STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

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LIST OF STANDARDS

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E-102A	05-01-2004
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G-16	06-01-1994

SCOPE OF WORK

1. REHABILITATION OF EXISTING TRUSSES, STORED IN A VAOT MAINTENANCE FACILITY IN CLARENDON, VT, OFF OF VT. ROUTE 7B. REHABILITATION INCLUDES COMPLETE REPLACEMENT OF INBOARD ANGLE ON TRUSS LOW CHORD, IN KIND REPLACEMENT OF ALL INBOARD GUSSET PLATES, LATERAL BRACING CONNECTION PLATES, PARTIAL REPLACEMENT OF EXISTING TRUSS MEMBERS, COMPLETE REPLACEMENT OF SELECT DIAGONALS AND REPLACEMENT OF CORRODED RIVETS WITH HIGH STRENGTH BOLTS THROUGHOUT THE TRUSSES.
2. BLAST CLEANING AND PAINTING OF ALL REMAINING EXISTING STEEL.
3. CONSTRUCTION OF NEW CAST-IN-PLACE CONCRETE SUBSTRUCTURES ON PILE FOUNDATIONS.
4. INSTALLATION OF NEW TRUSS FLOOR SYSTEM, INCLUDING NEW TIMBER PLANK DECK, STRINGERS, FLOORBEAMS AND CONNECTIONS.
5. RELATED APPROACH WORK INCLUDING CONSTRUCTION OF EARTHEN APPROACH RAMP AND NEW APPROACH RAILING.

CHA
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Main: (518) 453-4500 • www.chacompanies.com

FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date:

DRAINAGE AREA : 94.9 sq-mi
CHARACTER OF TERRAIN : Generally forested, ranging from mountainous to valley floor.
STREAM CHARACTERISTICS : Sinuous planform, perennial subcritical flow.
NATURE OF STREAMBED : Gravel bed with sand and cobbles present.

PEAK FLOW DATA

Q 2.33 =	2600 cfs	Q 50 =	7980 cfs
Q 10 =	5260 cfs	Q 100 =	9210 cfs
Q 25 =	N/A	Q 500 =	12400 cfs

DATE OF FLOOD OF RECORD : 1927
ESTIMATED DISCHARGE: Unknown
WATER SURFACE ELEV.: Unknown
NATURAL STREAM VELOCITY : 2-3 ft/sec
ICE CONDITIONS : Moderate
DEBRIS: Moderate
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY? No
IS ORDINARY RISE RAPID? No
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS? Yes
IF YES, DESCRIBE: Minor backwater from Vermont Route 140 bridge approximately 800 ft downstream.

WATERSHED STORAGE: Minimal
HEADWATERS:
UNIFORM: x
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: There is presently no bridge at this site.
YEAR BUILT:
CLEAR SPAN(NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:
DISPOSITION OF STRUCTURE:
TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEVATIONS AT:

Q2.33 =	566.7 ft	VELOCITY =	5.4 fps
Q10 =	569.3 ft	"	6.7 fps
Q25 =	N/A	"	N/A
Q50 =	572.0 ft	"	6.9 fps
Q100 =	572.7 ft	"	7.0 fps

LONG TERM STREAMBED CHANGES:

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

UPSTREAM STRUCTURE

TOWN:	Wallingford	DISTANCE:	3700 ft
HIGHWAY # :	US Route 7	STRUCTURE #:	79
CLEAR SPAN:	117' (west) 135' (east)	CLEAR HEIGHT:	--
YEAR BUILT:	1996	FULL WATERWAY:	5505 sq-ft
STRUCTURE TYPE:	2 span continuous welded plate girder		

DOWNSTRUCTURE STRUCTURE

TOWN:	Wallingford	DISTANCE:	800 ft
HIGHWAY # :	Vermont Route 140	STRUCTURE #:	54
CLEAR SPAN:	127.'	CLEAR HEIGHT:	22'
YEAR BUILT:	Unknown	FULL WATERWAY:	1587 sq-ft
STRUCTURE TYPE:	Steel Truss		

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	5A. SEMI
INVENTORY	23						
POSTED							
OPERATING	41						

COMMENTS:

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2007	N/A	N/A	N/A	N/A	N/A
2027	N/A	N/A	N/A	N/A	N/A

20 year ESAL for flexible pavement from N/A to N/A : N/A
40 year ESAL for flexible pavement from N/A to N/A : N/A
Design Speed : N/A mph

PROPOSED STRUCTURE

STRUCTURE TYPE: Warren Pony Truss - Adaptive Reuse of Historic Bridge

CLEAR SPAN(NORMAL TO STREAM): 117.0 ft
VERTICAL CLEARANCE ABOVE STREAMBED: 16.2 ft
WATERWAY OF FULL OPENING: 1240 sq-ft

WATER SURFACE ELEVATIONS AT:

Q2.33 =	567.0 ft	VELOCITY=	5.2 fps
Q10 =	569.4 ft	"	6.6 fps
Q25 =	N/A	"	N/A
Q50 =	572.0 ft	"	6.9 fps
Q100 =	572.7 ft	"	6.9 fps

IS THE ROADWAY OVERTOPPED BELOW Q100: No
FREQUENCY:
RELIEF ELEVATION:
DISCHARGE OVER ROAD @Q100:

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 573.78 ft
VERTICAL CLEARANCE: Q50 = 1.8 ft Q100 = 1.1 ft

SCOUR: 1.0 ft of contraction scour during Q10. Larger flood events exceed main channel banks and bypass the bridge in the in the right overbank.
REQUIRED CHANNEL PROTECTION: Stone Fill Type III

PERMIT INFORMATION

AVERAGE DAILY FLOW:	162 cfs	DEPTH OR ELEVATION:
ORDINARY LOW WATER:	--	Elev. 562.5 ft
ORDINARY HIGH WATER:	--	Elev. 564.5 ft

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: No temporary bridge required.
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

All elevations are referenced to NAVD88.
Flow overtops main channel banks in the right approach between the 10 and 50-year flood events.

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO Pedestrian LL (trusses), H-10 (floorbeams & stringers)
2. DESIGN SPAN 117'-0"
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A
   ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING 54 kips
   TYPE Concrete filled 12.75" O.D. x 3/8" steel pipe piling, ASTM A-252 Grade 2 (Fy = 35 ksi)
   ESTIMATED LENGTH 51' (Abutment 1) 53' (Abutment 2)
5. STRUCTURAL STEEL AASHTO M270M/M270 GRADE 50 Painted
6. REINFORCING STEEL GRADE 60
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c: N/A
   CONCRETE, HIGH PERFORMANCE CLASS B f'c: 3,500psi (substructures, pipe piling and metal hand rail foundations)
8. DESIGN SOIL UNIT WEIGHT 140 pcf
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL N/A

TRAFFIC MAINTENANCE

1. IS TRAFFIC TO BE MAINTAINED? Yes, on Waldo Lane
   IF YES, ON EXISTING STRUCTURE? No
   OR ON TEMPORARY BRIDGE? No
   ONE OR TWO-WAY TRAVEL? N/A
2. TRAFFIC CONTROL SIGNALS REQUIRED? No
3. ARE SIDEWALKS REQUIRED? No
   IF SO, ON WHAT SIDE? N/A

PROJECT NAME: **WALLINGFORD**
PROJECT NUMBER: **STP ST WALK(14)**

FILE NAME: **Z02F136PRELIM.XLS**
PROJECT LEADER: **S. SCRIBNER**
DESIGNED BY: **D. D'AMATO**
PRELIMINARY INFORMATION SHEET

PLOT DATE: **08/07/2008**
DRAWN BY: **D. D'AMATO**
CHECKED BY: **P. HALSTEAD**
SHEET **2** OF **26**