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## MEMORANDUM

**DATE:** October 25, 2021

**TO:** U.S. Fish and Wildlife Service

**c:** Nebraska Public Power District

**FROM:** Ben Bainbridge  
Biologist

**SUBJECT:** 128143 NPPD R-Project – HCP Permit Area Revision

### MESSAGE

The purpose of this memo is to discuss how new R-Project-specific American burying beetle (ABB; *Nicrophorus americanus*) survey data may alter the geographic boundaries of the Permit Area. In the original Habitat Conservation Plan (HCP), the Permit Area was based on limited data from one year of surveys and the professional judgment of U.S. Fish and Wildlife Service (USFWS) and Nebraska Public Power District (NPPD) biologists. Since that time NPPD has amassed a substantial amount of ABB survey data where none existed previously, reducing the uncertainty of ABB range and the need to rely on professional judgment.

Including any areas that “could potentially” have an ABB in the Permit Area, when the data do not indicate that those areas are actually occupied, does not maximize conservation value to the species. One of the most effective avoidance and minimization measures involves construction during the ABB non-active season. As stated in HCP Section 2.10.4, total non-active season construction across the entire Permit Area is not feasible. However, excluding unoccupied areas from the Permit Area allows a greater portion of the Permit Area to be covered by non-active season construction.

The Permit Area in the original HCP began where the R-Project crosses Nebraska Highway 92 at the town of Stapleton, Nebraska and continued north to the Thedford Substation and then east to the proposed new Holt County Substation (Figure 1). The HCP Permit Area included all portions of the R-Project that fall within areas with a greater than 1.0% probability of ABB occurrence based on the species distribution model for ABB in Nebraska’s Sandhills described in Jorgensen et al. (2014).

The portion of the HCP Permit Area that extended from Stapleton to the Thedford Substation includes one mile on either side of the R-Project proposed centerline (two miles wide total), while the HCP Permit Area extending from the Thedford Substation to the Holt County Substation included four miles on either side of the R-Project centerline (eight miles wide total). The varying HCP Permit Area width incorporated all potential impacts occurring outside the transmission line right-of-way (ROW) including construction access and construction yards. The HCP Permit Area was narrower on the Stapleton to Thedford Substation portion because off-ROW access typically

begins on the adjacent Highway 83, rather than much farther off the ROW as is common on the portion from the Thedford Substation to the Holt County Substation.

NPPD believes the best available data indicate that take of ABB from Stapleton to Thedford is not likely to not occur because ABB do not occupy this area and therefore cannot be taken. That conclusion is based on the site-specific surveys along Highway 83 that show the following.

- Seven years of ABB surveys on Highway 83 have only captured two ABB, both in 2014 in the same trap. ABB have been documented moving up to 18 miles in a single night (USFWS 2019).
- ABB survey from 2016 to 2021 have not captured any ABB. From 2016-2020 the trapping was done in accordance with the HCP compliance monitoring plan, which required monitoring through a set of 10 traps that included the trap site that captured ABB in 2014. In 2021, 30 traps were surveyed to evaluate presence/absence over the entire area.

#### **R-Project ABB Surveys (2014 to 2021)**

NPPD has completed seven years of ABB presence/absence surveys throughout the HCP Permit Area under Endangered Species Act Section 10(a)(1)(A) permits. ABB presence/absence surveys were conducted in June 2014 and in August 2015, 2016, 2017, 2018, 2019, 2020, and 2021. Over the course of all presence/absence surveys throughout the HCP Permit Area, NPPD has captured and released 1,505 individual ABB with 284 individuals recaptured. All ABB surveys were completed based on the range-wide survey protocols (USFWS 2011, 2015, 2016, 2018).

Surveys were completed along all or a portion of U.S. Highway 83 in the HCP Permit Area in 2014, 2016, 2017, 2018, 2019, 2020, and 2021 (Table 1, Attachment A). All surveys were completed over the course of five trap nights. Surveys in 2014 were completed in June and included 35 traps placed along U.S. Highway 83 from Stapleton to Thedford, NE and at the Thedford Substation. Surveys were conducted annually from 2016 through 2020 per the HCP compliance monitoring requirements and included a ten-trap survey transect centered around the Dismal River. Surveys in 2021 included 27 traps located along U.S. Highway 83 extending from four miles north of Stapleton to where the R-Project centerline turns east away from the highway. Surveys in 2021 also included three traps along a portion of the R-Project ROW from the Thedford Substation south for three miles.

**TABLE 1 U.S. HIGHWAY 83 SURVEYS**

YEAR	TRAPS	TRAP NIGHTS	ABB CAPTURES	TOTAL TRAP NIGHTS
2014	35	5	2	175
2016	10	5	0	50
2017	10	5	0	50
2018	10	5	0	50
2019	10	5	0	50
2020	10	5	0	50
2021	30	5	0	150
<b>TOTAL</b>	<b>115</b>	<b>--</b>	<b>2</b>	<b>575</b>

From 2014 through 2021, NPPD completed 575 protocol-level trap nights and captured two ABB. Both of these ABB occurred during 2014 surveys from a single trap located on the northern edge of the Dismal River canyon. This trap was surveyed in the same location from 2016 through 2021 and did not capture any ABB during those survey efforts.

Survey efforts on U.S. Highway 83 and the R-Project ROW south of the Thedford Substation captured 34,938 *Nicrophorus carolinus* and 6,583 *Nicrophorus marginatus*, which are species that typically inhabit high and dry areas not favorable for ABB. USFWS's 2019 *American Burying Beetle Species Status Assessment* states "increased temperatures and drier conditions may make congeners like *N. carolinus* more competitive and reduce or eliminate *N. americanus* in southern and western populations" (USFWS 2019).

### Revised Permit Area

NPPD's project-specific surveys represent the best available scientific data within the HCP Permit Area. The best available scientific data clearly show that habitats crossed by the R-Project parallel to U.S. Highway 83 and the R-Project ROW south of the Thedford Substation do not support ABB. Only two individual ABB have been captured in 575 trap nights spread across seven years of surveys. This stretch of ROW also supports high numbers of *Nicrophorus carolinus* and *Nicrophorus marginatus*, which the USFWS recognizes indicate increased competition and potential lack of ABB.

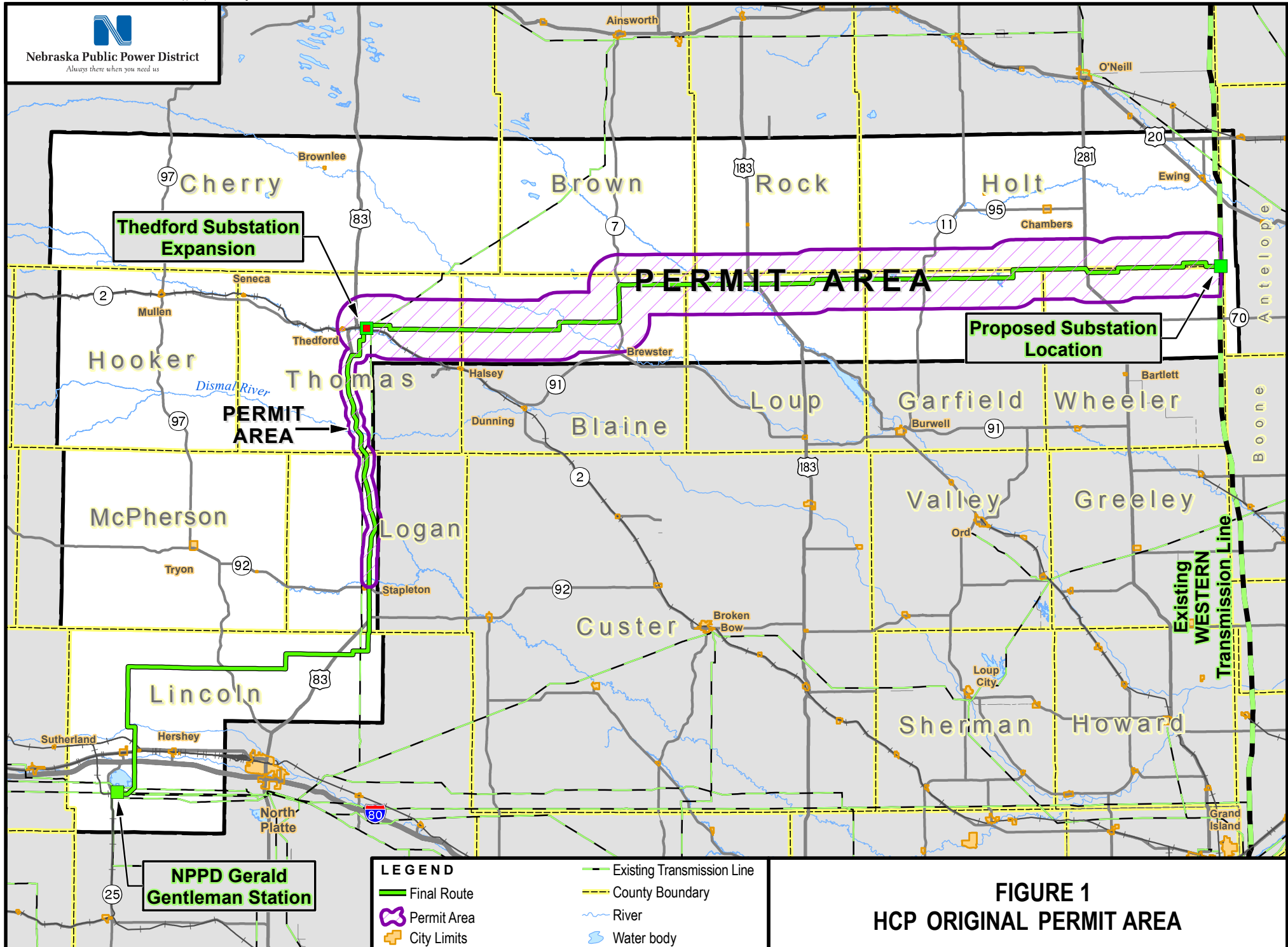
NPPD's interpretation of the extensive trapping data results in the conclusion that take of ABB from construction and operation and maintenance of the R-Project from Stapleton to the Thedford Substation is not likely to occur. Because take of ABB is not likely to occur, NPPD recommends that the HCP Permit Area be revised to exclude the R-Project from Stapleton, NE north to the Thedford Substation and only include those portions of the R-Project from the Thedford Substation east to the Holt County Substation (Figure 2). This revision would remove 174 structures and 253 acres of temporary disturbance from the Permit Area.

### References

- U.S. Fish and Wildlife Service (USFWS). 2011. American Burying Beetle *Nicrophorus americanus* Rangewide Survey Guidance. Updated 4-20-2011.
- \_\_\_\_\_. 2015. Draft American Burying Beetle *Nicrophorus americanus* Range Wide Presence/Absence Live-trapping Survey Guidance. Updated November 2015.
- \_\_\_\_\_. 2016. Region 6 Presence/Absence Survey Protocol American Burying Beetle (*Nicrophorus americanus*). February 2016.
- \_\_\_\_\_. 2018. American Burying Beetle (*Nicrophorus americanus*) Range-wide Presence/Absence Survey Guidance. May 2018.
- \_\_\_\_\_. 2019. Species Status Assessment Report for the American Burying Beetle (*Nicrophorus americanus*). Version 1.0. February 2019.



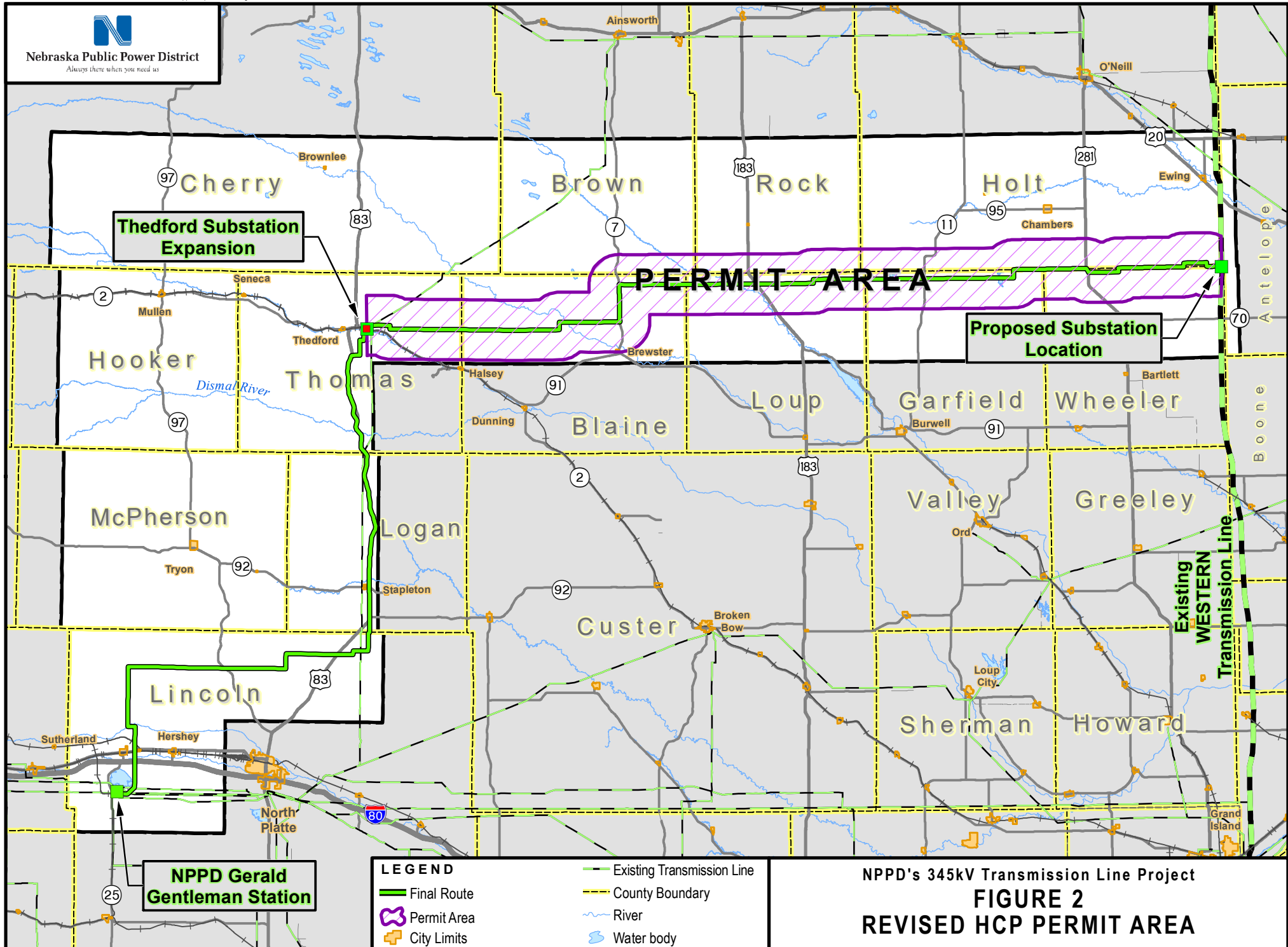
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**FIGURE 1**  
**HCP ORIGINAL PERMIT AREA**



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**Attachment A. Trap Locations Along U.S. Highway 83 from 2014 - 2021**