



January 15, 2021

WNTH, Winnetka, IL

Engineering Statement:

The Board of Education New Trier Township District 203 desires a license to cover C.P. construction BPED 20190509AAO, Facility 6052.

Attachments to this document include, certifications of the antenna azimuth, the antenna build and installation.

The PSI antenna proof for the directional antenna, as requested in the C.P. modification, is also attached.

ERP Calculation:

ERP = -12.68 dBk (54 watts)

Antenna Input required 0.0675 kW per Proof, -11.707 dBk

Line Loss for 123' of HDF4-50A = 0.761 dB

ERP = TPO - Line Loss in dB, -11.707 dBk + 0.761 dB = -10.946 dBk = 0.080 kW

TPO = 80 watts

The reader will also find a map of the existing license 60 dBu coverage superimposed with the proposed 60 dBu. Note that they are nearly identical as they form a single line.

Using OET 65 formula, without regard to the typical attenuation in the downward field, we find that the PSI, PSIFML-1C-HR-DA, directional antenna has a power density at head height from the ground level of $2.4727 \mu\text{W}/\text{cm}^2$. This is only 1.2 percent of the uncontrolled maximum of $200 \mu\text{W}/\text{cm}^2$. The applicant has installed the antenna atop a building mounted tower at a point 40.2 meters above the ground level. The area is locked off to the public. The applicant will lower the power or terminate the transmission to protect workers on or near the antenna on the tower.



R. E. ALLEN AND ASSOCIATES, LTD.
PROFESSIONAL LAND SURVEYORS
1015 NORTH CORPORATE CIRCLE, SUITE C
GRAYSLAKE, ILLINOIS 60030

TELEPHONE
847-223-0914
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847-223-0980

SURVEYORS CERTIFICATE

December 15th, 2020

R.E. Allen and Associates, Ltd., and the undersigned Bryan J. Lee do hereby state that the New Trier High School Winnetka campus at 385 Winnetka Avenue antenna's located on the Radio Tower with a position of latitude $42^{\circ} 05' 39''$ North, and longitude $-87^{\circ} 43' 09''$ West.

Face Antenna angle - 345° True North

Top of antenna elevation= 774.34 NAVD88

Bottom of Antenna elevation= 673.80 NAVD88

Ground elevation= 614.02 NAVD88

We further state that the accuracy is ± 1 based on field observation on November 5th, 2020.

Respectfully Submitted,
R.E. Allen and Associates, Ltd.

Bryan J. Lee

Illinois Professional Land Surveyor 35-3616

My License Expires 11-30-22

Professional Design Firm No. 184-002732

RESIDENTIAL - COMMERCIAL - INDUSTRIAL - SUBDIVISIONS - ALTA/NSPS LAND TITLE SURVEYS
ILLINOIS LAND SURVEY STANDARDS - FARM SURVEYS - CONDOMINIUMS - TOPOGRAPHIES - LAND & CONSTRUCTION
SURVEYS - PHOTOGRAMMETRIC GROUND CONTROL - MUNICIPALITY SERVICES - RIGHTS-OF-WAY SURVEYS

ESTABLISHED 1956



Tower Works, Inc.
47 W. 543 Perry Road
Maple Park, IL 60151

Ph. (630) 557-2221
Fax (630) 557-2229
towerworks@towerworks.net

November 10, 2020

New Trier High School
7 Happ Road
Northfield, IL 60093

Michael Hill,

This correspondence is being presented to you to affirm that the antenna location on the rooftop tower located at New Trier High School, 385 Winnetka Ave in Winnetka Illinois was mounted with a RAD centerline at 145' AGL and positioned at an azimuth of 345 degrees true north. All manufacture's installation instructions were followed. There is a one year warranty for all labor and supplied materials. And once again, thanks for your business.

Eddie Finley

President
Towerworks Inc
47W543 Perry Rd
Maple Park, IL 60151

NEW TRIER TOWNSHIP HIGH SCHOOL DISTRICT 203



To commit minds to inquiry, hearts to compassion, and lives to the service of humanity.®

I, Michael A. Hill, do state that I hold a degree from DeVry University, Institute of Technology, Chicago, Illinois, in Broadcast Engineering. I hold a Federal Communications Commission Radiotelephone License # P3-18-92403.

I hold a Federal Aviation Administration Pilot's License # 3885341. I am employed by New Trier Township High School District 203, the license holder, in the Network and Operations division as a Video/Telecommunications Engineer. I have personally witnessed the construction and installation of the new tower, antenna and transmitter. All phases were performed in strict accordance with the manufacture's installation instructions. I was personally with, and directed the land surveyor during his measurements of the tower and antenna.

I declare that the foregoing is correct.

Michael A. Hill.

January 14, 2021.

Showing 60 dBu of CP and Amendment - They are the same.
Board Of Education New Trier Township District

Coverage Study - GLOBE 30 Sec
1-15-2021

