



**United States of America**  
**FEDERAL COMMUNICATIONS COMMISSION**  
**AM BROADCAST STATION CONSTRUCTION PERMIT**

Authorizing Official:

Official Mailing Address:

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GOPHER COMMUNICATIONS COMPANY  
P.O. BOX 620  
CROOKSTON MN 56716

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Son Nguyen  
Supervisory Engineer  
Audio Division  
Media Bureau

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Facility Id: 24647

Call Sign: KROX

Permit File Number: BP-20180122ABB

Grant Date: April 12, 2018

This permit expires 3:00 a.m.  
local time, April 01, 2021.

Produced for the purpose of updating site coordinates.

Subject to the provisions of the Communications Act of 1934, as amended, subsequent acts and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions set forth in this permit, the permittee is hereby authorized to construct the radio transmitting apparatus herein described. Installation and adjustment of equipment not specifically set forth herein shall be in accordance with representations contained in the permittee's application for construction permit except for such modifications as are presently permitted, without application, by the Commission's Rules.

Commission rules which became effective on February 16, 1999, have a bearing on this construction permit. See Report & Order, Streamlining of Mass Media Applications, MM Docket No. 98-43, 13 FCC RCD 23056, Para. 77-90 (November 25, 1998); 63 Fed. Reg. 70039 (December 18, 1998). Pursuant to these rules, this construction permit will be subject to automatic forfeiture unless construction is complete and an application for license to cover is filed prior to expiration. See Section 73.3598.

Equipment and program tests shall be conducted only pursuant to Sections 73.1610 and 73.1620 of the Commission's Rules.

Hours of Operation: Unlimited

Average hours of sunrise and sunset:  
Local Standard Time (Non-Advanced)

Jan.	8:15 AM	5:00 PM	Jul.	4:45 AM	8:15 PM
Feb.	7:30 AM	5:45 PM	Aug.	5:15 AM	7:45 PM
Mar.	6:45 AM	6:30 PM	Sep.	6:00 AM	6:45 PM
Apr.	5:45 AM	7:15 PM	Oct.	6:45 AM	5:45 PM
May	4:45 AM	8:00 PM	Nov.	7:30 AM	4:45 PM
Jun.	4:30 AM	8:30 PM	Dec.	8:15 AM	4:30 PM

Callsign: KROX

Permit No.: BP-20180122ABB

Name of Permittee: GOPHER COMMUNICATIONS COMPANY

Station Location: CROOKSTON, MN

Frequency (kHz): 1260

Station Class: B

Antenna Coordinates:

Day

Latitude: N 47 Deg 47 Min 52 Sec

Longitude: W 96 Deg 35 Min 14 Sec

Night

Latitude: N 47 Deg 47 Min 52 Sec

Longitude: W 96 Deg 35 Min 14 Sec

Transmitter(s): Type Accepted. See Sections 73.1660, 73.1665 and 73.1670 of the Commission's Rules.

Nominal Power (kW): Day: 1.0 Night: 0.50

Antenna Mode: Day: ND Night: DA

(DA=Directional Antenna, ND=Non-directional Antenna; CH=Critical Hours)

Antenna Registration Number(s):

Day:

Tower No.	ASRN	Overall Height (m)
1	1023284	

Night:

Tower No.	ASRN	Overall Height (m)
1	1023284	
2	1023285	

DESCRIPTION OF DIRECTIONAL ANTENNA SYSTEM

Theoretical RMS (mV/m/km): Night: 220.48  
 Standard RMS (mV/m/km):  
 Augmented RMS (mV/m/km): Night: 245.54  
 Q Factor: Night:

Theoretical Parameters:

Night Directional Antenna:

Tower No.	Field Ratio	Phasing (Deg.)	Spacing (Deg.)	Orientation (Deg.)	Tower Ref Switch *	Height (Deg.)
1	1.0000	0.000	0.0000	0.000	0	101.5
2	0.7100	-170.000	90.0000	40.000	0	101.5

\* Tower Reference Switch

- 0 = Spacing and orientation from reference tower
- 1 = Spacing and orientation from previous tower

Augmentation Parameters:

Aug No.	Central Azimuth (Deg. T)	Span (Deg.)	Radiation at Central Azimuth (mV/m @ 1 km)
1	0.0	60.0	289.68
2	40.0	80.0	370.15
3	100.0	68.0	265.54
4	134.0	10.0	78.86
5	158.0	16.0	141.62
6	166.0	16.0	177.03
7	166.0	10.0	185.07
8	213.0	14.0	289.22
9	254.0	10.0	251.06
10	295.0	20.0	124.90
11	305.0	20.0	92.04
12	305.0	10.0	92.62
13	317.5	25.0	129.47

Non-Directional Antenna: Day

Radiator Height: 67.1 meters; 101.5 deg  
 Theoretical Efficiency: 313.82 mV/m/kw at 1km

Special operating conditions or restrictions:

- 1 Ground system consists of 120 buried copper radials 275-ft. long plus 120 interspaced 50-ft. copper radials under each tower. Heavy copper bonding strap between towers and at junction between ground radials.
  
- 2 The permittee/licensee must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.
  
- 3 A license application (FCC Form 302) to cover this construction permit must be filed with the Commission pursuant to Section 73.3536 of the Rules before the permit expires.

\*\*\* END OF AUTHORIZATION \*\*\*