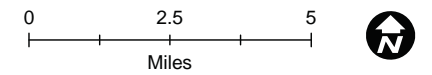
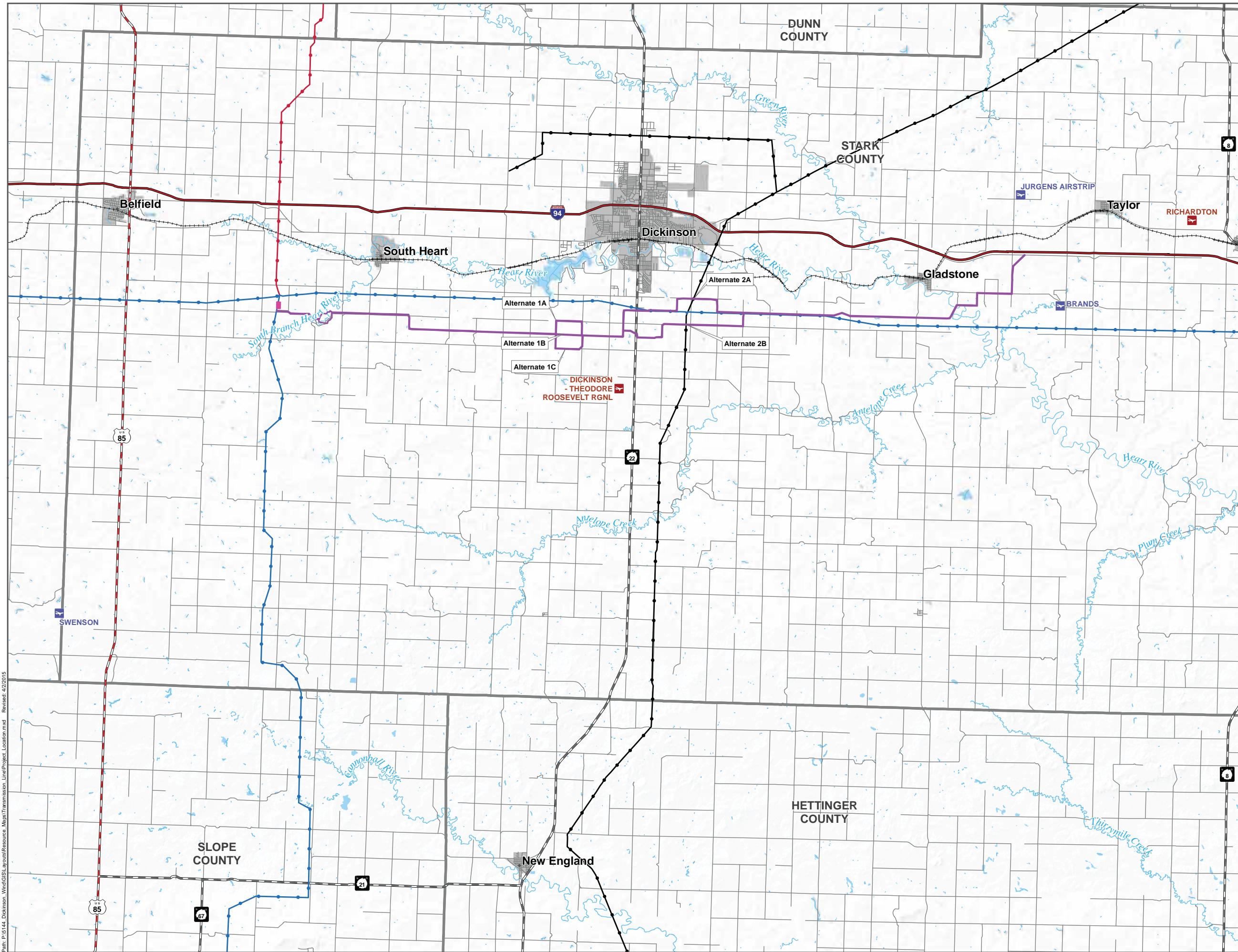


Dickinson Wind Transmission Line

Legend

- Project Corridor (03/30/15)
 - Proposed Switchyard (03/15/15)
- Existing Electrical Transmission**
- 115kV Transmission Line
 - 230kV Transmission Line
 - 345kV Transmission Line
- Transportation**
- Public Airport
 - Private Airport
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Rail
 - County Road
- Hydrology**
- Perennial Stream



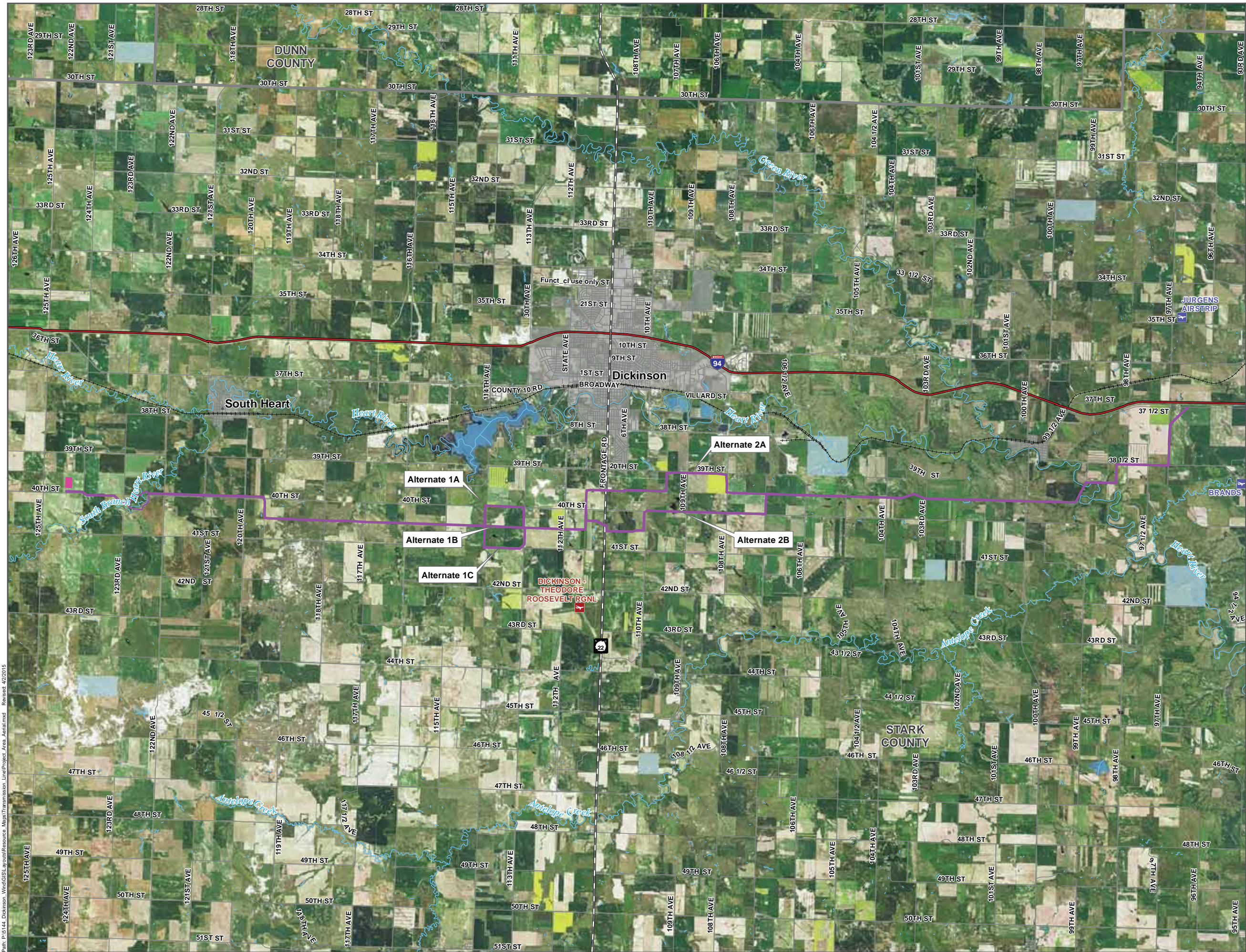
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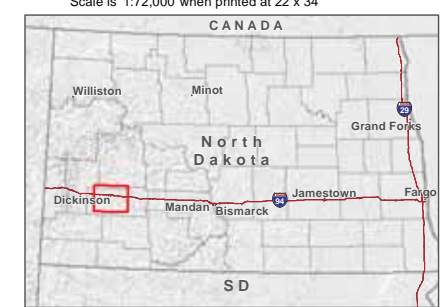
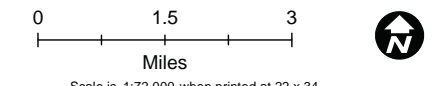
Figure 1: Project Location

Dickinson Wind Transmission Line



Legend

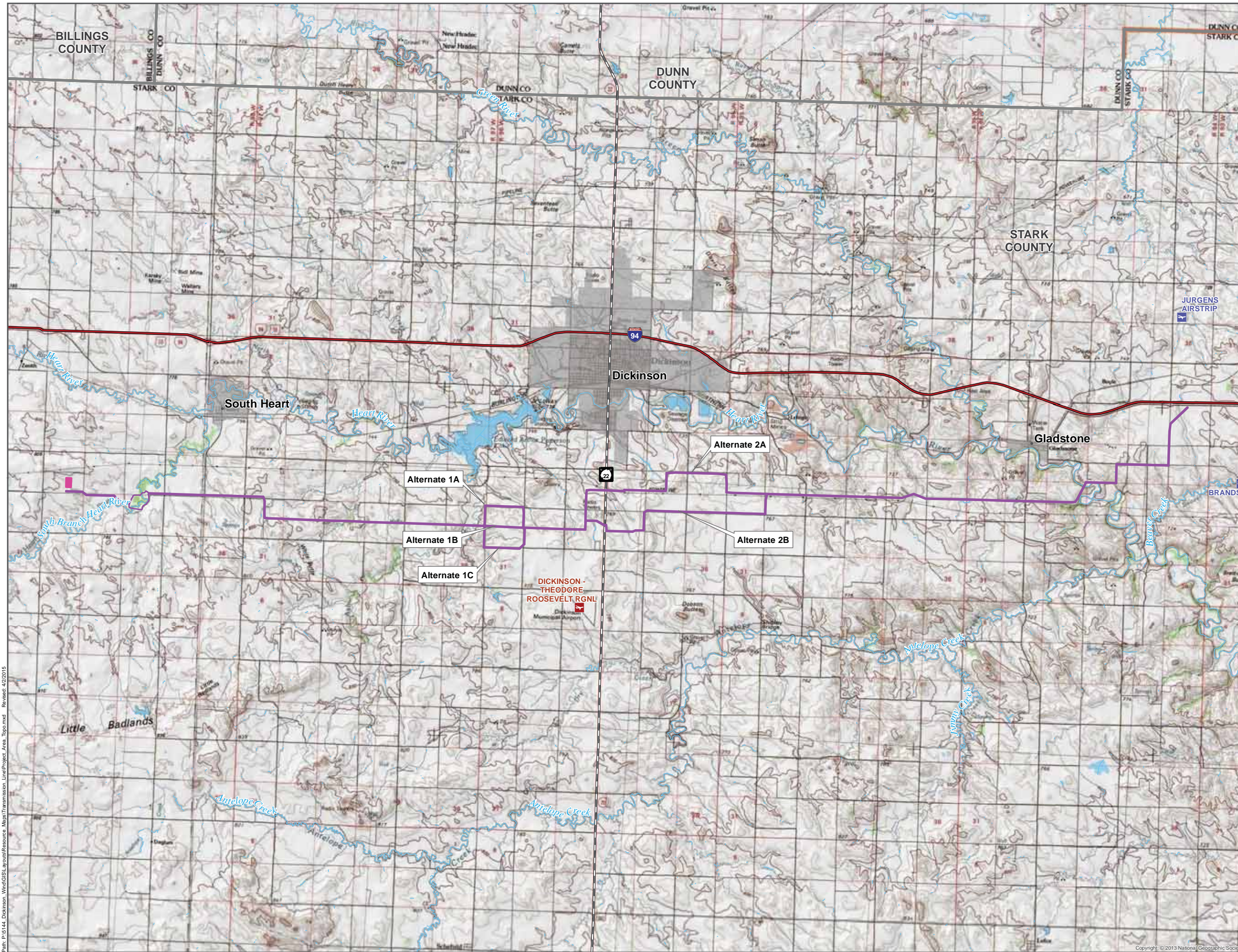
- Project Corridor (03/30/15)
 - Proposed Switchyard (03/15/15)
- ### Transportation
- ✈ Public Airport
 - ✈ Private Airport
 - Interstate Highway
 - State Highway
 - + + + + Rail
 - County Road
- ### Hydrology
- Perennial Stream
- ### Jurisdiction
- Slate Trustland



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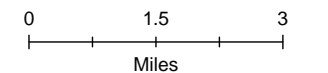
Figure 2: Project Area (Aerial)

Dickinson Wind Transmission Line

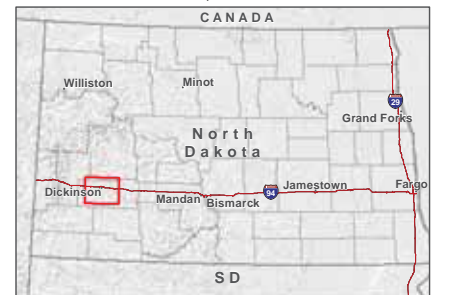


Legend

- Project Corridor (03/30/15)
 - Proposed Switchyard (03/15/15)
- Transportation**
- Public Airport
 - Private Airport
 - Interstate Highway
 - U.S. Highway
 - State Highway
 - Rail
 - County Road
- Hydrology**
- Perennial Stream



Scale is 1:72,000 when printed at 22 x 34



Path: P:\16144_Dickinson_Wind\GIS\Layouts\Resource_Maps\Transmission_Line\Project_Area_Top.mxd Revised: 4/22/2015

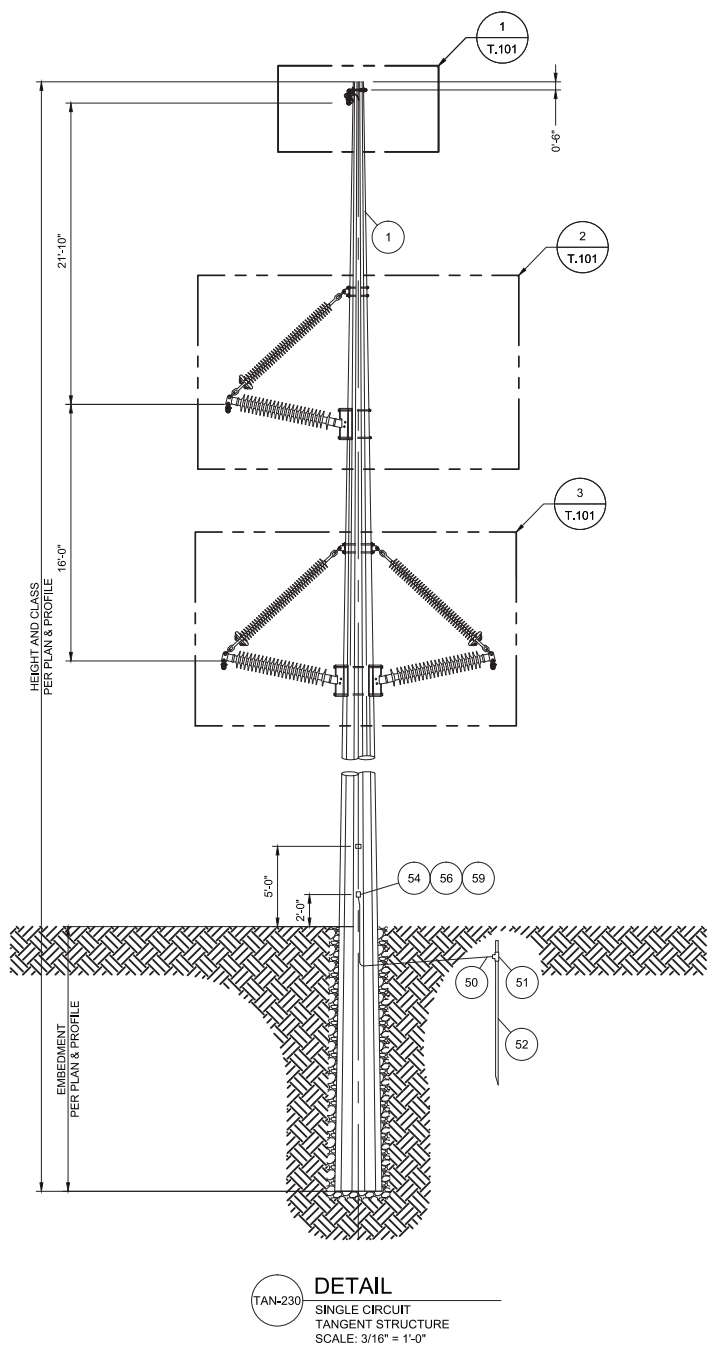
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Figure 3: Project Area (Topographical)

REVISIONS

REV	DESCRIPTION	DSN	CHK	DATE
		DWN	APP	
		BJA	SMA	
A	ISSUED FOR REVIEW	BJA	SMA	02/03/15

TANGENT BILL OF MATERIAL MATERIAL REQUIRED THIS SHEET						
Item	QTY	Units	Manufacturer	Part No.	Description	Provided by
1	1	EA	TRINITY MEYER		POLE: STEEL, WOOD EQUIVALENT, HEIGHT AND CLASS AS SHOWN ON PLAN AND PROFILE DRAWING	OWNER
2	AS REQ'D	FT			CONDUCTOR: 1272 kcmil "BITTERN", 1.345" DIAMETER, 34,100 LB ULTIMATE STRENGTH, 1.434 LB/FT	OWNER
3	AS REQ'D	FT	SFPOC	SFSJ-J-4388	OPGW: 48 FIBER, 0.530" DIAMETER, 18,800 LB ULTIMATE STRENGTH, 0.365 LB/FT	OWNER
5	1	EA	ELECTROTEK	S-STRAP	S-STRAP: SEE DRAWING XXX FOR DIMENSIONS, WITH REQUIRED TERMINALS	OWNER
10	3	EA	MACLEAN	B211089AL99N-60	INSULATOR: BRACED POST, 230 kV	OWNER
14	1	EA	PREFORMED	4300109YC	SUSPENSION CLAMP: FOR 0.512" TO 0.536" DIAMETER OPGW, SINGLE, FIBERLIGN, INCLUDES Y-CLEVIS	OWNER
15	3	EA	ANDERSON	CFS-213-N	SUSPENSION CLAMP: FOR "BITTERN", ALUMINUM,	OWNER
19	1	EA	HUGHES BROS	2855.5-10-BCL	BRACKET: SHIELD WIRE SUPPORT, 5/8" DIAMETER, 10" LENGTH, 5/8" LINK CHAIN, MAX VERTICAL LOAD 5 KIP	OWNER
20	1	EA	ANDERSON	YCS-05	Y CLEVIS EYE: 20 KIP ULTIMATE LOAD, 3/4" PIN DIAMETER, 11/16" DIAMETER AND 5/8" WIDTH EYE	OWNER
21	3	EA	ANDERSON	YCS-22-90	Y CLEVIS EYE: 30 KIP ULTIMATE LOAD, 3/4" PIN DIAMETER, 11/16" DIAMETER AND 2 1/4" WIDTH EYE	OWNER
25	3	EA	PREFORMED	AR-0146	ARMOR RODS: FOR 1272 kcmil, 45/7 Strand, "BITTERN"	OWNER
30	12	EA			BOLT: 7/8" DIAMETER, LENGTH NOT SPECIFIED	CONTRACTOR
32	12	EA	LOK-MOR	ANCO	LOCKNUT: FOR 7/8" BOLT	CONTRACTOR
35	4	EA	HUGHES BROS	SW3-80-3/8	WASHER: SQUARE, FLAT, 3" X 3" FOR 7/8" BOLT	CONTRACTOR
36	8	EA	HUGHES BROS	RW2-80	WASHER: ROUND FOR 7/8" BOLT, 2" OUTSIDE DIAMETER	CONTRACTOR
40	3	EA	HUGHES BROS	2817-S-15	DEADEND TEE: 60,000 LB ULTIMATE STRENGTH, 6" HOLE SPACING, 15/16" MOUNTING HOLE, 15/16" CHAMFERED STEM HOLE	CONTRACTOR
50	AS REQ'D	FT			CONDUCTOR: COPPER, #2 AWG, 0.292" DIAMETER, 7-STRAND	CONTRACTOR
51	AS REQ'D	EA			CLAMP: COMPRESSION, FOR #2 AWG TO 1/2" DIAMETER GROUND ROD	CONTRACTOR
52	AS REQ'D	EA	HUBBELL	C611300	GROUND ROD: 1/2" DIAMETER X 10' LENGTH, COPPER	CONTRACTOR
54	2	EA			TERMINAL: FOR #2 AWG TO 2 HOLE NEMA PAD	CONTRACTOR
56	4	EA			BOLT: 1/2" DIAMETER, 2" LONG	CONTRACTOR
59	4	EA			WASHER: LOCKWASHER FOR 1/2" BOLT	CONTRACTOR



1 DETAIL
 T.101 SHIELD WIRE ATTACHMENT
 SCALE: 3/4" = 1'-0"

2 DETAIL
 T.101 BRACED POST ATTACHMENT
 SCALE: 3/8" = 1'-0"

3 DETAIL
 T.101 BRACED POST ATTACHMENT
 SCALE: 3/8" = 1'-0"

NOTES

1. USE GROUNDING PROCEDURE FOR INSTALLATION OF GROUNDING RODS. SEE DRAWING T.XXX
2. REFERENCE PLAN AND PROFILE DRAWINGS FOR REQUIRED STRUCTURE EMBEDMENTS.

SCALE VERIFICATION

THIS BAR IS 1 INCH IN LENGTH ON ORIGINAL DRAWING

IF IT'S NOT 1 INCH ON THIS SHEET ADJUST YOUR SCALES ACCORDINGLY

ORIGINAL DRAWING SIZE IS 24 x 36
TANGENT STRUCTURE ASSEMBLY DRAWING

DICKINSON TRANSMISSION LINE
















ISSUED FOR REVIEW

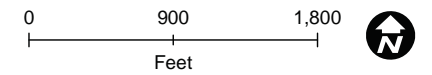
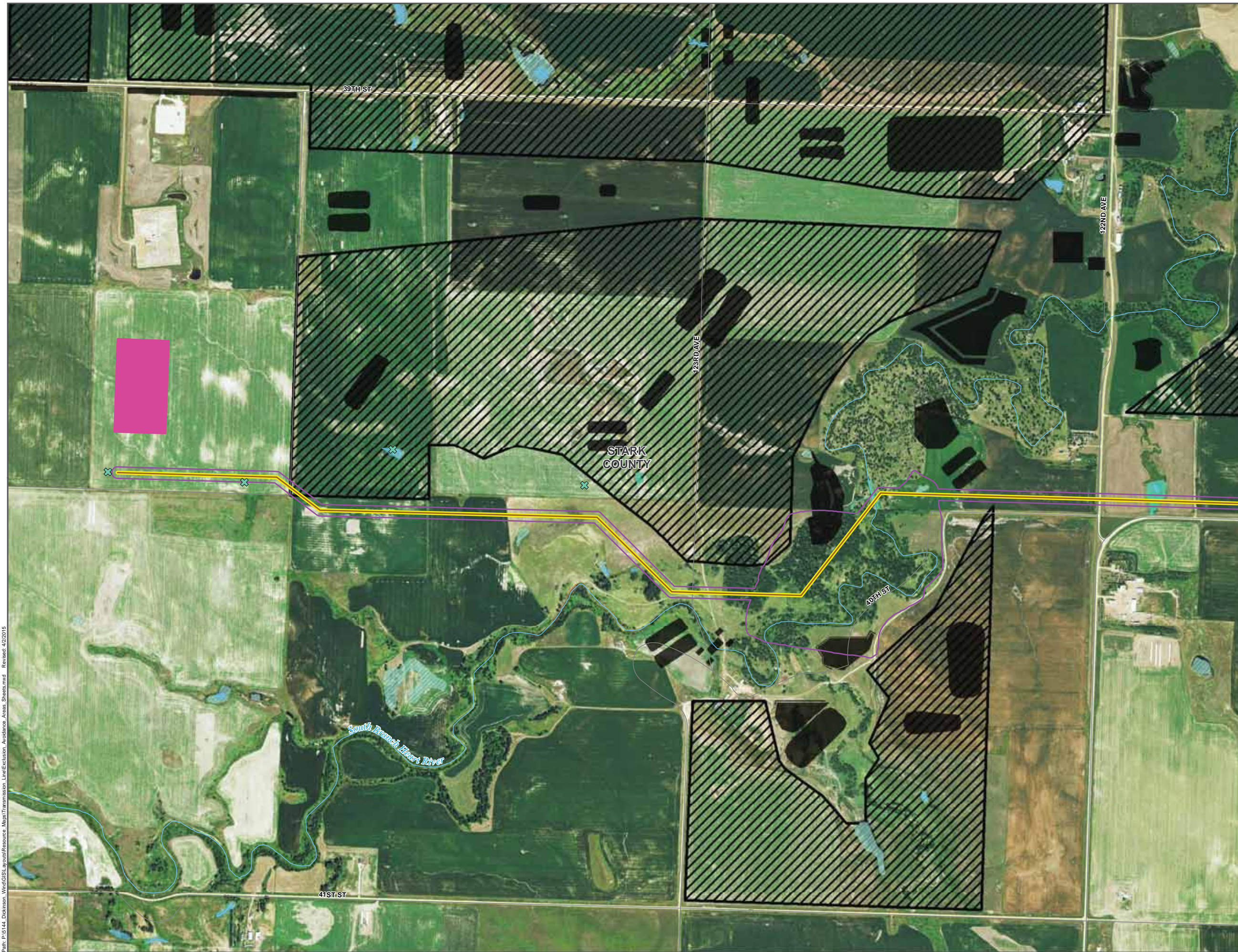
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ISSUE DATE	02/03/15	
CURRENT REVISION	A	
DESIGNED BY	B. AVERILL	
DRAWN BY	B. AVERILL	
CHECKED BY	S. ARNDT	
APPROVED BY	S. ARNDT	SHEET --- of ---

Figure 4: Transmission Line Typical Structure

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
-  State Highway
-  Rail
-  County Road
- Hydrology**
-  Perennial Stream
- Avoidance Areas**
-  Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
-  Field-verified wetlands and streams
-  Field-verified wetlands and streams
-  NWI Wetland
-  Coal Stockpile/Sediment Pond
-  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34
















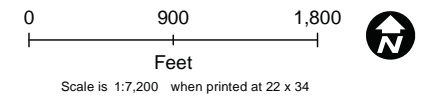
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Figure 6: Exclusion and Avoidance Areas - Sheet 1

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
-  State Highway
-  Rail
-  County Road
- Hydrology**
-  Perennial Stream
- Avoidance Areas**
-  Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
-  Field-verified wetlands and streams
-  Field-verified wetlands and streams
-  NWI Wetland
-  Coal Stockpile/Sediment Pond
-  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34
















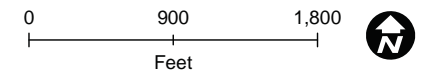
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Figure 6: Exclusion and Avoidance Areas - Sheet 2

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
 -  State Highway
 -  Rail
 -  County Road
- Hydrology**
 -  Perennial Stream
- Avoidance Areas**
 -  Occupied Residence - 500ft buffer
- Exclusion Areas**
Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
 -  Field-verified wetlands and streams
 -  Field-verified wetlands and streams
 -  NWI Wetland
 -  Coal Stockpile/Sediment Pond
 -  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34
















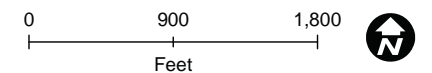
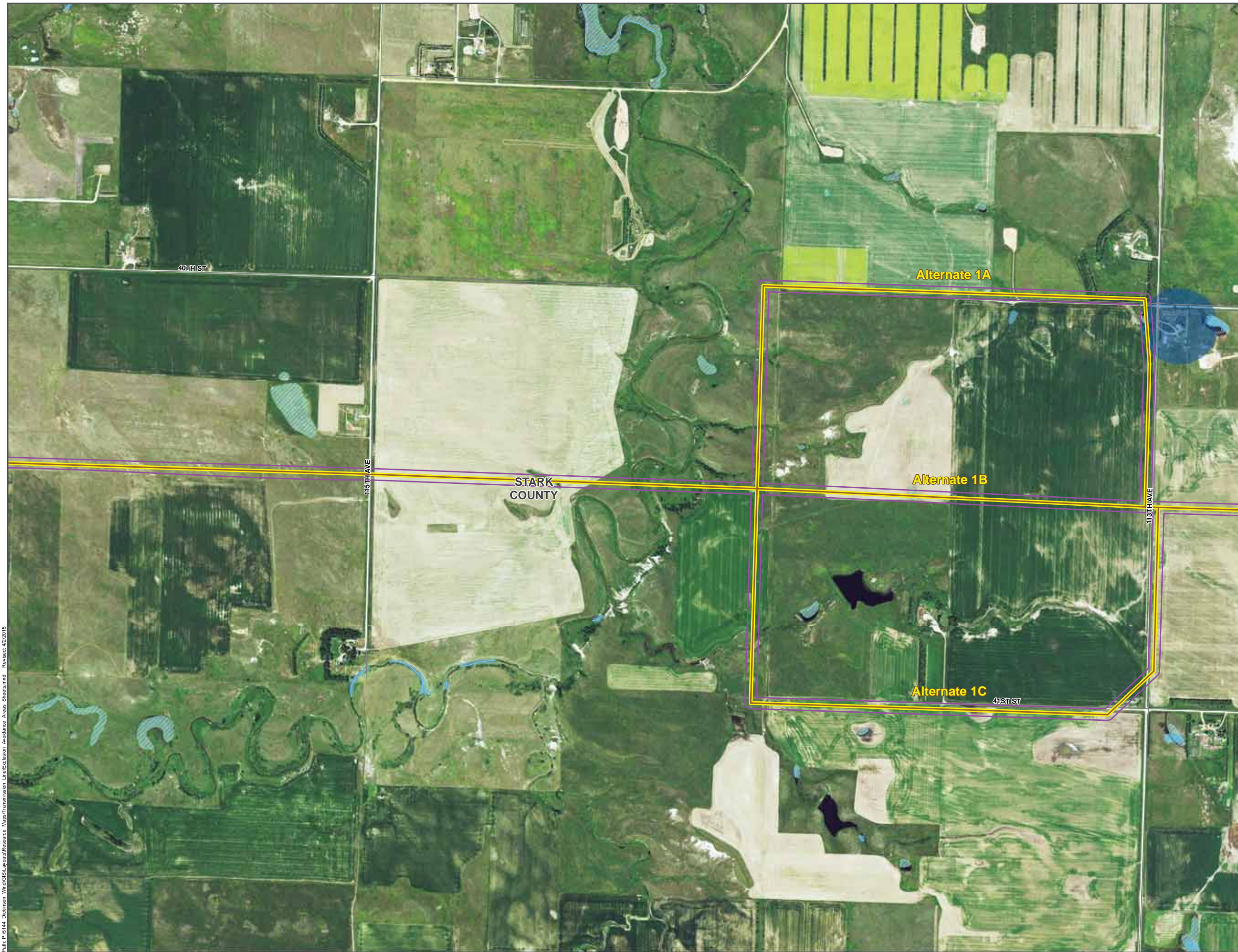
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Figure 6: Exclusion and Avoidance Areas - Sheet 3

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
-  State Highway
-  Rail
-  County Road
- Hydrology**
-  Perennial Stream
- Avoidance Areas**
-  Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
-  Field-verified wetlands and streams
-  Field-verified wetlands and streams
-  NWI Wetland
-  Coal Stockpile/Sediment Pond
-  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34



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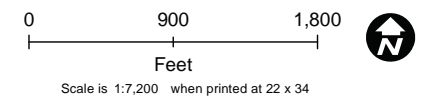
Figure 6: Exclusion and Avoidance Areas - Sheet 4

Dickinson Wind Transmission Line



Legend

- Proposed Transmission Line (04/01/15)
 - Project Corridor
 - Switchyard
- Transportation**
- State Highway
 - Rail
 - County Road
- Hydrology**
- Perennial Stream
- Avoidance Areas**
- Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
- Field-verified wetlands and streams
 - Field-verified wetlands and streams
 - NWI Wetland
 - Coal Stockpile/Sediment Pond
 - Coal Mine Pits
















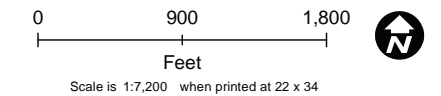
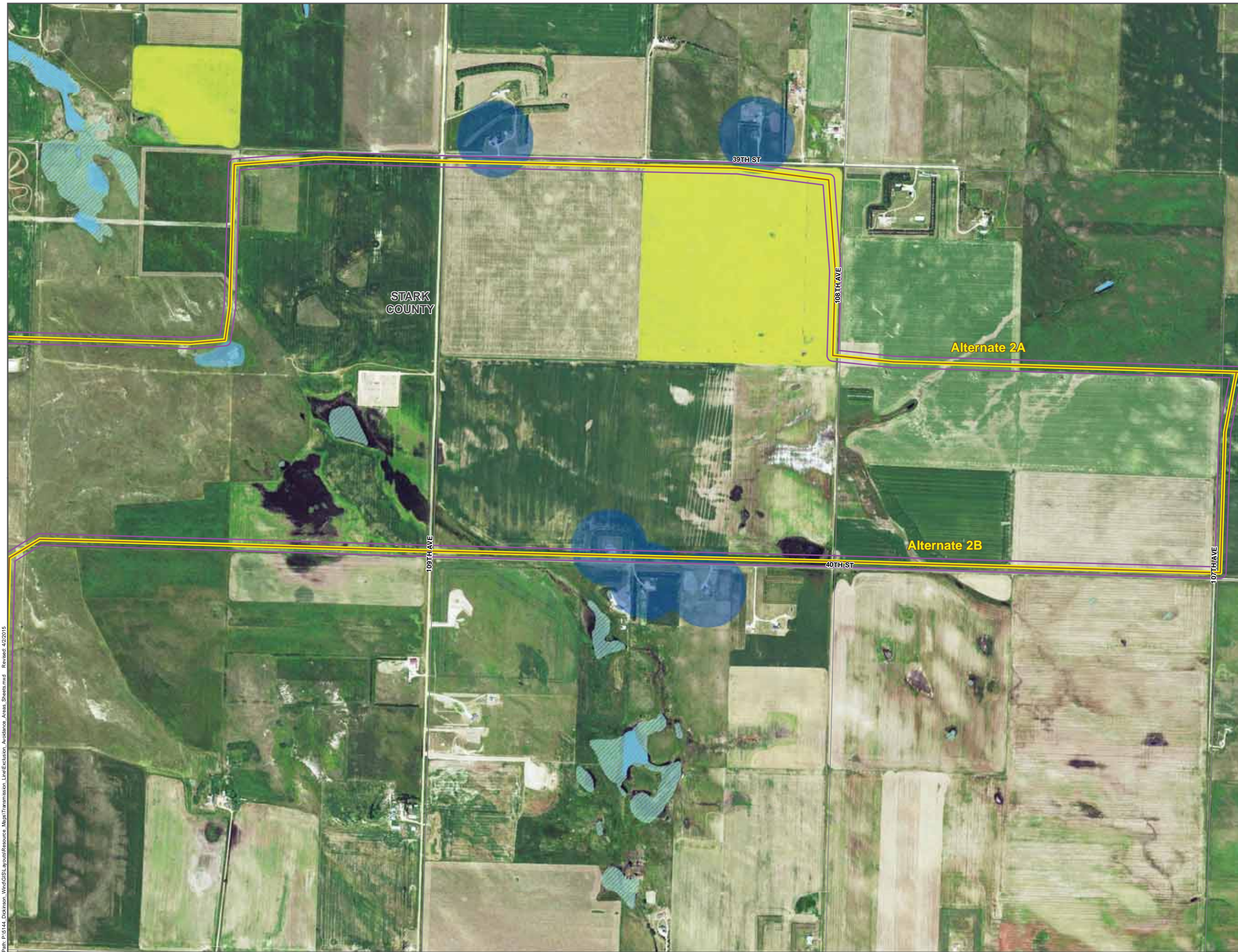
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Figure 6: Exclusion and Avoidance Areas - Sheet 5

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
 -  State Highway
 -  Rail
 -  County Road
- Hydrology**
 -  Perennial Stream
- Avoidance Areas**
 -  Occupied Residence - 500ft buffer
- Exclusion Areas**
Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
 -  Field-verified wetlands and streams
 -  Field-verified wetlands and streams
 -  NWI Wetland
 -  Coal Stockpile/Sediment Pond
 -  Coal Mine Pits
















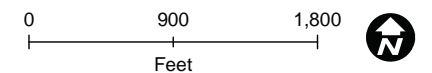
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Figure 6: Exclusion and Avoidance Areas - Sheet 6

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
-  State Highway
-  Rail
-  County Road
- Hydrology**
-  Perennial Stream
- Avoidance Areas**
-  Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
-  Field-verified wetlands and streams
-  Field-verified wetlands and streams
-  NWI Wetland
-  Coal Stockpile/Sediment Pond
-  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34
















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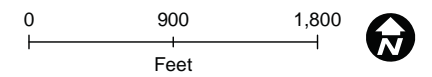
Figure 6: Exclusion and Avoidance Areas - Sheet 7

Dickinson Wind Transmission Line

Legend

-  Proposed Transmission Line (04/01/15)
-  Project Corridor
-  Switchyard
- Transportation**
 -  State Highway
 -  Rail
 -  County Road
- Hydrology**
 -  Perennial Stream
- Avoidance Areas**
 -  Occupied Residence - 500ft buffer
- Exclusion Areas**

Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
 -  Field-verified wetlands and streams
 -  Field-verified wetlands and streams
 -  NWI Wetland
 -  Coal Stockpile/Sediment Pond
 -  Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34



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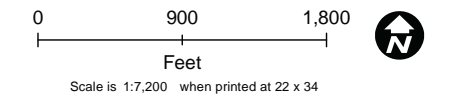
Figure 6: Exclusion and Avoidance Areas - Sheet 8

Dickinson Wind Transmission Line



Legend

- Proposed Transmission Line (04/01/15)
- Project Corridor
- Switchyard
- Transportation**
- State Highway
- Rail
- County Road
- Hydrology**
- Perennial Stream
- Avoidance Areas**
- Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
- Field-verified wetlands and streams
- Field-verified wetlands and streams
- NWI Wetland
- Coal Stockpile/Sediment Pond
- Coal Mine Pits



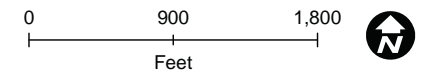
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Figure 6: Exclusion and Avoidance Areas - Sheet 9

Dickinson Wind Transmission Line

Legend

- Proposed Transmission Line (04/01/15)
 - Project Corridor
 - Switchyard
- Transportation**
- State Highway
 - Rail
 - County Road
- Hydrology**
- Perennial Stream
- Avoidance Areas**
- Occupied Residence - 500ft buffer
- Exclusion Areas**
- Archeological Sites *Not shown due to Confidentiality
- Selection Criteria**
- Field-verified wetlands and streams
 - Field-verified wetlands and streams
 - NWI Wetland
 - Coal Stockpile/Sediment Pond
 - Coal Mine Pits



Scale is 1:7,200 when printed at 22 x 34



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Figure 6: Exclusion and Avoidance Areas - Sheet 10