

Present Bridge Data

Stone Abutment  
 Plan E Deck RR Rails  
 Ave. Width 6' - Stone Box  
 Height 4' @ Outlet  
 Water floods over road from  
 Sta 20+50-23+00 (This Spring & last Summer)  
 1979 & 1972

BM #1  
 14.21 Sta 20+99  
 S.I.P. 36" F.I.M.  
 Assumed Elev 500.00

Non Town Bridge Fund  
 Participation - 52'

PI 21+00.2 =  
 20+95.7

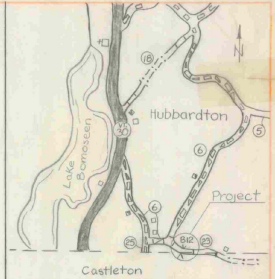
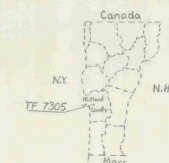
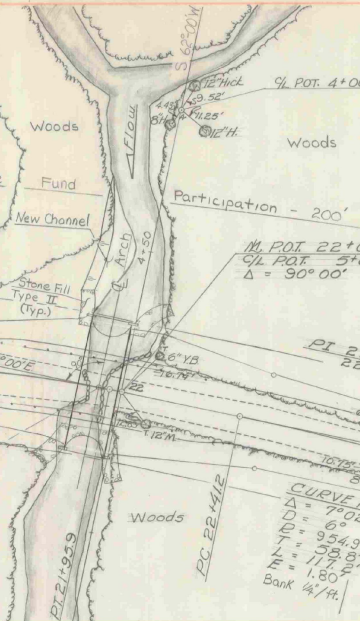
Begin Construction  
 Sta. 20+40

ROW LIMITS

Sta. on tangent 21+92  
 New 14'-0" x 4'-1" x 4'8" CGMPA

CURVE #1  
 $\Delta = 29^\circ 23' 24''$   
 $D = 15'$   
 $R = 381.97'$   
 $T = 100.2'$   
 $L = 135.3'$   
 $E = 12.31'$   
 Bank 1/4' ft.

CURVE #2  
 $\Delta = 7^\circ 05' 14''$   
 $D = 6'$   
 $R = 954.93'$   
 $T = 58.8'$   
 $L = 117.2'$   
 $E = 1.80'$   
 Bank 1/4' ft.



Hydraulic Information  
 Drainage Area = 3.9 sq. mi.  
 $Q_{25}$  (design) = 400 cfs  
 Check Discharge = 530 cfs  
 Design Headwater = 6.2'  
 Check Headwater = 8.7'  
 Tailwater = 2.7'  
 Design Velocity = 11 fps  
 Waterway Area = 62 sq. ft.

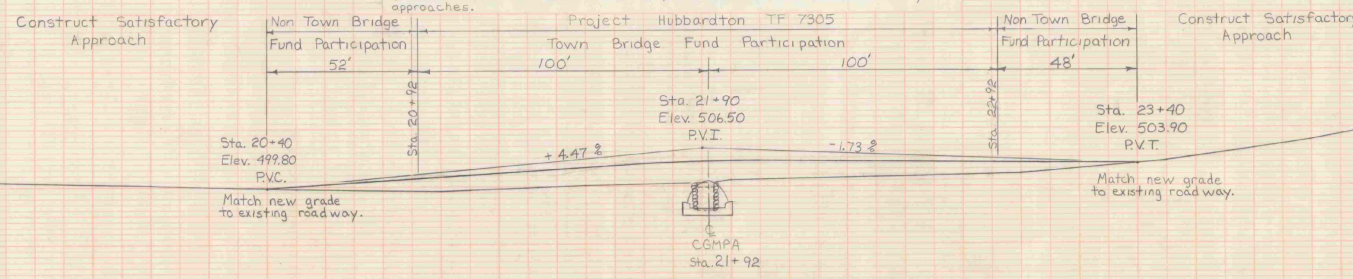
Scale: 1" = 20'

Bridge Project  
 Town of Hubbardton - Rutland County  
 Town Highway # 23

Beginning at a point 0.121 miles Southeast of the intersection of Town Highway # 23 and Town Highway # 6 and extending 0.057 Southeast on Town Highway # 23.  
 Non Town Bridge Fund Participation = 100 ft. = 0.019 Miles  
 Town Bridge Fund Participation = 200 ft. = 0.038 Miles  
 Project Length = 300 ft. = 0.057 Miles  
 Project shall consist of the removal of existing bridge, construction of new 14'-0" x 4'-1" x 4'8" Plate Arch, and construction of satisfactory approaches.

Index of Sheets

Sheet No.	Description
1	Title Sheet, Plan & Profile
2	Quantity Sheet
3	Plan, Elevation & General Notes
4	Slab & Curb Details
5	Roadway Sections
6	Channel Sections
7	Std. Sheet E-3
8	Std. Sheet E-7
9	Std. Sheet G-2a



Recommend Approval: *Jos. Duran* DISTRICT ENG. Date: Oct 15, 1973  
 Recommend Approval: *N/A* CONST. ENG. Date:   
 Recommend Approval: *Wm. Smith* BRIDGE ENG. Date: Oct 16, 1973  
 Recommend Approval: *W. M. Smith* CHIEF ENG. Date: Feb 7, 1974  
 Recommend Approval: *W. M. Smith* CHIEF ENG. Date: Feb 7, 1974

HUBBARDTON  
 TF 7305

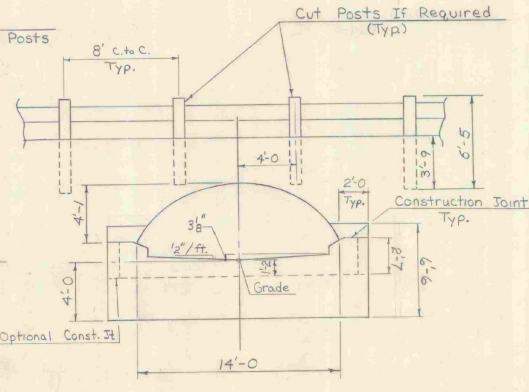
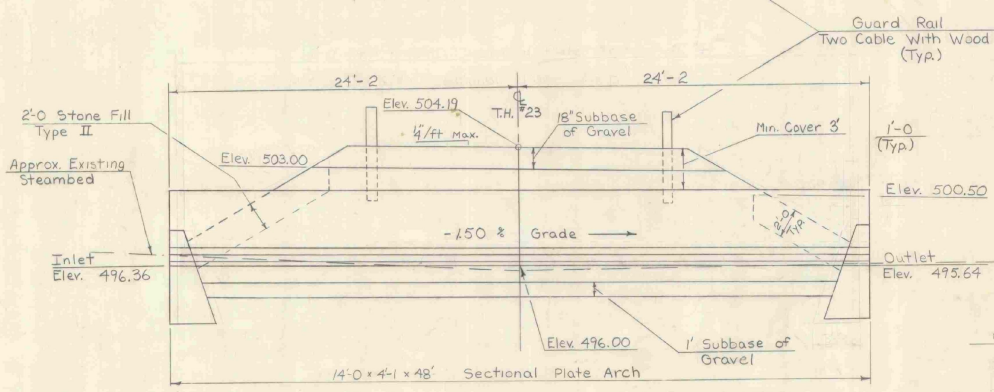
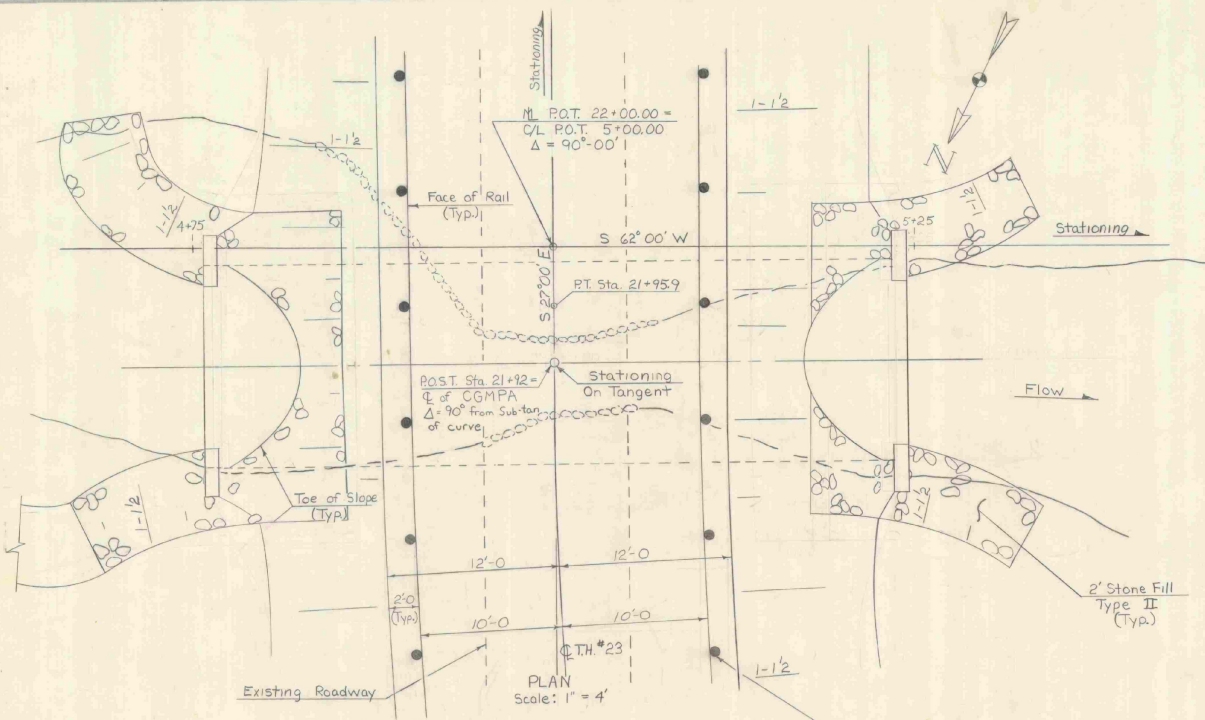
TH 23 Br 12  
 Scale: Horiz. 1" = 20'  
 Vert. 1" = 10'



PLAN  
 Scale: 1" = 20'  
 Date: Oct 15, 1973

PROFILE  
 Scale: 1" = 10'  
 Date: Oct 15, 1973





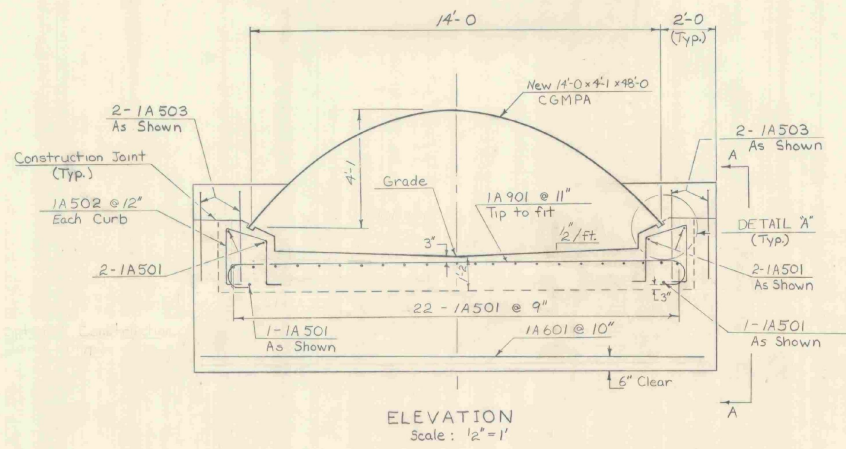
ELEVATION ALONG  $\phi$  of CGMPA  
Scale 1" = 4"

END VIEW  
Scale: 1" = 4"

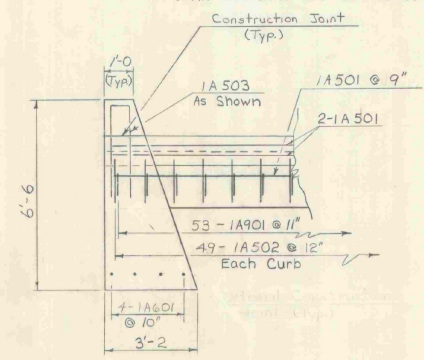
General Notes

- All materials and construction shall conform to the State of Vermont Department of Highways Standard Specifications for Highway and Bridge Construction dated Jan. 1972 and the A.A.S.H.O Standard Specifications for Highway Bridges dated 1973 and its latest revisions. Design is for HS-20 Live Loading.
- All concrete shall be Class B. All exposed edges of concrete in the structure shall be chamfered 1"x1".
- Minimum cover for reinforcing steel shall be 3" measured from the concrete surface to the face of the reinforcement.
- All dimensions are horizontal or vertical.
- Allowable Design Stresses:  
Concrete:  $F'_c = 3000$  PSI  $F'_t = 1200$  PSI  
Reinforcing Steel: Grade 40  
 $F_s = 20,000$  PSI. Tension
- Galvanized unbalanced channel for Multi-Plate Arch 6"x2" corrugations to be included in price bid for Arch, Item 511.20.
- Fill galvanized unbalanced channel with bituminous material meeting specifications for AASHTO M190 after installation of plate arch and prior to backfilling structure. Cost to be included in price bid for Item 511.20.
- Granular Borrow within 4' of the plate arch shall pass a 3" square screen opening.

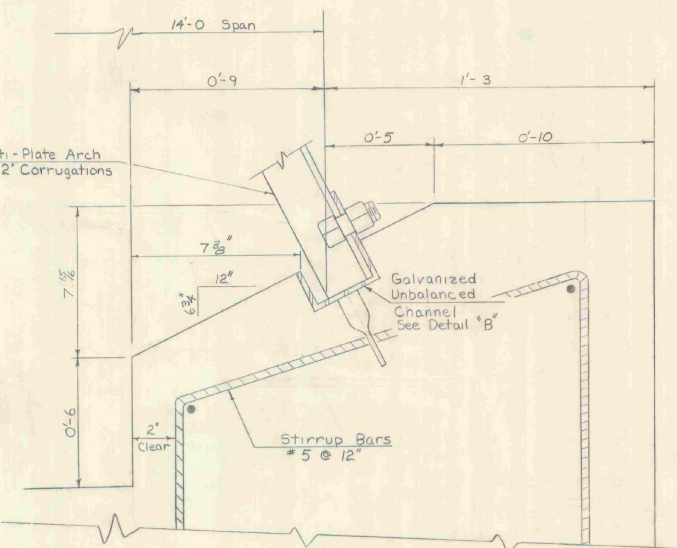
<b>STATE OF VERMONT DEPARTMENT OF HIGHWAYS</b>	
TOWN OF HUBBARDTON	Bridge No. 12
HIGHWAY NO. T.H. # 23	Log Sta. Surv. Sta. 21+92
<b>PLAN &amp; ELEVATION &amp; GENERAL NOTES</b>	
T.H. #23 OVER BROOK	
Designed by J.R. Guilmette	Drawn by J.R. Guilmette
Checked by J. HEAVER date 12-73	Bridge Design Supervisor J. Wood date
PROJECT HUBBARDTON	PROJECT NO. TF 7305
Bridge Sheet No.	Sheet 3 of 9



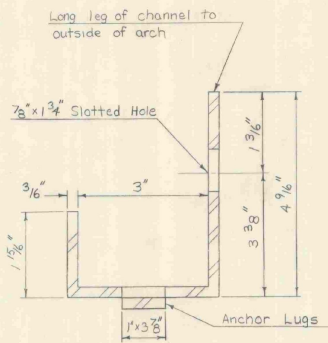
ELEVATION  
Scale: 1/2" = 1'



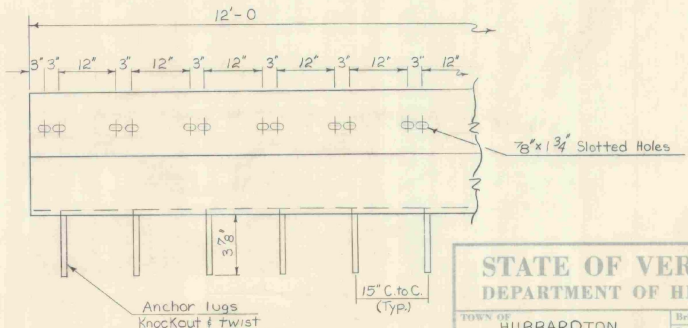
VIEW A-A  
Scale: 1/2" = 1'



CURB FORMING DETAILS  
DETAIL "A"  
Scale: 3/8" = 1"



GALVANIZED UNBALANCED CHANNEL  
DETAIL "B"  
Scale: 3/4" = 1"



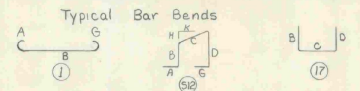
GALVANIZED UNBALANCED CHANNEL  
DETAIL "C"  
N.T.S.

NOTES

1. Unless otherwise designated, all bar reinforcement for concrete in sizes up to and including No. 18 shall conform to the requirements of the "Specifications for deformed billet-steel bars for concrete reinforcement" AASHTO M31 (ASTM A165), Grade 40.
2. For typical bending details, recommended pin diameter "D" of bends and hooks and other standard practice see current Concrete Reinforcing Steel Institute "Manual of Standard Practice."
3. All dimensions are out to out.

REINFORCING STEEL SCHEDULE

ITEM	NO. PIECES	SIZE	LENGTH	MARK	TYPE	A	B	C	D	E	H	K
1*	57	5	25'-0"	1A501	Str.							
2												
3*	9	6	17'-6"	1A601	Str.							
4												
5	98	5	5'-0"	1A502	S12	0-6	1'-5	1'-7	1'-10	0-6	0-5	1'-6
6	8	5	6'-10"	1A503	17		3'-1	0-8	3'-1			
7*	54	9	18'-4"	1A701	1	1-3	15'-10				1'-3	
8												



MULTI-PLATE ARCH

- Corrugations 6" x 2"
- Span 14'-0"
- Rise 4'-1"
- Plate Thickness (coated) 0.168"
- Bolt Size 3/4"
- Arch Weight 165 lb/lin.ft.
- Channel Weight (Gal.-12") 70.5 lb
- Total Weight (includes channels) 8484 lb.

STATE OF VERMONT  
DEPARTMENT OF HIGHWAYS

TOWN OF HUBBARDTON	Bridge No. 12
HIGHWAY NO. T.H. # 23	Log Sta. 21 + 92
SLAB & CURB DETAILS	
T.H. #23 OVER BROOK	
Designed by I.R. Guilmette Drawn by I.R. Guilmette	
Checked by J. WEYER date 12-73	Bridge Design Supervisor J. Wood date
PROJECT HUBBARDTON	PROJECT NO. TF 7305
Bridge Sheet No.	Sheet 4 of 9

Sta. 21+56± Lt. & Rt. Begin Guard Rail, Two Cable with Wood Posts Sta. 21+56±

490

21+50

490

21+00

Sta. 20+55± Begin Earth Borrow

490

Sta. 20+40 Begin Town Bridge Fund Participation  
Sta. 20+40 End Non Town Bridge Fund Participation

20+50

Begin Subbase of Gravel Sta. 20+40±

490

Sta. 20+40 Begin Non Town Bridge Fund Participation

20+00

490

19+50

490

19+00

All Sections Banked 4"/Ft.  
in Curves

Sta. 20+40 to Sta. 23+40  
Sections Banked 4"/Ft.  
Construct Satisfactory Transition  
(TYP)

500

24+00

500

23+50

Sta. 23+40 End Non Town Bridge Fund Participation  
Sta. 23+40± End Subbase of Gravel  
Sta. 23+20± End Earth Borrow

500

23+00

Sta. 22+92 Begin Non Town Bridge Fund Participation  
Sta. 22+92 End Town Bridge Fund Participation

490

22+50

Sta. 22+08± End Granular Borrow

490

Sta. 22+27± Lt & Rt End Guard Rail, Two Cable with Wood Posts

22+00

490

21+94

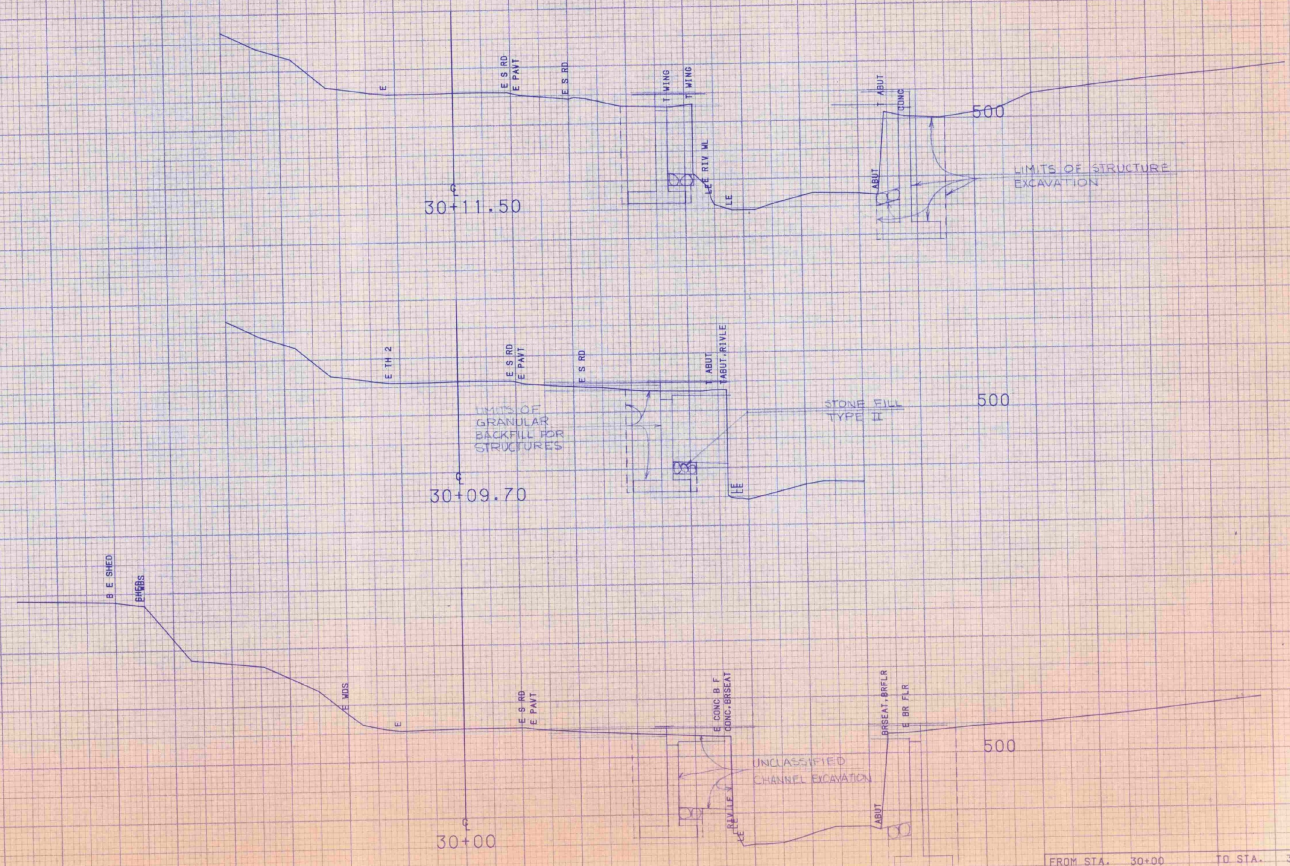
Sta. 21+77± Begin Granular Borrow

510

24+50

STATE OF VERMONT DEPARTMENT OF HIGHWAYS	
TOWN OF <b>HUBBARDTON</b>	
Drawn by: <b>Fontoni</b>	Date: <b>6/13</b>
Plotted by: <b>Hopkins</b>	Checked by: <b>JG/GH</b>
SCALE: 1 INCH = 10 FEET	
Project: <b>TF 7305</b>	Sheet: <b>1</b>
Sta. <b>19+00</b>	to Sta. <b>24+50</b>





FROM STA. 30+00 TO STA. 30+11.50  
 PROJECT NAME DANVILLE CHAN  
 NO. BR21447 (16) PLOTTED 11/14/89  
 SURVEYED BY FALL 10/89 0260  
 SHEET 3 OF SHEETS

SCALE = 10 FEET

HUBBARDTON

TF 7305 & STF 9447

TH 23, B12 over Brook

New CGMPA

1975

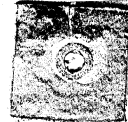
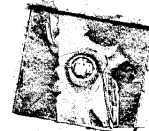
HUBBARDTON  
TF 7305

Bridge  
1975



Hubbardton  
TF 7305 \* STF 9447

Vermont Agency of  
Transportation  
PHASE 1-INTERSTATE  
#122302-01  
 INITIALS  
Hanger 2240



1975