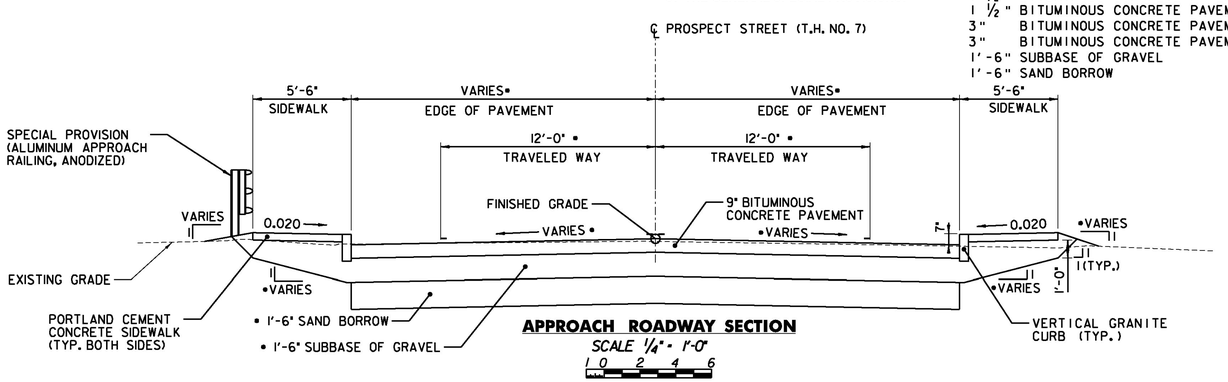
FOR PG BINDER GRADE, SEE SECTION 406 OF THE GENERAL SPECIAL PROVISIONS.

TYPICAL ROADWAY SECTION

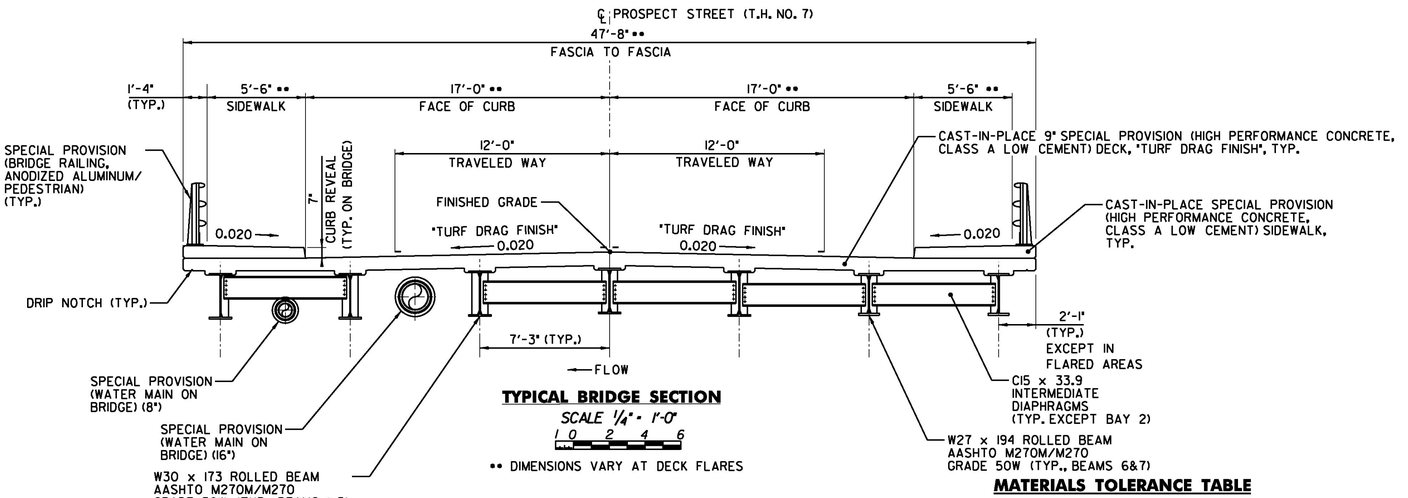
1 ½" BITUMINOUS CONCRETE PAVEMENT (TYPE IV), TOP LIFT
1 ½" BITUMINOUS CONCRETE PAVEMENT (TYPE IV)
3" BITUMINOUS CONCRETE PAVEMENT (TYPE II)
3" BITUMINOUS CONCRETE PAVEMENT (TYPE II)
1'-6" SUBBASE OF GRAVEL
1'-6" SAND BORROW



APPROACH ROADWAY SECTION

SCALE 1/4" = 1'-0"
1 0 2 4 6

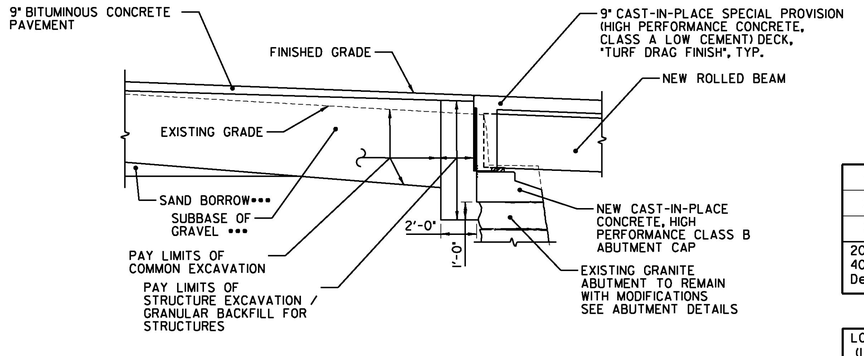
• WIDTH AND CROSS SLOPES VARIES THROUGHOUT PROJECT. REFER TO ROADWAY CROSS SECTIONS FOR SPECIFIC STATIONS



TYPICAL BRIDGE SECTION

SCALE 1/4" = 1'-0"
1 0 2 4 6

•• DIMENSIONS VARY AT DECK FLARES



TYPICAL ABUTMENT SECTION

SCALE 1/4" = 1'-0"
1 0 2 4 6

•••DEPTH VARIES. SEE SUBBASE TRANSITION DETAIL, SHEET 43

MATERIALS TOLERANCE TABLE

MATERIAL ITEM	TOLERANCE
PAVEMENT	± 1/4" TOTAL THICKNESS
BASE COURSE	± 1/2"
SUBBASE	± 1"
SAND BORROW	± 1"

TRAFFIC DATA

YEAR	ADT	DHV	% D	% T	ADTT
2009	5500	720	69	1.7	150
2029	5900	770	69	1.0	100

20 Year ESAL for flexible pavement from 2009 to 2029: 534,000
40 Year ESAL for flexible pavement from 2009 to 2049: 1,020,000
Design speed: 25 mph

LOAD FACTOR LOAD RATING (TONS)

LOADING LEVELS (LOAD FACTOR)	TRUCK						
	H	HS	3S2	6 AXLE	3A.STR.	4A.STR.	5A.SEMI
INVENTORY A=2.17; B=1.00	42	53					
POSTED A=1.55; B=1.40	59	75	95		66	68	84
OPERATING A=1.30; B=1.67		89	113	135	79	81	

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

SERVICEABILITY RF = $B\left[\frac{.95\, F_y S_{LL+I} - M_{DL}\frac{S_{LL+I}}{S_{DL}} - M_{SDL}\frac{S_{LL+I}}{S_{SDL}}}{1.67\, M_{LL+I}}\right]$

FINAL HYDRAULICS REPORT

HYDROLOGIC DATA

DRAINAGE AREA=
CHARACTER OF TERRAIN:
CHARACTER & TYPE OF STREAM:
NATURE OF STREAMBED:

Q2.33= Q50=
Q10= Q100=
Q25= Q500=

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

WATERSHED STORAGE ____ HEADWATERS____ UNIFORM THROUGHOUT WATERSHED____ IMMEDIATELY ABOVE SITE ____

EXISTING STRUCTURE

STRUCTURE TYPE: SINGLE SPAN STEEL BEAM YEAR BUILT: 1940
CLEAR SPAN (NORMAL TO STREAM): 49.0 ft
VERTICAL CLEARANCE ABOVE STREAMBED: APPROX. 14.5 ft
WATERWAY OF FULL OPENING:
DISPOSITION OF STRUCTURE: EXISTING SUPERSTRUCTURE TO BE REMOVED AND DISPOSED OF BY THE CONTRACTOR.
TYPE OF MATERIAL UNDER SUBSTRUCTURE:

WATER SURFACE ELEV. @ Q2.33: VELOCITY=
Q10= ft
Q25= ft
Q50= ft
Q100= ft

LONG TERM STREAM BED CHANGES:

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

UPSTREAM STRUCTURE: TOWN: BARRE CITY DISTANCE: 0.63 mi.
HIGHWAY NO.: MILL STREET STRUCTURE NO.: B6
NOTE:

DOWNSTREAM STRUCTURE: TOWN: BARRE CITY DISTANCE: 0.25 mi.
HIGHWAY NO.: GRANITE STREET STRUCTURE NO.: B11
NOTE:

PROPOSED STRUCTURE

STRUCTURE TYPE: SINGLE SPAN, NEW STEEL BEAMS WITH COMPOSITE CONCRETE DECK

CLEAR SPAN (NORMAL TO STREAM): 53'-5½"
VERTICAL CLEARANCE ABOVE STREAMBED:
WATERWAY OF FULL OPENING:

WATER SURFACE ELEV. @ Q2.33: VELOCITY=
Q10= ft =
Q25= ft =
Q50= ft =
Q100= ft =

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

AVERAGE LOW ELEVATION OF SUPERSTRUCTURE:
VERTICAL CLEARANCE @ Q 25

SCOUR:
REQUIRED CHANNEL PROTECTION:

PERMIT INFORMATION

AVERAGE DAILY FLOW: 180 CFS
ORDINARY LOW WATER: 80 CFS DEPTH: 0.5 FT
ORDINARY HIGH WATER: 1070 CFS DEPTH: ELEV. 592.0 FT

ADDITIONAL COMMENTS

NO HYDRAULIC ANALYSIS WAS PERFORMED, THEREFORE NO HYDROLOGIC OR HYDRAULIC DATA IS PROVIDED EXCEPT AS NOTED IN PERMIT INFORMATION ABOVE.

TEMPORARY PEDESTRIAN BRIDGE REQUIREMENTS (SEE SHEET 15).

DESIGN CRITERIA:
1. DESIGN LIVE LOAD AASHTO HS-25-44
2. DESIGN SPAN 61.7 ft ℄ BRG. TO ℄ BRG.
3. ALLOWABLE LOAD FOR SPREAD FOOTINGS ON SOIL N/A ON LEDGE N/A
4. ALLOWABLE LOAD FOR PILING N/A TYPE N/A ESTIMATED LENGTH N/A
5. STRUCTURAL STEEL AASHTO GRADE AASHTO M270 M / M270 GRADE 50 W
6. REINFORCING STEEL GRADE 60
7. SPECIAL PROVISION (HIGH PERFORMANCE CONCRETE, CLASS A LOW CEMENT) f'c = 4000 PSI
   CONCRETE, HIGH PERFORMANCE CLASS B fc = 3500 PSI

TRAFFIC MAINTENANCE:
1. IS TRAFFIC TO BE MAINTAINED? NO • IF YES, ON EXISTING STRUCTURE N/A OR ON TEMPORARY BRIDGE N/A
   • TRAFFIC WILL BE DETOURED AROUND THE BRIDGE SITE, OFF PROJECT DETOUR SIGNING WILL BE RESPONSIBILITY OF CITY.
   TEMPORARY PEDESTRIAN BRIDGE IS REQUIRED, SEE SHEET 15 FOR DETAILS.
2. TEMPORARY BRIDGE REQUIREMENTS: ONE OR TWO WAY N/A TRAFFIC CONTROL SIGNALS REQUIRED NO
   ARE SIDEWALKS REQUIRED? NO IF SO, ON WHAT SIDE? N/A

PLOTTED 2/2/2009

DuBois & King inc.
engineering planning management development

STATE OF VERMONT
AGENCY OF TRANSPORTATION

Town Of BARRE CITY	Bridge No. 7
Highway No. PROSPECT ST.	Log Sta.
	Surv. Sta.

PROSPECT ST. OVER STEVENS BRANCH
PRELIMINARY INFORMATION SHEET

Designed By A. P. GUYETTE	Drawn By S. J. BIJOLLE
Checked By Date	Bridge Design Supervisor
E. P. DETRICK 1/09	J. W. TUCKER Date 1/09
PROJECT BARRE CITY	PROJECT NO. BHF 6000 (15) S
I.G.C. Info.	
Bridge Sheet No.	Sheet 3 of 56

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