - (e) Burr Pond, Sudbury
   - (f) Coggman Pond, West Haven
   - (g) Echo Lake (Keeler Pond) Hubbardton/Sudbury
   - (h) Half Moon Pond, Hubbardton
   - (i) Hinkum Pond, Sudbury
   - (j) Lake Hortonia, Hubbardton/Sudbury
   - (k) Inman Pond, Fair Haven
   - (l) Lily Pond, Poultney
   - (m) Little Pond, Wells
   - (n) Love's Marsh, Castleton
   - (o) Mill Pond (Parson's Mill Pond), Benson
   - (p) Northeast Developer's Pond, Wells
   - (q) Old Marsh Pond, Fair Haven
   - (r) Pine Pond, Castleton
   - (s) Poultney River from Carvers Falls in West Haven to its confluence with Lake Champlain
   - (t) Sunrise Lake, Benson/Orwell
3. Otter Creek, Little Otter Creek and Lewis Creek Basin
   - (a) All waters lying west of Vermont Route 22A and south of the City of Vergennes.
   - (b) Brilyea East Pond, Addison
   - (c) Brilyea West Pond, Addison
   - (d) Chipman Lake (Tinmouth Pond), Tinmouth
   - (e) Danby Pond, Danby
   - (f) East Creek Site I, Orwell
   - (g) Fern Lake, Leicester
   - (h) Lemon Fair River
   - (i) Mud Pond, Leicester
   - (j) Otter Creek from the outfall of the Proctor wastewater treatment facility in Proctor, to its confluence with Lake Champlain, except that portion between the Beldens Dam and the Huntington Falls Dam in New Haven/Weybridge.
   - (k) Richville Pond, Shoreham
   - (l) Stone Bridge Pond, Panton/Addison
   - (m) Wallingford Pond, Wallingford
4. Lower Lake Champlain Basin
   - (a) Lake Champlain south of the Crown Point Bridge.

16. Upper Connecticut, Nulhegan, Willard Stream, Paul Stream Basin
   (a) Dennis Pond, Brunswick
   (b) Halls Lake, Newbury
   (c) Harriman Pond, Newbury
   (d) Lake Morey, Fairlee
   (e) Lower Symes Pond, Ryegate
   (f) Stevens Pond, Maidstone
17. Lake Memphremagog, Black, Barton, Clyde, Coaticock, Basin
   (a) Daniels Pond, Glover
   (b) Lake Derby, Derby
   (c) Long Pond, Sheffield
   (d) Little Hosmer Pond, Craftsbury
   (e) Mud Pond, Craftsbury
   (f) Mud Pond, (North) Morgan
   (g) Tildy's Pond (Clark Pond), Glover
   (h) Toad Pond, Charleston
   (i) Turtle Pond, Holland

B. Cold Water Fish Habitat

1. All waters not designated as warm water fish habitat by subsection A are hereby designated as cold water fish habita for purposes of these rules.
2. The following wetlands are designated as cold water fish habitat:
   (a) Those wetlands adjacent to the Dog River and it tributaries from the headwaters of the Dog River to the point where it first crosses State Aid highway #62 in Roxbury, a distance of approximately 1.5 miles.
   (b) Those wetlands adjacent to the headwaters of the Winhall River and its tributaries on the east and west side from the outlet of Stratton Pond to the Stratton-Winhal boundary, a distance of approximately 2.0 miles.
   (c) Those wetlands adjacent to the Batten Kill River from a point .75 miles north of East Dorset and extending t its confluence with Dufresne Pond in Manchester, distance of approximately 5.5 miles.
   (d) Those wetlands adjacent to the New Haven River and its tributaries from its confluence with Blue Bank Brook i Lincoln upstream to the headwaters of the respective tributaries, a distance of approximately 1.75 miles.

R13228
MEMORANDUM

TO: LDW, RJW

FROM: RCL

SUBJECT: Historic Metal Truss Bridge Project, Clarendon

DATE: August 17, 1994

Met With: Linda Trombley, Administrative Assistant

Notes:

1. State owned bridge.
2. State closed the bridge and at first the town tried to fight the closing. Once it was closed, the town then asked the state to remove the bridge and install a pedestrian/bike bridge.
3. The existing bridge is unsafe and unsaveable.
4. The town was considering a bike path linking the North Clarendon Village area with a mall development near the airport.
5. There is a storage area available to stockpile the bridge at an old state garage site.
6. The planning commission is drafting a new town plan and zoning.
7. As far as development is concerned, businesses have been moving out of town, not into town.
8. TH 1 bridge has a higher priority with a 1998 replacement scheduled because it is a main access to the schools.
9. Upon visiting the bridge, it appears that the truss has sheared at the southwest east support where the bottom chord and the hip vertical intersect. The truss is now resting on the abutment. It appears that the abutment was damaged when the failure occurred.

L

DuBois & King inc.
Randolph, VT 05060 (802) 728-3376
Nashua, NH 03063 (603) 883-0463
Saco, ME 04072 (207) 282-9997
So. Burlington, VT 05403 (802) 864-6717
Rutland, VT 05701 (802) 773-7016
Engineering • Planning • Development • Management

JOB CLARENDON #7
SHEET NO. ____ OF ____
CALCULATED BY RCL DATE 10-12-94
CHECKED BY ____ DATE ____
SCALE ____

ESTIMATED TRAFFIC GROWTH

COUNTER R330 TH2

YEAR	ADT
87	590
83	550
76	380

76 to 87 $\frac{590-380}{380} = 0.55$

$1.55^{1/11} = 1.041 =$ 4.1% per year

COUNTER R152 VT 103

YEAR	ADT
90	6300
82	5450
80	4610
79	4490

82 to 90 $\frac{6300-5450}{5450} = 0.156$

$1.156^{1/8} = 1.018 =$ 1.8% per YR

79 to 90 = 3.1% per yr

POPULATION PROJECTIONS

PERCENT CHANGE 1980-1990 19.52%
1990-2015 56.90%

POPULATION: 1995 : 3181
2015 : 4448

$1.569^{1/25} = 1.018 =$ +1.8% per year

M

VT-7B
BR 7

IRA

SHREWSBURY

TINMOUTH

WALLINGFORD

RESIDENTIAL

RESIDENTIAL/ COMMERCIAL

AGRICULTURAL/ RESIDENTIAL

VILLAGE CENTER

COMMERCIAL

INDUSTRIAL

RECREATION

RESOURCE

Town Forest

- SINGLE FAMILY RESIDENCE
- TWO FAMILY RESIDENCE
- M MOBILE HOME
- R RESIDENCE
- S SEASONAL
- ARTERIAL HIGHWAY
- COLLECTOR HIGHWAY
- LOCAL STREET
- PRIVATE STREET

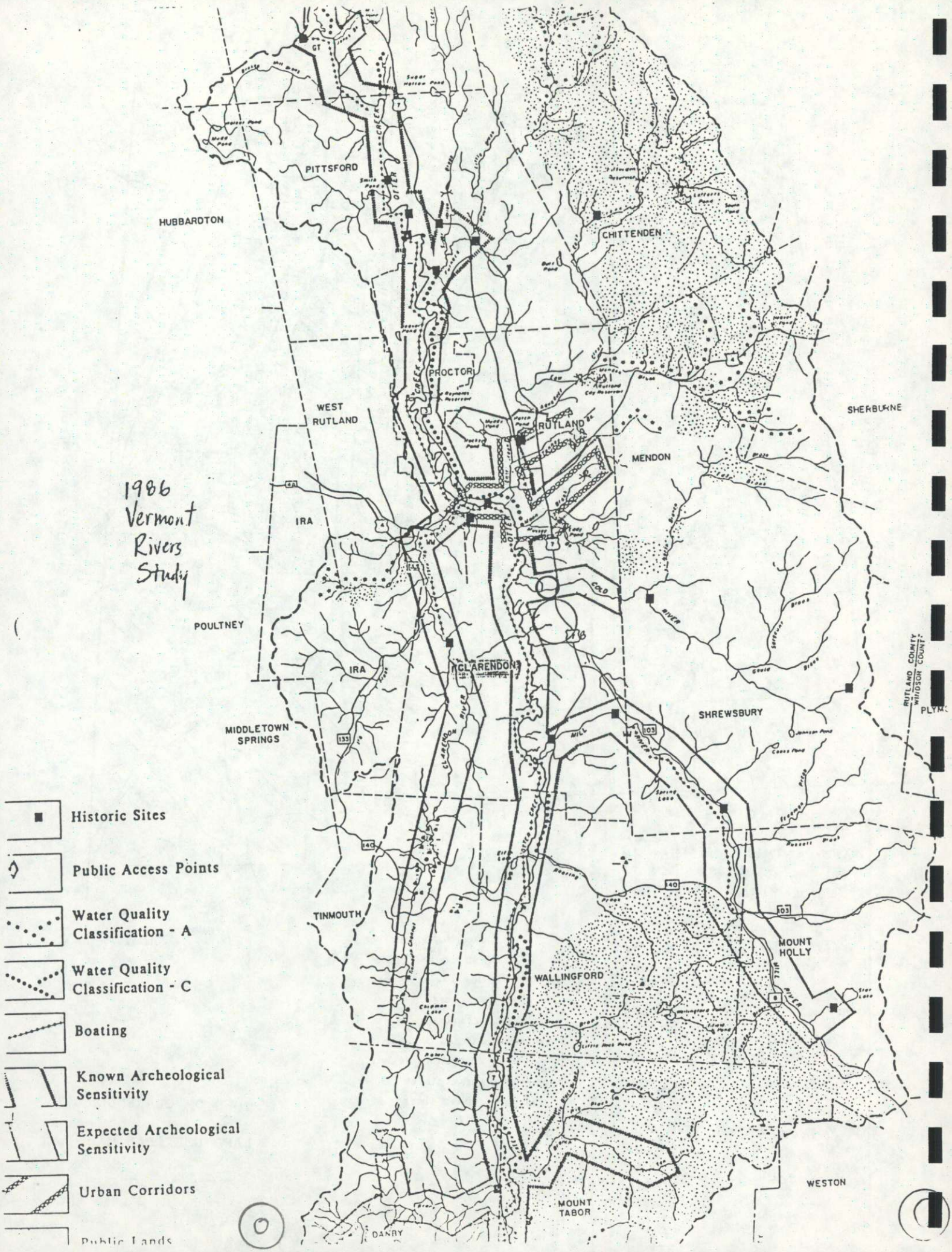
PRELIMINARY
FIELD WORK - FALL 1980

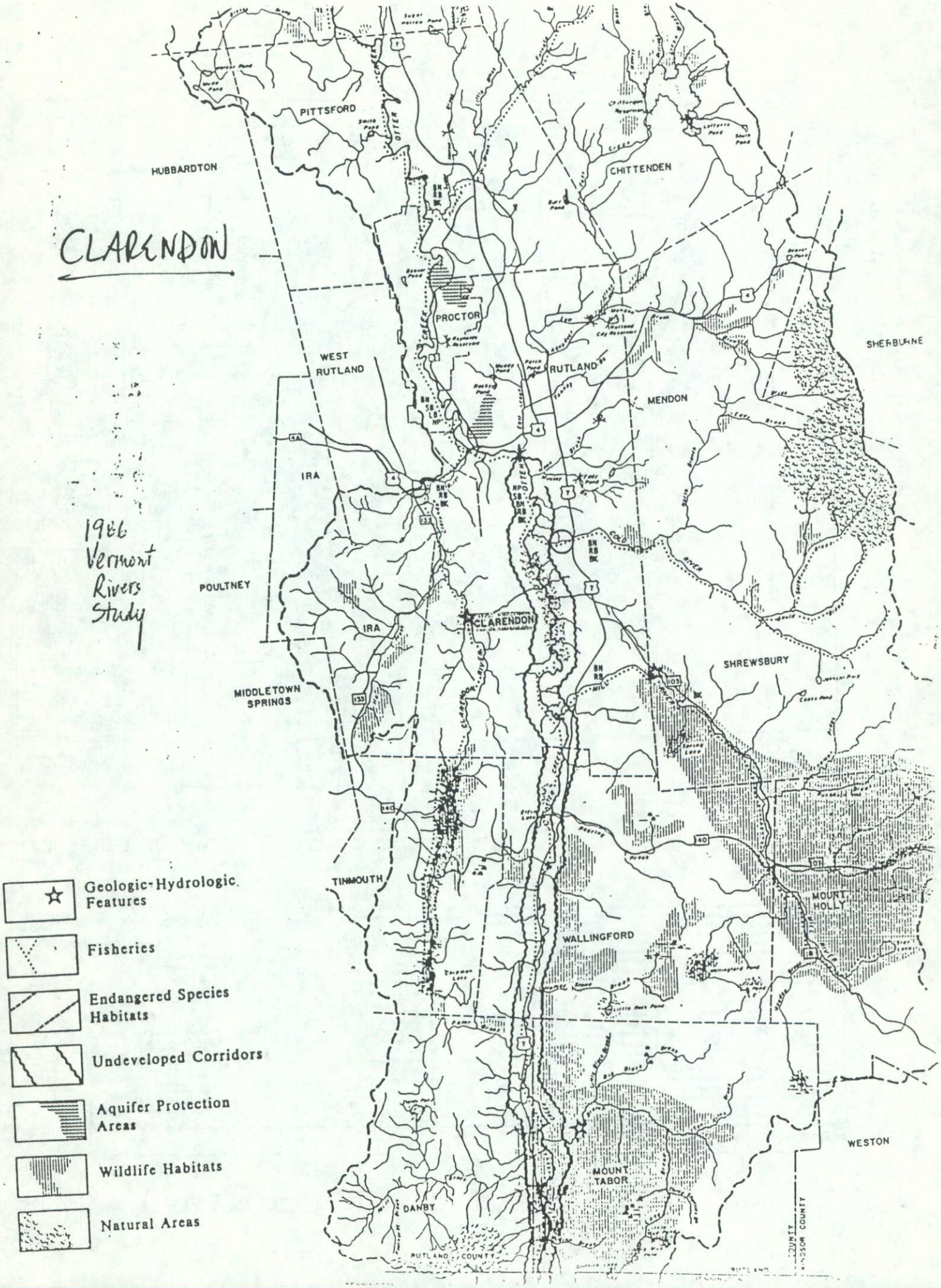
TOWN OF CLARENDON

LAND USE PLAN MAP

N

POOR QUALITY
ORIGINAL


1986 Vermont Rivers Study
PITTSFORD
HUBBARDTON
CHITTENDEN
PROCTOR
WEST RUTLAND
RUTLAND
MENDON
SHERBURNE
IRA
POULTNEY
CLARENDON
SHREWSBURY
MIDDLETOWN SPRINGS
TINMOUTH
WALLINGFORD
MOUNT HOLLY
MOUNT TABOR
WESTON
DANBY
RUTLAND COUNTY
WINDSOR COUNTY
Historic Sites
Public Access Points
Water Quality Classification - A
Water Quality Classification - C
Boating
Known Archeological Sensitivity
Expected Archeological Sensitivity
Urban Corridors
Public Lands


CLARENDON
1986 Vermont Rivers Study
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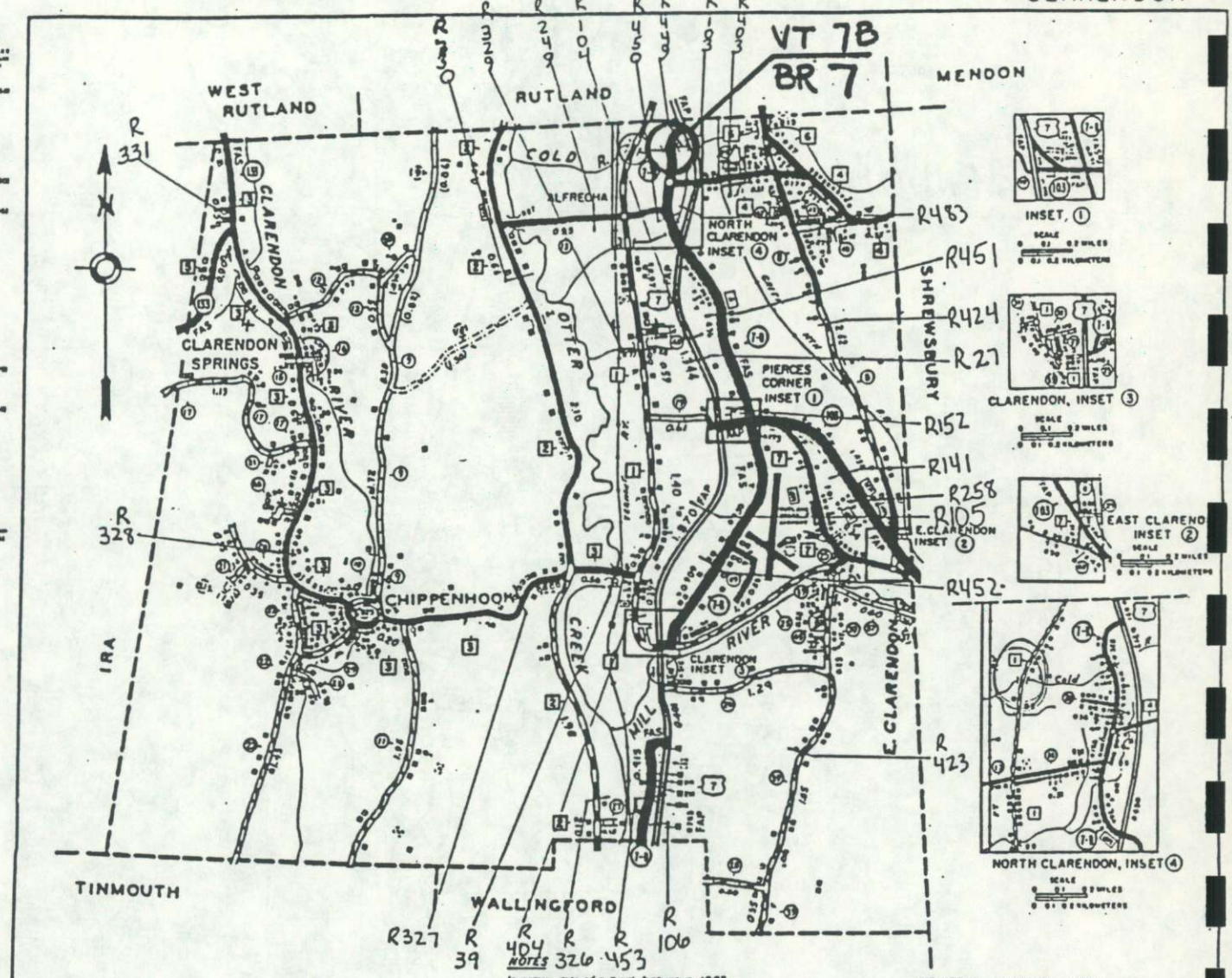
IRA
POULTNEY
CLARENDON
SHREWSBURY
MIDDLETOWN SPRINGS
TINMOUTH
WALLINGFORD
MOUNT HOLLY
WESTON
MOUNT TABOR
DANBY
RUTLAND COUNTY
WINDSOR COUNTY
Geologic-Hydrologic Features
Fisheries
Endangered Species Habitats
Undeveloped Corridors
Aquifer Protection Areas
Wildlife Habitats
Natural Areas



Inventory date of cultural features is 1983.
The unsurveyed highways (land-out town highways), discontinued highways, and legal trails shown hereon are those of which the Department of Highways has record; others may exist.

GENERAL HIGHWAY MAP

TOWN OF CLARENDON

1980 POPULATION: 2372

PREPARED BY
VERMONT AGENCY OF TRANSPORTATION
PLANNING DIVISION

SCALE

LEGEND

HIGHWAYS

- DIVIDED HWY, INTERSTATE OR STATE
- INTERCHANGE NUMBER
- 2-LANE STATE HIGHWAY
- END OF STATE HIGHWAY
- TOWN HIGHWAY
- UNTRAVELLED ROAD
- PRIVATE ROAD AND NUMBER
- DISCONTINUED HIGHWAY
- LEGAL TRAIL (FORMER TOWN HWY.)
- FOOT TRAIL
- INTERSTATE NUMBERED ROUTE
- U.S. NUMBERED ROUTE
- STATE NUMBERED ROUTE
- CLASS 1 TOWN HIGHWAY
- CLASS 2 TOWN HIGHWAY
- CLASS 3 TOWN HIGHWAY
- CLASS 4 TOWN HIGHWAY
- FCA FULLY CONTROLLED ACCESS
- FAP FEDERAL AID PRIMARY HIGHWAY
- FAS FEDERAL AID SECONDARY HIGHWAY
- FAS FEDERAL AID SECONDARY EXTRA
- NFH NATIONAL FOREST HIGHWAY
- SFH STATE FOREST HIGHWAY

ROAD SURFACE TYPES

- BITUMINOUS MIX, MACADAM MIX, MACADAM PENETRATION, CONCRETE
- BITUMINOUS CONCRETE, BRICK OR BLOCK
- SURFACE TREATED GRAVEL
- GRAVEL
- SOIL SURFACE (2ND CLASS GRAVEL)
- GRADED AND DRAINED EARTH
- UNIMPROVED EARTH
- PRIMITIVE

BRIDGES

- BRIDGE OR CULVERT (LESS THAN 6' SPAN)
- BRIDGE OR CULVERT (6' THRU 20' SPAN)
- BRIDGE (OVER 20' SPAN)
- HIGHWAY UNDERPASS
- HIGHWAY OVERPASS
- COVERED BRIDGE
- 010 BRIDGE NUMBER

MISCELLANEOUS

- RAILROAD AND GRADE CROSSING
- VILLAGE CENTER

CULTURAL FEATURES

- FARM UNIT
- DWELLING (other than farm)
- SEASONAL DWELLING
- MOBILE DWELLING
- TOWN CLERK'S OFFICE
- BUSINESS
- SCHOOL
- CHURCH
- POST OFFICE
- FIRE STATION
- CEMETERY
- SANITARY LANDFILL
- GRAVEL PIT
- SUGAR HOUSE
- HALL (T-town, C-community, G-grange, F-fraternal)

TOWN BOUNDARIES AND ROAD ALIGNMENTS ARE APPROXIMATE

MILEAGE SUMMARY

CLASS 1 TOWN HIGHWAYS:		0.000
CLASS 2 TOWN HIGHWAYS:		
NO. 1	4.11	
NO. 2	3.53	
NO. 3	6.76	
NO. 4	1.94	
NO. 5	0.90	
NO. 6	0.94	
NO. 7	1.76	
NO.		
TOTAL, CLASS 2 TOWN HWYS.		21.56
CLASS 3 TOWN HIGHWAYS:		27.45
TOTAL, TOWN HWYS.		49.01
STATE HIGHWAYS:		
STATE HWY. U.S. 7	5.836	
STATE HWY. VT. 7B	5.296	
STATE HWY. VT. 103	2.106	
STATE HWY.		
TOTAL, STATE HWYS.		13.038
TOTAL TRAVELED HWYS., FEB. 10, 1986.		62.048

* EXCLUDES CLASS 4 MILEAGE

VAOT TRAFFIC COUNTER LOCATION MAP

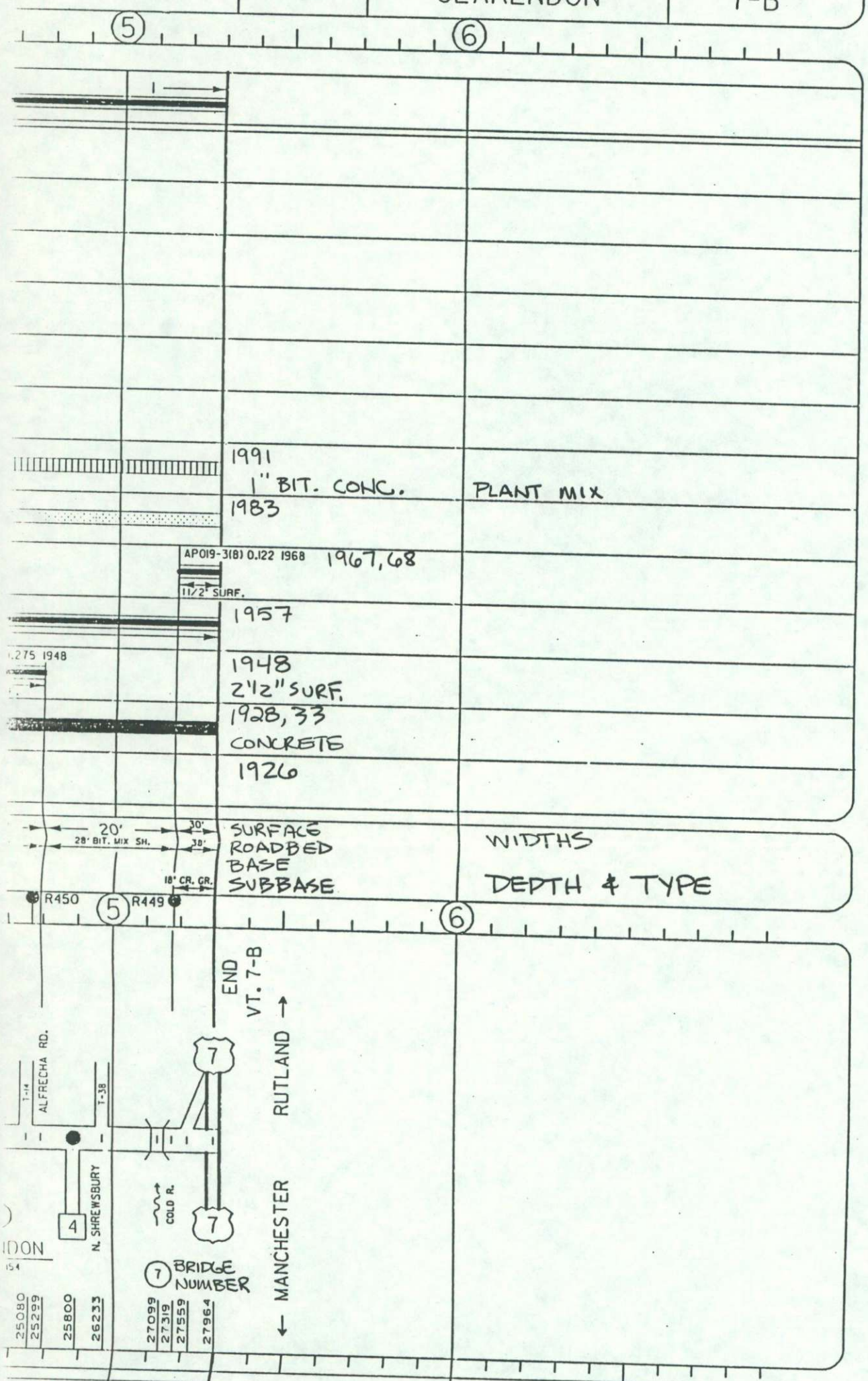
(P)

(P)

STA #	TOWN NAME	ROUTE	NO.	1992	1991	1990	1989	1988	1987	1986	1985	1984	1983	1982	1981	1980	1979	1978	1977	1976	1975
Y378	Chester	TH	6															110			
Y380	Chester	TH	3		800										750	640					
Y385	Chester	VT	11					3780		3440		3020					2990	3140			
Y386	Chester	VT	103	3840														2600			
Y427	Chester	VT	103	4670		4200		4410		3940		3500					3520				
R074	Chittenden	TH	18										670								
R075	Chittenden	TH	1										200								
R302	Chittenden	TH	2		560										330					260	
R303	Chittenden	TH	1																	180	
R304	Chittenden	TH	3						1360				1170							940	
R027	Clarendon	US	7	13380				13210		12700		10810									
R039	Clarendon	TH	3											710							
R103	Clarendon	US	7	10570		9270		14030		12850		9710						10460		8880	
R104	Clarendon	US	7															9000		8290	
R105	Clarendon	US	7	6150				6920		7460		5380		5260				4730		5510	
R106	Clarendon	US	7	6390				5850		6550		4480				4500		4390		5710	
R152	Clarendon	VT	103			6300								5450		4610	4490				
R326	Clarendon	TH	2			200														150	
R327	Clarendon	TH	3																	410	
R328	Clarendon	TH	3						680				690							480	
R329	Clarendon	TH	1						460				890							310	
R330	Clarendon	TH	2						590				550							380	
R331	Clarendon	TH	3		2620	2690														1400	
R403	Clarendon	TH	4																	800	
R449	Clarendon	VT	7B											580			470	740			
R450	Clarendon	VT	7B					870		1040		830				560		620			
R452	Clarendon	VT	7B			180								120		100	140	210			
R453	Clarendon	VT	7B					160		220		140						200			
R483	Clarendon	US	7	10780		14100		11630		11820											
D014	Colchester	I	89					11630		11820											
D017	Colchester	COLCHESTER ST. HWY.						1830		1320				1110	1060						
D018	Colchester	US	2			9620								6560	5560						
D019	Colchester	US	2	9020				8300		7230		5270		5980							
D037	Colchester	TH	5										310								
D040	Colchester	US	7	10973	11766	11650	10585	10000	9621	9295	8804	8334	7856	7218	6543	6276	6156	5781	5596	5152	5107
D043	Colchester	VT	15													17500	22240	21460	17930		
D049	Colchester	US	7	8300		7420		6420		6040		5530									
D088	Colchester	VT	127				12630				9710										
D089	Colchester	BLAKELEY ROAD					7100				5830										
D092	Colchester	I	89	22370	21395	21180	20327	19095	17921	16397	15109	14014	13244	11919	10899	10896	10582	10983	10059	9265	8842
D103	Colchester	US	7	9220				8940		7590		6770					4410	3900	3580		
D107	Colchester	US	7														4250		3540		
D117	Colchester	VT	2A	8100												5940	5030	6120	5740		
D118	Colchester	VT	15											23170			18980	19800	16210		
D240	Colchester	VT	127													2920					
D260	Colchester	VT	15	27440		24930		21810		25630											
D279	Colchester	TH	1				1980				1520					1450					

POOR QUALITY
ORIGINAL C10

DISTRICT	TOWN	ROUTE
3	CLARENDON	F.A.S. 7-B



COUNTY II	TOWN 05	ROUTE	SHEET
RUTLAND	CLARENDON	7-B	2/2

AGENCY OF TRANSPORTATION
PLANNING DIVISION

BRIDGE DESCRIPTIONS

(2) CONC. BOX W
4'X4' RB. 25'
H-15 WTWY. 16 SQFT.

(3) CONC. BOX W
4'X2' RB. 21'
H-15 WTWY. 8 SQFT.

(4) CONC. BOX CC 1949
17.5'X8' RDY. 32' O.A. 23'
H-15 WTWY. 140 SQFT.

(5) CONC. SLAB CC
5.5'X4' RDY. 31' O.A. 9.5'
H-15 WTWY. 22 SQFT.

(6) CONC. SLAB CC
15.4'X6' RDY. 30' O.A. 20'
H-15 WTWY. 75.6 SQFT.

(7) THRU STEEL TRUSS L 1928
150'X8' RDY. 19.9' O.A. 153'
H-15 WTWY. 1200 SQFT. TR. CL. 14'-11"

ROUTE LOG

(D)

GENERAL HIGHWAY MAP RUTLAND COUNTY VERMONT

SHEET 4 OF 5 SHEETS

NOTICE:
THESE MAPS ARE NOT GEOGRAPHICALLY ACCURATE AND SHOULD NOT BE USED FOR PURPOSES WHICH REQUIRE ACCURACY.

BR 7
VT-7B

E360,000 E380,000 E400,000

N380,000 N360,000 N340,000 N320,000

WEST RUTLAND

RUTLAND
MATCH LINE, SHEET NO. 1

MENDON
MATCH LINE, SHEET 1

IRA
MATCH LINE, SHEET NO. 5

DANBY
MATCH LINE, SHEET NO. 5

HORACE GREELEY MEMORIAL HIGHWAY

BOARDMAN HILL 1315

NORTH CLARENDON INSET 1

ALFRECHA

FLAT ROCK 1235

CLARENDON SPRINGS

CHIPPENHOOK

Pierces Corner INSET 8

RUTLAND MUNICIPAL AIRPORT

COLD RIVER

Mendon Brook

WILCOX HILL 2074

ROUND HILL 1695

COLD RIVER

CLARENDON INSET 14

EAST CLARENDON INSET 9

C L A R E N D O N

(POP. 2372)

SPRING LAKE

SHREWSBURY

COPPERAS HILL 1880

CUTTINGSVILLE INSET 4

INSET 12

BR7
VT-7B

WALLINGFORD URBAN COMPACT

WALLINGFORD MUNICIPAL FOREST

BUTTON HILL 2100

GRANITE HILL 1760

HATEFUL HILL 1960

INSET 10

ROGER HILL 1640

Elfin Lake

WALLINGFORD MUNICIPAL FOREST

GREEN HILL 1220

EAST WALLINGFORD INSET 5

BOWLSVILLE

W A L L I N G F O R D

(POP. 1893)

SOUTH WALLINGFORD INSET 2

WALLINGFORD POND

Fitfield Pond

Little Rock Pond

WILDER MTN. 2782

HOMER STONE MOUNTAIN

OTTER CREEK WILDLIFE MANAGEMENT AREA

WILLARD MTN. 2782

NORTH CLARENDON INSET 1

EAST CLARENDON INSET 9

SOUTH WALLINGFORD INSET 2

MOUNT TABOR INSET 3

OTTER CREEK W.M.A.

AGENCY OF TRANSPOR .TION OFFICE MEMORANDUM

TO: D. Remick, Director of Maintenance & Preconstruction

FROM: W.B. Tripp, Structures Engineer W. B. Tripp

DATE: December 28, 1987

RE: Clarendon VT. Rte. 7B, Br. 7

I am recommending that you take steps to close the subject bridge to traffic. Our most recent inspection of this bridge confirms that this bridge is continuing to deteriorate at a rapid pace. It is presently posted for 3 tons, and should not be plowed with our State plows, due to overloading the structure. I would further recommend that the bridge be taken over by Historic Sites if they wish, or dismantled, and that this short section of highway be turned over to the Town.

WBT:DEL:kg

c.c. Eric Gilbertson, Historic Sites
J. Landry
Files
W. Jarvis, Dist. 3

(5)

AGENCY OF TRANSPORTATION OFFICE MEMORANDUM

TO: Frank E. Aldrich, Director of Maintenance

FROM: Warren B. Tripp, Structures Engineer W. B. Tripp

DATE: October 10, 1989

SUBJECT: Clarendon VT Route 7B, Bridge #7

On December 28, 1987 I sent a memo to Mr. Remick who was then Director of Maintenance and recommended that steps be taken to close the above referenced bridge. In that memo I indicated that the bridge was in poor condition and was continuing to deteriorate at a rapid pace. At that time it was posted for a 3 ton limit and I recommended that it not be plowed with the regular State trucks.

We have a copy of a memo that was sent to Assistant Attorney General Schwartz by Mr. Remick on May 19, 1988 relative to the same bridge. In this memo Mr. Remick requested direction relative to the procedure necessary for closing this section of highway. We have no indication of any response to Mr. Remick from Attorney Schwartz relative to this subject.

Since this bridge remains open to traffic we reinspected it this Summer. Our original statement that the bridge is continuing to deteriorate rapidly is still true and we would like to reemphasize our statement of two years ago, that this bridge should be closed to all traffic. We recommend an immediate temporary closing until such time as decisions are made whether to make that closing permanent or whether to expend many thousands of dollars to rehab the bridge to make it safe for traffic. Recognizing our needs around the State I certainly find it very hard to see any justification for expenditure of funds on this bridge due to the very minimal detour distance involved for a few local citizens.

Please let this office know as soon as decisions are made or actions taken in order that we may update inventory records accordingly.

WBT:mrd
cc: Robert Schwartz
DTA, W. Jarvis, Dist. #3
[redacted]

T

T

AGENCY OF TRANSPORTATION

OFFICE MEMORANDUM

TO: Frank E. Aldrich, Director of Transportation

FROM: Wayne A. Jarvis, D.T.A., District #3

DATE: October 31, 1989

SUBJECT: CLARENDON - ROUTE 7B, BRIDGE 17 7

Above bridge was closed to traffic yesterday, October 30, 1989.

WAJ/jl

cc: Warren Tripp

RECEIVED
NOV - 1 1989
STRUCTURES DIVISION

To DEP via DEL

TA 296A 20M 11/84

4

STATE OF VERMONT
Division for Historic Preservation
Montpelier, VT 05602

HISTORIC SITES & STRUCTURES SURVEY
Bridge Survey Inventory Form

SURVEY NUMBER: 1105-27
FIELD SITE NUMBER: RU-24
Negative File Number: 85-A-279

UTM REFERENCES:
Zone/Easting/Northing

18/664215/4825910

U.S.G.S. QUAD. MAP:
Rutland 7.5'

AOT Bridge Number (BCN):
01370007

LOCATION:

Route 7-B
STREET, ROUTE or TOWN HIGHWAY
Cold River
FEATURE CROSSED

County: Rutland
Town: Clarendon
Village: North Clarendon

COMMON NAME:

OWNER: State of Vermont
ADDRESS: Agency of Transportation
Montpelier, Vermont 05602

Still in Use? Yes [XX] No []

Original Use: Highway [XX] Railroad []
Other []

Designer:
Fabricator: American Bridge Company
Contractor:

MATERIAL/DESIGN/FORM:	DATE:
Steel/Parker/Through Truss (ex.: Steel/Warren/Through Truss)	1928

GENERAL DESCRIPTION

Construction Details

Metal Trusses: Pinned Connections [] Riveted [XX] Bolted [] Other []

Masonry arches: Ashlar [] Rubble [] Rubble w/ cut ring stones [] Other []
Type of Stone:

Concrete arches:

Other Features: Builder's Plate [XX] Other Date [] Portal Ornament [] Railing [XX]
Sidewalks [] Inclined End Panels [XX] Segmental Top Chord [XX] Skewed [] Other []

Abutments: Ashlar [] Rubble [] Poured Concrete [XX] Other []

Alterations: Structural Reinforcement [] New Deck [] Repointing [] Relocated []
Replaced Railing [] Other []

DIMENSIONS

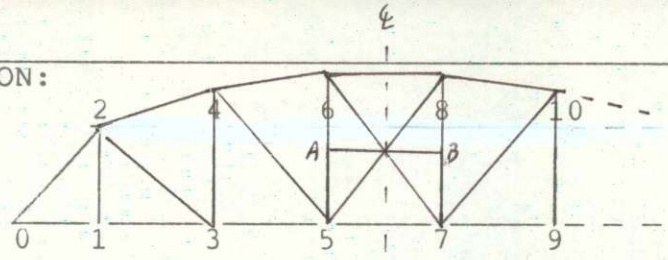
Number of Spans: 1 Overall Length: 153

SPAN #	LENGTH	# PANELS	WIDTH	HEIGHT OVER FEATURE CROSSED	DEPTH of TRUSS	PORTAL CLEARANCE
1	150	7	24.5	7.3	c.26	14.9

SURROUNDING ENVIRONMENT: Open Land [] Woodland [] "Road-side Strip" Development []
Scattered Buildings [] Moderately Built-up [XX] Densely Built-up []
Residential [XX] Commercial [] Agricultural [] Industrial [] Other []

Related Features:

ADDITIONAL DESCRIPTION:



Top chord: Box girder with latticed underside, 17x12".
Bottom chord: Two channels with stay plates at 6' intervals.
Center-panel diagonals (6-7, 5-8): Paired angles with stay plates at 2.5' intervals.
All other verticals and diagonals: Rolled I-beams.
Horizontal stiffener (A-B): Paired angles with lacing.
Struts and top bracing: Paired angles with lacing.
Portal strut: Angles in crossing pattern.
Floor system: I-section floor beams and stringers, concrete-slab deck.
Rail: Built up of angles and channels.

STATEMENT OF SIGNIFICANCE:

This bridge is significant as a representative example of the bridges built as a result of the 1927 flood, a major episode in Vermont's 20th century history and an engineering effort of heroic proportions. The bridge uses the standardized design and economical construction which characterized the state's efforts to re-build a large number of bridges as quickly as possible. The Parker through truss was used for nearly all spans greater than 150'. Rolled I-beams (of mostly one size) were used throughout where earlier bridges had built-up members, thus saving fabrication time and expense.

The American Bridge Company was one of the country's largest fabricators and a major supplier of Vermont bridges in the post-flood era.

REFERENCES:

Vermont Highway Commission, Biennial Report, 1928, table facing p.60.

SKETCH MAP (Indicate North in Circle)

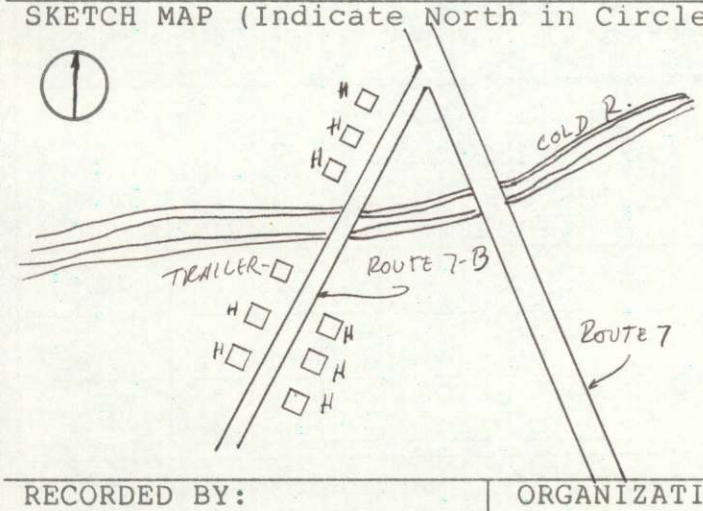


Plate Information:

American Bridge Company

USA 1928

RECORDED BY:	ORGANIZATION:	DATE RECORDED:
Matt Roth	Historic Resource Consultants	June 28, 1985

Structure is a single span thru truss over Mill River. Both approaches have moderate to sharp horizontal curves onto the structure. The approach rail on the right at abut. 1 consists of galv. steel beam on steel posts. On the left side it consists of one single wood post. Approach rail on the right at abut. 2 approach consists of 2-cable on wood posts. On the left side, it consists of painted steel beam on steel posts, without offset blocks. The deck is concrete with asphalt overlay. The asphalt has numerous random cracks. The bridge end joint at abut. 2 also has heavy cracking, with some small potholes in the asphalt. There is concrete curbing with deck drains in front of it. Some of the curbing has a few chips with steel exposed. Bridge rail consists of a built-up metal plate rail bolted to the upper truss members and intermediate posts. There is also an angle iron hand rail bolted to the upper truss members and the steel posts. The steel posts are riveted to the bottom chord. The bridge rail is very rusty. There are holes rusted through the rail at the ends of the bridge. The other side of the deck has numerous cracks with heavy leaking. The paint on the truss members is almost entirely gone. The members are covered with surface rust. Many of the verticals have holes in their webs. The remaining upper truss members have some areas of heavy rust scale and some minor holes, but appear in fairly good condition. The end portals and the upper lateral bracing appear in fairly good condition. The superstructure between the truss consists of eight rolled beam floor beams with four stringers per floor beam bay. There is also angle iron lateral bracing in each floor beam bay. Many of the angle irons have rusted completely through at their connection with the lower chord. The lower chord has areas of heavy rust scale adjacent to the spacer plates. Many of the spacer plates have rusted completely away. All of the floor beams have moderate to heavy rust scale at their ends and in areas of their top and bottom flanges. There is a hole in the bottom of the web at the right end of floor beam 1. The hole is approx. 2" wide by 2' long. The inside bearing gusset plate for the end post and adjacent floor beam is severed for its entire height. The outside gusset plate in this location has a moderate amount of surface rust with some section loss. Floor beam 8, which is directly over abut. 2, has rusted completely through its web and top flange at both ends. Presently, it is supported by what is remaining of a heavily rusted bottom flange. The deck is extended over the backwall in this location. It has started to crack directly above the floor beam on the right curb. The inside bearing gusset plate for the end post of the truss on the left side of floor beam 8 is severed for its full height. The outside gusset plate has areas of moderate to heavy section loss. The outside bearing gusset plate also has a slight bow to it. The inside bearing gusset plate on the right at abut. 2 also shows signs of cracking. Floor beam 7 has a small hole in the bottom of its web at the right end. The bearings are

pedestal with rocker bearings at abut. 2. The rockers are extended considerably in the expansion direction. Both abutments are concrete. They have random areas of moderate to heavy leaking. Abut. 2 has some popouts in its backwall. Some of the popped out concrete is leaning against the end floor beams. There is a stone berm in front of abut. 2 and also in the middle of the channel. In some areas, the middle berm is no more than 5-1/2' below the bottom chord. Structure is posted at both approaches for weight limit of 3 tons. Under the present conditions, this structure should be closed to all traffic.

Page 3: EVALUATION

IDENTIFICATION

BCN: 01370007 Field Number RU-24 Survey Number 1105-27

SIGNIFICANCE

Summary: The most common of the standard designs for long crossings erected as part of the rebuilding program after the 1927 flood; notable builder.

(N) Typical of its period [] Unusual even in its day [] Rare today
[] Unusual design (N) Important designer/fabricator/builder
[] Rare material [] Rare construction method (N) Visual landmark
[] Historically important for local transportation

BASIC INFORMATION. Data is followed by a number indicating how many examples share that characteristic, i.e., 1928 68 means that the bridge was built in 1928 and that 67 other examples were also built in 1928.

Date 1928 59(4) Truss type Parker 36(3)
No. of spans 1 189(9) Pool type Curved-chord through truss, 1929-30 2
Designer —
Fabricator American Bridge Co. 36(5)
Contractor —
Distinctive non-structural ornament and/or features (Y/N) N 211(14)

INTEGRITY

Alterations:
[] significantly altered [] relatively unaltered
(N) one of best-preserved examples
[] alterations have achieved significance in their own right
Location: (N) original []relocated, date _____ [] unknown

NATIONAL REGISTER STATUS

[] Individually listed [] Determined eligible
[] Listed in NR district, contributing [] NR district, noncontributing
[] Appears individually eligible for the National Register
[] Appears eligible as a contributing part of a district
[] May be eligible as a contributing part of a potential district
[] Not now eligible due to recent date of construction
(N) Appears eligible as part of a group of similar examples
[] Appears not eligible

STRUCTURAL CONDITION

AOT Sufficiency Rating: Not Available
On the attached page(s) are AOT data for Average Daily Traffic, Distance to Alternate Facility, Ratings of Superstructure, Substructure, and Channel, Estimated Remaining Life of Deck or Floor in Years, Structural Condition, Safe Load Capacity, Inventory Rating (type of vehicle), Posted Capacity (single truck), Posted Capacity (semi-trailer), and Operating Rating. See AOT coding guide for an explanation of this data.

85 A 279

Bridge Field No. RU-24
Clarendon, Rutland County, VT
Survey Number: 1105-27
Credit: HRC Date: 6/28/85

Side view, view NE

File Number: 85-A-279 Frame Number: 7 A

85-279

Cold River Bridge
Clarendon, Vermont
Survey #: RU-24; 1105-27
Negative filed at VDHP
Credit: Hist. Resources Consult.
Date: June 1985
View looking northeast.
File # 85-A-279

WEIGHT
LIMIT
3
TONS

85A279

Bridge Field No. RU-24
Clarendon, Rutland County, VT
Survey Number: 1105-27
Credit: HRC Date: 6/28/85

End view, view N

File Number: 85-A-279 Frame Number: 1 A

Bridge Field No. RU-24
Clarendon, Rutland County, VT
Survey Number: 1105-27
Credit: HRC Date: 6/28/85

Upper portal joint, view SE

File Number: 85-A-279 Frame Number: 5 A

85 A 279

RUN DATE 08/23/85 VERMONT AGENCY OF TRANSPORTATION CL/RTE VT 7B

REV. BY _____ BIS, PRINT ITEMS FOR REVISION BRIDGE NO. 7

REC. NO. _657 STATE STRUCTURES 20 FEET AND OVER TOWN CLARENDON

CODE NO. 0137 0007 11052 _153' BRIDGE DISTRICT 3

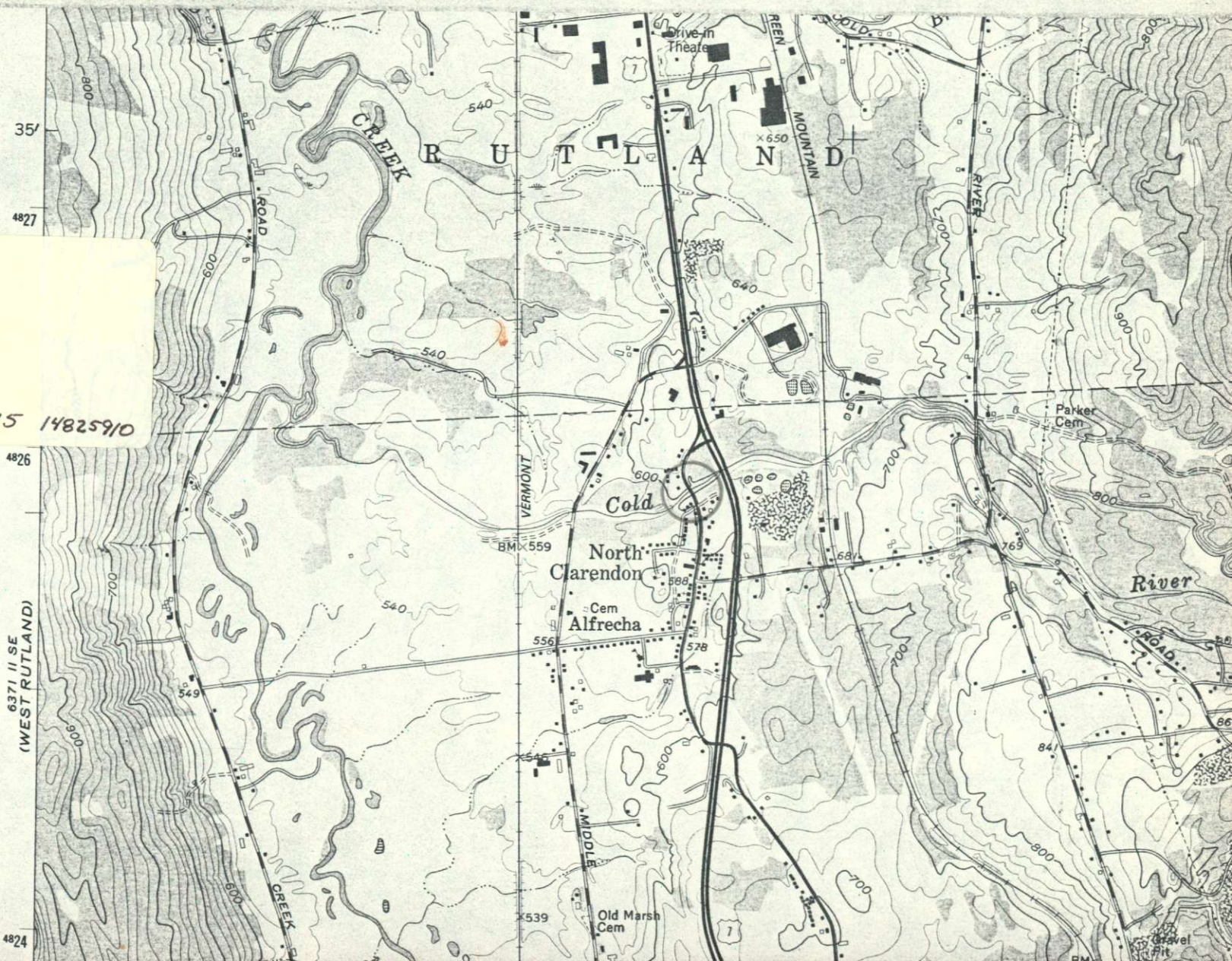
1.	BRIDGE CODE NUMBER	01370007	- - - - - - - - - -
2.	COUNTY	11	- -
3.	TOWN	05	- -
34.	ADT ON STRUCTURE	__600	- - - - - -
84.	DISTANCE TO ALTERNATE FACILITY, MILES	_1.0	- - . -
91.	RATING OF SUPERSTRUCTURE	3	-
92.	RATING OF SUBSTRUCTURE	5	-
93.	RATING OF CHANNEL	8	-
103.	EST. REMAINING LIFE OF DECK OR FLOOR,(YRS)	___1	- - - - -
104.	STRUCTURAL CONDITION	2	-
107.	SAFE LOAD CAPACITY	3	-
110.	INVENTORY RATING	112	- - -
111.	POSTED CAPACITY (SINGLE TRUCK)	122	- - -
112.	POSTED CAPACITY (SEMI-TRAILER)	545	- - -
113.	OPERATING RATING	554	- - -
114.	SUFFICIENCY RATING	---	- - -

RUTLAND QUADRANGLE

7.5' Series 1:24000 Scale

United States Geological Survey

Town of Clarendon

Bridge Field # RU-24
BCN 01370007
Survey # 1105-27

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