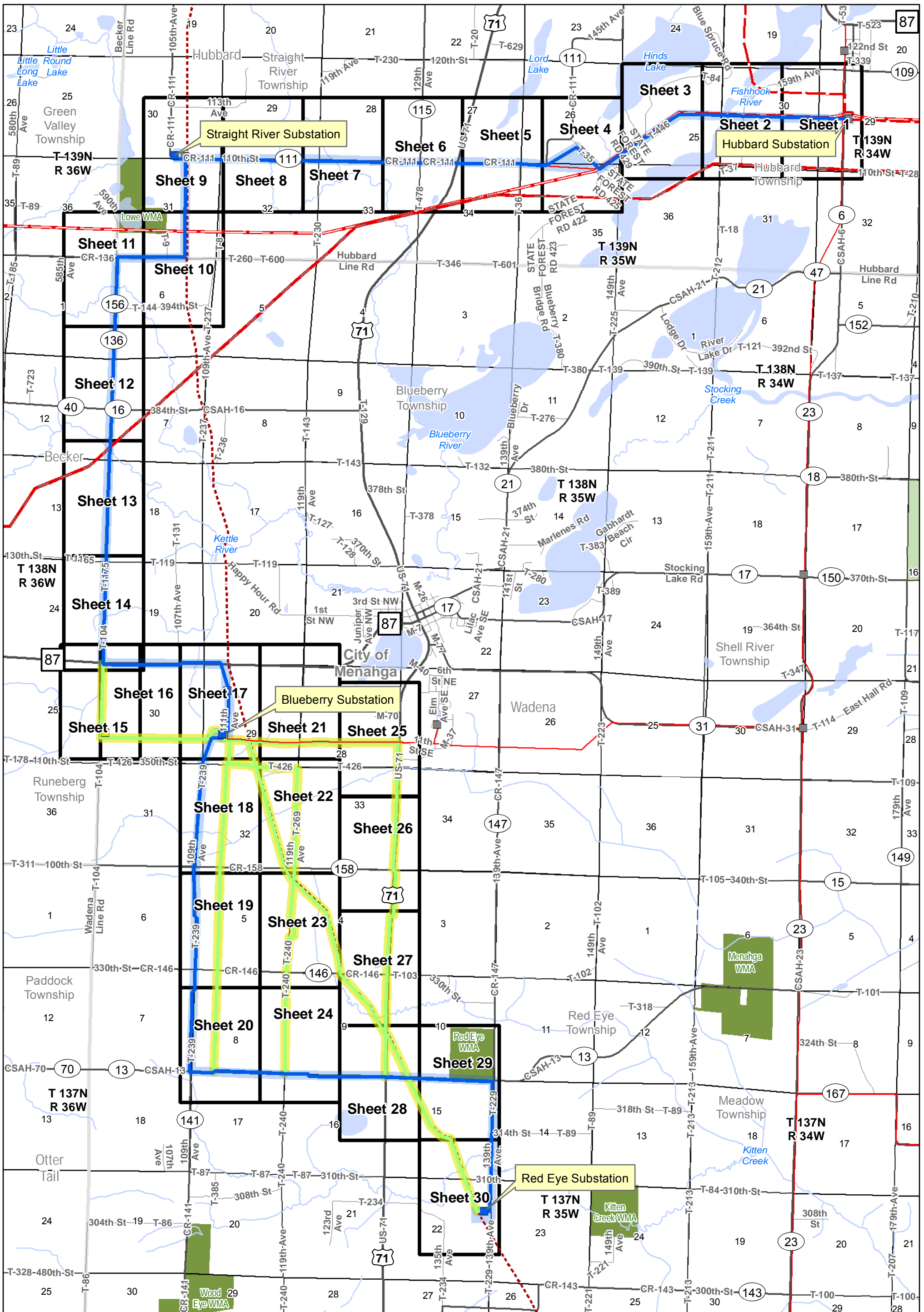
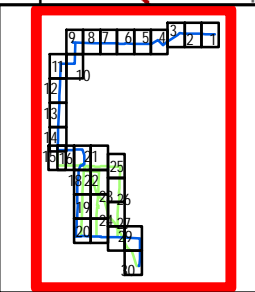


Appendix D. Route Maps



- Applicant**
- Proposed Alignment
 - Proposed Route (500' width)
 - Proposed Easement Area (100' width)
- Alternatives**
- Alternative Alignment – Single Circuit 115 kV
 - Alternative Route (500' width)
 - Alternative Easement Area (100' width)
 - Alternative Substation

- Existing**
- 34.5 kV Transmission Line
 - 115 kV Transmission Line
 - 230 kV Transmission Line
 - 250 kV Transmission Line
 - Oil pipeline
 - Substation



Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy from ESRI Web service
 Map Projection: UTM NAD 83 Zone 15

Appendix D - Route Maps

Map Sheet Key

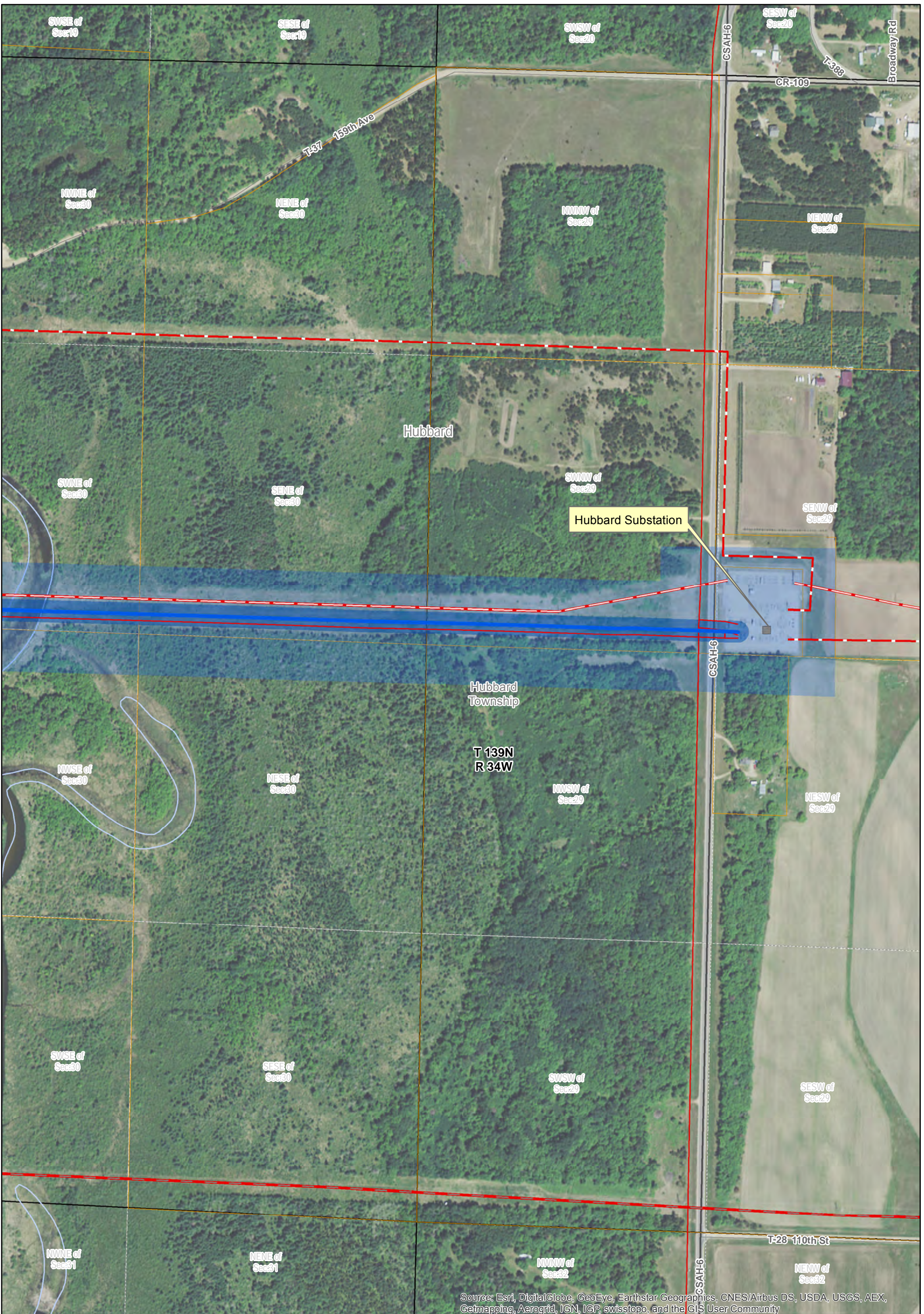
Menahga Area 115 kV Project

N

0 2,500

Feet

Updated: 7/22/2015



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicant	Existing	Residence
Proposed Alignment	34.5 kV Transmission Line	Residence 50-100'
Proposed Route (500' width)	115 kV Transmission Line	Residence 100-150'
Proposed Easement Area (100' width)	230 kV Transmission Line	Residence 150-200'
Proposed Substation	250 kV Transmission Line	Residence 200-250'
Alternative Alignment – Single Circuit 115 kV	Oil pipeline	Non-Residential Building 0-250'
Alternative Easement Area (100' width)	Gas pipeline	Cemeteries
Alternative Substation	Substation	GravelPits
	Substation Fence	

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
Map Projection: UTM NAD 83 Zone 15

Map Sheet 1 of 30

Route Maps

Menahga Area 115 kV Project

0 225 Feet

Updated: 7/29/2015



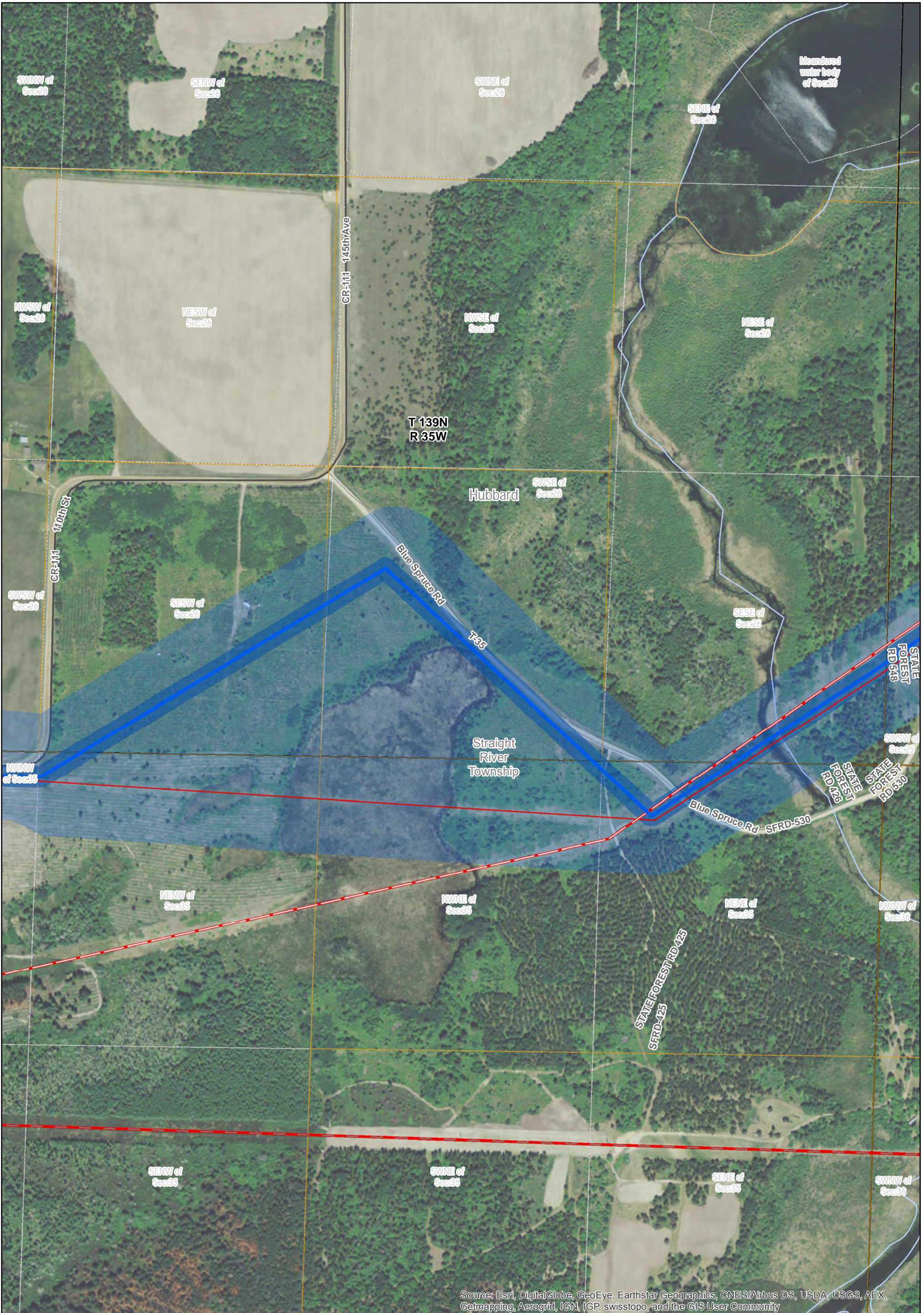
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p style="text-align: right;">Map Sheet 2 of 30</p> <p style="text-align: center;">Route Maps</p> <p style="text-align: center;">Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p style="text-align: right;"> Updated: 7/29/2015 </p>
--	--	--	--	---



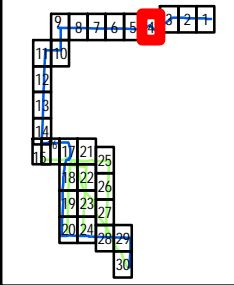
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p>Map Sheet 3 of 30</p> <p>Route Maps</p> <p>Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service</p> <p>Map Projection: UTM NAD 83 Zone 15</p> <p>0 225 Feet</p> <p>Updated: 7/29/2015</p>
--	--	--	--	--



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicant	Existing	Residence
Proposed Alignment	34.5 kV Transmission Line	Residence 50-100'
Proposed Route (500' width)	115 kV Transmission Line	Residence 100-150'
Proposed Easement Area (100' width)	230 kV Transmission Line	Residence 150-200'
Proposed Substation	250 kV Transmission Line	Residence 200-250'
Alternatives	Oil pipeline	Non-Residential Building
Alternative Alignment – Single Circuit 115 kV	Gas pipeline	Non-Residential Building 0-250'
Alternative Easement Area (100' width)	Substation	Cemeteries
Alternative Substation	Substation Fence	Gravel Pits



Map Sheet 4 of 30

Route Maps

Menahga Area 115 kV Project

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
 Map Projection: UTM NAD 83 Zone 15

N

0 225 Feet

Updated: 7/29/2015



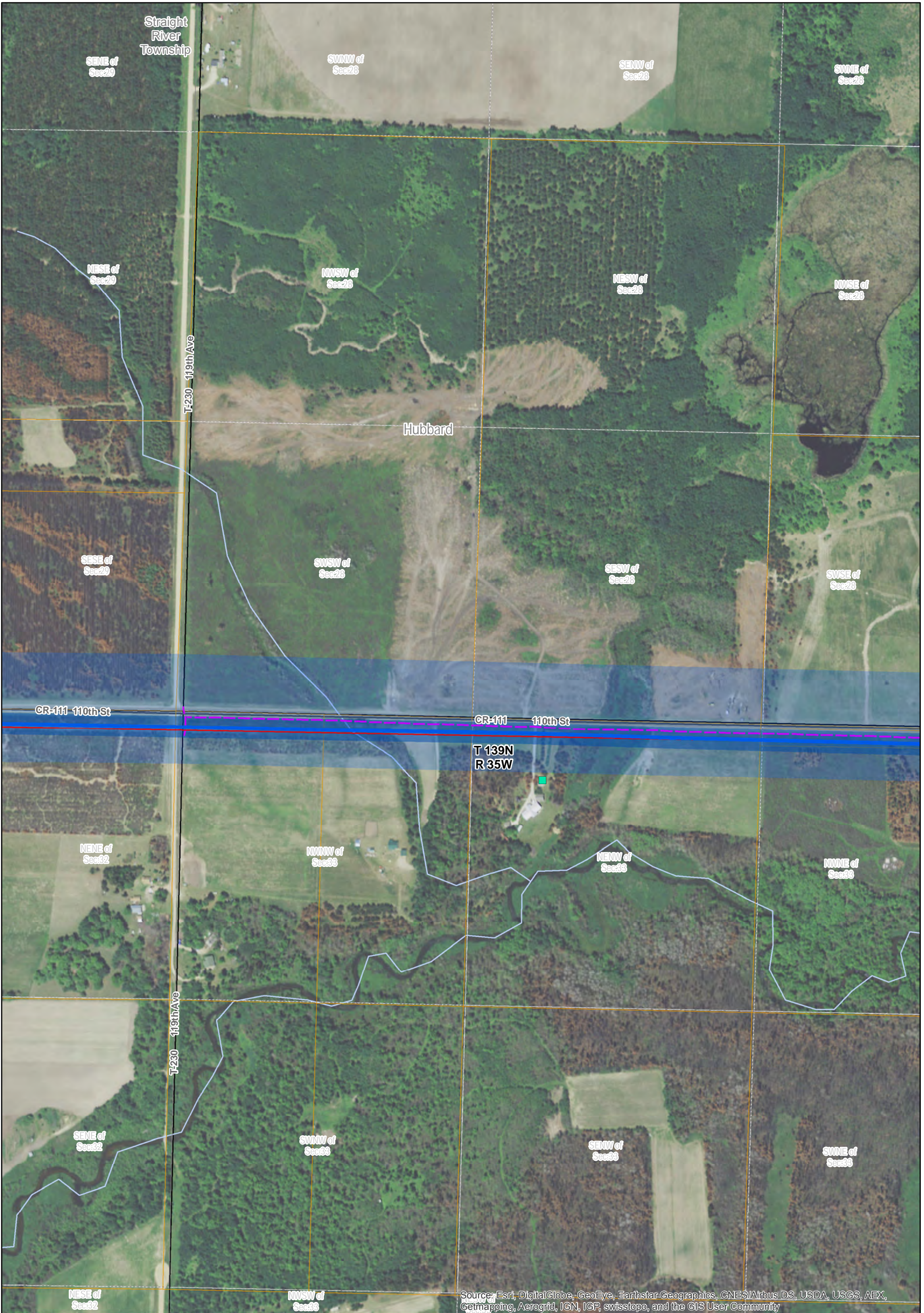
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p>Map Sheet 5 of 30</p> <p>Route Maps</p> <p>Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p>0 225 Feet Updated: 7/29/2015</p>
--	--	--	--	--



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

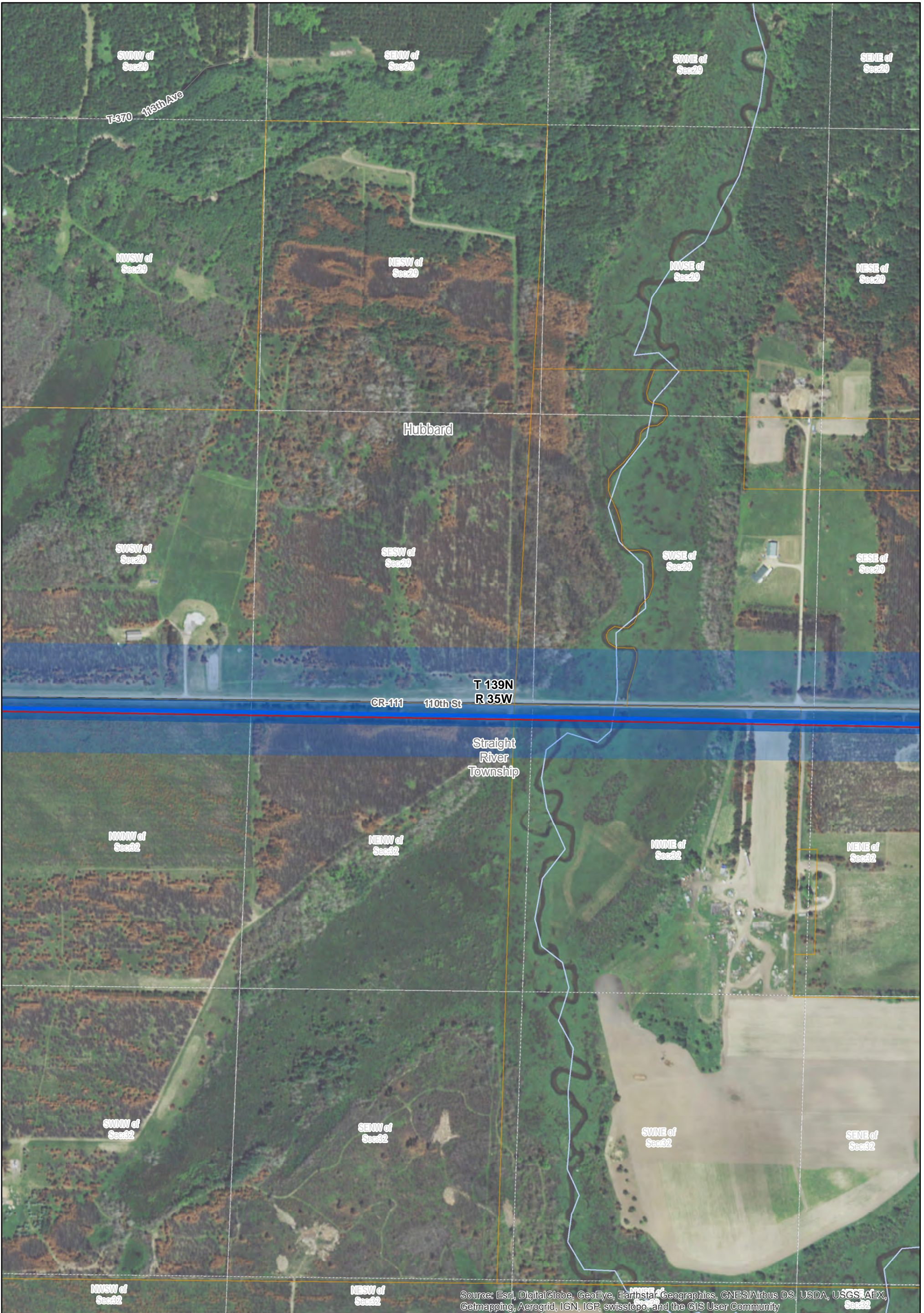
<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p>Map Sheet 6 of 30</p> <p>Route Maps</p> <p>Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p>0 225 Feet Updated: 7/29/2015</p>
--	--	--	--	--



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicant Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation Alternatives Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation		Existing 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence		Residence Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' Non-Residential Building Non-Residential Building 0-250' Cemeteries GravelPits			Map Sheet 7 of 30 Route Maps Menahga Area 115 kV Project Updated: 7/29/2015
---	--	--	--	---	--	--	---

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
 Map Projection: UTM NAD 83 Zone 15

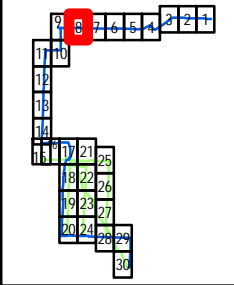


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Applicant**
- Proposed Alignment
 - Proposed Route (500' width)
 - Proposed Easement Area (100' width)
 - Proposed Substation
- Alternatives**
- Alternative Alignment – Single Circuit 115 kV
 - Alternative Easement Area (100' width)
 - Alternative Substation

- Existing**
- 34.5 kV Transmission Line
 - 115 kV Transmission Line
 - 230 kV Transmission Line
 - 250 kV Transmission Line
 - Oil pipeline
 - Gas pipeline
 - Substation
 - Substation Fence

- Residence**
- Residence 50-100'
 - Residence 100-150'
 - Residence 150-200'
 - Residence 200-250'
- Non-Residential Building**
- Non-Residential Building 0-250'
 - Cemeteries
 - GravelPits



Map Sheet 8 of 30

Route Maps

Menahga Area 115 kV Project

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
Map Projection: UTM NAD 83 Zone 15

0 225 Feet
Updated: 7/29/2015



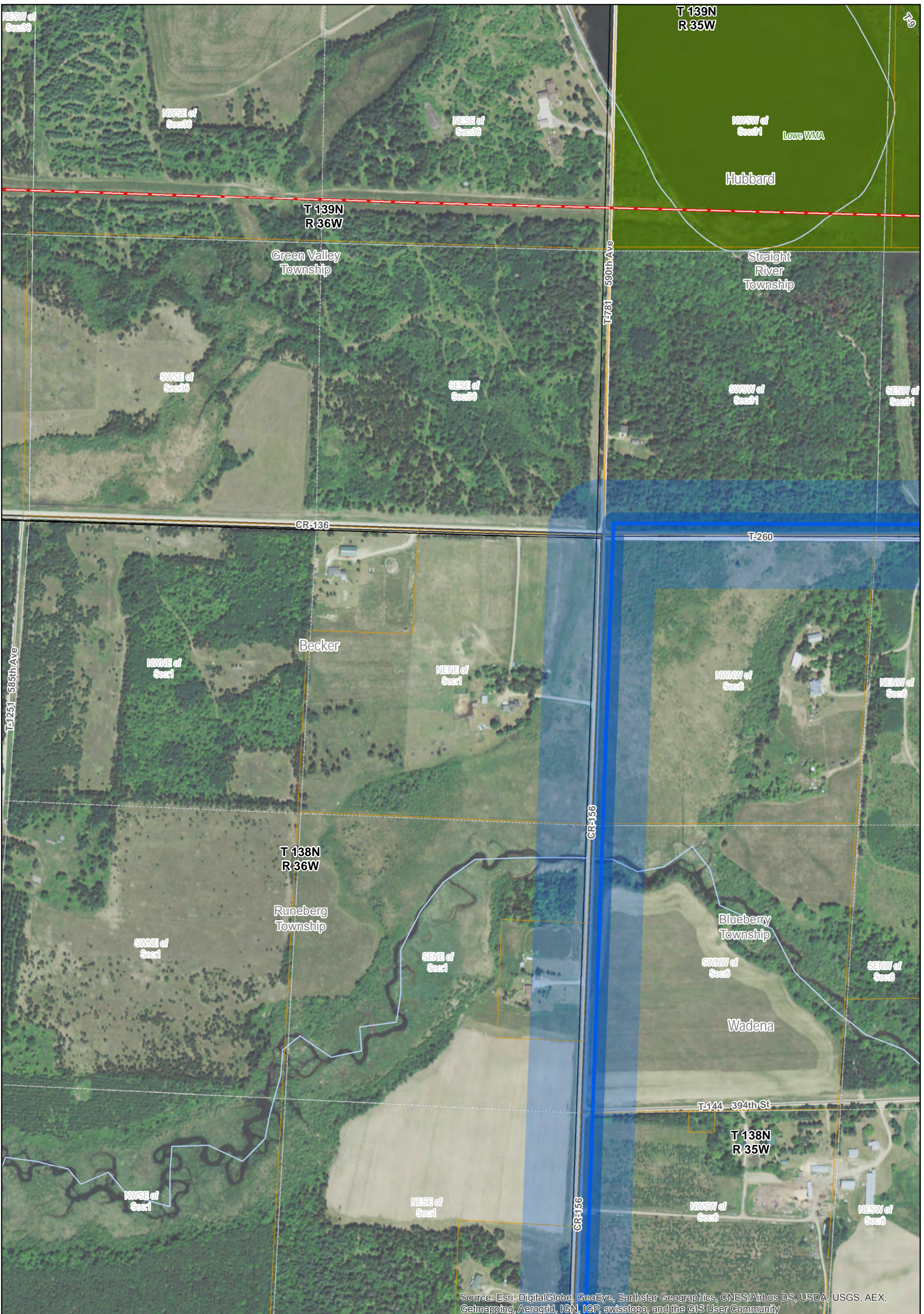
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicant Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation Alternatives Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation	Existing 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence	Residence Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' Non-Residential Building Non-Residential Building 0-250' Cemeteries Gravel Pits		<p style="text-align: right;">Map Sheet 9 of 30</p> <p style="text-align: center;">Route Maps</p> <p style="text-align: center;">Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p style="text-align: right;"> Updated: 7/29/2015 </p>
---	--	--	--	--



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p>Map Sheet 10 of 30</p> <p>Route Maps</p> <p>Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p>0 225 Feet Updated: 7/29/2015</p>
--	--	--	--	---

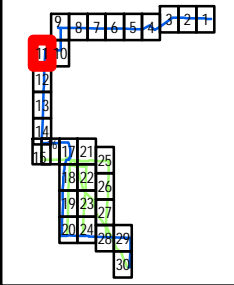


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Applicant**
- Proposed Alignment
 - Proposed Route (500' width)
 - Proposed Easement Area (100' width)
 - Proposed Substation
- Alternatives**
- Alternative Alignment – Single Circuit 115 kV
 - Alternative Easement Area (100' width)
 - Alternative Substation

- Existing**
- 34.5 kV Transmission Line
 - 115 kV Transmission Line
 - 230 kV Transmission Line
 - 250 kV Transmission Line
 - Oil pipeline
 - Gas pipeline
 - Substation
 - Substation Fence

- Residence**
- Residence 50-100'
 - Residence 100-150'
 - Residence 150-200'
 - Residence 200-250'
- Non-Residential Building**
- Non-Residential Building 0-250'
 - + Cemeteries
 - + GravelPits



Map Sheet 11 of 30

Route Maps

Menahga Area 115 kV Project

Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
 Map Projection: UTM NAD 83 Zone 15

0 225 Feet
 Updated: 7/29/2015

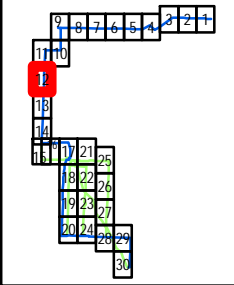


Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

- Applicant**
- Proposed Alignment
 - Proposed Route (500' width)
 - Proposed Easement Area (100' width)
 - Proposed Substation
- Alternatives**
- Alternative Alignment – Single Circuit 115 kV
 - Alternative Easement Area (100' width)
 - Alternative Substation

- Existing**
- 34.5 kV Transmission Line
 - 115 kV Transmission Line
 - 230 kV Transmission Line
 - 250 kV Transmission Line
 - Oil pipeline
 - Gas pipeline
 - Substation
 - Substation Fence

- Residence**
- Residence 50-100'
 - Residence 100-150'
 - Residence 150-200'
 - Residence 200-250'
- Non-Residential Building**
- Non-Residential Building 0-250'
 - Cemeteries
 - GravelPits



Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service
 Map Projection: UTM NAD 83 Zone 15

Map Sheet 12 of 30

Route Maps

Menahga Area 115 kV Project

N

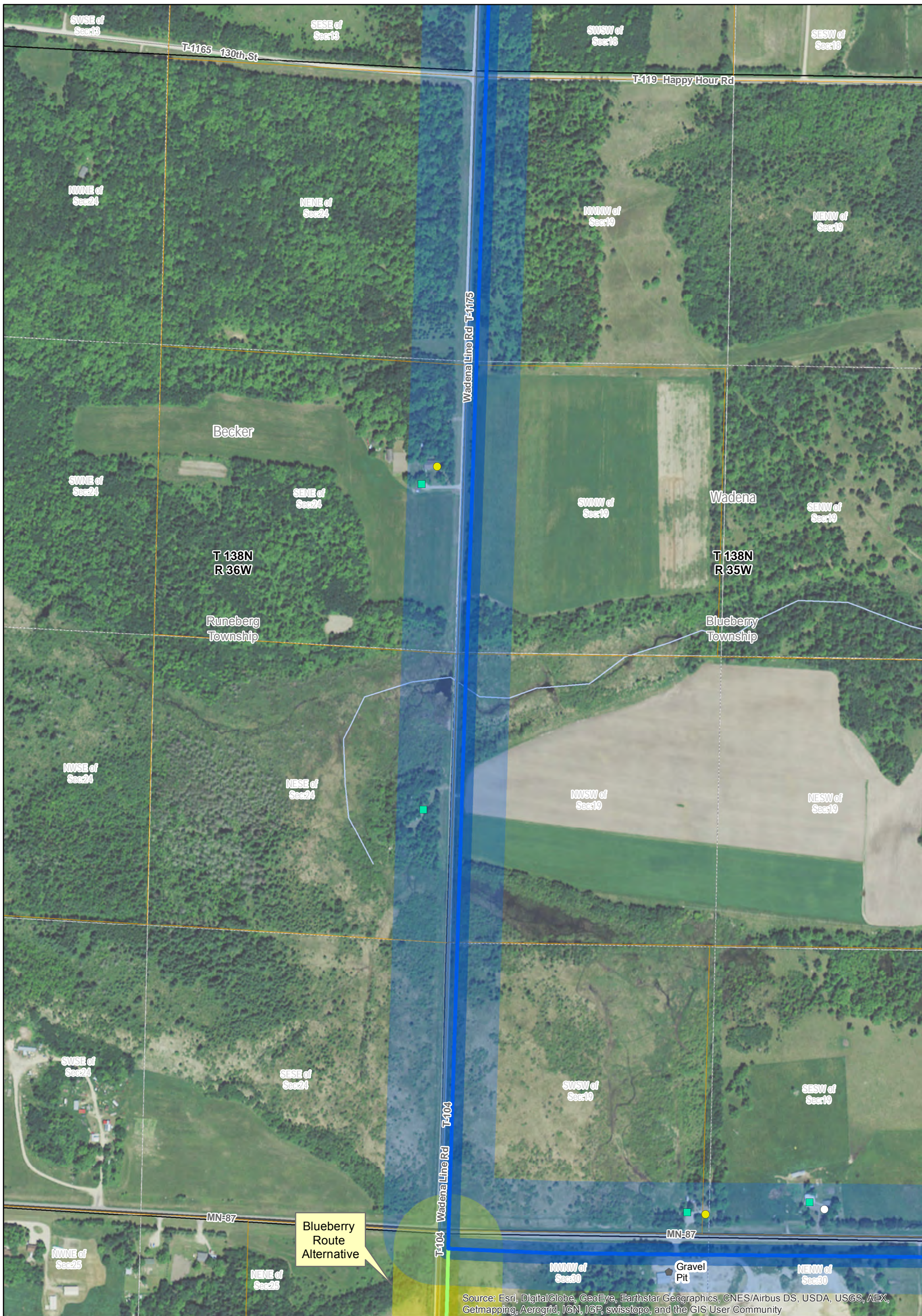
0 225 Feet

Updated: 7/29/2015



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

<p>Applicant</p> <ul style="list-style-type: none"> Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation <p>Alternatives</p> <ul style="list-style-type: none"> Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation 	<p>Existing</p> <ul style="list-style-type: none"> 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence 	<p>Residence</p> <ul style="list-style-type: none"> Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' <p>Non-Residential Building</p> <ul style="list-style-type: none"> Non-Residential Building 0-250' Cemeteries GravelPits 		<p>Map Sheet 13 of 30</p> <p>Route Maps</p> <p>Menahga Area 115 kV Project</p> <p>Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15</p> <p>0 225 Feet Updated: 7/29/2015</p>
--	--	--	--	---



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Applicant Proposed Alignment Proposed Route (500' width) Proposed Easement Area (100' width) Proposed Substation Alternatives Alternative Alignment – Single Circuit 115 kV Alternative Easement Area (100' width) Alternative Substation		Existing 34.5 kV Transmission Line 115 kV Transmission Line 230 kV Transmission Line 250 kV Transmission Line Oil pipeline Gas pipeline Substation Substation Fence		Residence Residence 50-100' Residence 100-150' Residence 150-200' Residence 200-250' Non-Residential Building Non-Residential Building 0-250' Cemeteries GravelPits			Map Sheet 14 of 30 Route Maps Menahga Area 115 kV Project Updated: 7/29/2015
Data Sources Vary Between MNDOT, MNDNR, MNGEO and Great River Energy Aerial Image from ESRI Web service Map Projection: UTM NAD 83 Zone 15							