STATE OF VERMONT
AGENCY OF TRANSPORTATION

PRELIMINARY INFORMATION SHEET

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FINAL HYDRAULIC REPORT

HYDROLOGIC DATA

Date: 1/2/2003

DRAINAGE AREA : 3.9 square miles
CHARACTER OF TERRAIN :
STREAM CHARACTERISTICS :
NATURE OF STREAMBED :

PEAK FLOW DATA

Q 2.33 =	145 cfs	Q 50 =	600 cfs
Q 10 =	360 cfs	Q 100 =	675 cfs
Q 25 =	480 cfs	Q 500 =	

DATE OF FLOOD RECORD : N/A
ESTIMATED DISCHARGE:
WATER SURFACE ELEV.:
NATURAL STREAM VELOCITY :
ICE CONDITIONS :
DEBRIS:
DOES THE STREAM REACH MAXIMUM HIGHWATER ELEV. RAPIDLY?
IS ORDINARY RISE RAPID?
IS STAGE AFFECTED BY UPSTREAM OR DOWNSTREAM CONDITIONS?
IF YES, DESCRIBE:

WATERSHED STORAGE: HEADWATERS:
UNIFORM: X
IMMEDIATELY ABOVE SITE:

EXISTING STRUCTURE INFORMATION

STRUCTURE TYPE: Slab Bridge
YEAR BUILT: 1938
CLEAR SPAN(NORMAL TO STREAM): 15
VERTICAL CLEARANCE ABOVE STREAMBED: 5
WATERWAY OF FULL OPENING: 70
DISPOSITION OF STRUCTURE:
TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEVATIONS AT:

Q2.33 =		VELOCITY =	
Q10 =		"	
Q25 =		"	
Q50 =		"	
Q100 =		"	

LONG TERM STREAMBED CHANGES:

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

UPSTREAM STRUCTURE

TOWN: Fairfield DISTANCE:
HIGHWAY # : 55 STRUCTURE #: 17
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: 1971 FULL WATERWAY: 43 sq. ft
STRUCTURE TYPE: 9' Culvert

DOWNSTREAM STRUCTURE

TOWN: DISTANCE:
HIGHWAY # : STRUCTURE #:
CLEAR SPAN: CLEAR HEIGHT:
YEAR BUILT: FULL WATERWAY:
STRUCTURE TYPE:

LFD LOAD RATING (TONS)

LOADING LEVELS	TRUCK						
	H	HS	3S2	6 AXLE	3A. STR.	4A. STR.	SA. SEMI
INVENTORY	25	45					
POSTED	35	63	79		44	47	78
OPERATING		76	94	85	52	56	

COMMENTS: 0

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2006	2700	340	66	2	60
2026	3800	450	66	1	70

20 year ESAL for flexible pavement from 2006 to 2026 : 467,000
20 year ESAL for flexible pavement from 2006 to 2046 : 1,164,000
Design Speed : 50 MPH km/h

PROPOSED STRUCTURE

STRUCTURE TYPE: Slab Bridge

CLEAR SPAN(NORMAL TO STREAM): 18 ft
VERTICAL CLEARANCE ABOVE STREAMBED: 7 ft
WATERWAY OF FULL OPENING: 80 sf

HEAD WATER SURFACE ELEVATIONS AT:

Q2.33 =	657.0 ft.	VELOCITY=	
Q10 =	658.0 ft.	"	
Q25 =	658.6 ft.	"	
Q50 =	658.9 ft.	"	
Q100 =	660.2 ft.	"	

IS THE ROADWAY OVERTOPPED BELOW Q100: NO
FREQUENCY:
RELIEF ELEVATION:
DISCHARGE OVER ROAD @Q100: None

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE: 661.0 ft.
VERTICAL CLEARANCE: 7 ft

SCOUR: 6 Feet of Contraction Scour @ Q 500

REQUIRED CHANNEL PROTECTION: Type III Stone Fill

PERMIT INFORMATION

		DEPTH OR ELEVATION:
AVERAGE DAILY FLOW:	8 cfs	
ORDINARY LOW WATER:	4 cfs	0.3 ft.
ORDINARY HIGH WATER:	60 cfs	3.5 ft.

TEMPORARY BRIDGE REQUIREMENTS

STRUCTURE TYPE: N/A
CLEAR SPAN (NORMAL TO STREAM):
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY AREA OF FULL OPENING:

ADDITIONAL INFORMATION

Tailwater Elevation @ Q 50 = 657.3 ft.
Outlet Velocity @ Q 50 = 10.3 fps

DESIGN CRITERIA

1. DESIGN LIVE LOAD AASHTO	HS-25	
2. DESIGN SPAN	21'-0"	
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL		7 KSF
ON LEDGE N/A		
4. ALLOWABLE LOAD FOR PILING	N/A	
TYPE		
ESTIMATED LENGTH		
5. STRUCTURAL STEEL AASHTO GRADE	N/A	
6. REINFORCING STEEL GRADE	60	
7. CONCRETE, HIGH PERFORMANCE CLASS A f'c :	4000 psi	
CONCRETE, HIGH PERFORMANCE CLASS B f'c :	3500 psi	
8. SOIL UNIT WEIGHT	140 pcf	
9. DESIGN LOAD FOR SPREAD FOOTINGS ON SOIL		3.3 KSF

TRAFFIC MAINTENANCE

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

PROJECT NAME: **Fairfield**
PROJECT NUMBER: **AC STP ST 0298(6)**

FILE NAME: /PW/01c162/sc182pi.xls
PROJECT LEADER: C. Keller
DESIGNED BY: J. Reed
PRELIMINARY INFORMATION SHEET

PLOT DATE: 4/26/2005
DRAWN BY: J. Reed
CHECKED BY: W. B. Symonds