

# GeoPlanner™

## Land Mobile & Emergency Services Report

Posey Solar



Prepared on Behalf of  
Posey Solar LLC

March 15, 2021



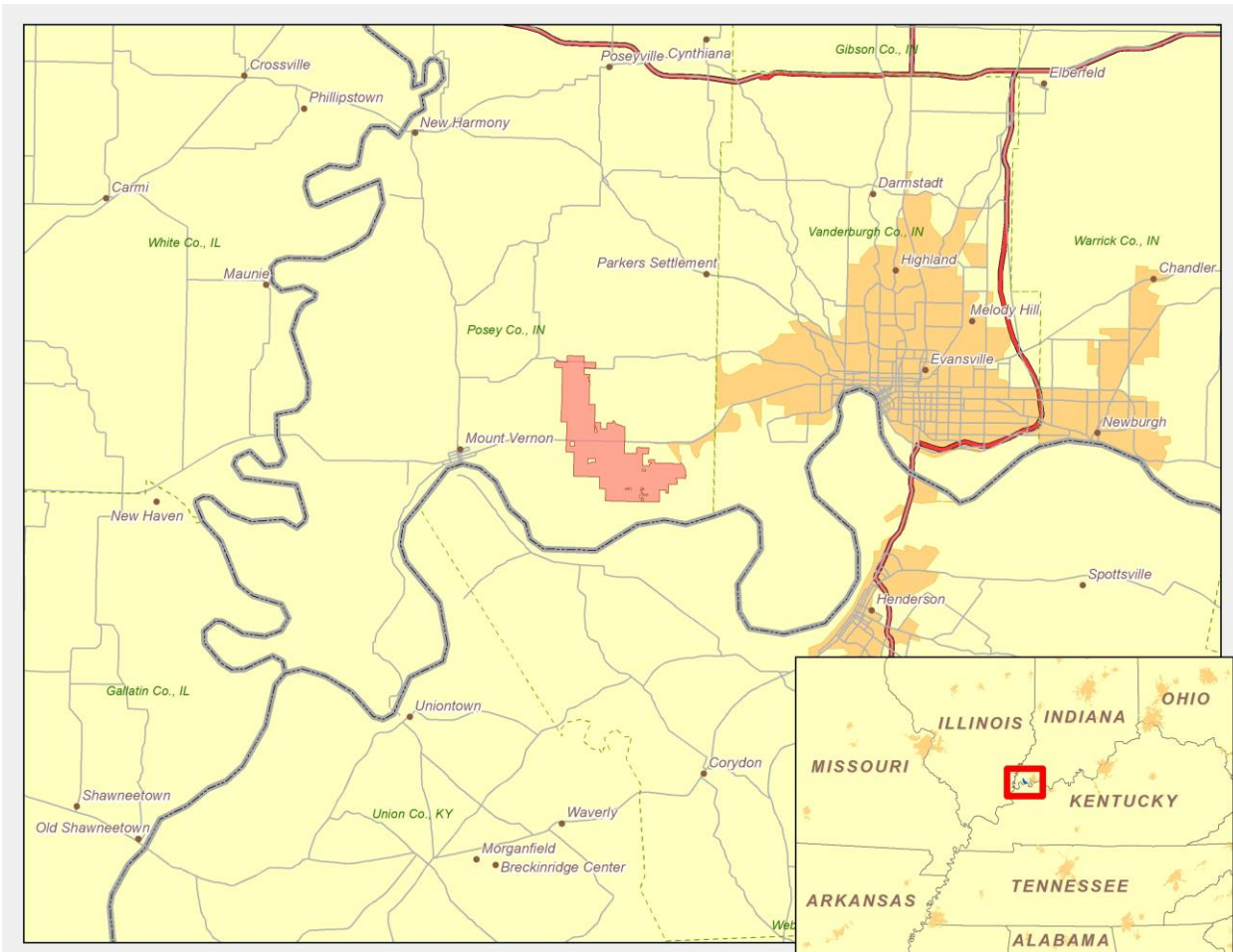
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# 1. Introduction

An assessment of the emergency services in the Posey Solar Project area was performed by Comsearch to identify potential impact from the proposed solar farm. Comsearch evaluated the registered frequencies for the following types of first responder entities: police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies. We also identified all industrial and business land mobile radio (LMR) systems and commercial E911 operators in proximity of the solar farm project. This information is useful in the planning stages of the project because the data can be used in support of facility communications needs and to evaluate any potential impact on the emergency services provided in that region. An overview of the project area, located in Posey County, Indiana, appears in Figure 1.



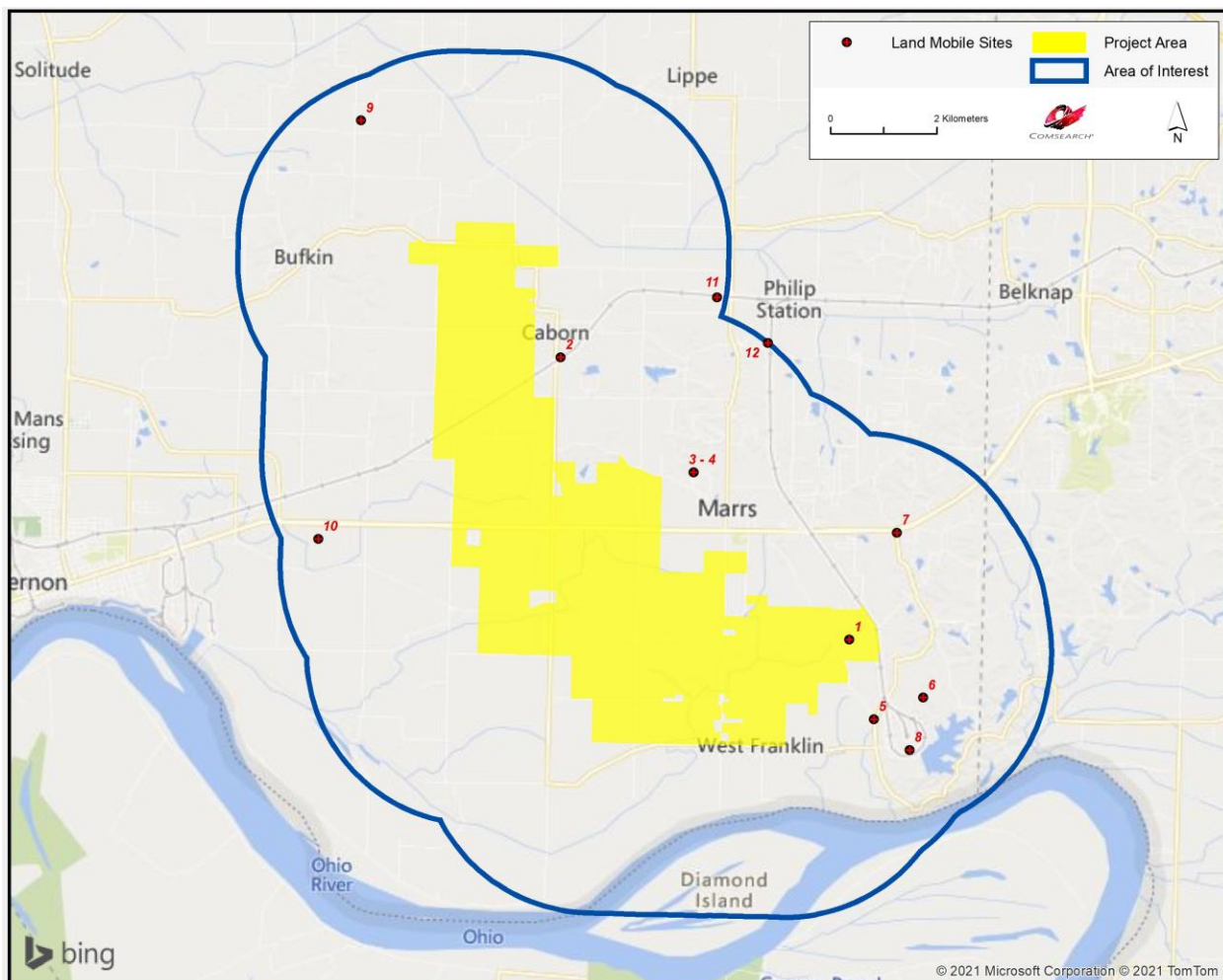
**Figure 1: Area of Interest (AOI)**

## 2. Summary of Results

Our land mobile and emergency services incumbent data<sup>1</sup> was derived from the FCC's Universal Licensing System (ULS) and the FCC's Public Safety & Homeland Security bureau. We identified both site-based licenses as well as regional area-wide licenses designated for public safety use.

### Site-Based Licenses

The site-based licenses were imported into GIS software and geographically mapped relative to the solar farm project area of interest as defined by the customer. Each site on the map was given an ID number and associated with site information in a data table. A depiction of the fixed-site licenses within two miles of the project area appears in Figure 2.



**Figure 2: Land Mobile & Emergency Service Sites in Area of Interest**

Figure 2 identifies twelve site-based licenses within two miles of the solar farm project. Specific information about these sites is provided in Table 1.

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)	Distance to the Project Area (km)
1	WQHP438	800/900	INDIANA, STATE OF (IPSC)	75	37.923694	-87.728472	0.00
2	WQDU641	150-174	EVANSVILLE WESTERN RAILWAY, INC.	3	37.971222	-87.790833	0.49
3	WQOJ614	150-174	POSEY, COUNTY OF	152	37.951889	-87.762111	0.60
4	WQSV892	450-470	J & S COMMUNICATIONS LLC	109.7	37.951889	-87.762111	0.60
5	WQKU730	450-470	Green Plains Mount Vernon LLC	16	37.910194	-87.723000	0.84
6	WPLS605	450-470	SOUTHERN INDIANA GAS & ELECTRIC COMPANY	27.1	37.913944	-87.712528	1.07
7	WPXE887	150-174	MARRS TOWNSHIP VOLUNTEER FIRE DEPARTMENT INC	43	37.941917	-87.718389	1.50
8	WPPZ266	72-76	SOUTHERN INDIANA GAS & ELECTRIC COMPANY	54	37.905056	-87.715306	1.71
9	KNFA522	150-174	KAUFMAN FARMS INC	22	38.011167	-87.834194	2.45
10	WQGM967	450-470	ASTRAZENECA PHARMACEUTICALS LP	21	37.940056	-87.842528	2.52
11	WQKX515	800/900	Evansville Western Railway, Inc.	2	37.981667	-87.757389	3.05
12	WPPC312	450-470	WOLF, STEVE	29	37.973944	-87.746417	3.21

**Table 1: Land Mobile & Emergency Service Sites in Area of Interest**

### Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county intersected by the solar farm. The solar farm project is in Posey County, Indiana, part of Public Safety Region #14, which contains all counties in Indiana, excluding the greater Chicago metropolitan area. The regional public safety operations are overseen by the entities listed below.

<sup>1</sup> Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the land mobile station's FCC license and governed by Comsearch's data license notification and agreement located at [http://www.comsearch.com/files/data\\_license.pdf](http://www.comsearch.com/files/data_license.pdf)

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The chairperson for Region #14 serves as the representatives for all public safety entities in the area and is responsible for coordinating current and future public safety use in the wireless spectrum. In the bands licensed by the FCC for area-wide first responders, which include 220 MHz, 700 MHz, 800 MHz and 4.9 GHz, as well as the traditional Part 90 public safety pool of frequencies, thirty-two licenses were found for the State of Indiana and four licenses for the County of Posey (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	Area of Operation	Frequency Band (MHz)
1	American National Red Cross	Statewide: Indiana	25-50
2	ANDERSON, CITY OF	Statewide: Indiana	150-174
3	Clarks Hill Volunteer Fire Department	Statewide: Indiana	150-174
4	CLAY, TOWNSHIP OF	Statewide: Indiana	150-174
5	Evansville Vanderburgh County Emergency Management Agency	Statewide: Indiana	0-10
6	FORT WAYNE, CITY OF	Statewide: Indiana	2450-2500
7	GRANT, COUNTY OF	Statewide: Indiana	150-174
8	GRIFFIN BETHEL FIRE DEPT INC	Countywide: Posey, IN	150-174
9	HAMILTON COUNTY PUBLIC SAFETY COMMUNICATIONS	Statewide: Indiana	150-174, 450-470
10	HEARTLAND AMBULANCE SERVICE, LLC	Statewide: Indiana	150-174
11	HENRY, COUNTY OF	Statewide: Indiana	150-174
12	HOWARD, COUNTY OF	Statewide: Indiana	150-174
13	HUNTERTOWN VOLUNTEER FIRE CO INC	Statewide: Indiana	150-174
14	I U HEALTH LIFELINE CRITICAL CARE TRANSPORT	Statewide: Indiana	450-470
15	Indiana Department of Correction	Statewide: Indiana	150-174
16	INDIANA EMERGENCY MEDICAL SERVICES COMMISSION	Statewide: Indiana	150-174
17	INDIANA SEARCH AND RESCUE ASSOCIATION INC	Statewide: Indiana	150-174

ID	Licensee	Area of Operation	Frequency Band (MHz)
18	INDIANA, STATE OF	Statewide: Indiana	0-10, 150-174, 450-470
19	Indiana, State of - Purdue University - W Laf	Statewide: Indiana	150-174, 450-470
20	INDIANA, STATE OF (INDOT)	Statewide: Indiana	450-470
21	INDIANA, STATE OF (IPSC)	Statewide: Indiana	25-50, 150-174, 450-470, 800/900, 2450-2500, 4940-4990
22	LA PORTE HOSPITAL	Statewide: Indiana	150-174
23	LAGRANGE, COUNTY OF	Statewide: Indiana	150-174
24	MADISON, CITY OF	Statewide: Indiana	150-174
25	METROPOLITAN SCHOOL DISTRICT OF MT VERNON	Countywide: Posey, IN	150-174
26	MIDWEST MEDICAL TRANSPORT COMPANY, LLC	Statewide: Indiana	150-174
27	MUTUAL AID BOX ALARM SYSTEM-INDIANA	Statewide: Indiana	150-174
28	NATIONAL SKI PATROL SYSTEM INC	Statewide: Indiana	150-174
29	NEW HARMONY VOLUNTEER FIRE DEPT	Countywide: Posey, IN	150-174
30	NORTHERN INDIANA SEARCH & RESCUE	Statewide: Indiana	150-174
31	RANDOLPH, TOWNSHIP OF	Statewide: Indiana	150-174
32	RESQ Ambulance LLC	Statewide: Indiana	150-174
33	SHELBY, COUNTY OF	Statewide: Indiana	150-174
34	Terre Haute Regional Hospital	Statewide: Indiana	150-174, 450-470
35	WADESVILLE CENTER TOWNSHIP VOLUNTEER FIRE DEPT	Countywide: Posey, IN	150-174
36	WEA, TOWNSHIP OF	Statewide: Indiana	150-174

**Table 2: Regional Licenses**

### E911 Operators

Wireless operators are granted area-wide licenses from the FCC to deploy their cellular networks, which often include handsets with E911 capabilities. Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. We have identified the type of service for each carrier in Posey County, Indiana in Table 3.

Mobile Phone Carrier	Service
AT&T	700 MHz, AWS, Cellular, PCS, WCS
Blue Ridge Wireless II	AWS
Blue Wireless	PCS
DISH Network	700 MHz, AWS
Sprint	PCS
T-Mobile	700 MHz, AWS, PCS
Verizon	700 MHz, AWS, Cellular, PCS

**Table 3: Mobile Phone Carriers in Area of Interest with E911 Service**

### 3. Impact Assessment

The first responder, industrial/business land mobile sites, area-wide public safety, and commercial E-911 communications as described in this report are typically unaffected by the presence of a solar farm, and we do not anticipate any significant harmful effect to these services in the solar farm project area. Although each of these services operates in different frequency ranges and provides different types of service including voice, video and data applications, there is commonality among these different networks with regard to the impact of a solar farm on their service. Each of these networks is designed to operate reliably in a non-line-of-sight (NLOS) environment. Many land mobile systems are designed with multiple base transmitter stations covering a large geographic area with overlap between adjacent transmitter sites in order to provide handoff between cells.

Furthermore, the height of the solar panels (which ranges from 4 feet to a maximum of 13 feet above ground level) is significantly lower than the relative antenna height of land mobile systems. Therefore, any signal blockage caused by the solar farm does not materially degrade the reception because the end user is likely capable of receiving signals from multiple transmitter locations. Additionally, the frequencies of operation for these services have



characteristics that allow the signal to propagate over and through the solar panels. As a result, very little, if any, change in their coverage should occur when the solar farm is installed.

## **4. Recommendations**

No recommendation with regard to coverage impact mitigation is necessary, as the proposed solar farm is not expected to cause any significant degradation in signal strength after construction of the solar farm.

With regard to electromagnetic interference (EMI) emissions, Comsearch recommends a minimum setback distance for the PV inverters. When planning their locations in the project area of interest, a conservative approach would dictate not locating any power conversion station (PCS) within 77.5 meters of land mobile fixed-base stations to avoid any possible impact to the communications services that they provide. This distance is based on FCC interference emissions from electrical devices in the land mobile frequency bands. Therefore, as long as the PCS installations which house the PV inverters are located more than 77.5 meters from the land mobile stations, they will meet the setback distance criteria for FCC interference emissions in the land mobile bands.

## **5. Contact**

For questions or information regarding the Land Mobile & Emergency Services Report, please contact:

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