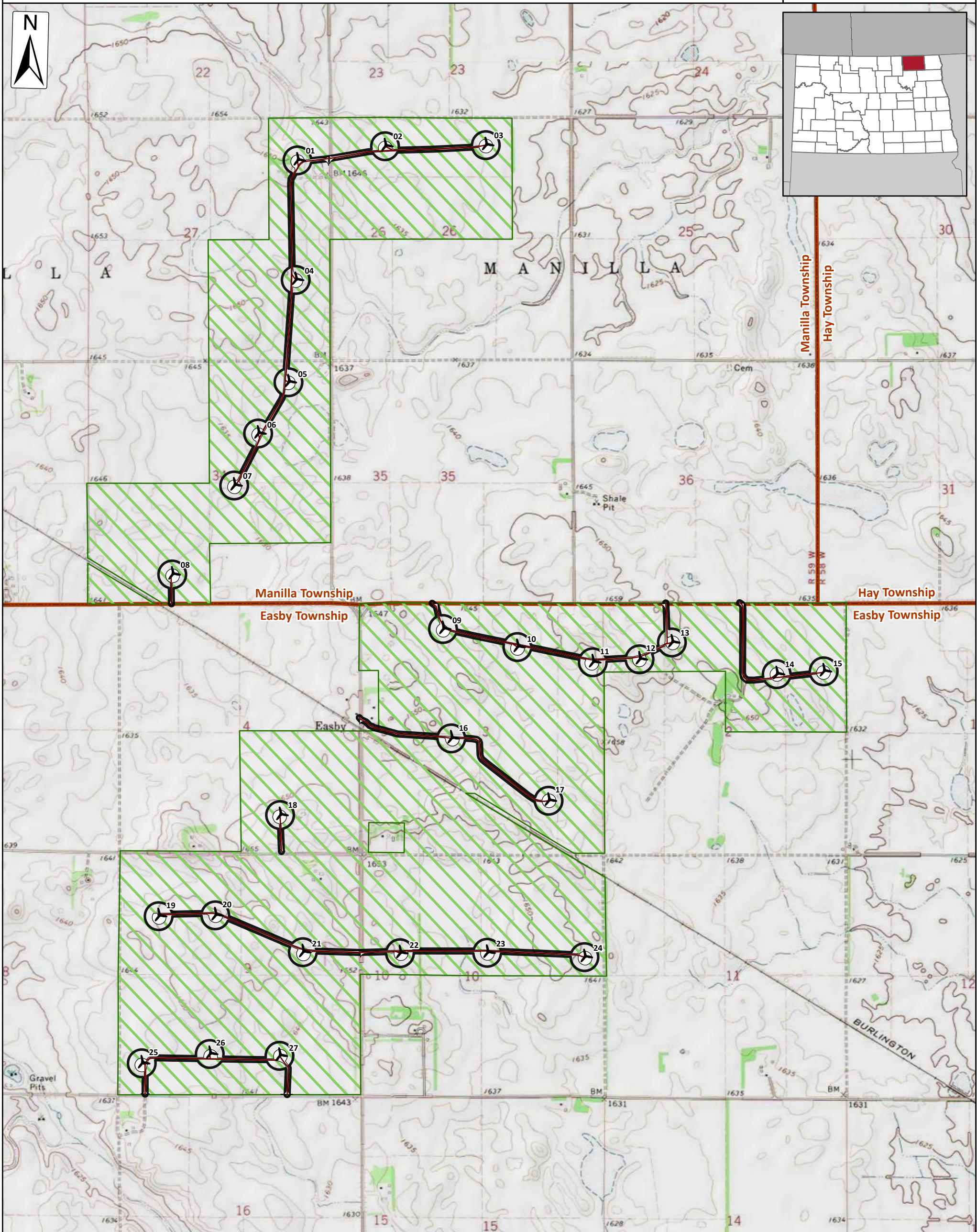


Langdon Wind Project

Issue Date:
3/1/2023

Figure 1 - Site Overview

Cavalier County, North Dakota



- Existing Turbine Locations
- Existing Access Roads
- Disturbance Area (~72 acres)
- Environmental Study Area

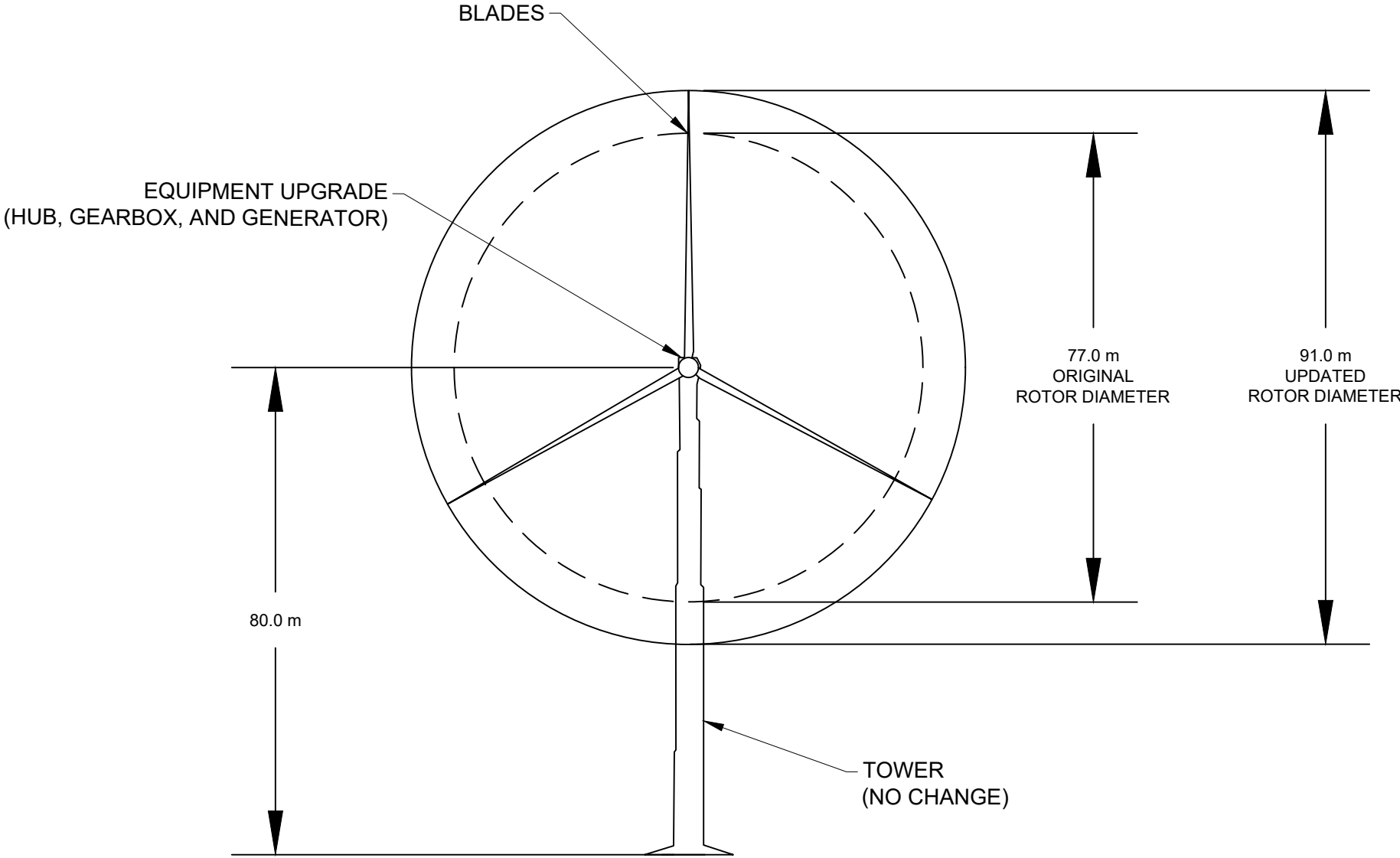
- Participating Parcels
- Township

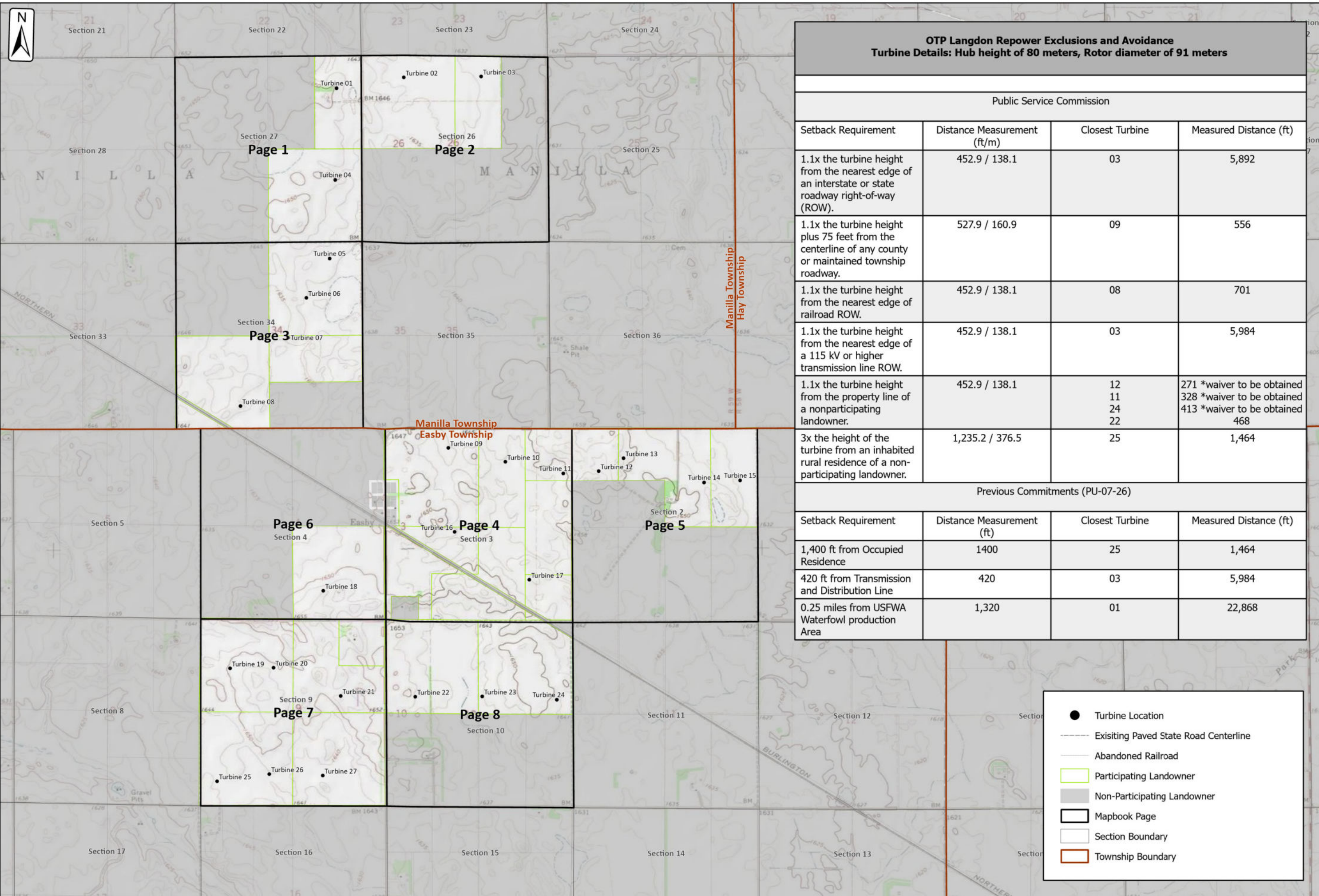
15 PU-23-86 Filed 04/18/2023 Pages: 12
Updated Figures 1-3
Otter Tail Power Company
Mollie Smith, Fredrikson & Byron, P.A.



0 0.5 1 Miles

PROPOSED TURBINE UPGRADE





OTP Langdon Repower Exclusions and Avoidance
Turbine Details: Hub height of 80 meters, Rotor diameter of 91 meters

Public Service Commission

Setback Requirement	Distance Measurement (ft/m)	Closest Turbine	Measured Distance (ft)
1.1x the turbine height from the nearest edge of an interstate or state roadway right-of-way (ROW).	452.9 / 138.1	03	5,892
1.1x the turbine height plus 75 feet from the centerline of any county or maintained township roadway.	527.9 / 160.9	09	556
1.1x the turbine height from the nearest edge of railroad ROW.	452.9 / 138.1	08	701
1.1x the turbine height from the nearest edge of a 115 kV or higher transmission line ROW.	452.9 / 138.1	03	5,984
1.1x the turbine height from the property line of a nonparticipating landowner.	452.9 / 138.1	12 11 24 22	271 *waiver to be obtained 328 *waiver to be obtained 413 *waiver to be obtained 468
3x the height of the turbine from an inhabited rural residence of a non-participating landowner.	1,235.2 / 376.5	25	1,464

Previous Commitments (PU-07-26)

Setback Requirement	Distance Measurement (ft)	Closest Turbine	Measured Distance (ft)
1,400 ft from Occupied Residence	1400	25	1,464
420 ft from Transmission and Distribution Line	420	03	5,984
0.25 miles from USFWA Waterfowl production Area	1,320	01	22,868

Legend

- Turbine Location
- Existing Paved State Road Centerline
- Abandoned Railroad
- ▭ Participating Landowner
- ▭ Non-Participating Landowner
- ▭ Mapbook Page
- ▭ Section Boundary
- ▭ Township Boundary

ATWELL
The information contained on this map is proprietary and confidential. The use or disclosure of this information by you to third parties is prohibited by law and may give rise to civil or criminal liability.

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance

SCALE: 0 500 1,000 Feet

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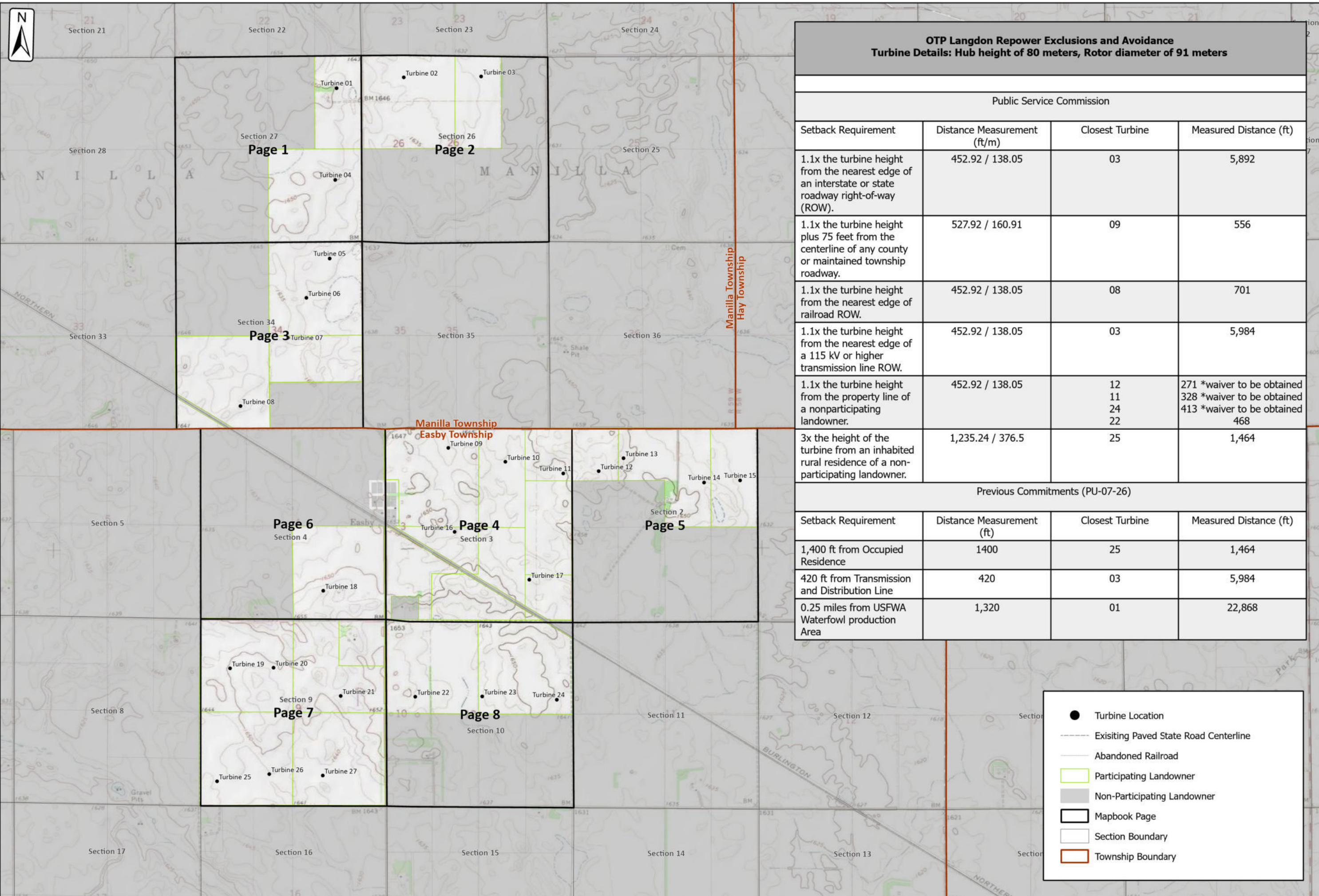
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DATE: 4/18/2023

FILE CODE: --

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2, 3, 4, 9, 10, 26, 27, 34
 T160N R59W, T161N R59W
 Manilla & Easby Township
 Cavalier County, ND



OTP Langdon Repower Exclusions and Avoidance
Turbine Details: Hub height of 80 meters, Rotor diameter of 91 meters

Public Service Commission

Setback Requirement	Distance Measurement (ft/m)	Closest Turbine	Measured Distance (ft)
1.1x the turbine height from the nearest edge of an interstate or state roadway right-of-way (ROW).	452.92 / 138.05	03	5,892
1.1x the turbine height plus 75 feet from the centerline of any county or maintained township roadway.	527.92 / 160.91	09	556
1.1x the turbine height from the nearest edge of railroad ROW.	452.92 / 138.05	08	701
1.1x the turbine height from the nearest edge of a 115 kV or higher transmission line ROW.	452.92 / 138.05	03	5,984
1.1x the turbine height from the property line of a nonparticipating landowner.	452.92 / 138.05	12 11 24 22	271 *waiver to be obtained 328 *waiver to be obtained 413 *waiver to be obtained 468
3x the height of the turbine from an inhabited rural residence of a non-participating landowner.	1,235.24 / 376.5	25	1,464

Previous Commitments (PU-07-26)

Setback Requirement	Distance Measurement (ft)	Closest Turbine	Measured Distance (ft)
1,400 ft from Occupied Residence	1400	25	1,464
420 ft from Transmission and Distribution Line	420	03	5,984
0.25 miles from USFWA Waterfowl production Area	1,320	01	22,868

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2, 3, 4, 9, 10, 26, 27, 34	T160N R59W, T161N R59W	Manilla & Easby Township	Cavalier County, ND
SECTIONS	TOWNSHIP	TOWNSHIPS	COUNTY, STATE

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance

SCALE: 0 500 1,000 Feet
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DATE: 4/17/2023
FILE CODE:
SHEET NO.:



RY GELLNER
23176000

JOAN M
IMHOFF
23177000

JOAN M
IMHOFF
23182000

JOAN M
IMHOFF
23183000

BRUCE RODER
23190000

BRUCE RODER
23189000

Section 21

Section 21

Section 22

Section 22

92nd St NE

Section 22

Section 23

Section 23

Section 28

Section 27

Section 26

LORI EVANS
23211000

STREMICK
B & B
23208000

JASON E
SPANIER
23206000

JASON E
SPANIER
23203000

BM 1646

- Turbine Location
- Occupied Residence
- Access Road
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- Existing Paved State Road Centerline
- - - Existing Paved County Road Centerline
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- Landowner Occupied Residence Setback (1,400 ft)
- Non-Participating Landowner Property Line Setback (1.1x Turbine Height)
- Section Boundary
- Participating Landowner
- Non-Participating Landowner

Section 28

Section 27

Section 27

Section 26

111th Ave NE Co Rd 33

JASON E
SPANIER
23209000

JASON E
SPANIER
23210000

MARVIN HECK
23204000

Section 33

Section 34

Section 27

Section 34

91st St NE

EDWIN PEARSON
23242000

Section 26

91st St NE

Section 35

LOUIS
MCGAUVRAN
23248000

05

04

01

02



2, 3, 4, 9, 10, 26, 27, 34	T160N R59W, T161N R59W	Manilla & Easby Township	Cavelier County, ND
SECTIONS	TOWNSHIP	TOWNSHIPS	COUNTY, STATE

CLIENT: Otter Tail Power Company

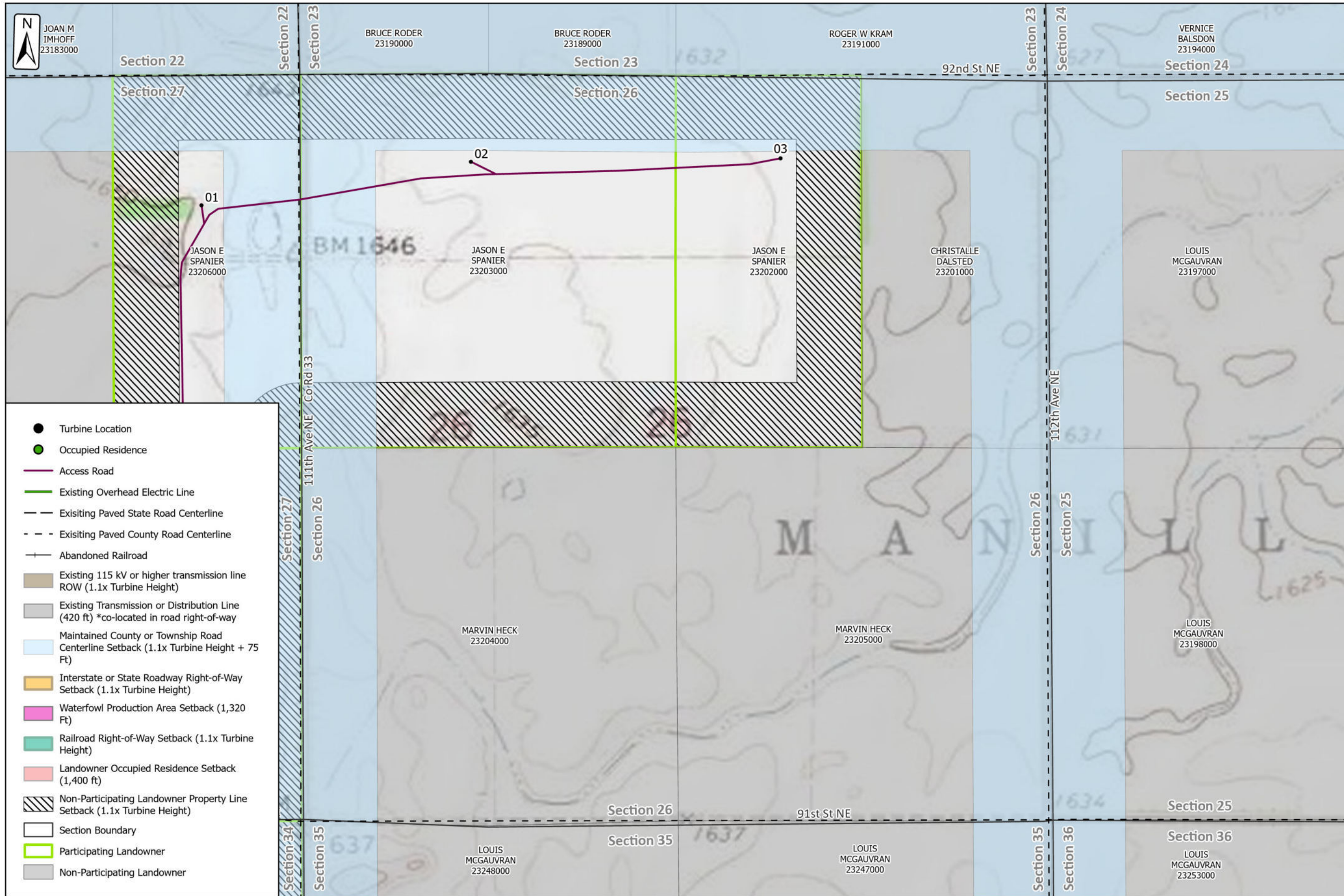
OTP Langdon Wind Repower Exclusions and Avoidance



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DATE: 3/1/2023
FILE CODE: --
SHEET NO: 1 of 8



JOAN M
IMHOFF
23183000



- Turbine Location
- Occupied Residence
- Access Road
- Existing Overhead Electric Line
- Existing Paved State Road Centerline
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- Section Boundary
- Participating Landowner
- Non-Participating Landowner



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SECTIONS	2, 3, 4, 9, 10, 26, 27, 34
TOWNSHIP	T160N R59W, T161N R59W
TOWNSHIPS	Manilla & Easy Township
COUNTY, STATE	Cavalier County, ND

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance



SCALE:	0 130 260 Feet
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LORI EVANS
23214000

JASON E
SPANIER
23209000

JASON E
SPANIER
23210000

MARVIN HECK
23204000

JAMES SPANIER
23237000

JAMES SPANIER
23243000

EDWIN PEARSON
23242000

LOUIS
MCGAUVRAN
23248000

MICHAEL ROSE
23245000

FAMILY
TRUST MOOS
23244000

MARY JANE
FOLEY
23250000

LOUIS
MCGAUVRAN
23249000

MARY JANE
FOLEY
23246000

FAMILY
TRUST MOOS
23244000

GEORGE RODER
08019000

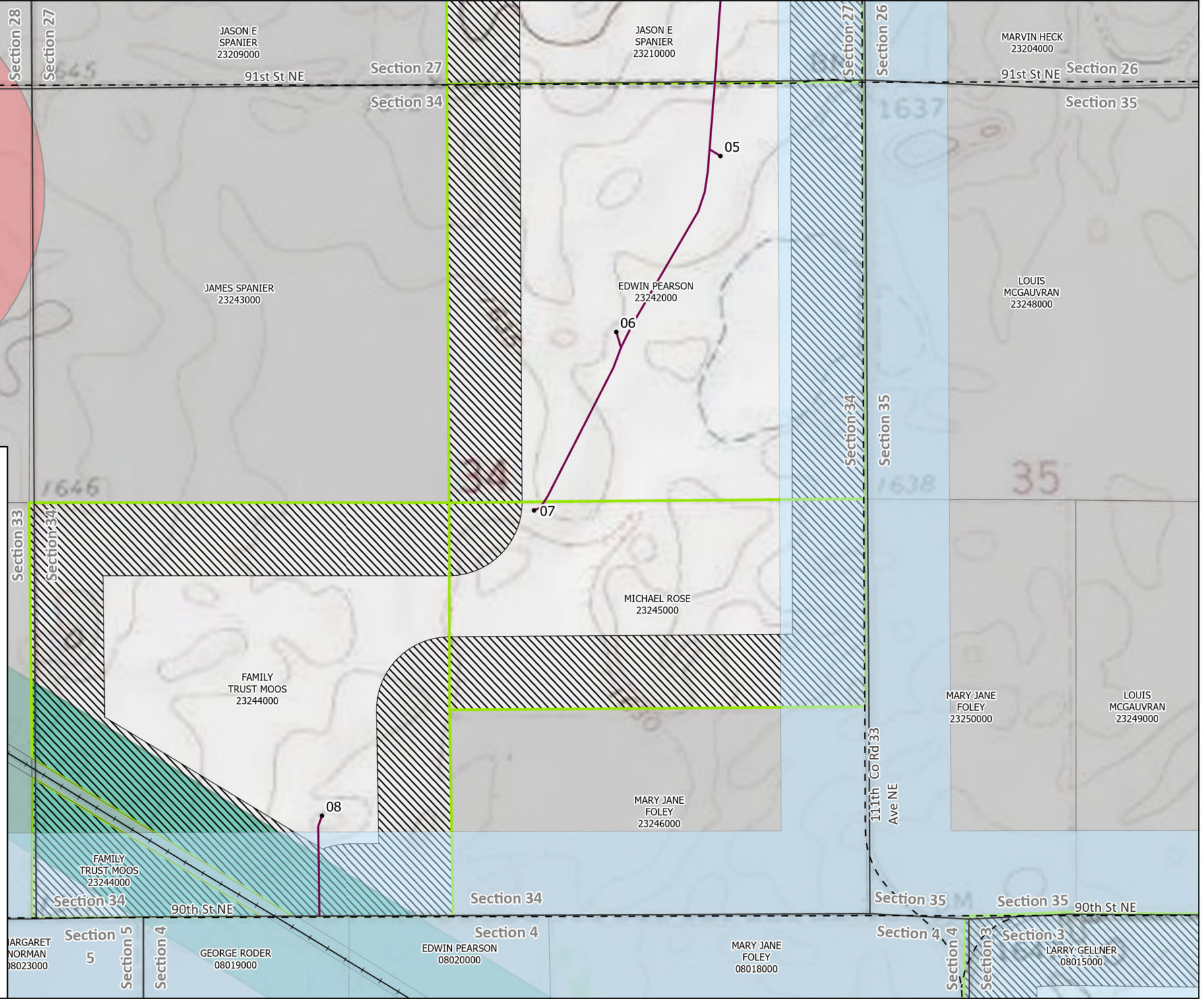
EDWIN PEARSON
08020000

MARY JANE
FOLEY
08018000

LARRY GELLNER
08015000

MARGARET
NORMAN
08023000

- Turbine Location
- Occupied Residence
- Access Road
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- - - Existing Paved County Road Centerline
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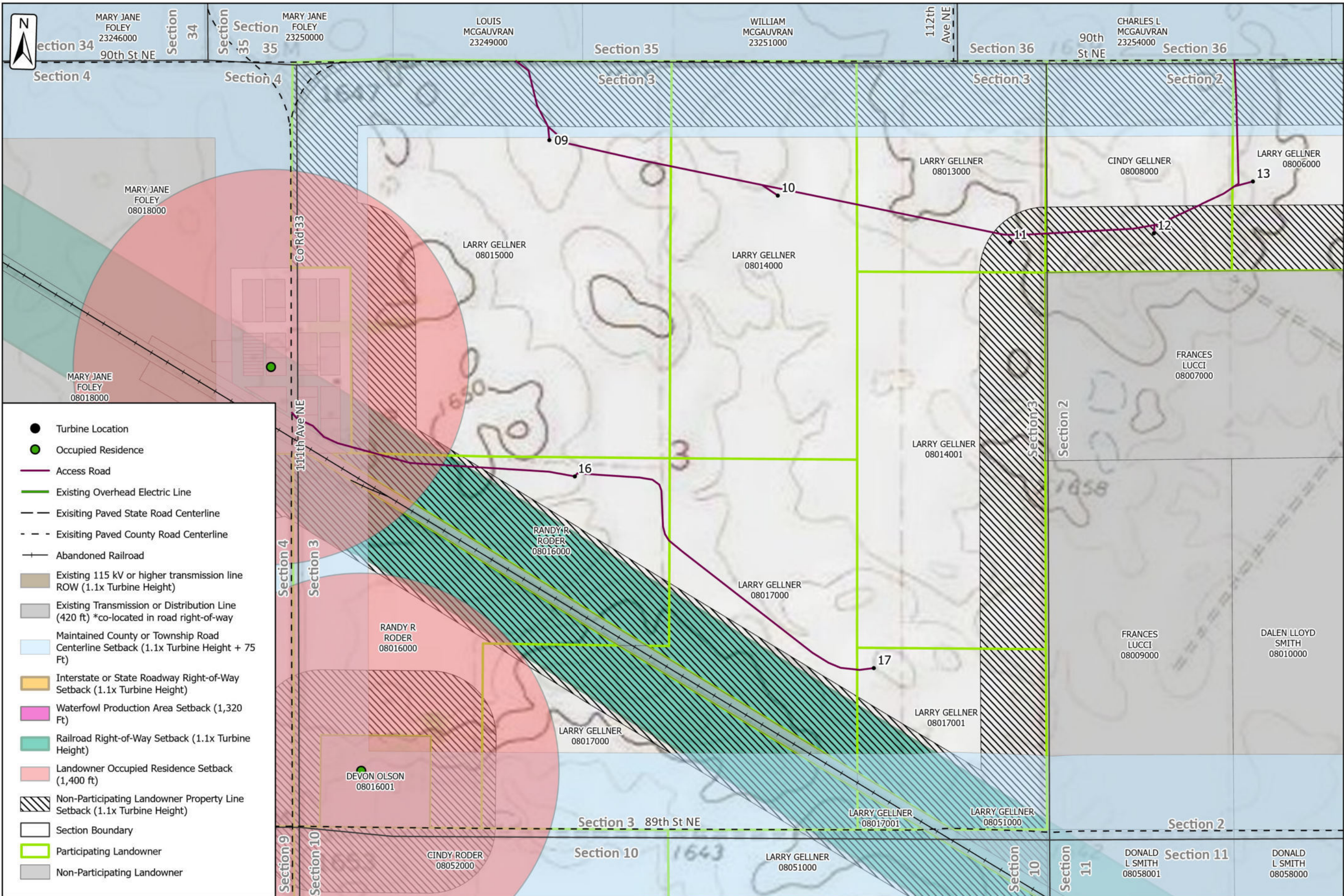
SECTIONS	2, 3, 4, 9, 10, 26, 27, 34
TOWNSHIP	T160N R59W, T161N R59W
TOWNSHIPS	Manilla & Easby Township
COUNTY, STATE	Cavalier County, ND

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance



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- Turbine Location
- Occupied Residence
- Access Road
- Existing Overhead Electric Line
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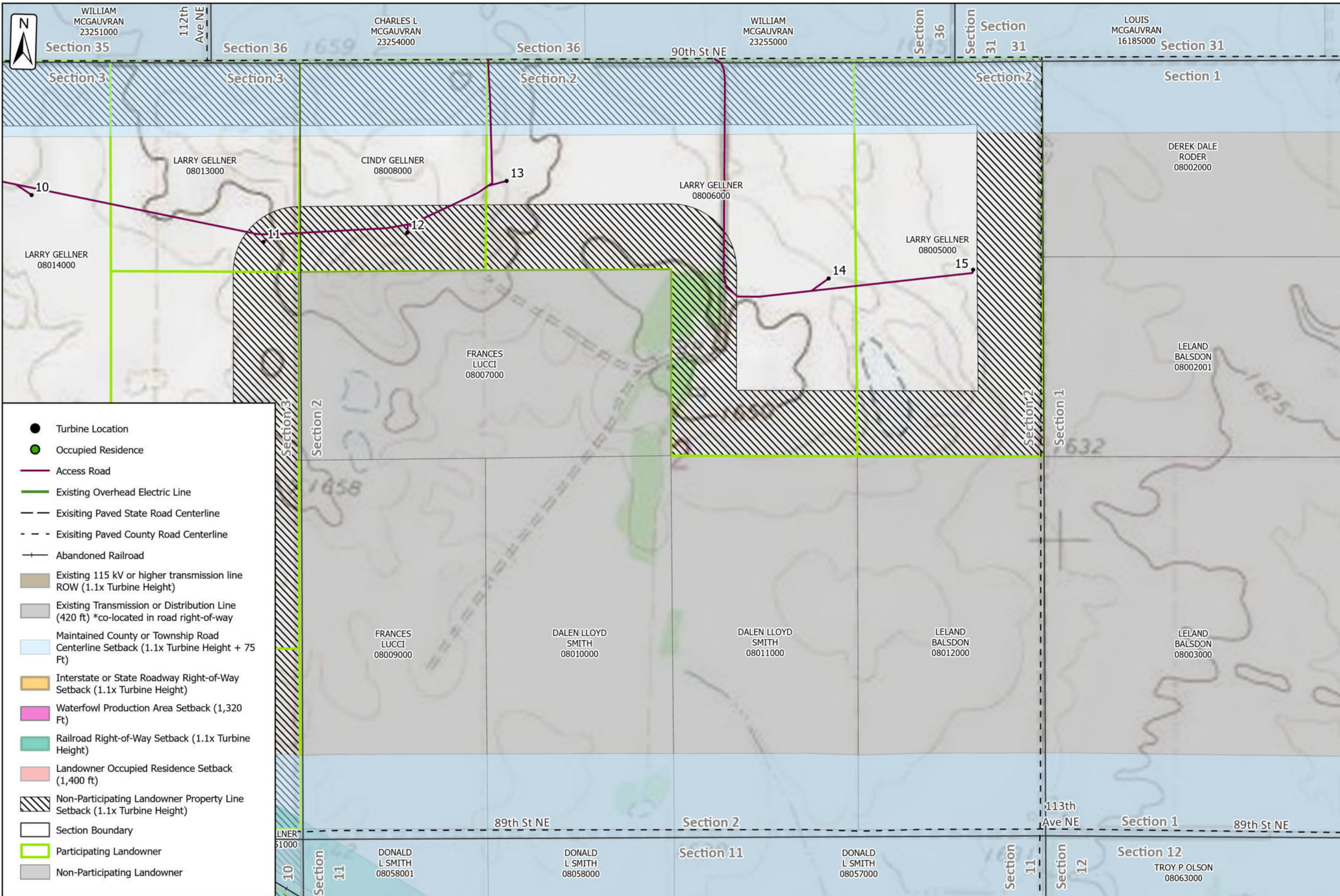
2, 3, 4, 9, 10, 26, 27, 34	T160N R59W, T161N R59W	Manilla & Easy Township	Cavalier County, ND
SECTIONS	TOWNSHIP	TOWNSHIPS	COUNTY, STATE

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance



SCALE: 0 130 260 Feet
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DATE: 3/1/2023
FILE CODE: - -
SHEET NO: 4 of 8



- Turbine Location
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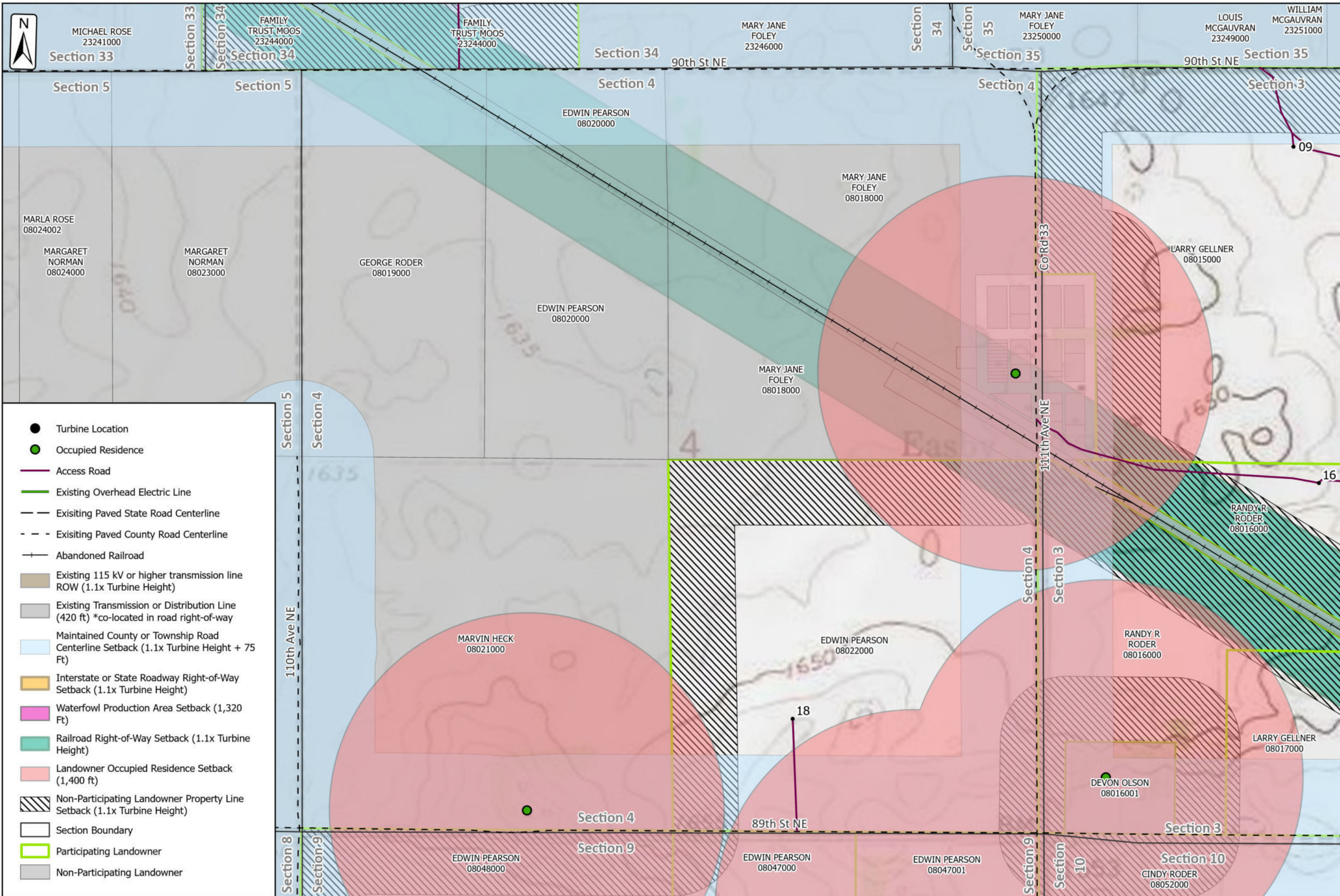
SECTIONS	2, 3, 4, 9, 10, 26, 27, 34
TOWNSHIP	T160N R59W, T161N R59W
TOWNSHIPS	Manilla & Easy Township
COUNTY, STATE	Cavalier County, ND

OTP Langdon Wind Repower
Exclusions and Avoidance



SCALE:	0 130 260
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SHEET NO:	5 of 8

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- Turbine Location
- Occupied Residence
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2, 3, 4, 9, 10, 26, 27, 34	T160N R59W, T161N R59W	Manilla & Easby Township	Cavalier County, ND
SECTIONS	TOWNSHIP	TOWNSHIPS	COUNTY, STATE

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance

SCALE: 0 130 260 Feet
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GIS FILE: --
DATE: 3/1/2023
FILE CODE: --
SHEET NO: 6 of 8



RNON CLARK
08028000

KENNETH ANDERSON
08029000

Section 5

110th Ave NE

MARVIN HECK
08021000

Section 4

EDWIN PEARSON
08022000

89th St NE

DEVON OLSON
08016001

RANDY R RODER
08016000

LARRY GELLNER
08017000

Section 4

Section 3

Section 3

Section 8

89th St NE

Section 9

Section 10

KENNETH ANDERSON
08042000

EDWIN PEARSON
08048000

EDWIN PEARSON
08047001

CINDY RODER
08052000

19 20

EDWIN PEARSON
08047000

21

22

- Turbine Location
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- Non-Participating Landowner

Section 8

Section 9

Section 9

Section 10

111th Ave NE

MARK RATZLAFF
08049000

BRUCE RODER
08050000

BRUCE RODER
08053000

25

26

27

88th St NE

Section 9

MINNKOTA POWER COOPERATIVE
08054000

Section 10

ROBERT LOWERY
08092000

TROY P OLSON
08091000

Section 16

BRUCE RODER
08090000

BM 1643

Section 16

Section 15

RANDY R RODER
08085000

Section 15

BRUCE RODER
08080000



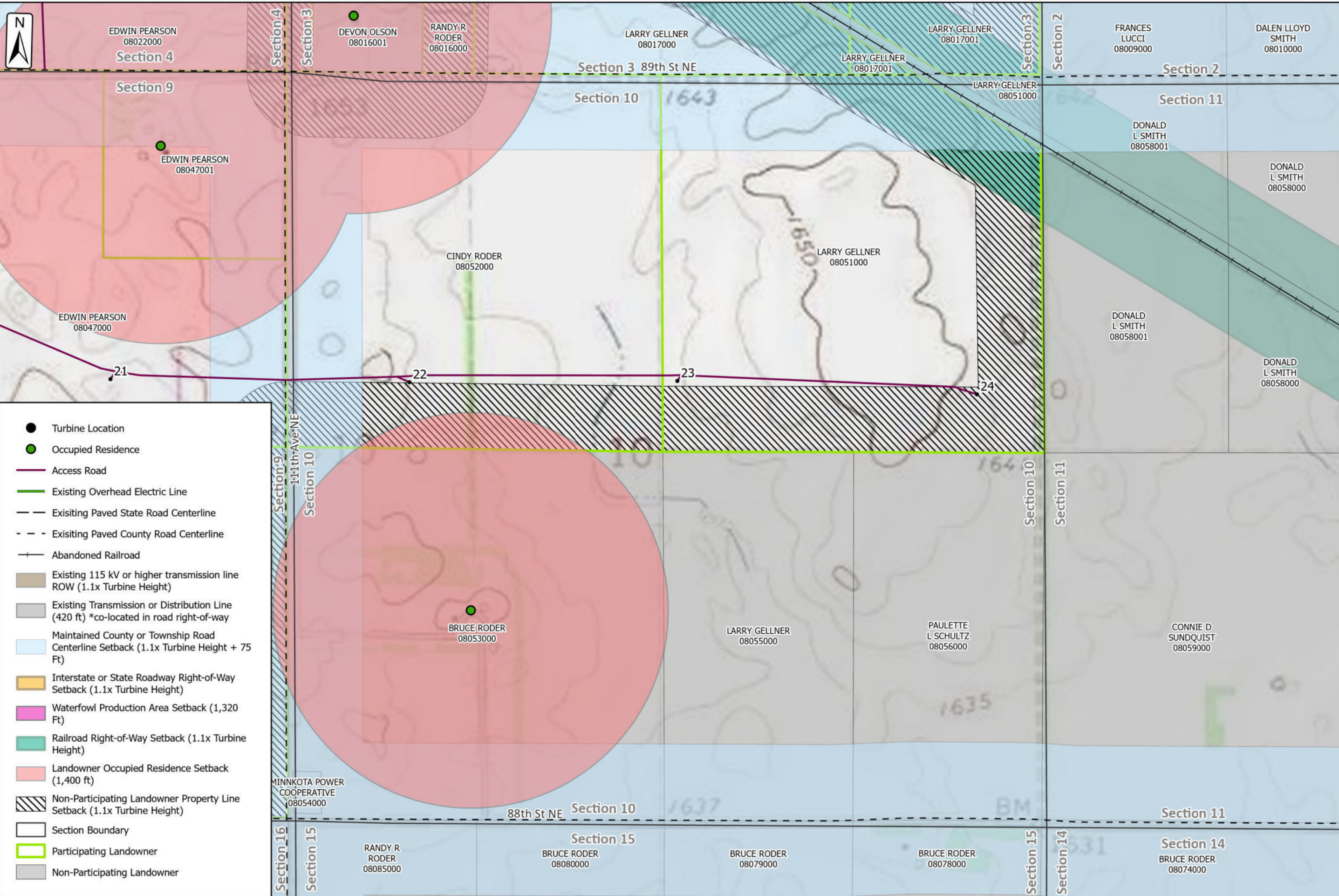
2, 3, 4, 9, 10, 26, 27, 34	T160N R59W, T161N R59W	Manilla & Easy Township	Cavelier County, ND
SECTIONS	TOWNSHIP	TOWNSHIPS	COUNTY, STATE

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower Exclusions and Avoidance



SCALE: 0 130 260 Feet
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GIS FILE: --
DATE: 3/1/2023
FILE CODE: --
SHEET NO: 7 of 8



- Turbine Location
- Occupied Residence
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TOWNSHIPS	Manilla & Easby Township				

CLIENT: Otter Tail Power Company

OTP Langdon Wind Repower

Exclusions and Avoidance

SCALE: 0 130 260 Feet

DR. -- CH. --

P.M. --

BOOK --

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DATE: 3/1/2023

FILE CODE --

SHEET NO: 8 of 8