



## NEBRASKA CAPITOL ENVIRONS COMMISSION

The Nebraska Capitol Environs Commission will hold a meeting on **Friday, December 17th, 2021**. The meeting will convene at **8:30 a.m.** in the **City Council Chambers**, Hearing Room 112 on the 1<sup>st</sup> Floor of the County/City Building, 555 S. 10<sup>th</sup> Street (10<sup>th</sup> & "K" Streets), Lincoln, Nebraska.

For more information, please contact the Lincoln/Lancaster County Planning Department at 402-441-7491.

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### AGENDA

December 17, 2021

1. Approval of meeting record of [November 18, 2021](#)

\* [Memo](#) from Collin Christopher

#### Public Hearing & Action

2. Exterior work at [501 S 14<sup>th</sup> Street](#) (*State Building Division and the Office of the Chief Information Officer; UDR21091*)

#### Discussion

3. Capitol Environs Facades Lifecycle Discussion
4. Staff updates & miscellaneous (including an update on 1020 Goodhue Blvd.)

#### Accommodation Notice

*The City of Lincoln complies with Title VI of the Civil Rights Act of 1964 and Section 504 of the Rehabilitation Act of 1973 guidelines. Ensuring the public's access to and participation in public meetings is a priority for the City of Lincoln. In the event you are in need of a reasonable accommodation in order to attend or participate in a public meeting conducted by the City of Lincoln, please contact the Director of Equity and Diversity, Lincoln Commission on Human Rights, at 402-441-7624 as soon as possible before the scheduled meeting date in order to make your request.*

<https://linclanc.sharepoint.com/sites/PlanningDept-Boards/Shared Documents/Boards/NCEC/Agendas/2021/121721.docx>

To: **Nebraska Capitol Environs Commission**  
From: Collin Christopher  
Re: Agenda for December 17, 2021  
Date: December 9, 2021

## **Item 2: Exterior Work at 501/505 S 14<sup>th</sup> Street**

**Note: The public hearing for this item has been continued from the November meeting. While the summary that follows remains unchanged from November, the draft of the minutes from the November meeting have been attached to the full agenda packet for reference.**

The State Building Division is requesting a certificate of appropriateness for the placement of an antenna on the roof of the state-owned building at 501 S 14<sup>th</sup> Street. What follows is background provided by the State, explaining the need for the antenna:

*Around 2008, the Nebraska State Radio System was deployed with our partner NPPD. This started with 55 radio towers across the State in the VHF band, and dispatch console systems at six NSP Troop dispatch locations and three NPPD dispatch locations. Since that time, we have added an additional 10 radio sites and added numerous county and local console systems and users.*

*In 2018 the City of Lincoln joined the system, bringing with them three 800Mhz tower sites to cover the City and Lancaster County geographic areas. The 800Mhz sites provided in-building radio coverage throughout the City, including many interior locations of the Capitol Building, NSOB, 1536K, and other State building assets. NSP Capitol Security and Executive Protection Detail rely on this coverage daily for the performance of their duties.*

*The City of Lincoln recently announced that they will be divesting from the State Radio system as soon as early Q1 of 2022, and as a result the 800Mhz coverage in the City of Lincoln will no longer be available to State users, including the 800Mhz in-building coverage in many State buildings. Some areas will still be covered by the existing and overlapping VHF tower sites, but many buildings have spotty coverage using only this band.*

*The purpose of this proposed project is to create an 800Mhz radio site in the immediate area of the State buildings' geographic area to provide the in-building radio coverage vital to the State agencies that rely on it. Since the Radio System controller infrastructure is housed in the 501 Datacenter, it presents an opportunity to place a radio site topographically close to the controller, on a building with generator and UPS power, and at a place that provides required coverage, within a very attractive budget. The only real physical addition required is the placement of an antenna structure on the building roof.*

*To that end, we would like to add the proposed antenna equipment on the roof, mounted to the existing supporting structure for the air handling unit. Cabling from the antennas would traverse the roof to an existing roof penetration near the roof hatch and follow a chase to the basement where the actual radio transceiver equipment will be housed.*

The building at 501 S 14<sup>th</sup> Street has been on the Capitol Environs Commission's radar over the years, given its prominent positioning on Capitol Square. In fact, the Design Standards specifically mention the building, as highlighted below:

### **Design Standard 11: Buildings on Capitol Square**

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The portion of the District facing the Capitol shall be maintained and improved as an area of top-quality but generally unobtrusive office, residential, and church buildings, with very well-designed and maintained

landscape and streetscape elements. The area shall combine construction of first-class new buildings with the preservation of historic landmarks and scrupulous maintenance of all improvements.

**Guideline 11.5:**

Mechanical units, cooling towers, chimneys, fire towers, stage towers or scenery lofts, noncommercial radio towers or satellite "dishes," or water towers may be permitted atop buildings in the District (in excess of the 57-foot limit) provided they are set back at least fifteen feet from any face of the building, and are screened with permanent materials compatible with the materials of the principal facades of the building. Addition of such screening on the State's building at 501 S. 14<sup>th</sup> St. is a goal of the Commission.

While the addition of a radio antenna atop this building would appear to be allowed per Guideline 11.5, it must also be set back fifteen feet from the building façade and properly screened. ***The proposed antenna does appear to meet the setback requirement, but neither the existing mechanical equipment nor the proposed antenna are being screened per the guideline.***

It is worth noting that in May of this year, Scott Gatewood of DLR presented to the Commission the State's plans to remove visible rooftop equipment by modernizing the building's mechanical structure in the coming years. Given that discussion and the fact that this proposal appears to represent a step in the opposite direction, it may be worthwhile for the Commission to revisit this topic with the State to understand where the current timeline stands for these upgrades and how the proposed antenna would be impacted. It may also be of interest to the Commission to understand if the State has explored alternative locations for the proposed antenna and whether any of those alternatives are feasible.

Even if the Commission determined that the proposal does not meet the Design Standards, it could be argued that a certificate of "exception on grounds of hardship" can be issued if the Commission believes that the City's actions have created the unique circumstances that led to this proposal. Below is the language from Chapter 27 of the Lincoln Municipal Code, explaining when a such a certificate is appropriate.

**27.56.120 Certificate; Approval or Denial.**

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Within forty-five days of the hearing, the Nebraska Capitol Environs Commission shall approve or deny the application. The Commission may:

- a. Issue a certificate of "appropriateness" after adopting a finding that the proposed work meets the Standards and would not unduly hinder the protection, enhancement, perpetuation, and use of the Capitol Environs District;
- b. Issue a certificate of "exception on grounds of hardship" after adopting a finding that refusal to issue the certificate would create an extreme hardship on the applicant, and that the plight of the applicant is due to unique circumstances, and that the potential hardship is the result of the application of the ordinance and is not the result of any act or omission by the applicant;
- c. Refuse to issue a certificate, after adopting a finding that the application is not consistent with the purpose of this ordinance and of the Standards, and does not meet any of the above criteria.

The Nebraska Capitol Environs Commission's decision must be accompanied by written findings of fact. No change shall be made in the application for any building permit or in plans for other regulated work after issuance of a certificate by the Commission or the Commission Chair without resubmittal of the application

and approval in the same manner as provided above. (Ord. [20446](#) §15; February 13, 2017: prior Ord. [16698](#) §3; November 14, 1994).

All and all, this is a difficult proposal to consider, balancing the State’s need to maintain radio coverage for their buildings within the Capitol Environs District with the expectation that rooftop equipment around Capitol Square not interfere with views to the Capitol. And though the proposed antenna may not significantly interfere with views to the Capitol on its own, it does add to a collection of equipment on this particular rooftop that has previously been targeted by the Commission for better screening.

*Recommended Finding/Action: Rather than offering a recommended action, staff recommends that the Commission thoroughly discuss with the State their process for selecting this location, anticipated timelines for future improvements on this rooftop, and other concerns that they may have before considering the appropriate action.*

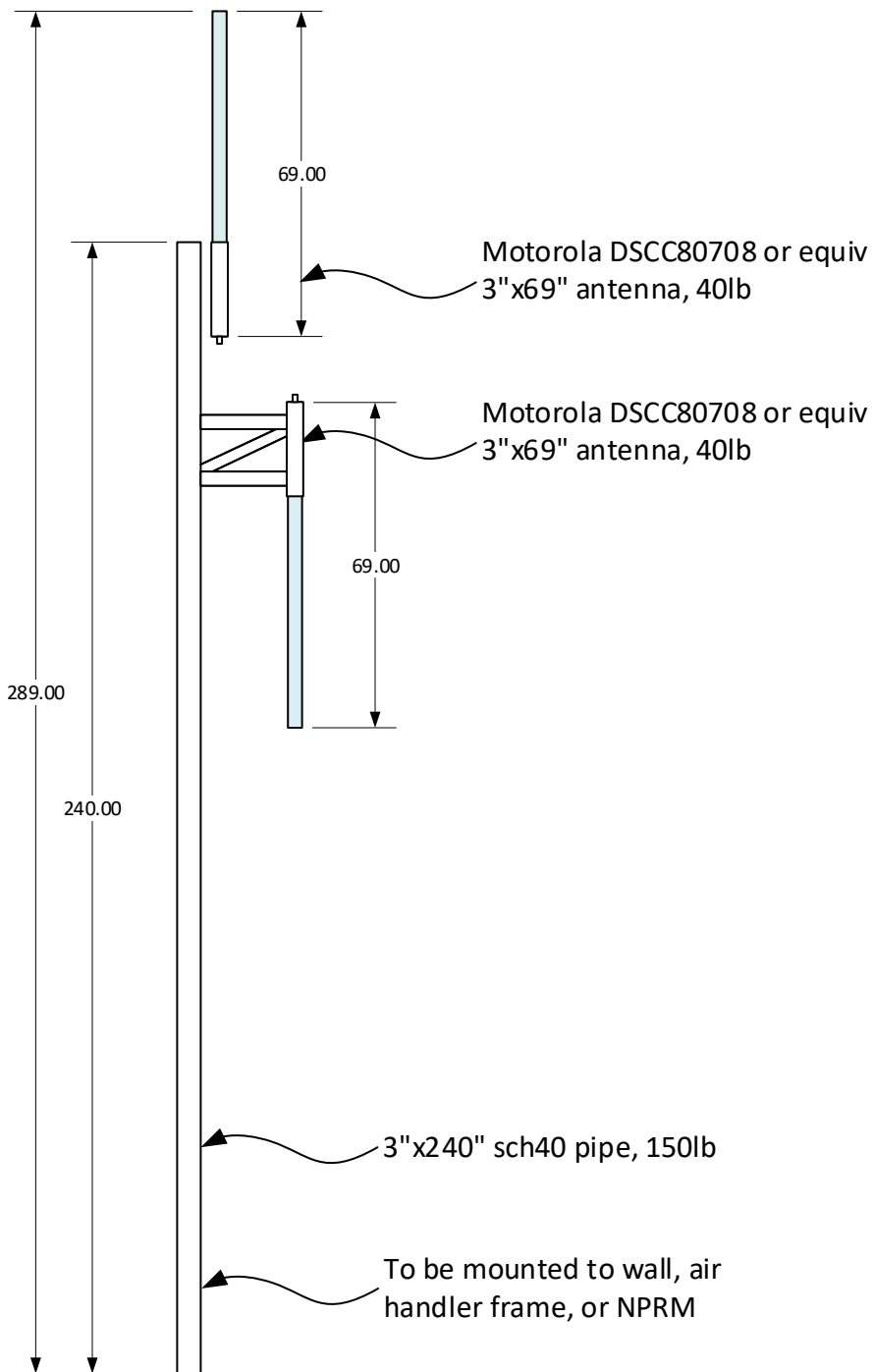


The above image offers a mocked-up look at the approximate location and scale of proposed antenna to be placed on the rooftop of 501 S 14<sup>th</sup> Street.

### **Item 3: Capitol Environs Facades Lifecycle Discussion**

Based on inquiries directed to City staff about acceptable façade materials along the Malls, staff would like to have a discussion with the Commissioners on this topic in order to be able to better convey to interested parties what qualifies as a 75-year lifecycle façade.

<https://linclanc.sharepoint.com/sites/PlanningDept-Boards/Shared Documents/Boards/NCEC/REPORTS/2021/12-December\2021decembermemo.docx>



# CC807 Series

## 7/800 MHz Corporate Collinear Antennas

746-870 MHz



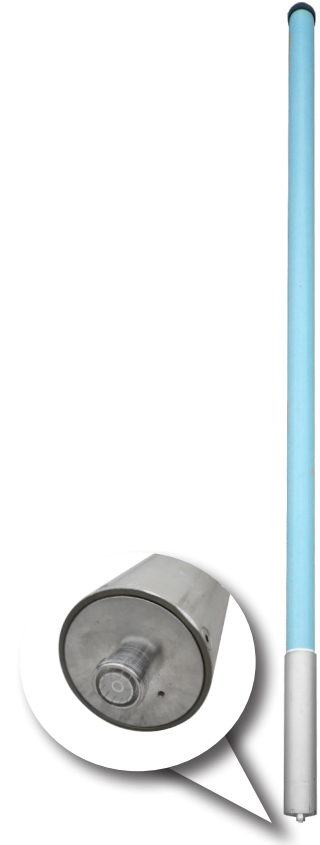
These industry leading PIM and PIP rated collinear arrays allow site operators to combine, with complete integrity, a large number of communications services into a single, low profile collinear antenna array.

The true corporate feed of these arrays maintains total pattern integrity over a very broad operating bandwidth, similar to that previously available only in exposed dipole configurations. This is now achieved in the preferred form factor of a fully enclosed fiberglass radome. The corporate collinears employ a unique corporate phasing system enabling precision control of the element placements ensuring phase purity resulting in exceptional bandwidth and electrical performance .

Gain is maximized and side lobes reduced dramatically. In a patent pending design approach the individual dipole elements including matching network are fabricated entirely of a flexible circuit board. The dipole elements are soldered to a brass support tube which is directly connected to the mounting tube and the lightning spike at the top of the antenna.

The result of this unique, incredibly strong design is:

- Peak Instantaneous Power rating (PIP) 25 kW
- Passive Intermodulation rating (PIM) -150 dBc
- High continuous power rating
- Extraordinary bandwidth characteristics with superior pattern control
- Field invertible (most models)



USA patent: 7,365,698

Australia patent: 2005904524

# CC807 Series

## 7/800 MHz Corporate Collinear Antennas

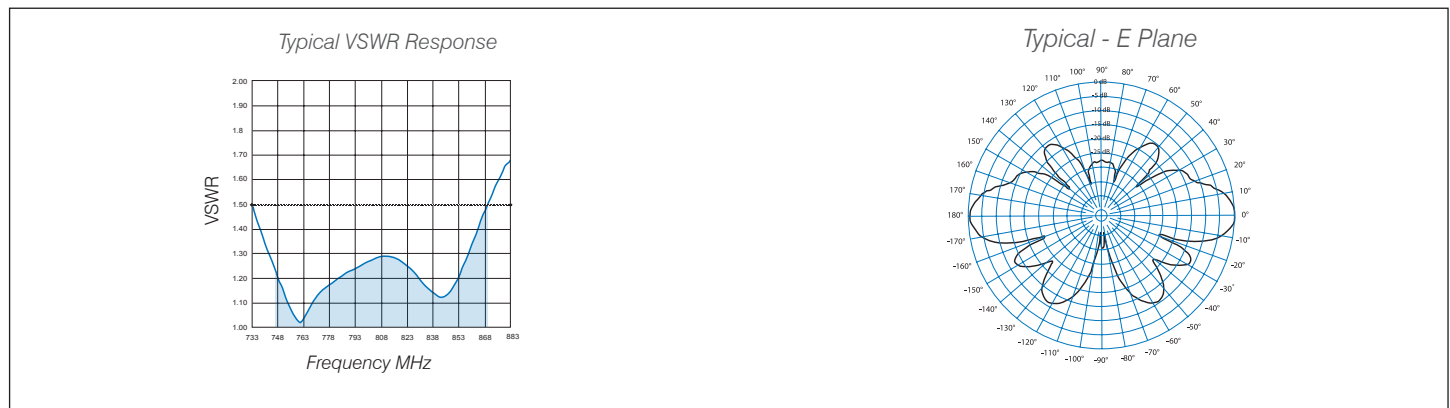
746-870 MHz



Electrical Specifications				
Model Number	CC807-03	CC807-06	CC807-08	CC807-11
Nominal Gain <i>dBd</i> ( <i>dBi</i> )	3 (5.1)	6 (8.1)	8 (10.1)	10.5 (12.6)
Frequency <i>MHz</i>	746 - 870			
Tuned Bandwidth <i>MHz</i>	124			
VSWR	<1.5 :1			
Nominal Impedance $\Omega$	50			
Downtilt	N/A	0° Std - 5° (1)	0° Std - 5° (1)	0° Std - 5° (1)
Vertical Beamwidth°	28	17	9	4.5
Horizontal Beamwidth	Omni +/- 0.5dB			
Input Power <i>Watts</i>	250	500	500	500
Passive IM 3rd order (2x20W) <i>dBc</i>	-150			
Peak Instantaneous Power <i>kW</i>	25			

Mechanical Specifications					
Model Number	CC807-03	CC807-06	CC807-08	CC807-11	
Construction	Composite fiberglass sky blue radome aluminum mounting tube				
Length <i>inches</i>	48	69	114	206	
Weight <i>lbs</i>	9	16	27	49	
Radome Diameter <i>inches</i>	3				
Shipping Weight <i>lbs</i>	18	25	40	88	
Shipping Dimensions <i>inches</i>	H	6			
	W	6			
	L	56	75	119	220
Termination	7/16" DIN fixed female				
Invertible Mounting	Yes (2)				
Suggested Clamps (not included)	UC1143				
Projected area <i>ft²</i>	No ice	0.9	1.4	2.5	4.9
	with ice	1.2	1.7	3.1	6.2
Lateral (Thrust) @ 100mph <i>lbs</i>	22	34	62	121	
Wind Gust Rating <i>mph</i>	>150				
Torque @ 100mph <i>ft-lbs</i>	15	54	205	761	

Note (1) Pre-set downtilt variations of 5 degrees are available in the following models CC807-08, CC807-11. Simply add -T5 at the end of the model being ordered. E.g. CC807-08-T5, CC807-11-T5  
 (2) Downtilt versions can not be field inverted.



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