

APPENDIX G

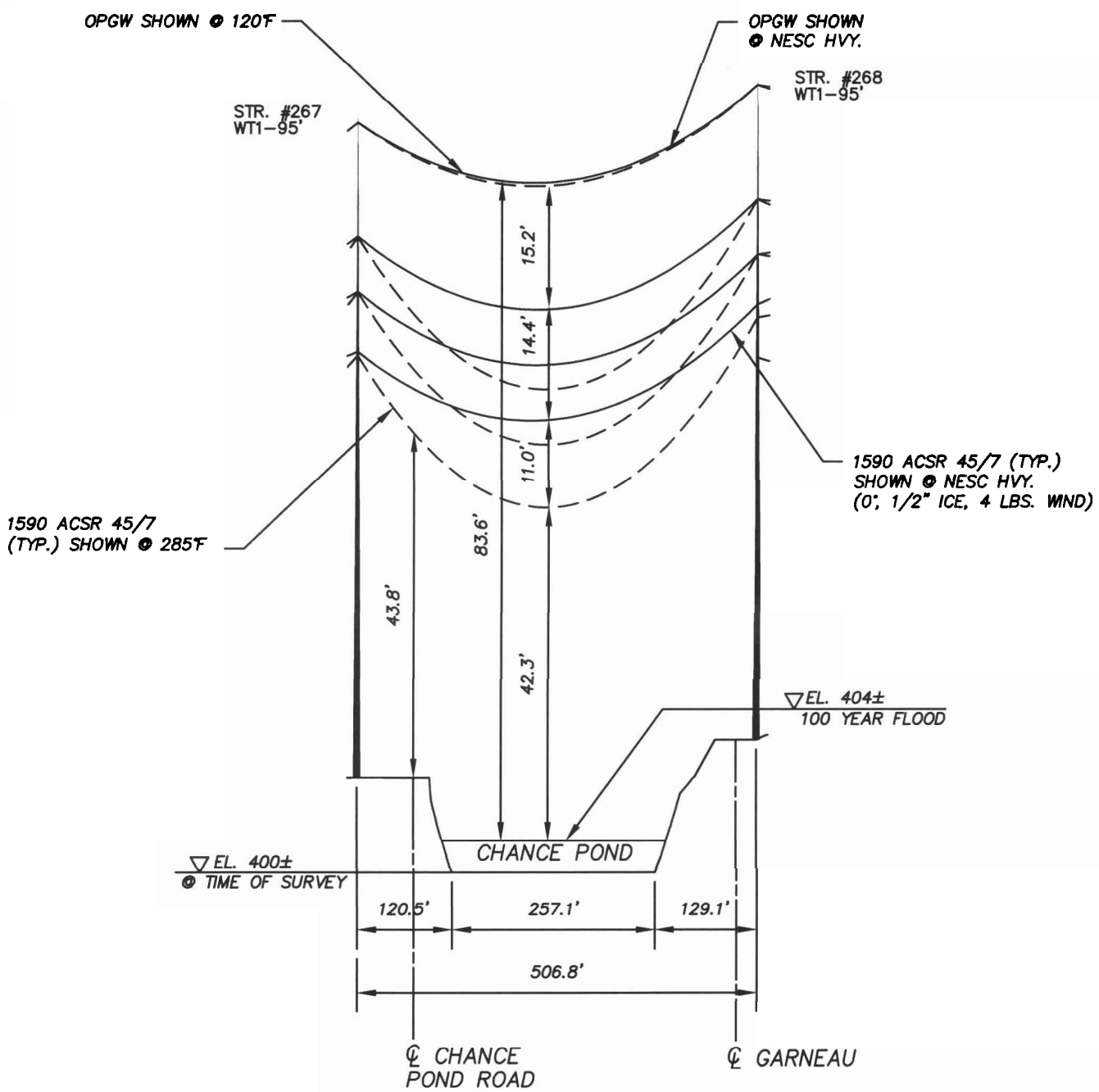
V-182 CHANCE POND FRANKLIN, NH

1. The location of this crossing is shown on the attached location map marked as Exhibit 12.
2. The design and proposed construction of this crossing is shown on the attached PSNH Transmission Drawing entitled “V-182 LINE – 115 KV, CHANCE POND WATER CROSSING, FRANKLIN, NEW HAMPSHIRE” (Drawing No. 7649-353) marked as Exhibit 13.
3. Line V-182 will cross Chance Pond on a single pole, 95’ wood tangent structures with a span of 506.8’. A detail of this structure 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 top phase wire. Land along the shoreline between the structures of this crossing and the pond is traversable by vehicles. Chance Pond Road is crossed over along the southern shoreline of Chance Pond, and Garneau Road is crossed over along the northern shoreline of Chance Pond. The minimum clearance of 20.1’ over each road per the NESC has been met, as a minimum of 43.8’ of clearance is provided.
4. Flood water elevations for Chance Pond were based on information contained in flood insurance rate maps provided by FEMA. The 100-year flood elevation for this portion of the pond is approximately 404’. No information was available for the 10-year flood elevation for this portion of the pond. 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. Based upon available topographic maps, the area of the crossing, as required by the NESC (Section 232), is approximately 45 acres. This is based on the total area of the pond at the 100-year flood elevation. As stated in paragraph 9 of the petition, the minimum required 115 kV conductor clearances for water surface areas between 20-200 acres is 30.1’.

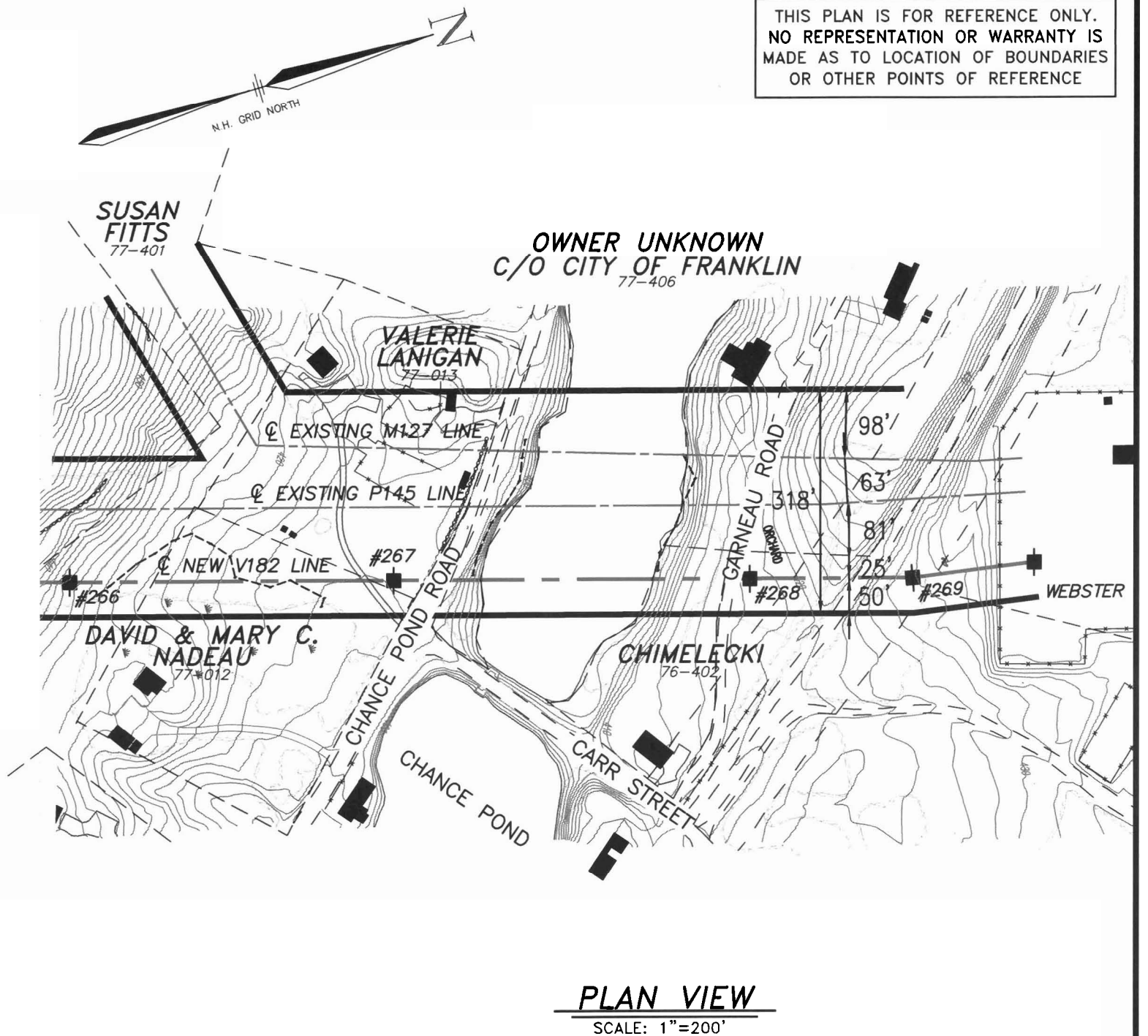
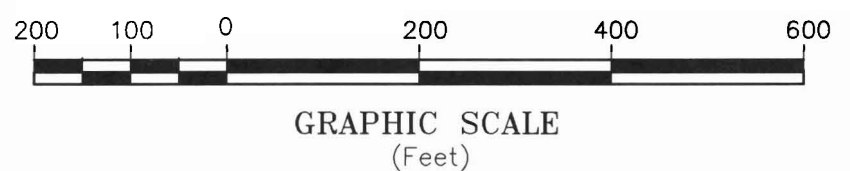
5. The sags and clearances to the water surface during a 100-year flood event for this crossing are as follows;

- 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 9.32' with a clearance to the water surface of 53.3'.
- -20 degrees F - The maximum conductor sag for this weather case will be 7.2' with a clearance to the water surface of 55.0'.
- 285 degrees F – Max operating temperature (Phase wires) based on PSNH transmission standards - The maximum conductor sag for this weather case will be 16.9' with a clearance to the water surface of 42.3'. 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 12.2' 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 12.4' 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"].

THIS PLAN IS FOR REFERENCE ONLY.
NO REPRESENTATION OR WARRANTY IS
MADE AS TO LOCATION OF BOUNDARIES
OR OTHER POINTS OF REFERENCE



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



PLAN VIEW
SCALE: 1"=200'

EXHIBIT 13

		Transmission Business	
DRAWN JLQ DESIGNED JMD CHECKED SKP APPROVED *		V182 LINE - 115 KV CHANCE POND WATER CROSSING FRANKLIN, NEW HAMPSHIRE	
1 NO.	REVISED PER V182 RECONSTRUCTION REVISION	9/2007 DATE	JLQ JMD DRWN CHK APPR
SCALE 1"=200'		DATE 08/08/07	SHEET 13 of 13
		DRAWING NO. 7649-353	