



August 24, 2016

Steven Donnell, Broadcast Engineer
New Hampshire Public Radio
2 Pillsbury Street, 6th Floor
Concord, NH 03301

**Re: WEVQ Tower, Littleton, New Hampshire
HEB Project #2011-036**

The purpose of this memo is to document our recent survey work at the new WEVQ tower at 1817 Mann's Hill Road in Littleton. In 2011, as part of previous work for NHPR, HEB established a survey baseline at the tower site via static GPS observations using Leica GPS500 dual-frequency geodetic receivers. Control-point positions and elevations tied to the NGS CORS network were established using the NGS OPUS service. The horizontal datum is NH State Plane Coordinate System NAD83(2011) and the vertical datum is NAVD88. At the tower center, NH State Plane Grid North is approximately 0°3' west of True North.

On August 18, 2016, the baseline was recovered and used as a reference to orient the WEVQ antenna on the new tower towards the specified azimuth of 130 degrees. With the aid of New England Towers personnel, measurements were taken from the baseline to points on the lower horizontal parasitic assembly using a total station and prism reflector, and then compared to the specified azimuth. The final measurements taken prior to the antenna being locked in place reflect an antenna azimuth of **129°30'** relative to True North.

Additional measurements taken on the tower:

Latitude/Longitude of tower center:	44°21'10.86" N 71°44'14.86" W
Elevation of concrete tower base:	1984.1 feet
Approximate elevation at antenna phase center:	2185.5 feet
Approximate antenna height above ground:	± 201 feet

If you have any questions or would like to discuss anything further, please do not hesitate to contact us.

Sincerely,
HEB Engineers, Inc.

Seth E. Burnell, LLS
Staff Surveyor

