APPENDIX F

V-182
MERRIMACK RIVER
FRANKLIN - NORTHFIELD, NH

1. The location of this crossing is shown on the attached location map marked as Exhibit 10.

2. The design and proposed construction of this crossing is shown on the attached PSNH Transmission Drawing entitled "V-182 LINE – 115 KV, MERRIMACK RIVER WATER CROSSING, FRANKLIN-NORTHFIELD, NEW HAMPSHIRE" (Drawing No. 7649-184) marked as Exhibit 11.

3. Line V-182 will cross the Merrimack River on single pole wood tangent structures with a span of 570.9'. The structure on the Northfield side of the River will be a 95' tangent structure and the structure on the Franklin side will be a 100' tangent structure. A detail of these structures has been provided with the petition as FIGURE 2. As shown on FIGURE 2, the top and middle phase wires have an approximate separation at the structure of 7' vertically and 12' horizontally, while the middle and bottom phase wires are 8' vertically and 13' horizontally. The OPGW wire is carried on the structures above the phase wires by a support bracket approximately 14'-6" above and 6' laterally from the phase wires. Land along the shoreline between the structures of this crossing and the River is not traversable by vehicles. However, minimum distances to the road for truck traffic of 20.1' per the NESC have been met as 46.7' of clearance is provided.

4. Flood water elevations for the Merrimack River were based on information contained in flood insurance rate maps provided by FEMA. The 100-year flood elevation for this portion of the River is approximately 269'. No information was available for the 10-year flood elevation for this portion of the River. However, it should be noted that the 100-year elevation, which these lines were designed to safely exceed, would be well above the 10-year flood elevation. The area of the crossing, as required by the NESC (Section 232), is approximately 181 acres. This is based on the total area of the River for a 1-mile stretch in either direction of the crossing (1500' x 5,280')/43,560 sf/ac = 181 ac). As stated in paragraph 8 of the Petition, the minimum required 115 kV conductor clearances for water surface areas greater than 20-200 acres is 30.1'.

5. The sags and clearances to the water surface during a 100-year flood event for this crossing are as follows;

- OPGW wires – Due to the fact that the OPGW wire is located above the phase wires, its clearance to the water surface will always exceed the minimum required NESC distance.

- NESC Heavy Loading - The maximum conductor sag for this weather case will be 10.5' with a clearance to the water surface of 51.0'.

- -20 degrees F - The maximum conductor sag for this weather case will be 8.3' with a clearance to the water surface of 53.5'.

- 285 degrees F – Max operating temperature (Phase wires) based on PSNH transmission standards - The maximum conductor sag for this weather case will be 18.2' with a clearance to the water surface of 38.9'. This condition produces the greatest sag in the phase wires and therefore the minimum clearance to the water surface. This design will exceed the minimum clearance requirement of 30.1' by 8.8' under temporary emergency conditions during a 100-yr storm event.

  Minimum phase to OPGW clearance – The weather case that would produce the minimum clearance between the phase wires and OPGW wires would be a combination of winter weather factors. First, the phase wires would have to be at 30 deg. F just after an ice storm and would have just dropped their ice. The OPGW would also be at 30 deg. F and would still be iced with 1" of radial ice. Under these conditions the clearance would be 11.8' vertically and 6.0' horizontally from the shield wire to the closest phase wire. Based on Section 235.C.2.a.1 and Table 235-6 section 2.a of the NESC, the minimum clearance required is 57.4", or approximately 4'-10" [29" + (121 kV-50 kV) x 0.4"].

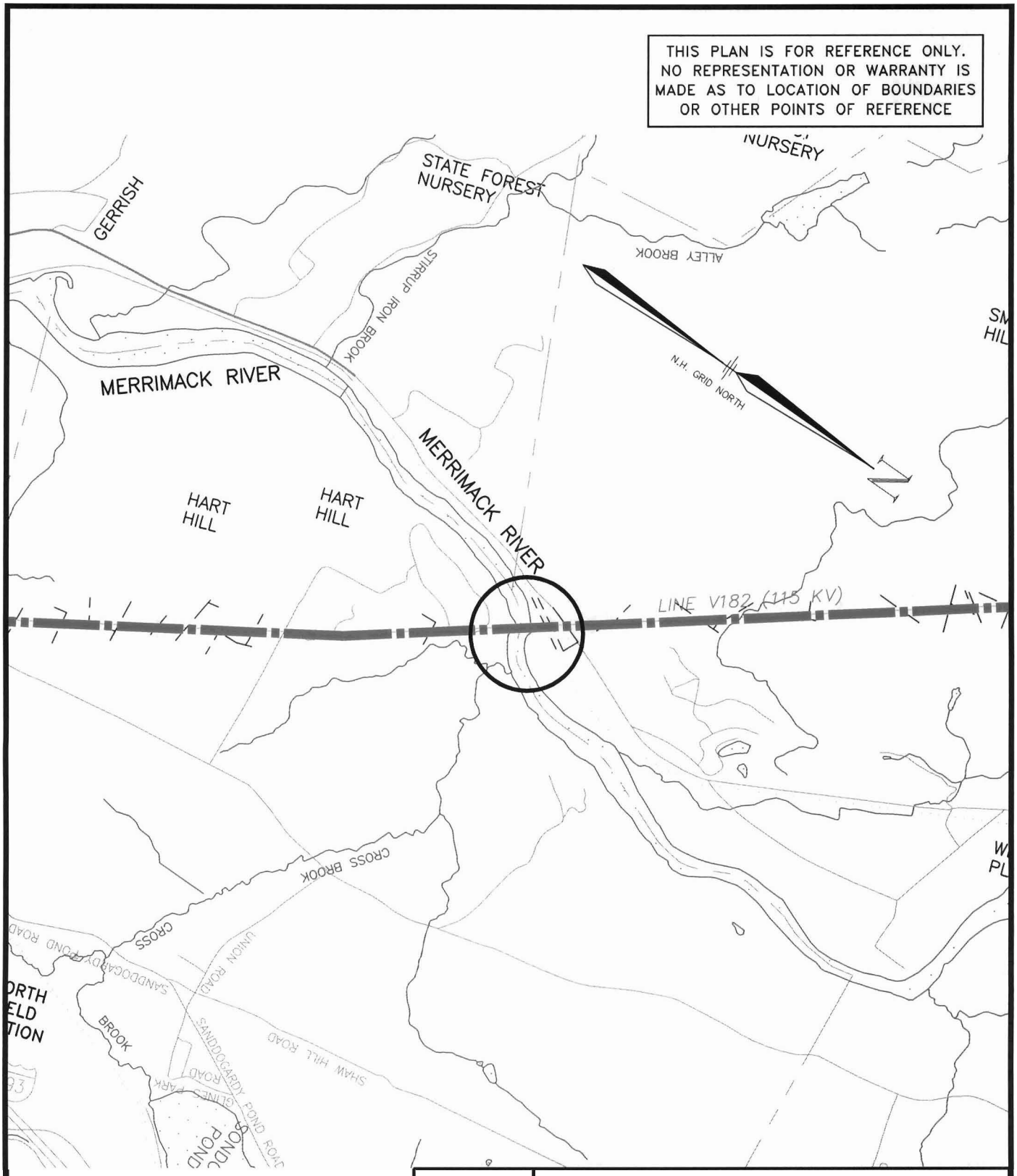


EXHIBIT 10

NO.	REVISION	DATE	DRWN	CHCK	APPR
0	ISSUED FOR LICENSING	9/2007	JLQ	JMD	

DRAWN: JLQ

DESIGNED: JMD

CHECKED: SKP

APPROVED: *

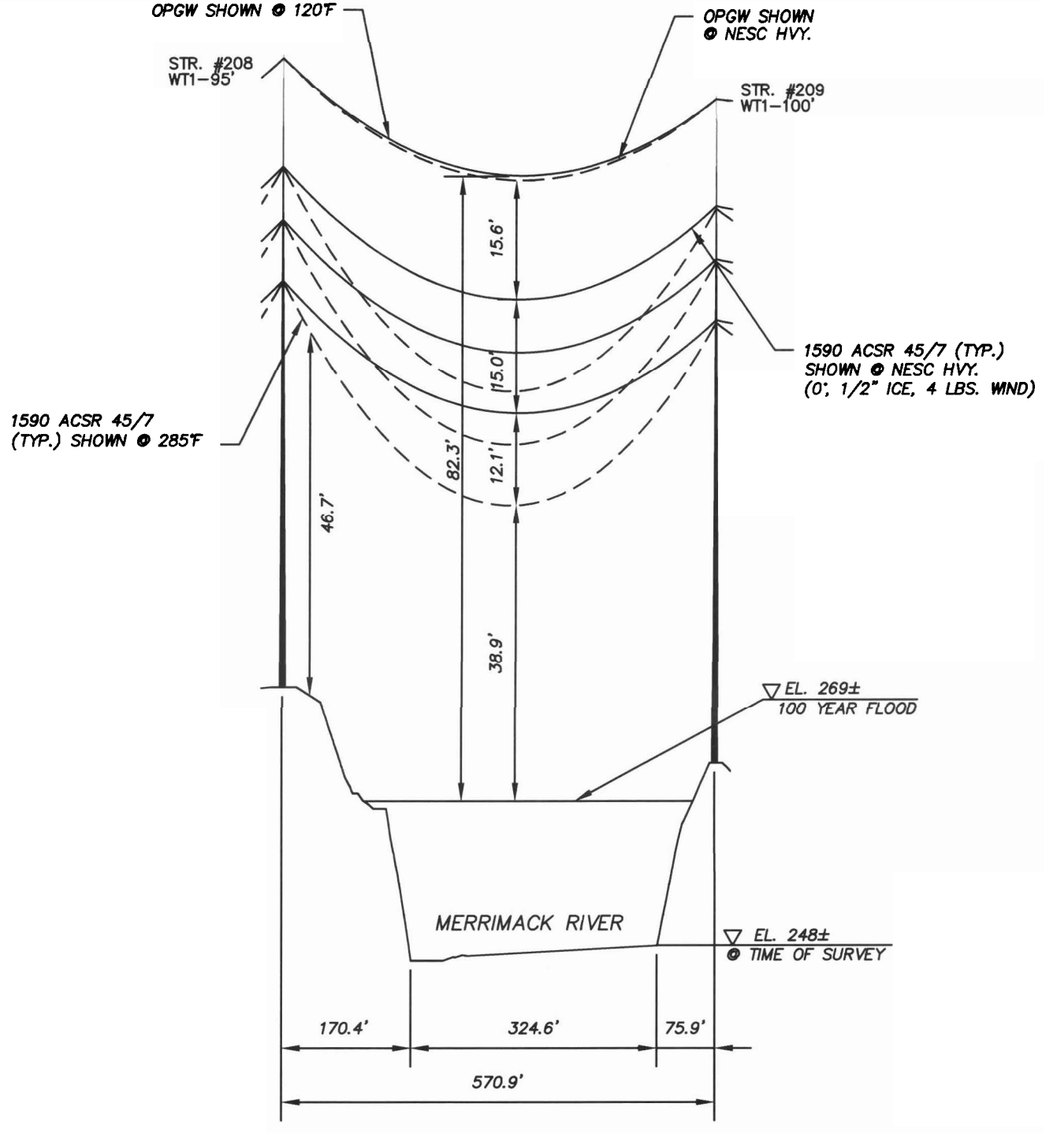
Public Service of New Hampshire — **Transmission Business**

V182 LINE – 115 KV

MERRIMACK RIVER WATER CROSSING

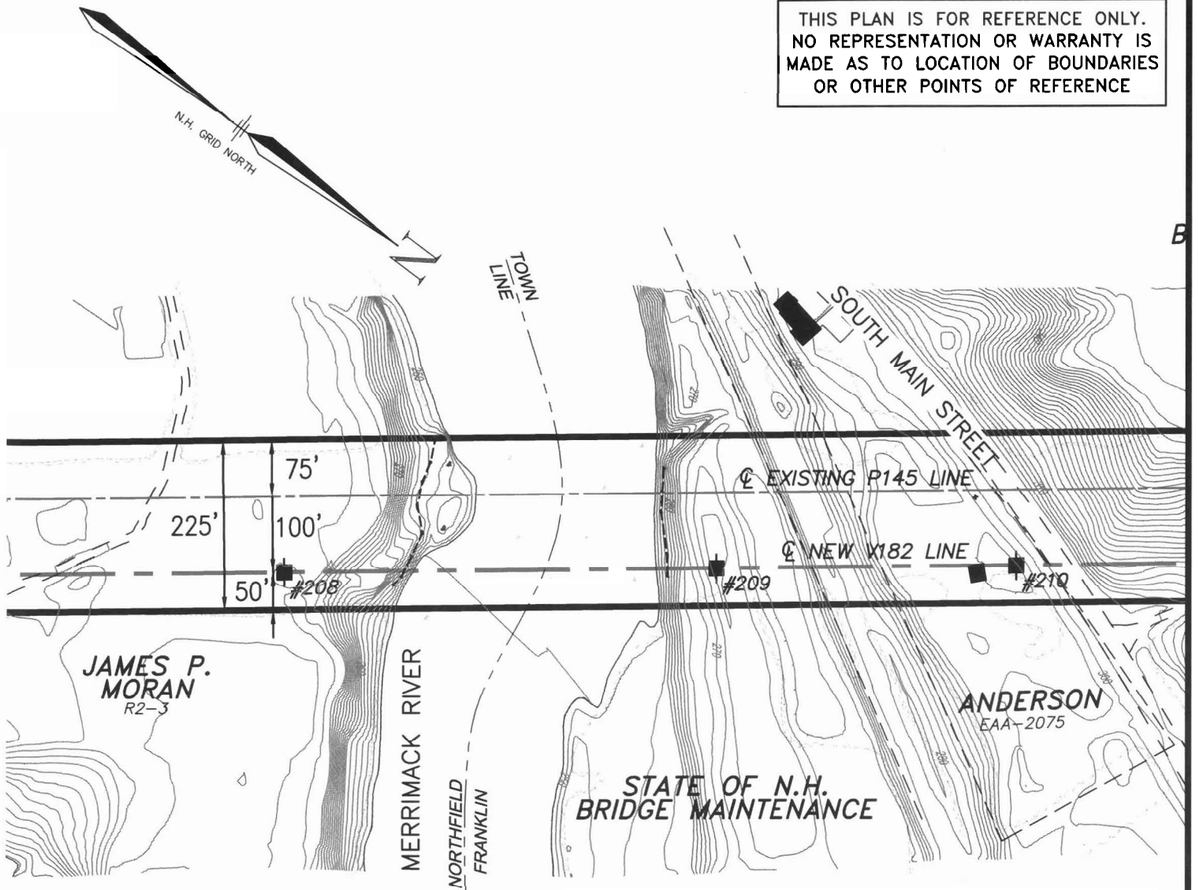
FRANKLIN–NORTHFIELD, NEW HAMPSHIRE

SCALE	DATE	SHEET	DRAWING NO
AS NOTED	08/08/07	10 OF 13	7649–184A



PROFILE

SCALE: 1"=200' HORIZ.
1"=20' VERT.



PLAN VIEW

SCALE: 1"=200'

200 100 0 200 400 600

GRAPHIC SCALE
(Feet)

EXHIBIT 11

NO.	REVISION	DATE	DRWN	CHCK	APPR
1	REVISED PER V182 RECONSTRUCTION	9/2007	JLQ	JMD	

Public Service of New Hampshire

Transmission Business

DRAWN: JLQ
DESIGNED: JMD
CHECKED: SKP
APPROVED: *

V182 LINE – 115kV
MERRIMACK RIVER WATER CROSSING
FRANKLIN–NORTHFIELD, NEW HAMPSHIRE

SCALE	DATE	SHEET	DRAWING NO.
1"=200'	08/08/07	11 OF 13	7649-184