APPENDIX W
FINAL NOISE TECHNICAL REPORT

FILE 3 - APPENDIX A - FIGURES (CONTINUED) & APPENDIX B - NOISE METER CALIBRATION AND WEATHER DATA

TECHNICAL REPORT APPENDICES

APPENDIX A	**Figures**
APPENDIX B	Noise Meter Calibration and Weather Data
APPENDIX C	Ambient Noise Measurement Logs
APPENDIX D	Traffic Volumes
APPENDIX E	Predicted Sound Levels
APPENDIX F	TNM Input/Output Tables

APPENDIX A: FIGURES

Figure 1: General Location Map

Figure 2: Ambient Noise Monitoring Locations

Figures 3 and 4: Typical Sections for Alternatives

Figure 5: Noise Receptors & Preliminary Barrier Locations for Alternatives 4 through 8

Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8

Figure 6:

Noise Receptors & Preliminary Barrier

Locations for Refined Preferred Alternative 8

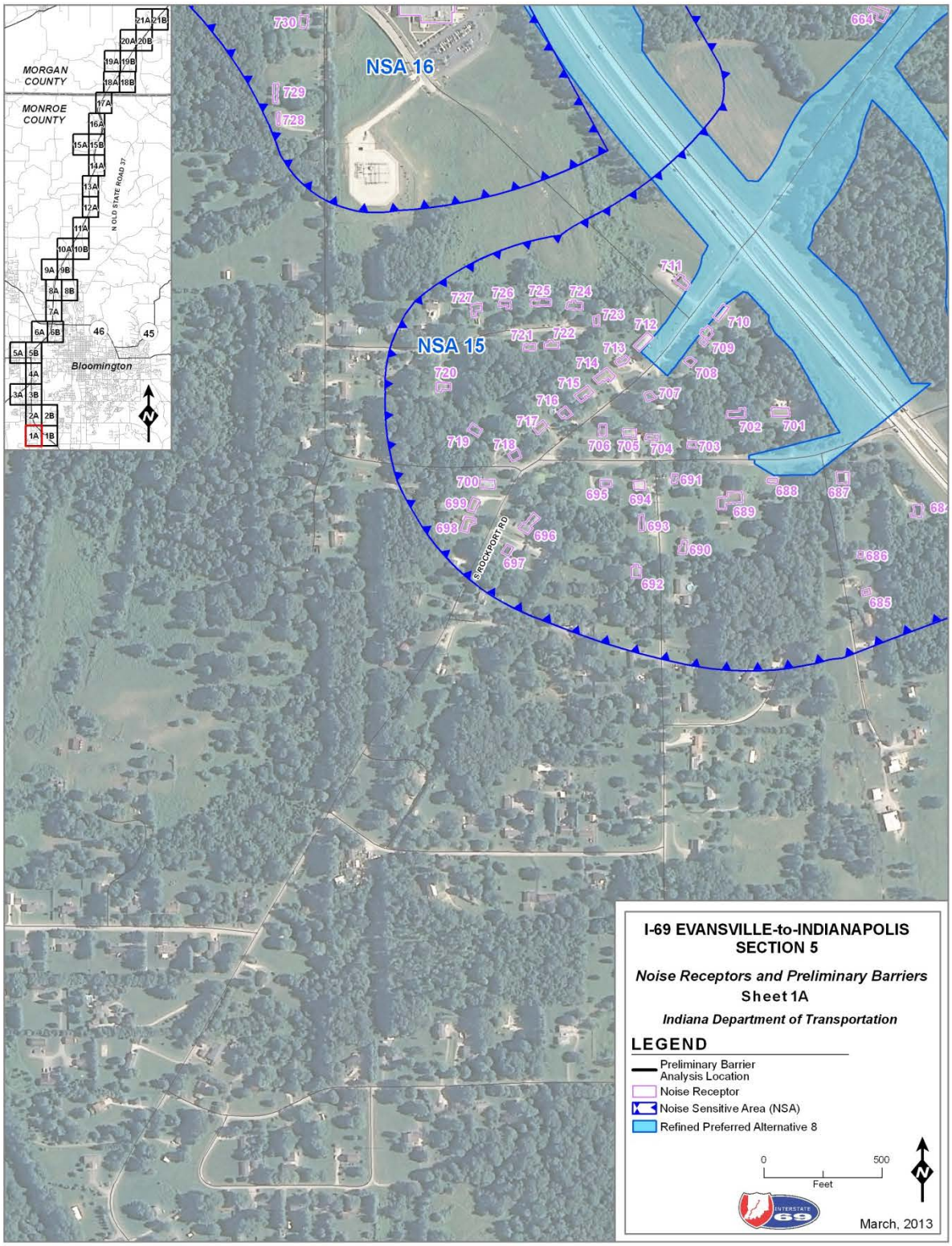


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 1A)

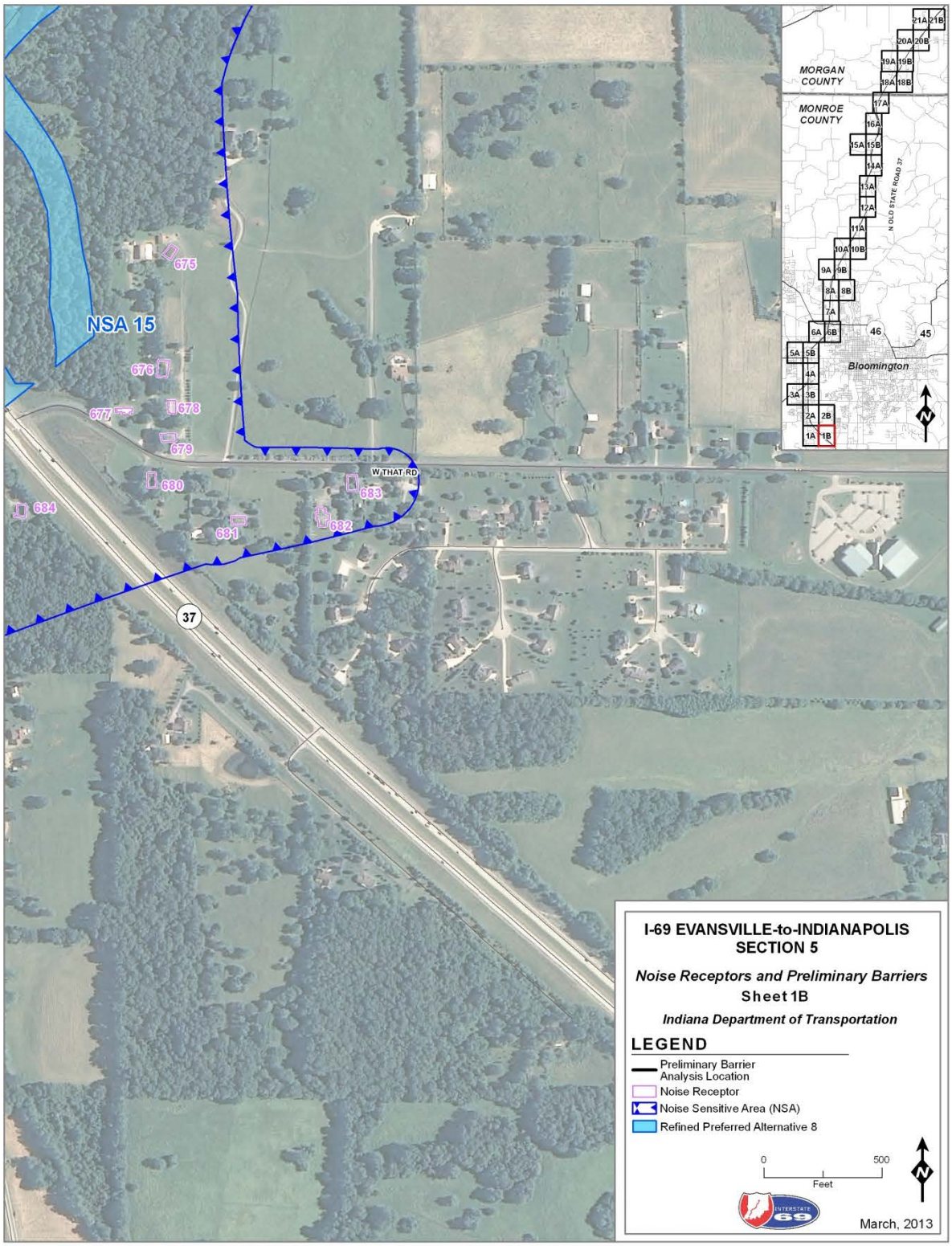


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternatives 8 (Sheet 1B)

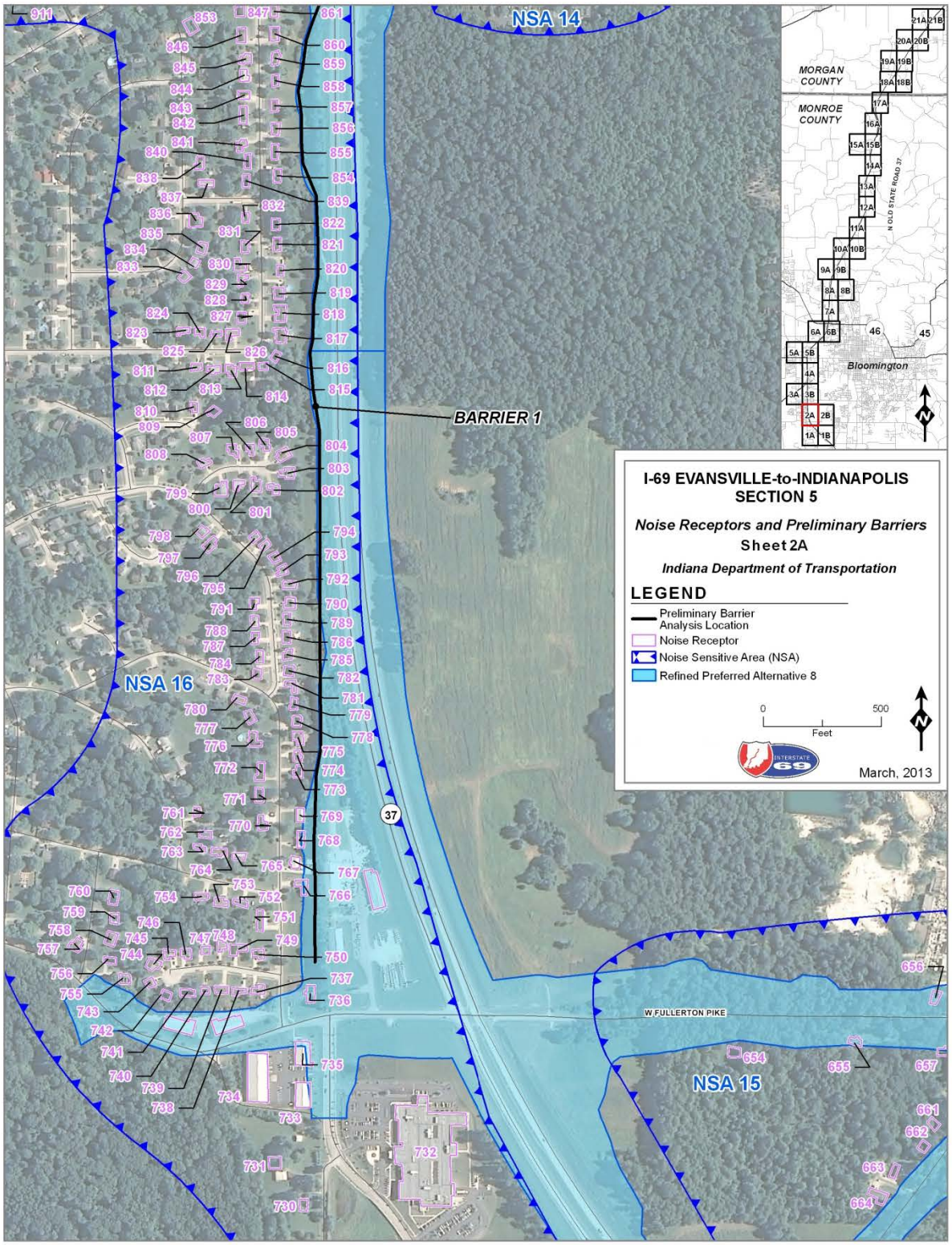


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2A)

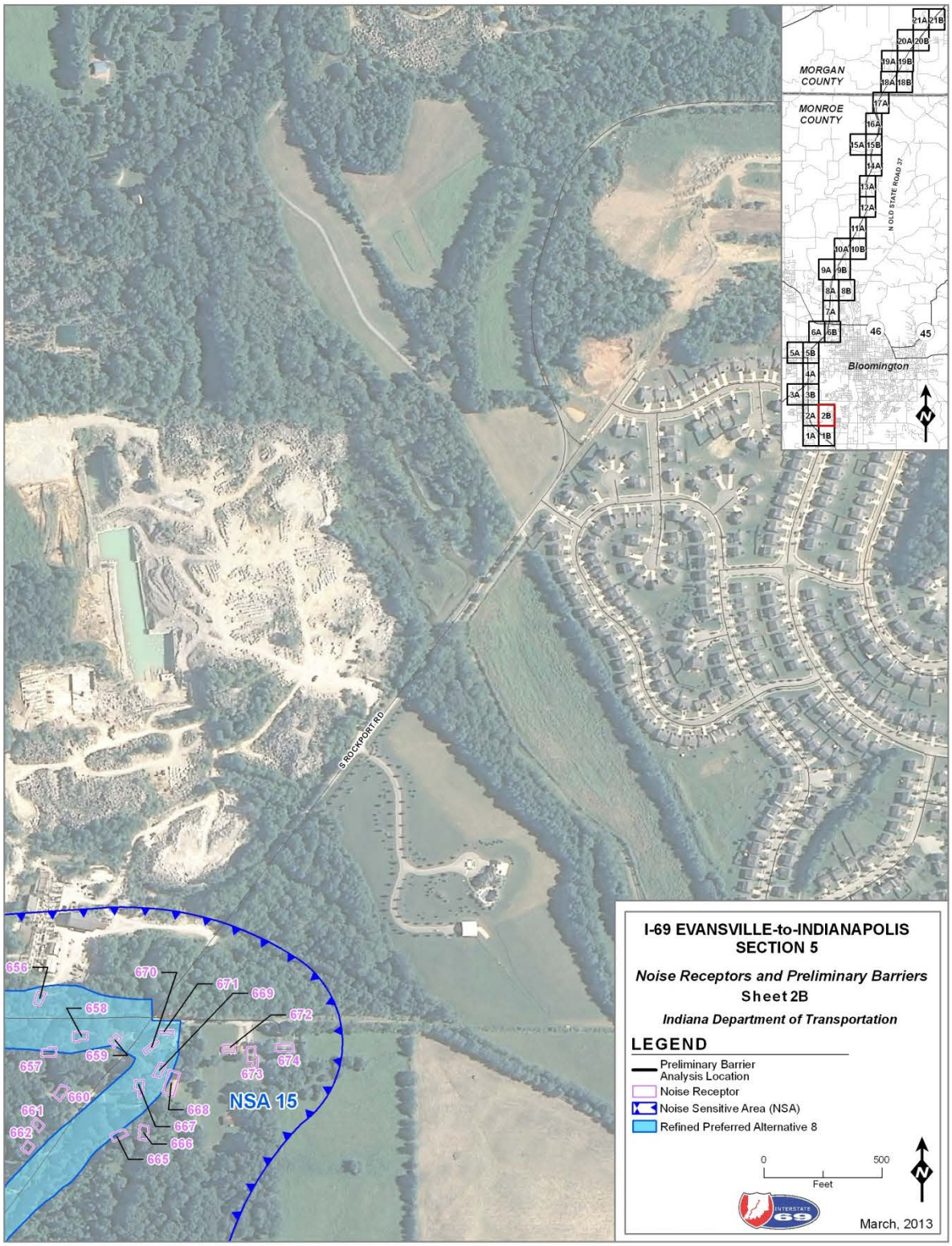


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2B)

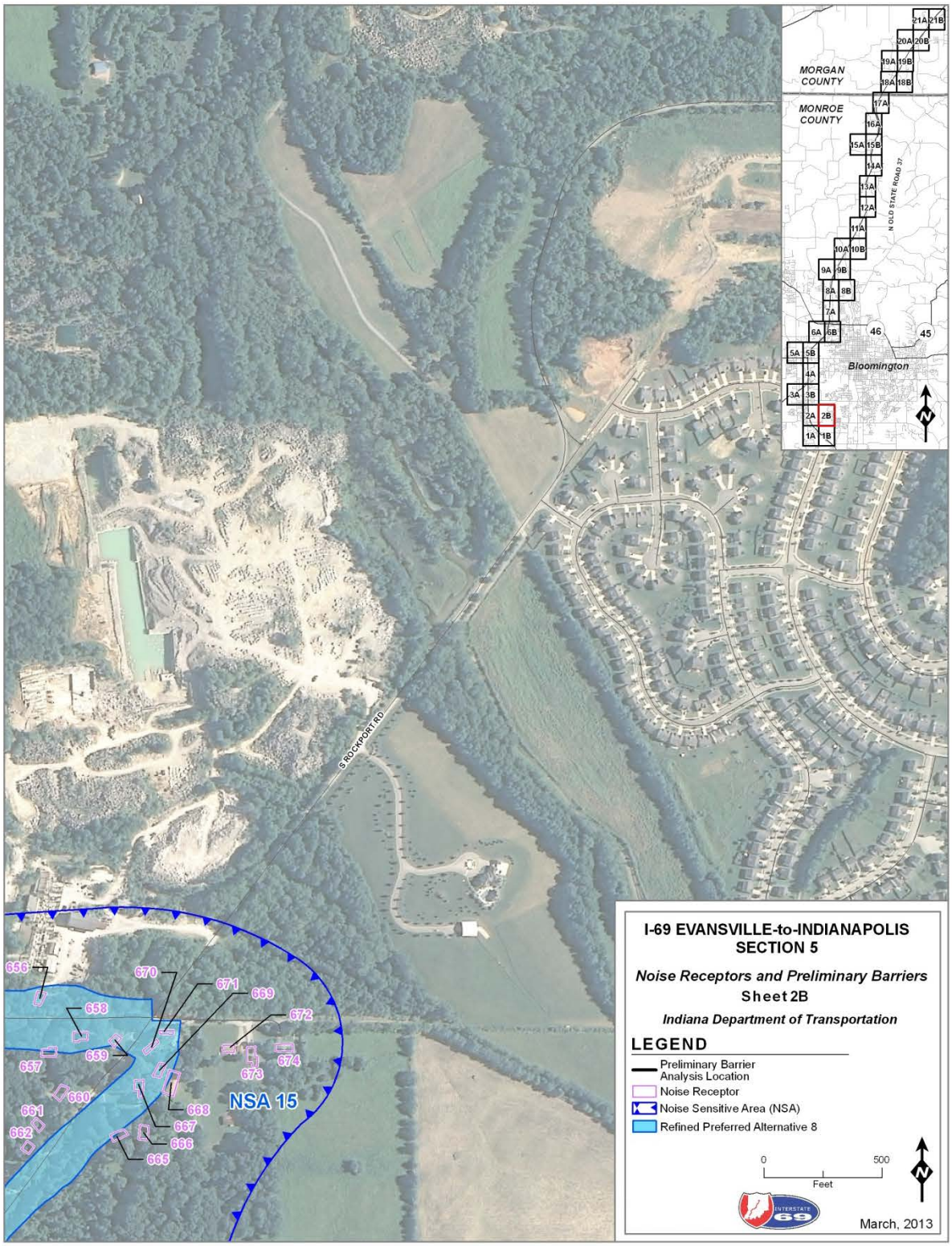


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 2B)

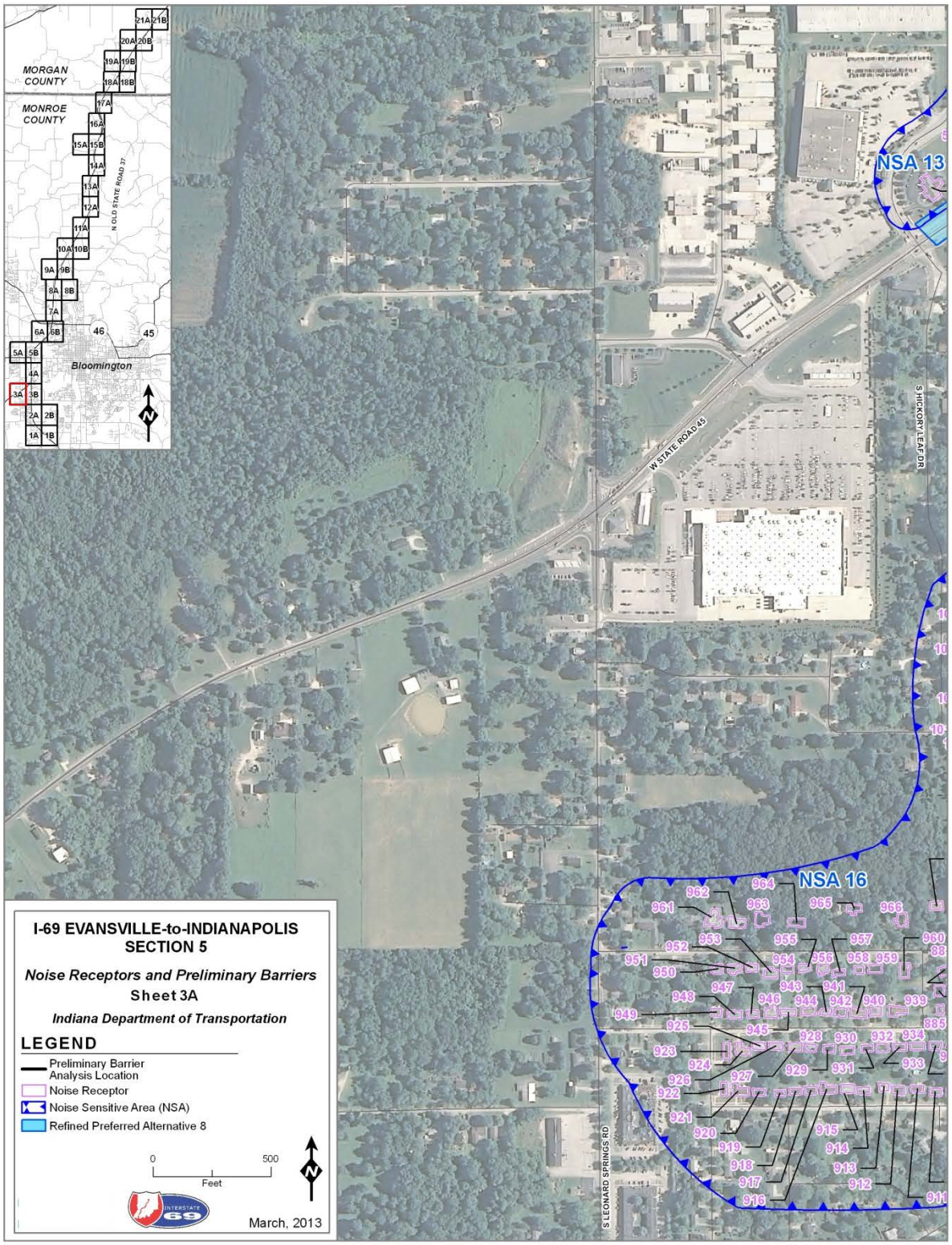


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 3A)

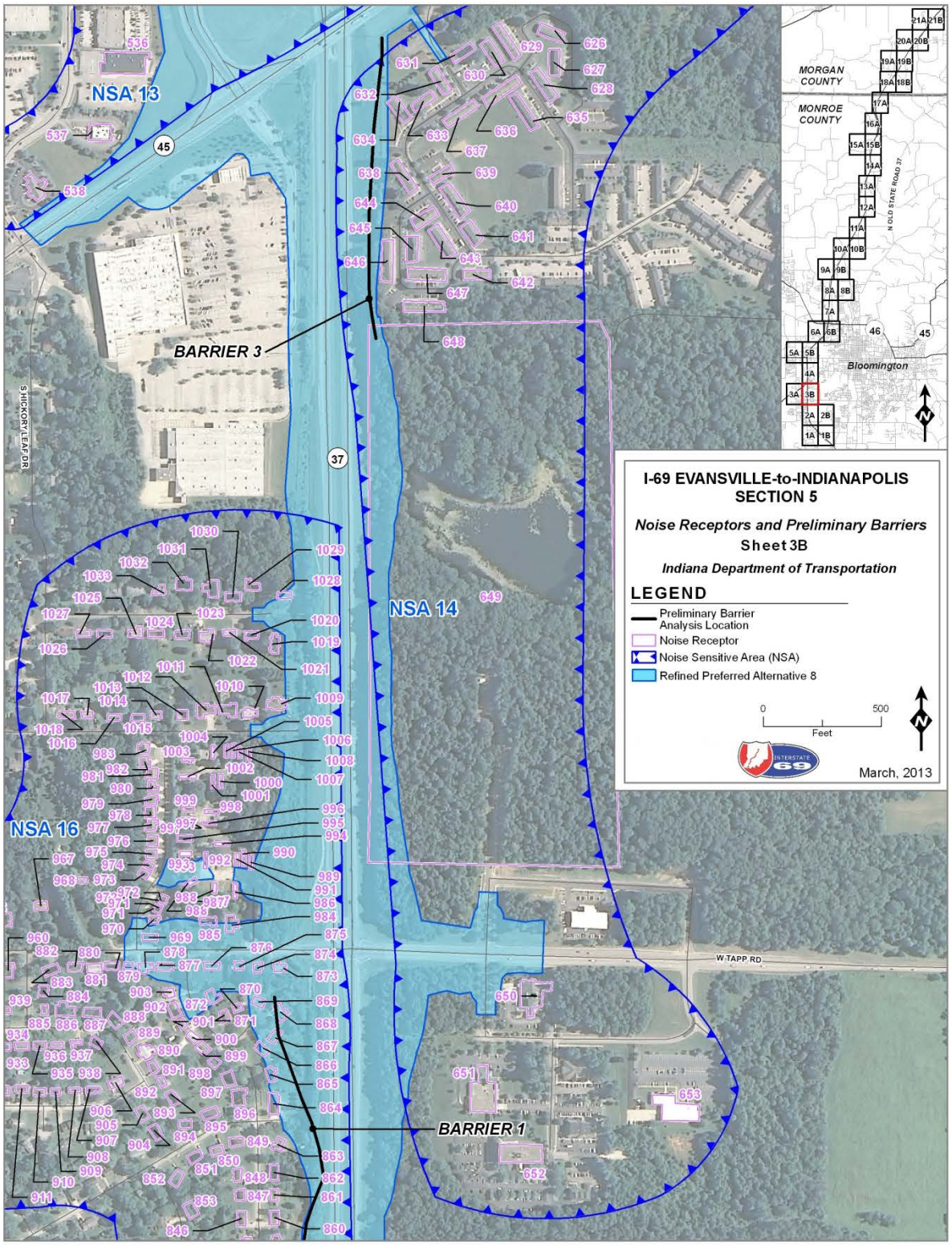


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 3B)

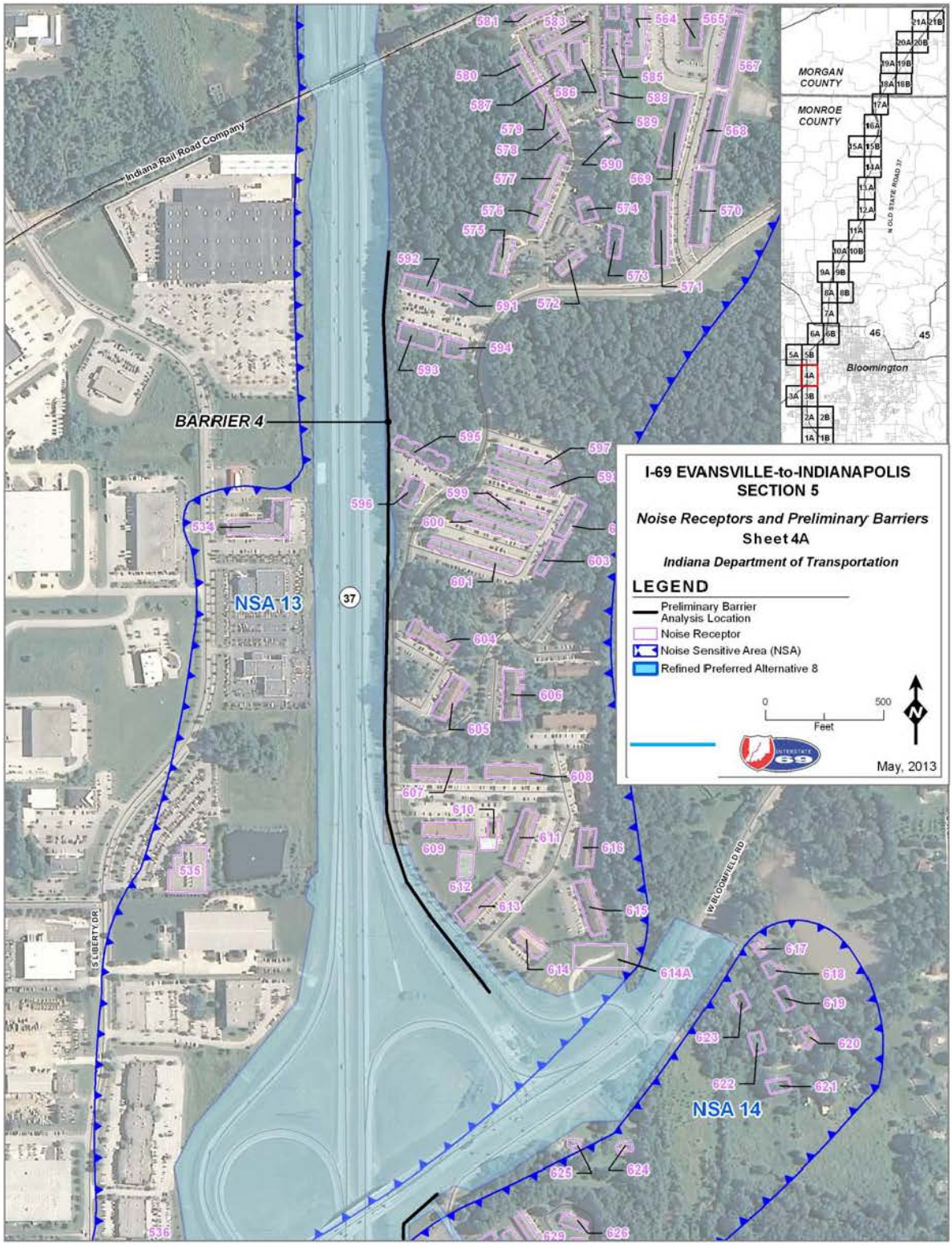


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 4A)

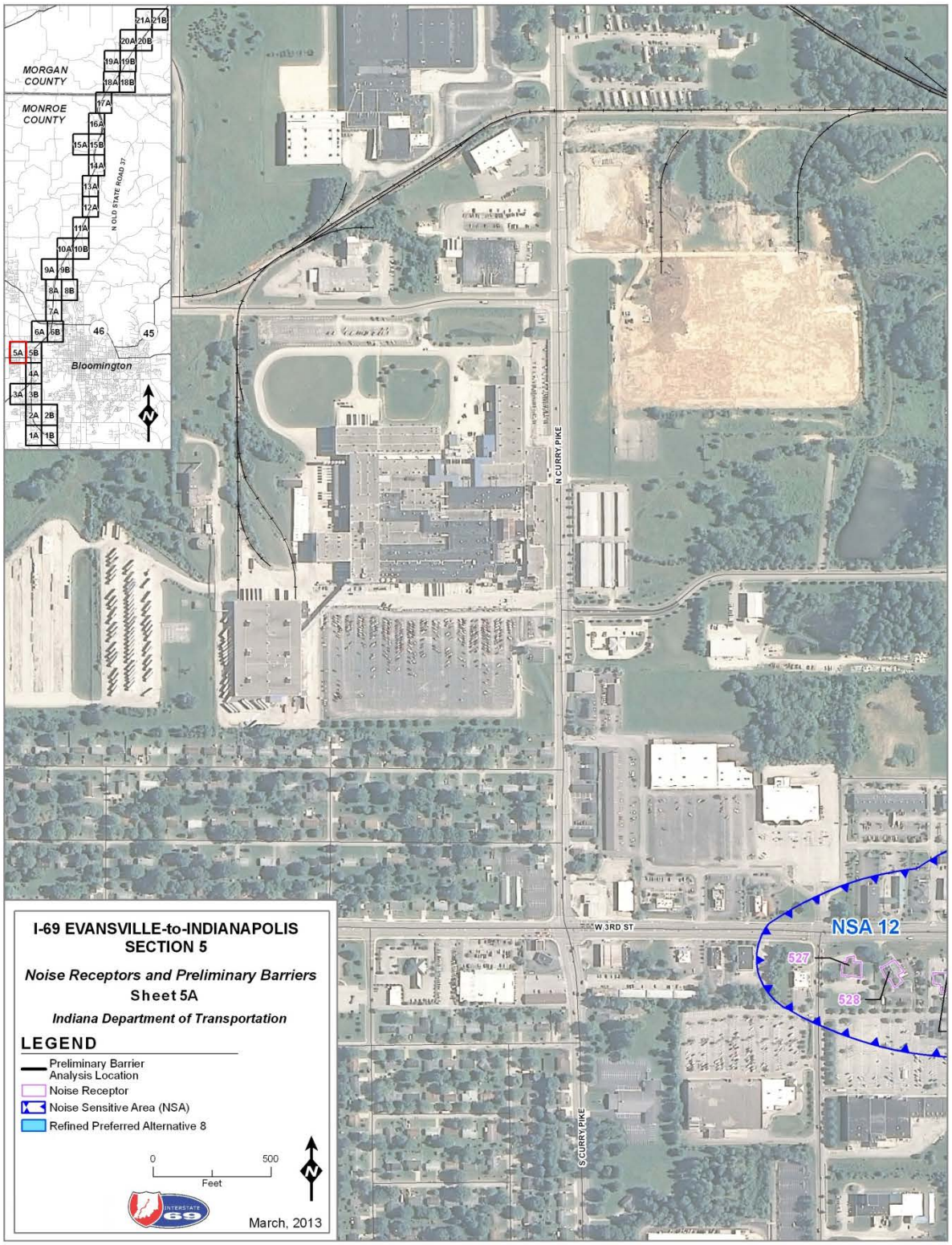


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 5A)

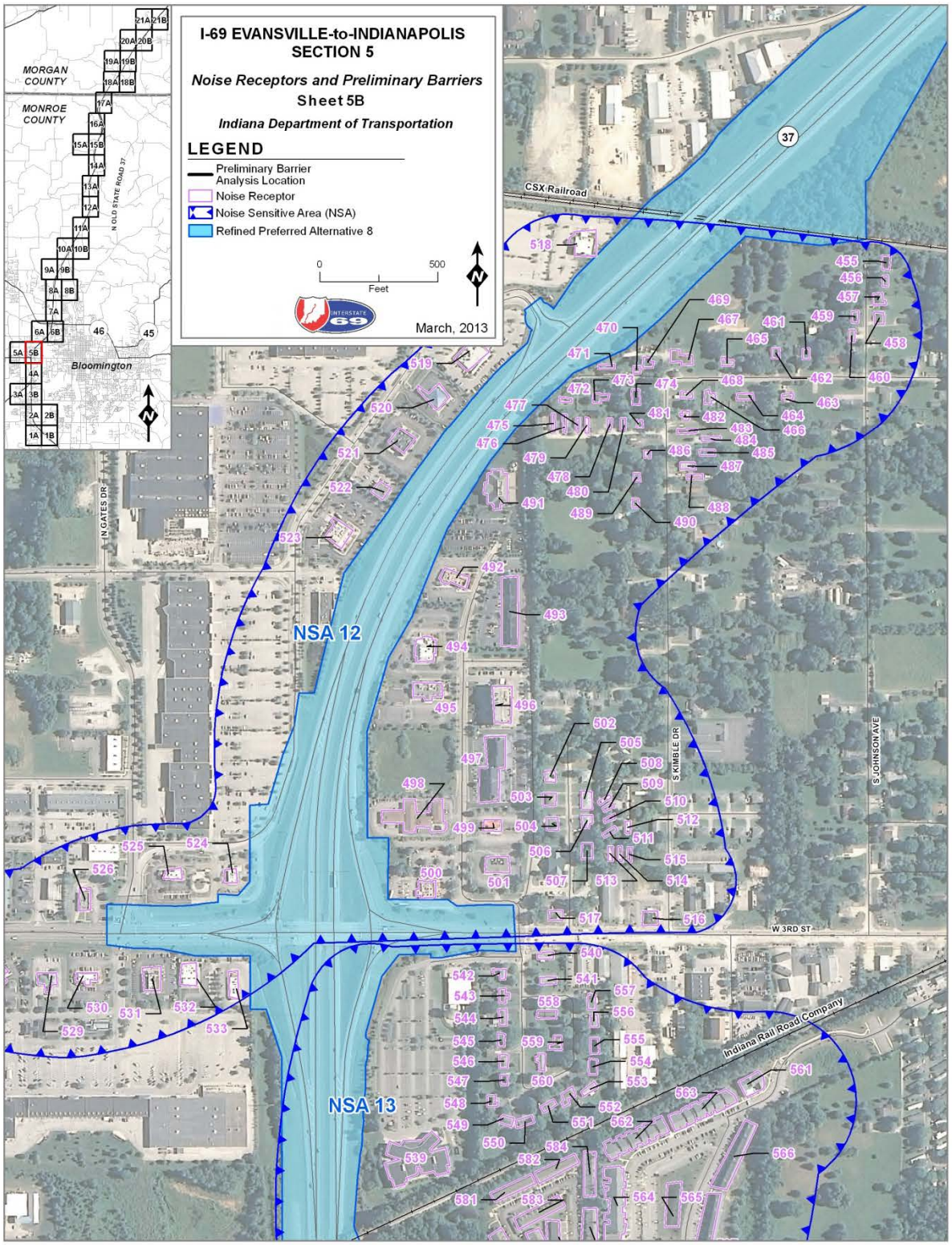


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 5B)

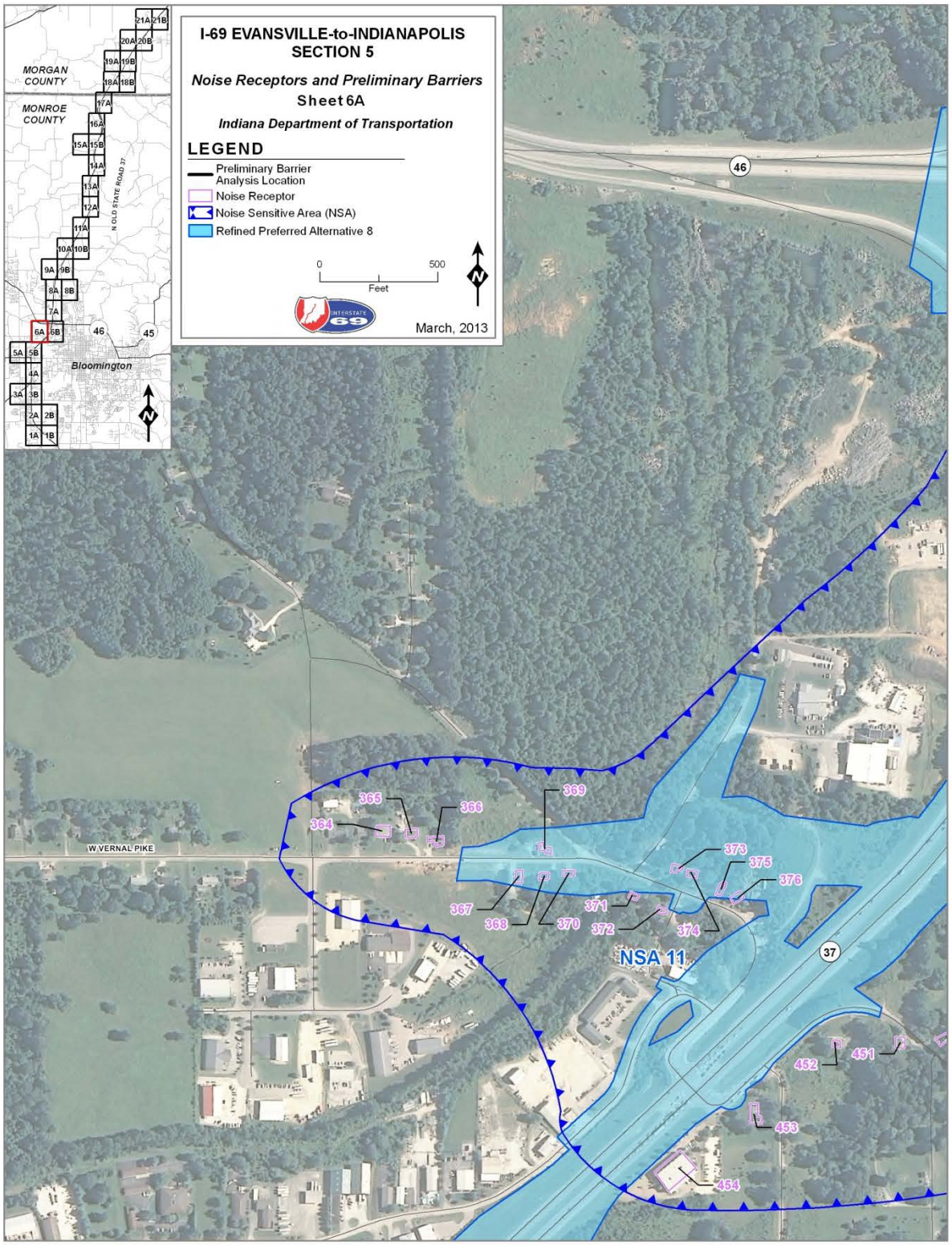


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 6A)

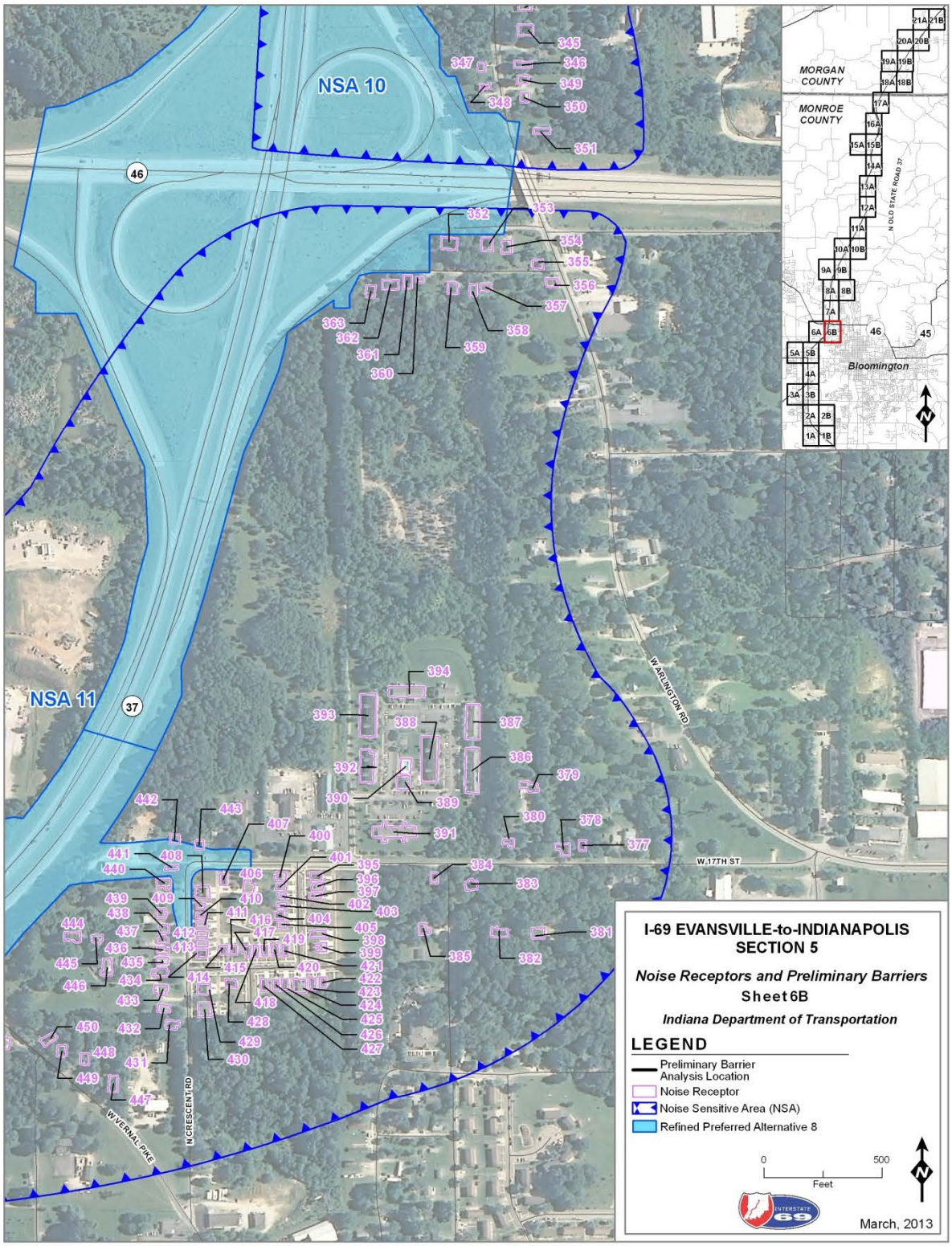


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 6B)

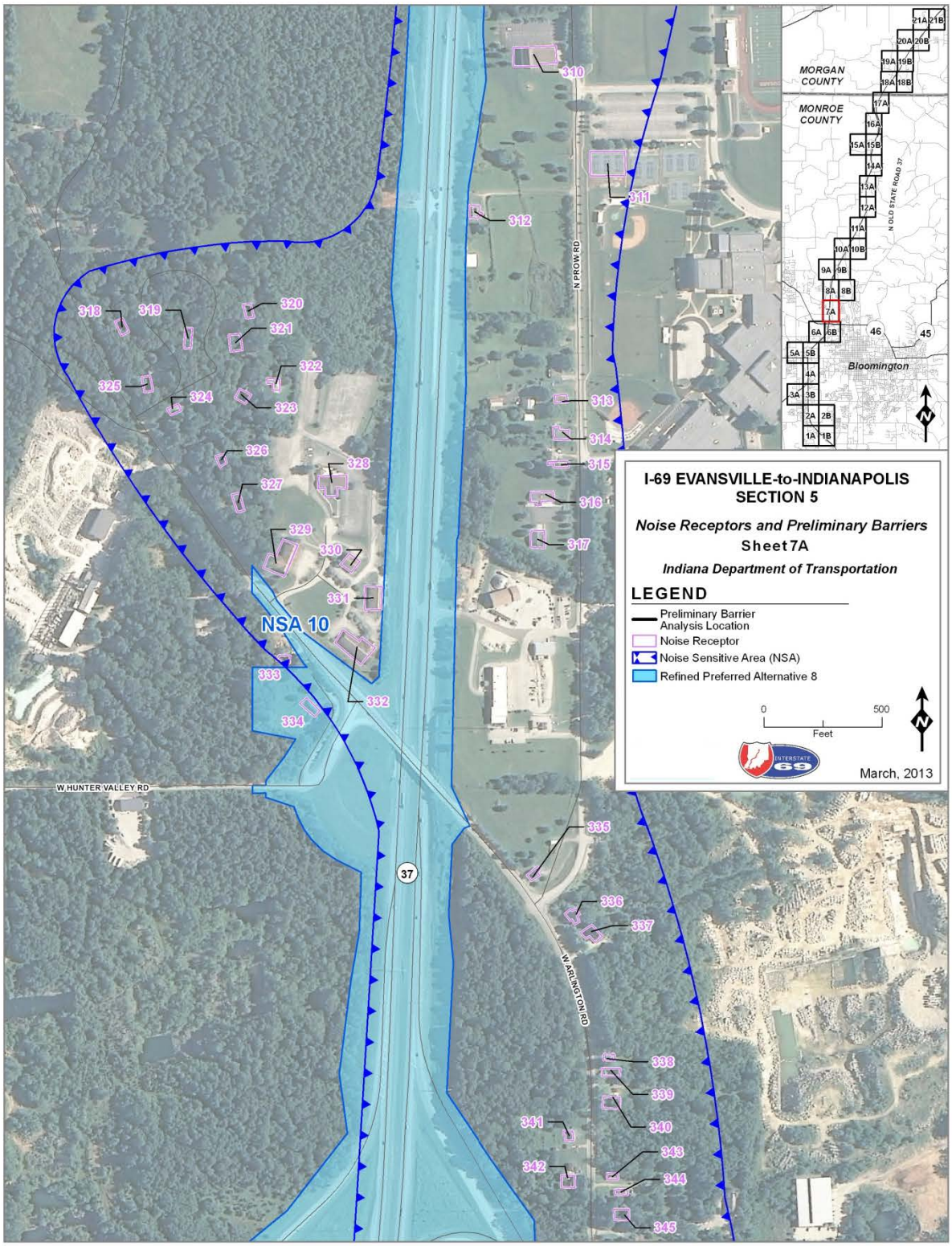


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 7A)

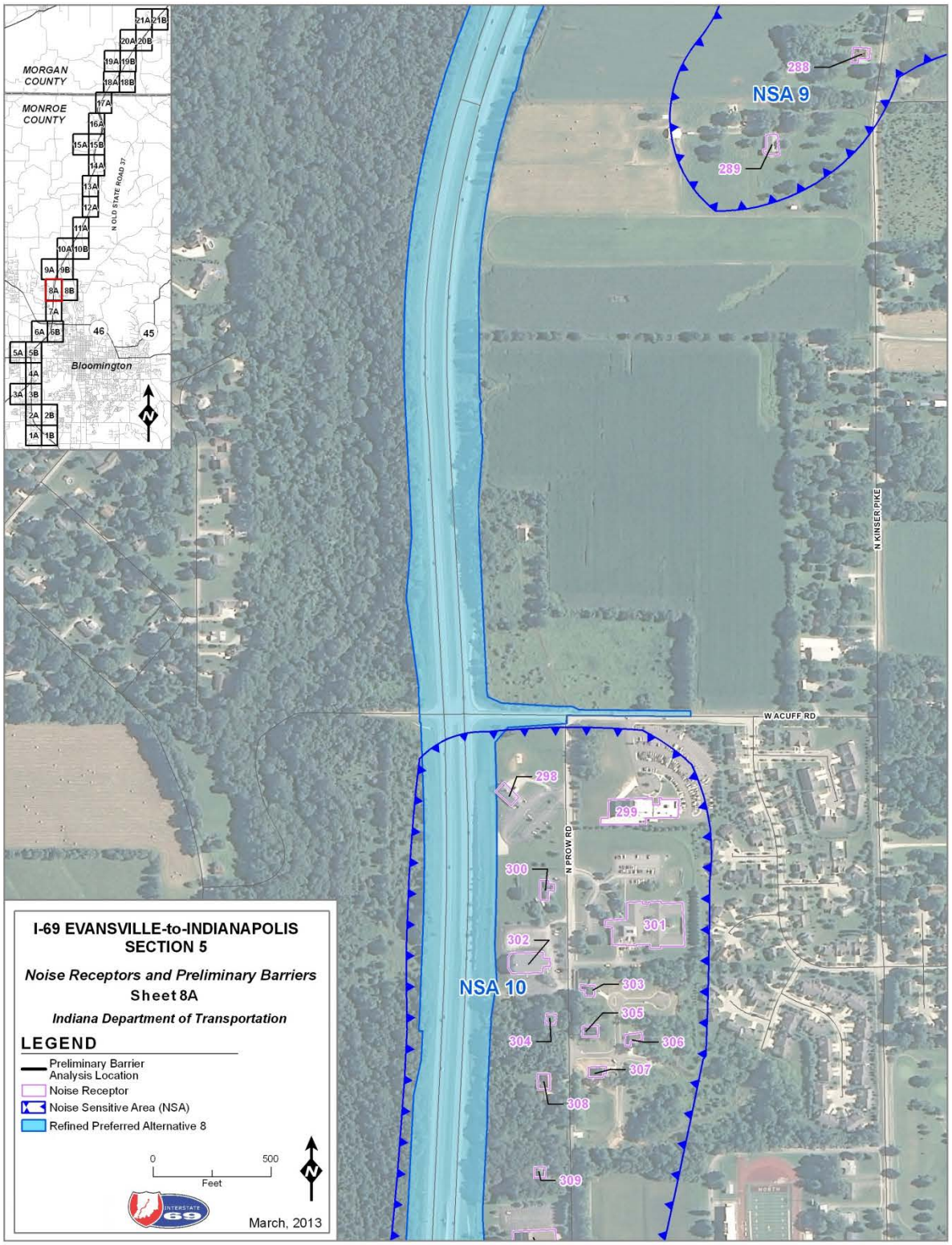


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 8A)

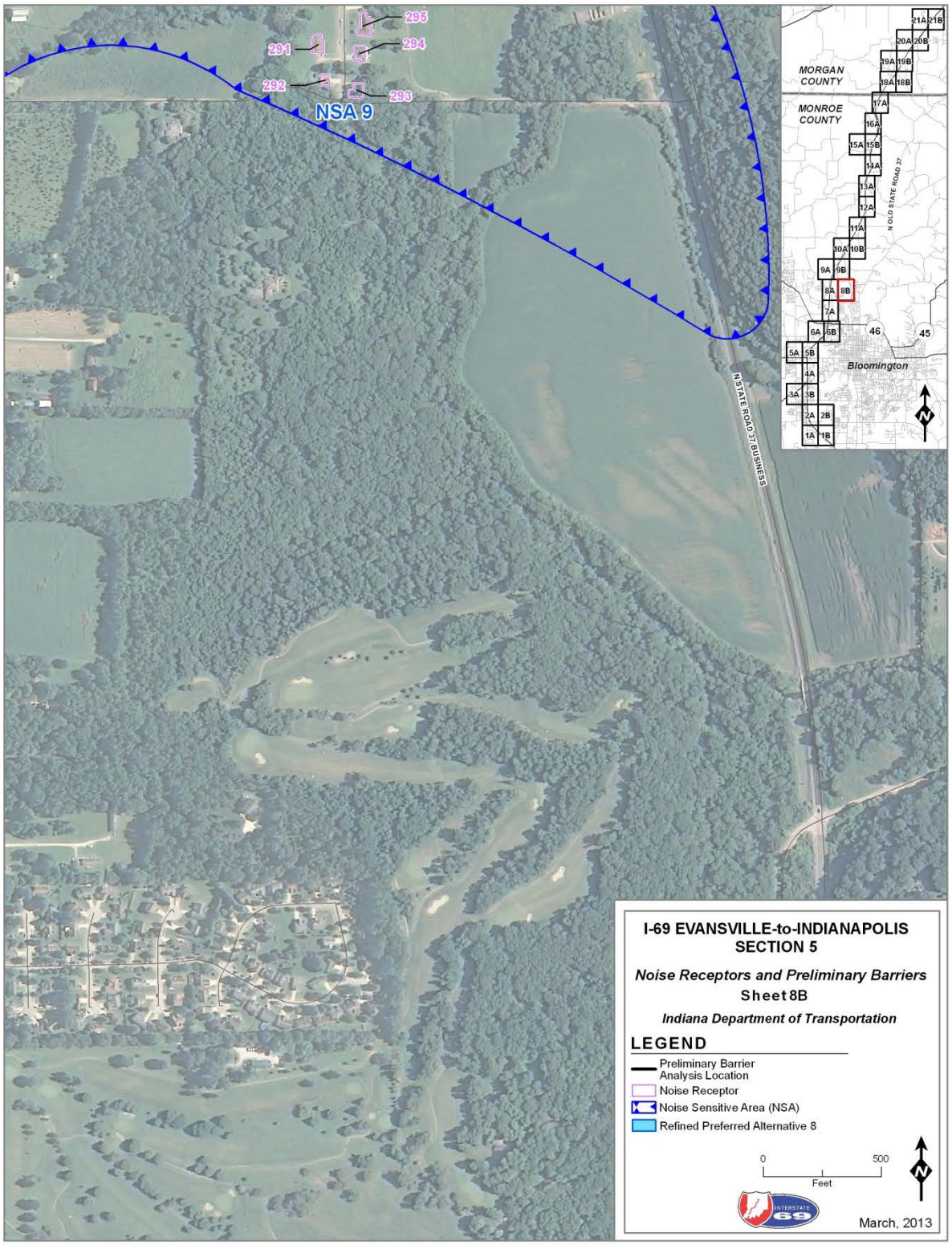


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 8B)

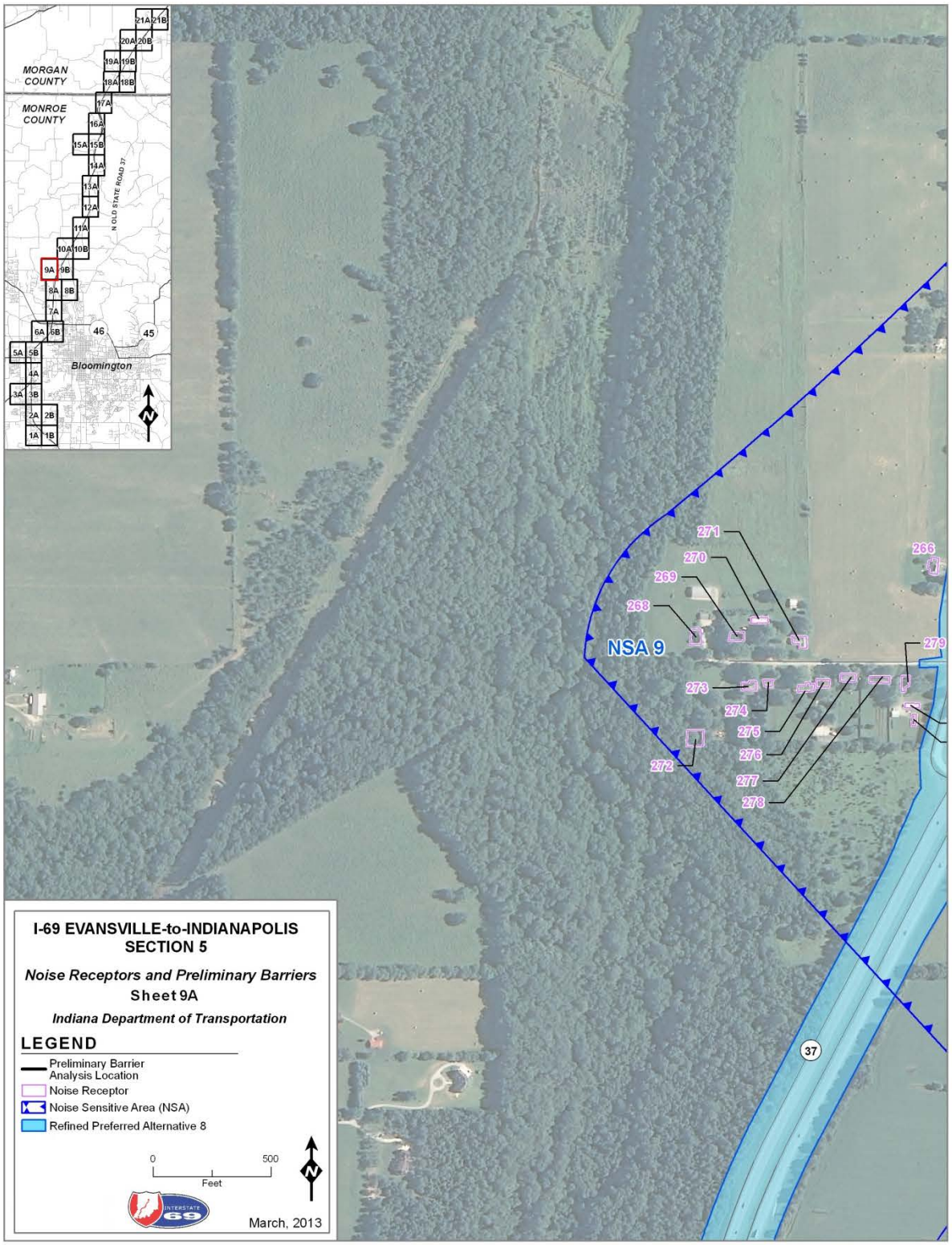


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 9A)

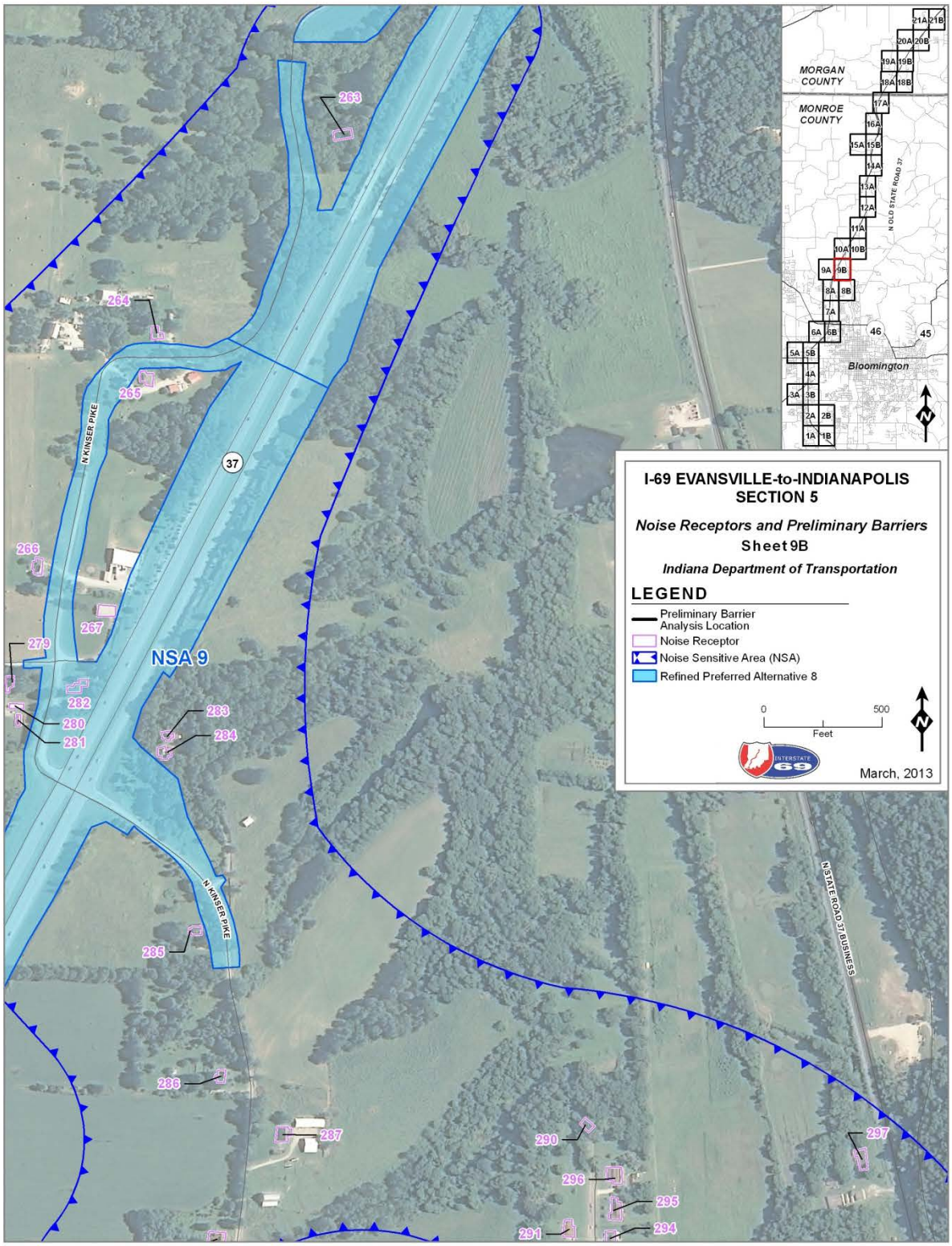


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 9B)

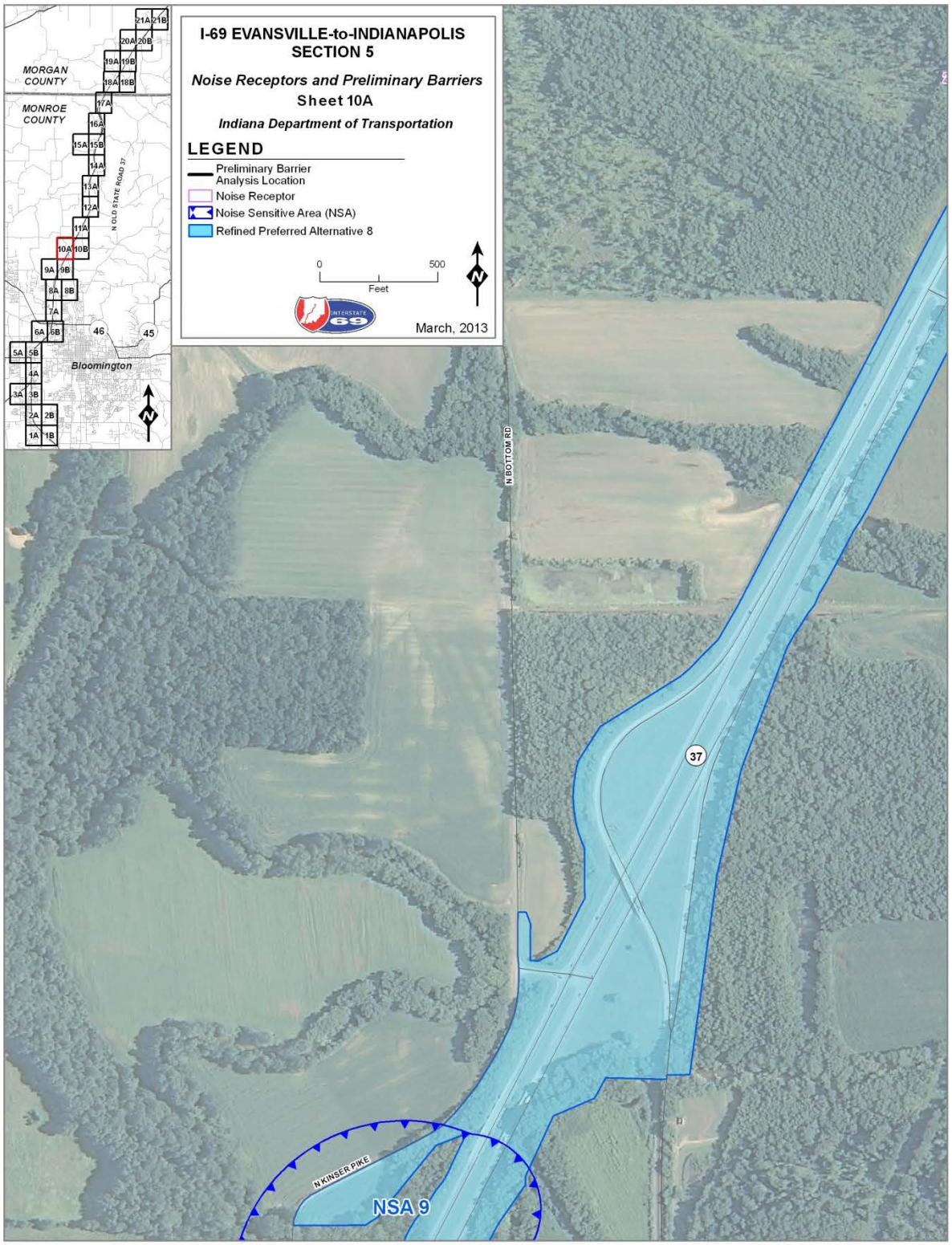


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 10A)

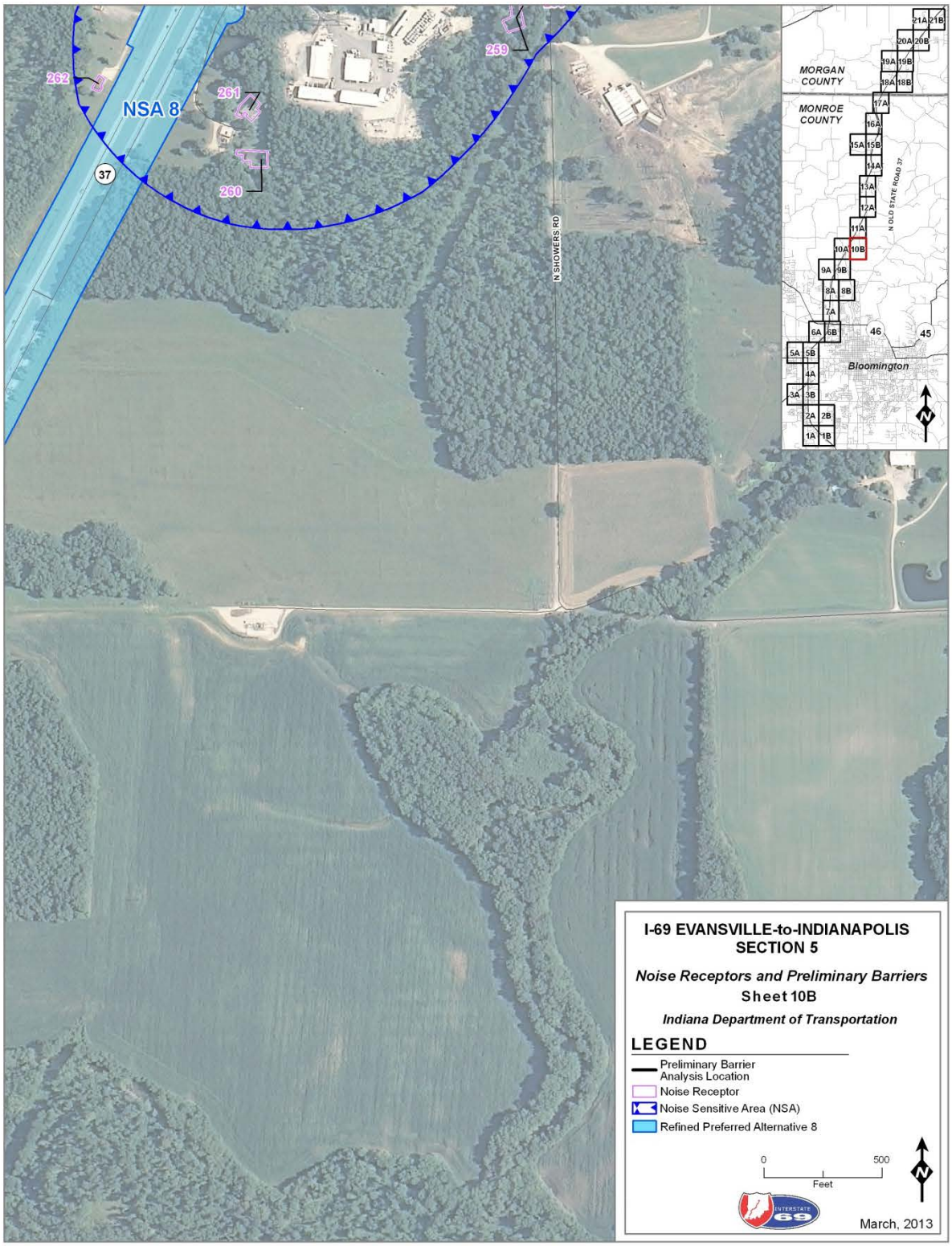


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 10B)

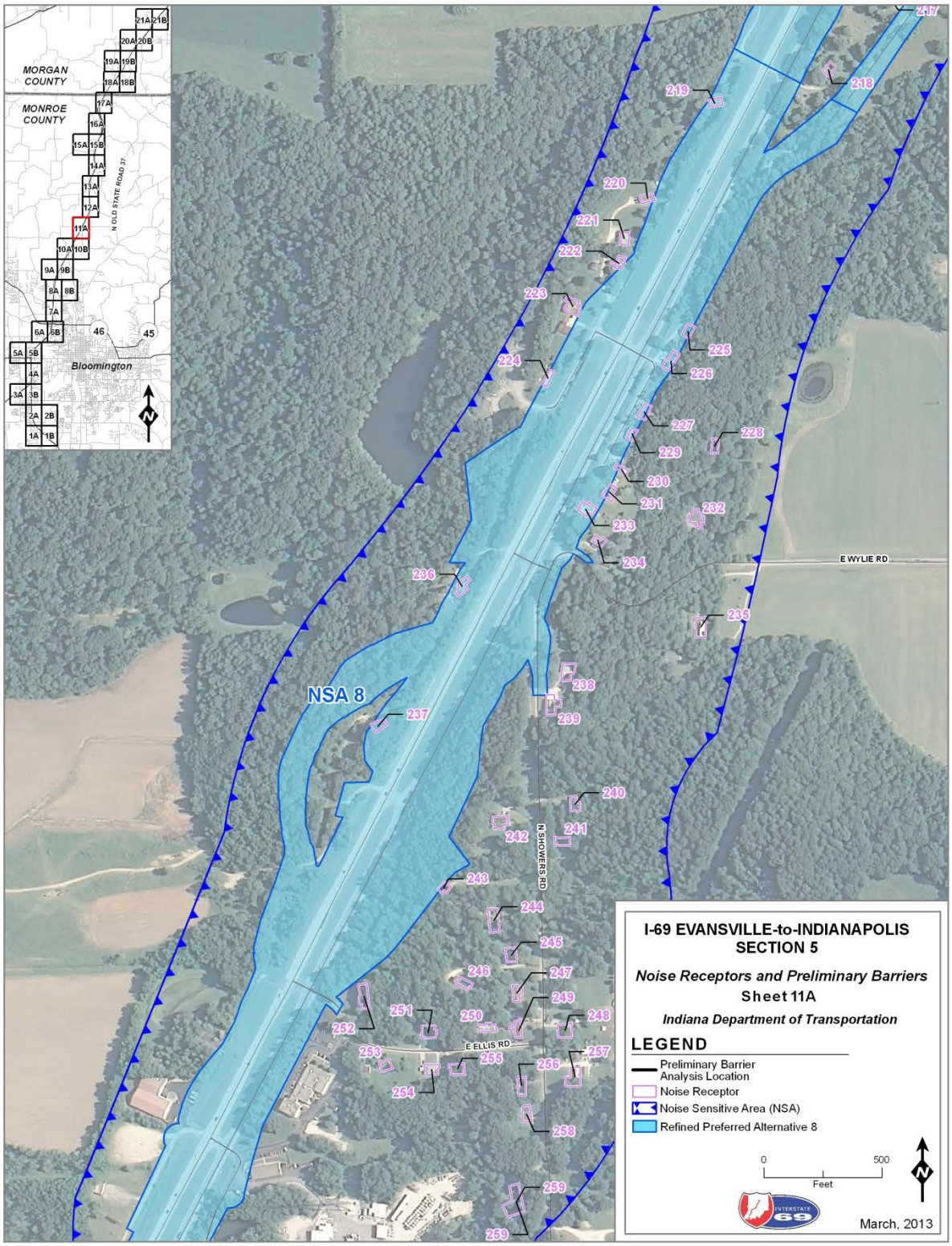


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 11A)

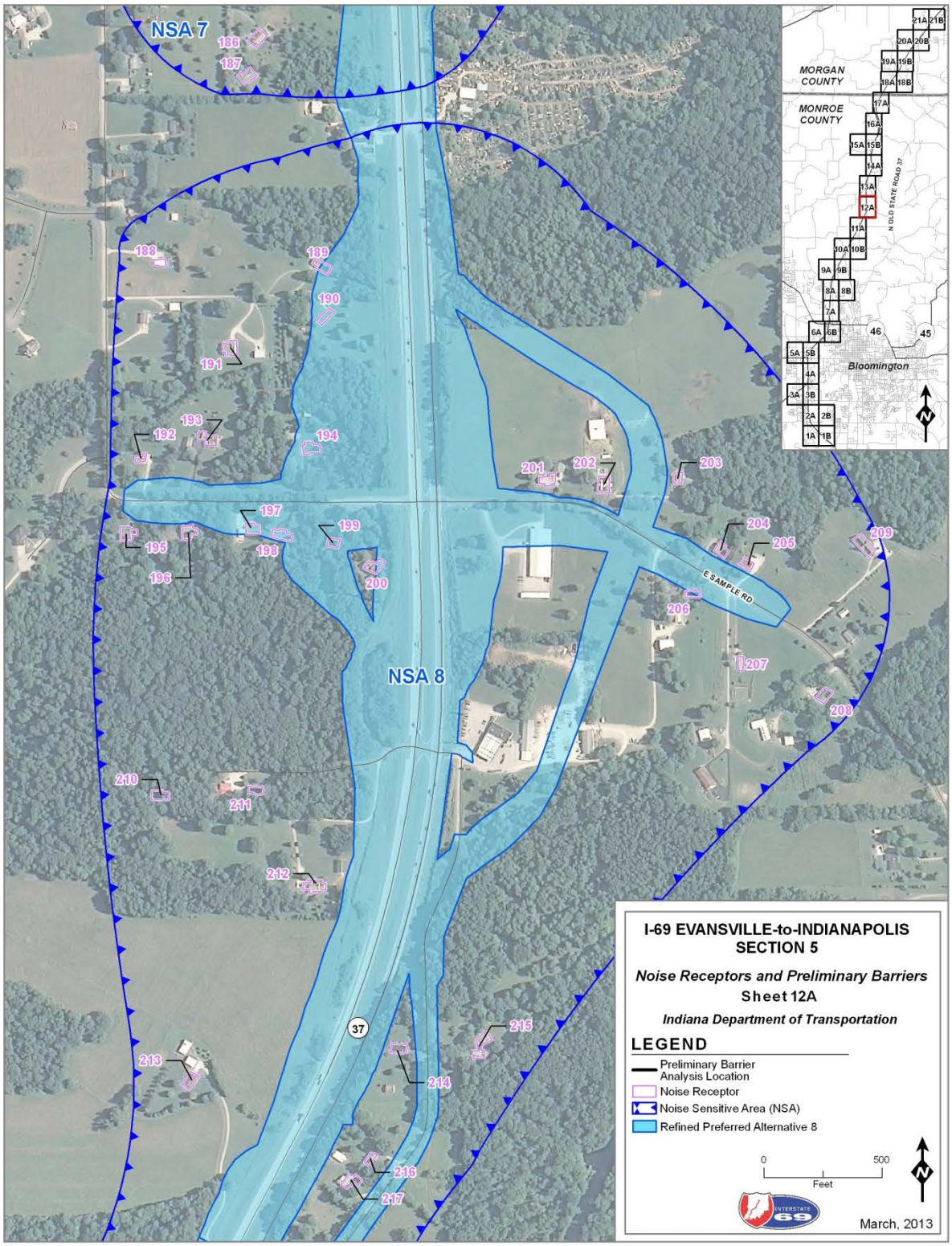


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 12A)

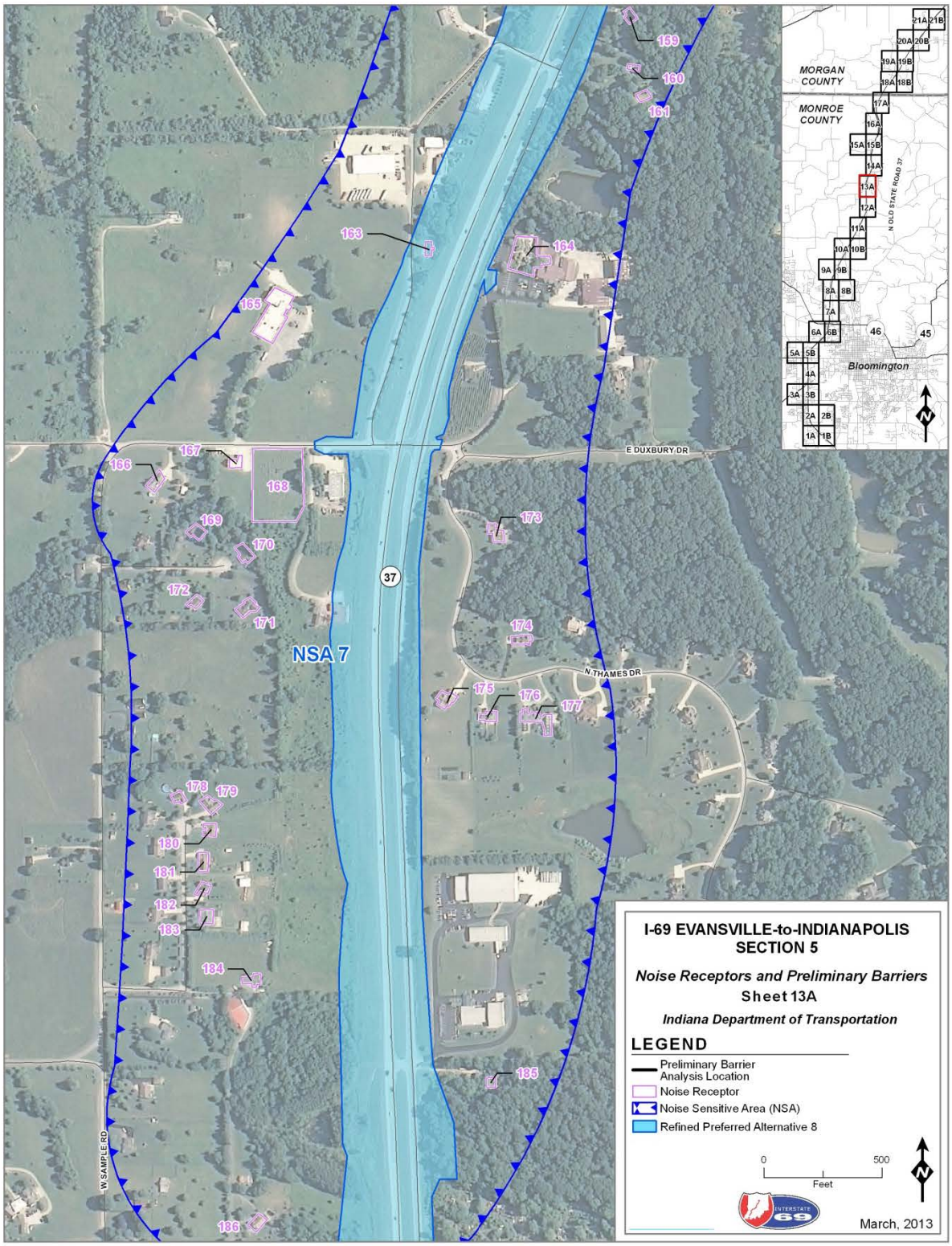


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 13A)

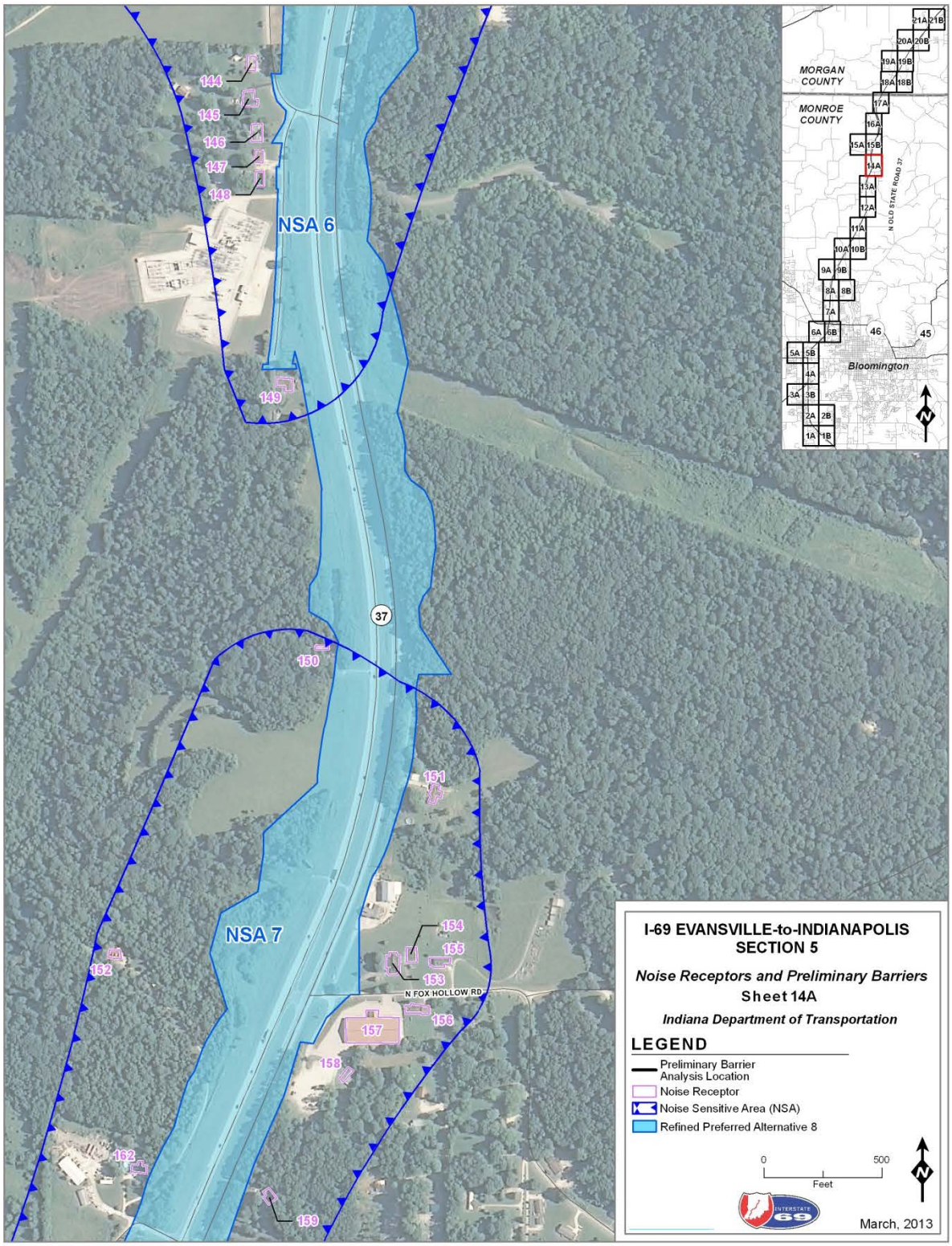


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 14A)

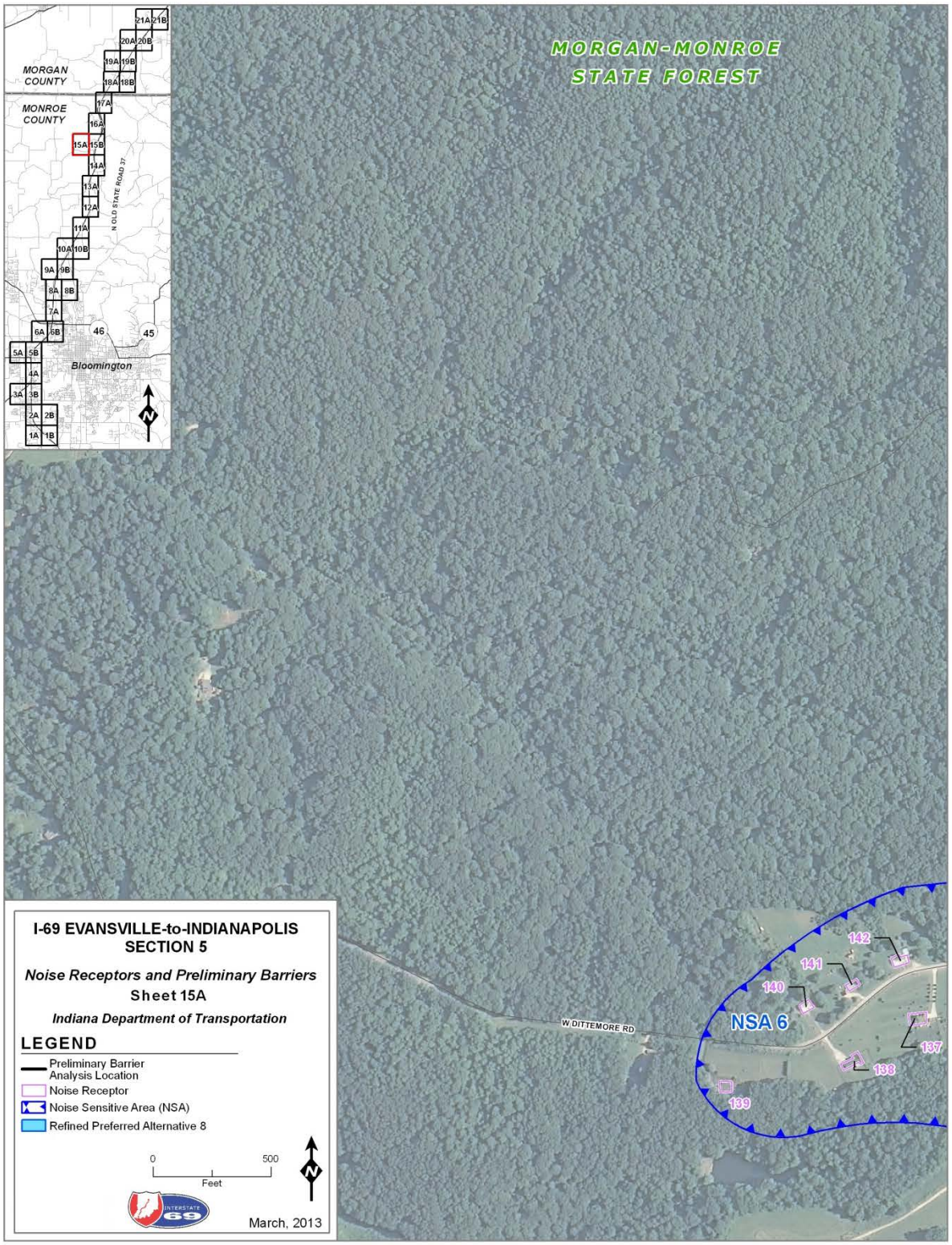


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 15A)

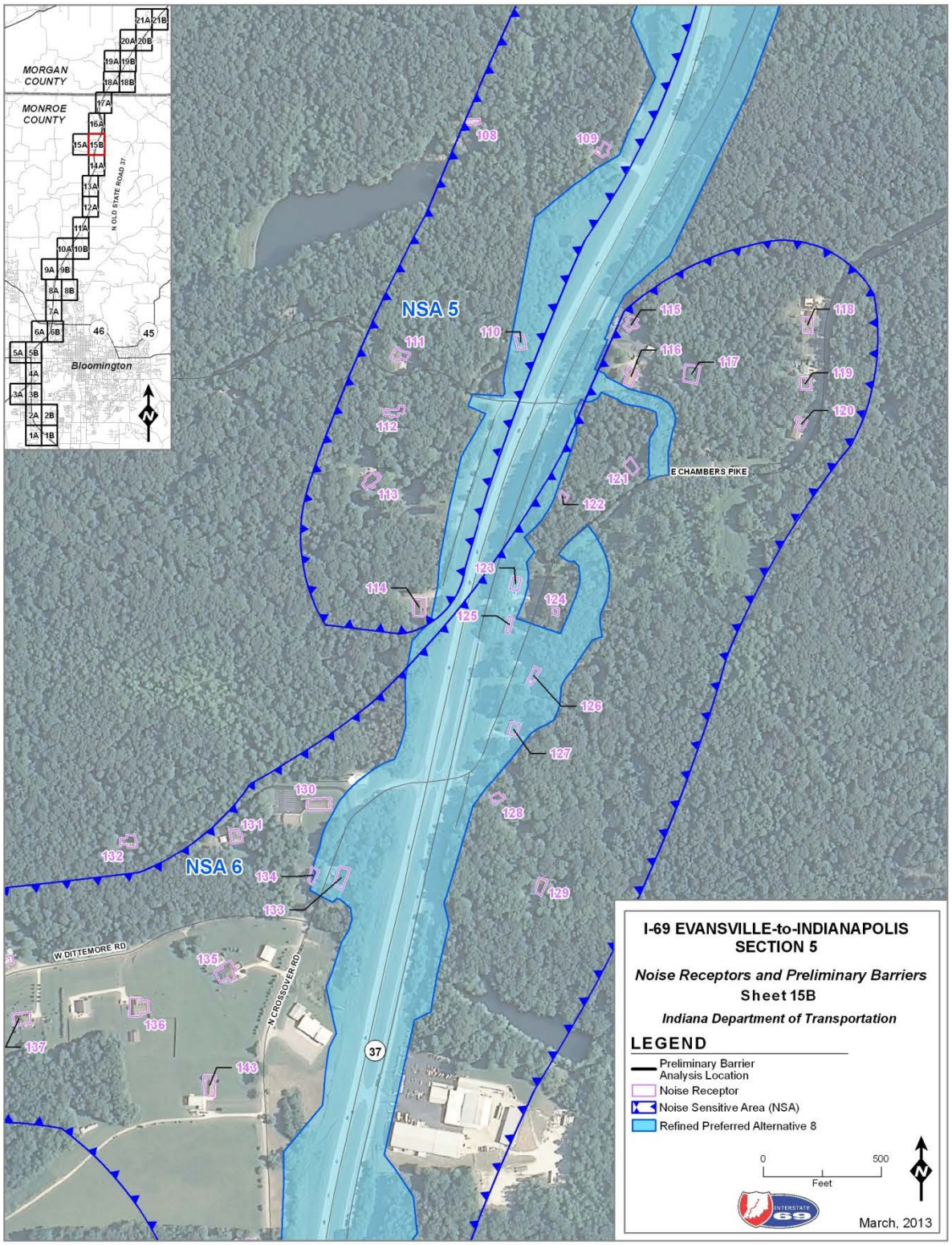


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 15B)

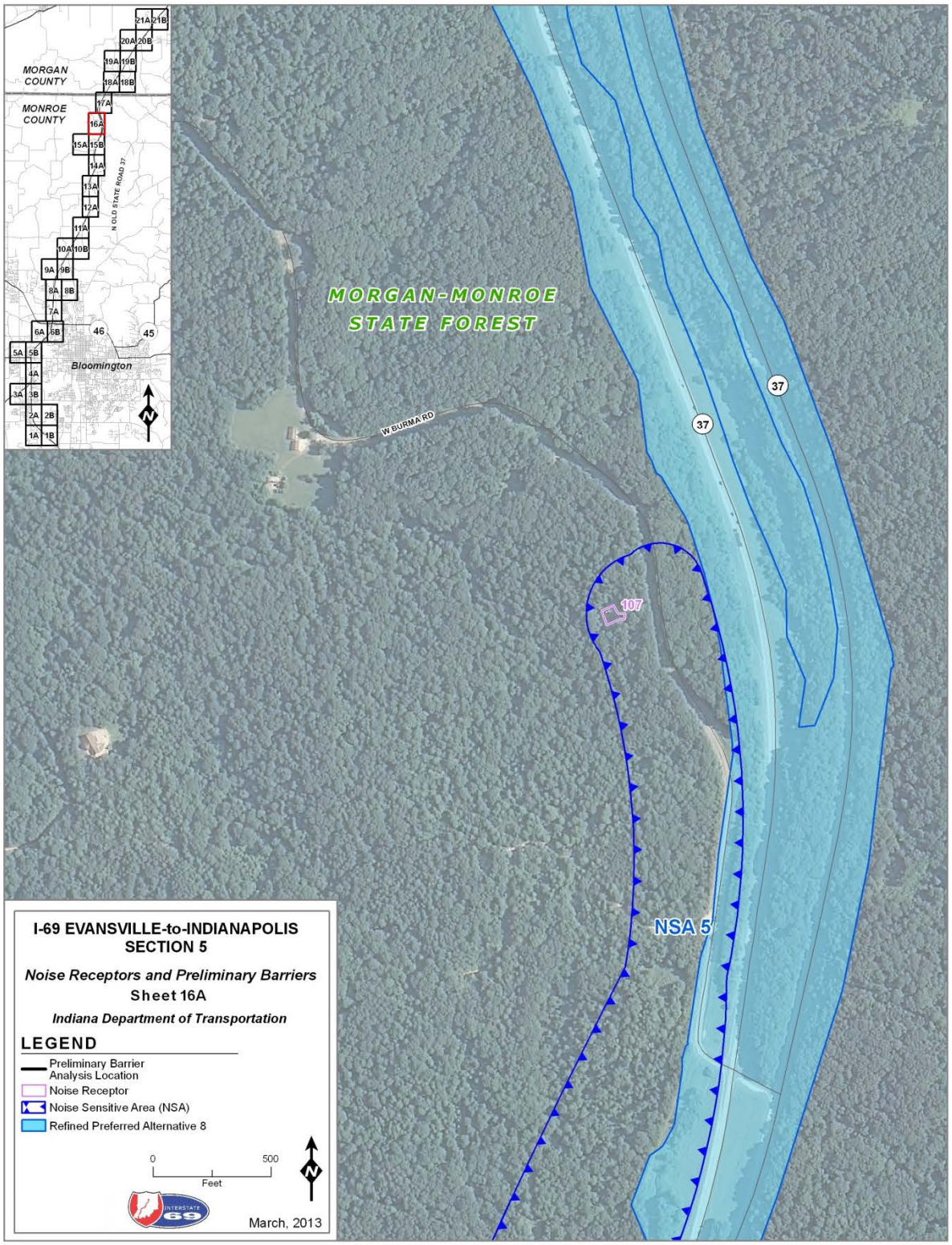


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 16A)

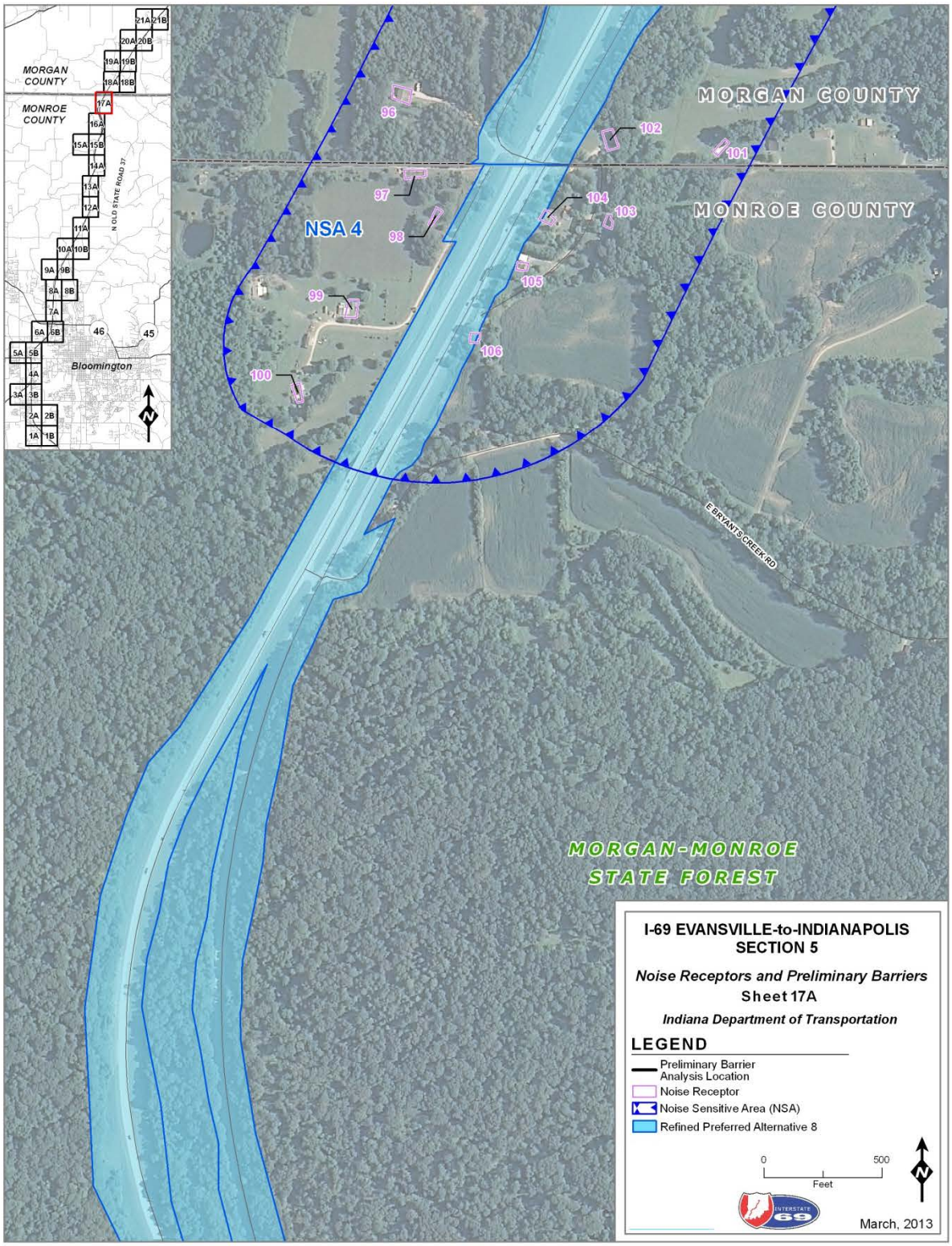


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 17A)

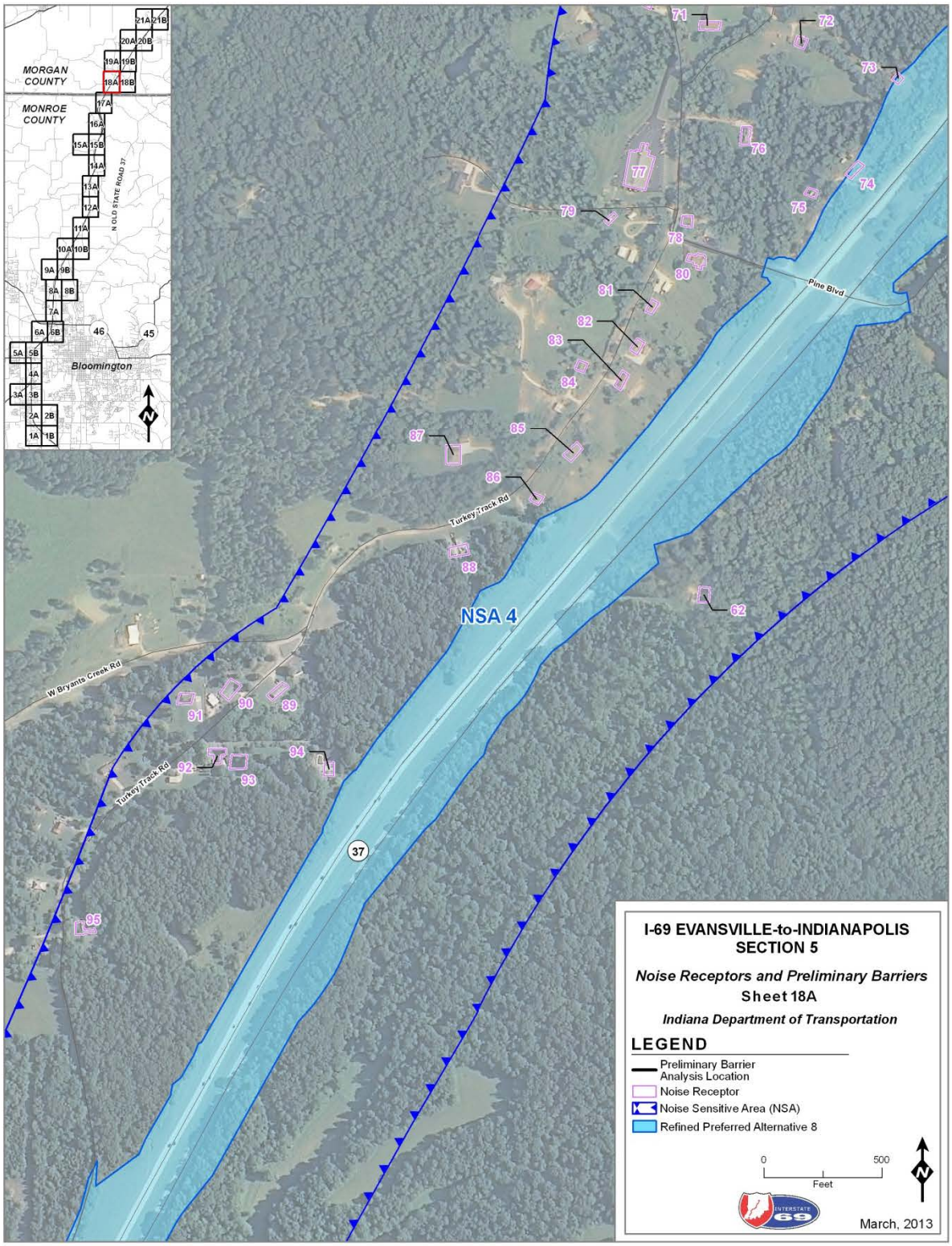


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 18A)

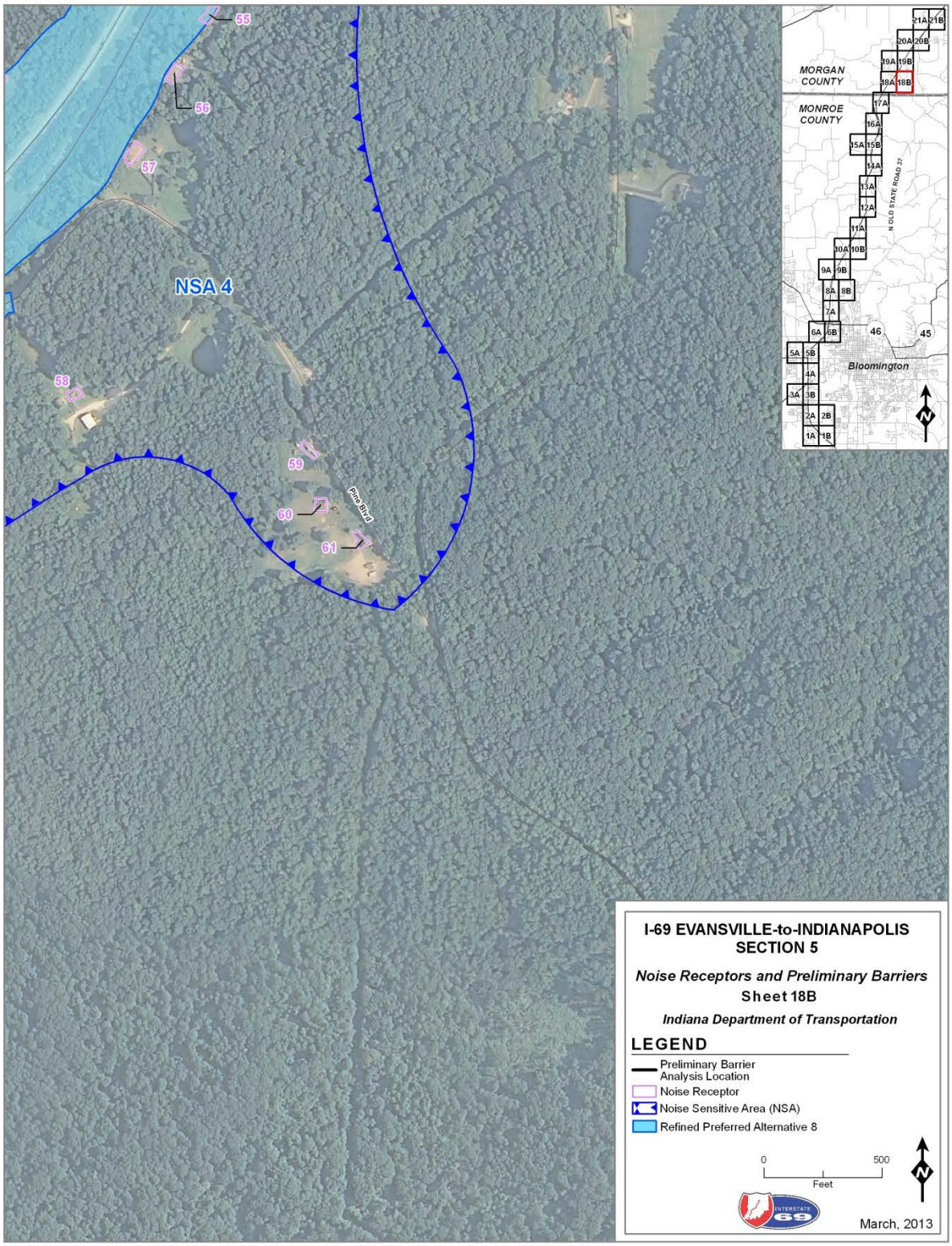


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 18B)

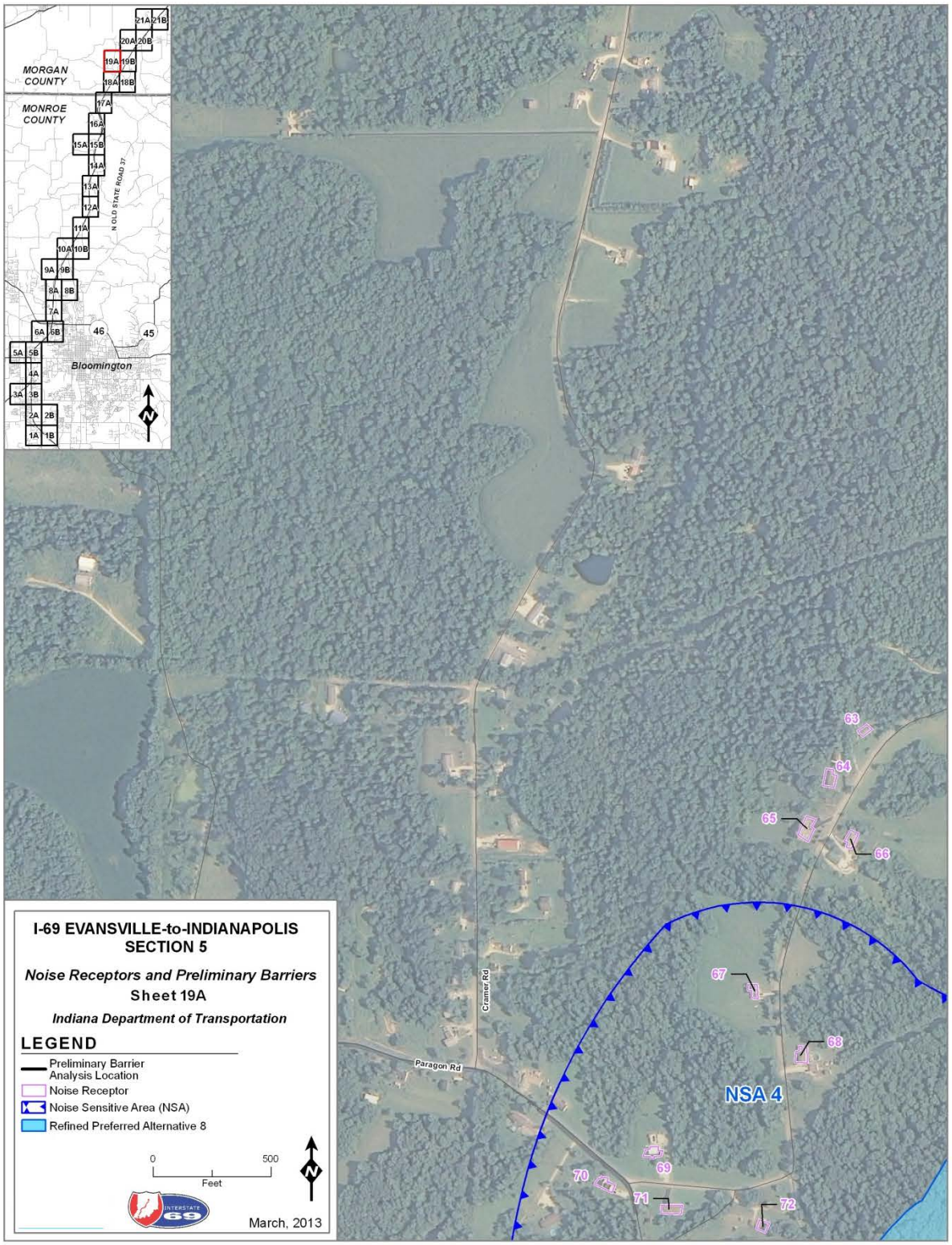


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 19A)

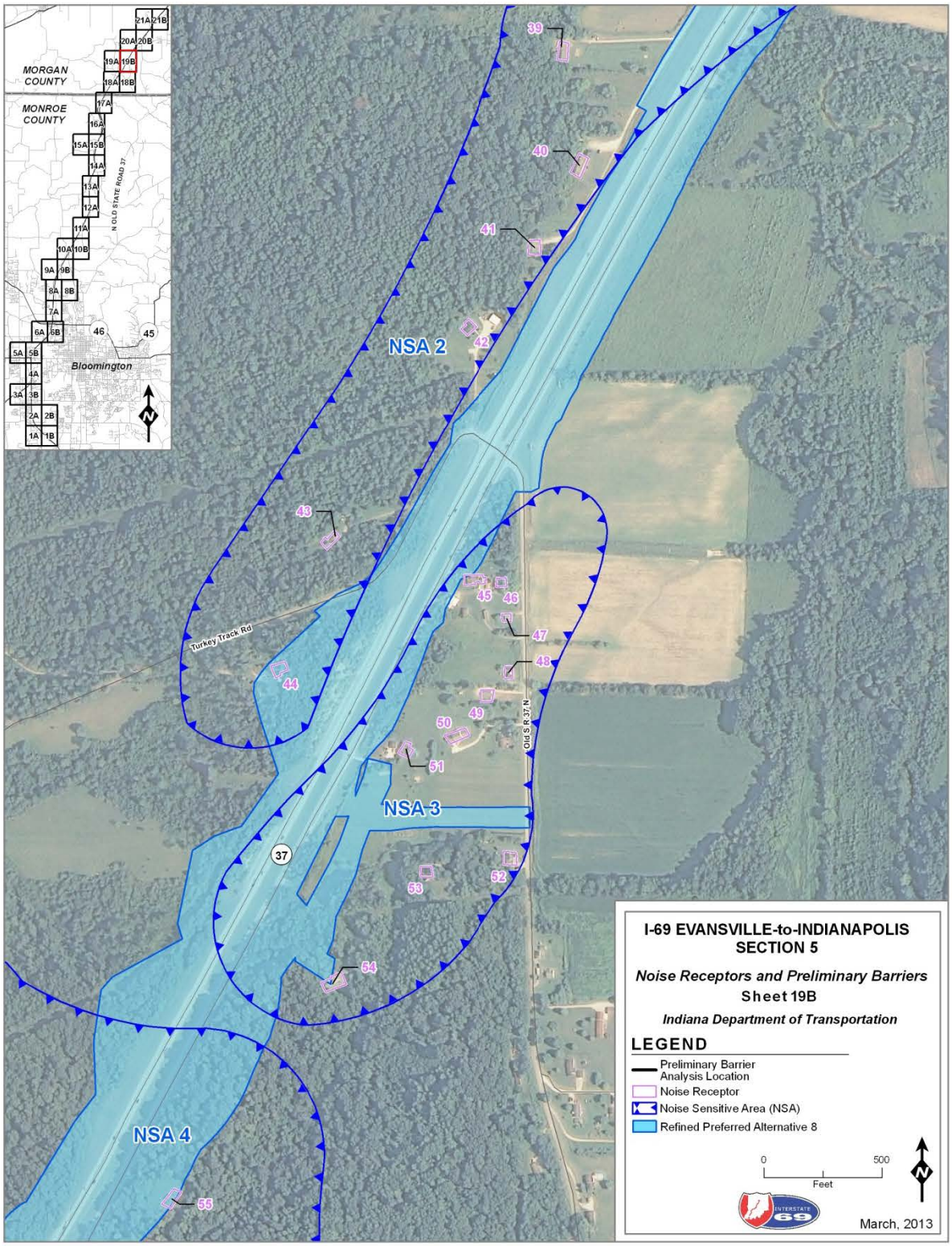


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 19B)

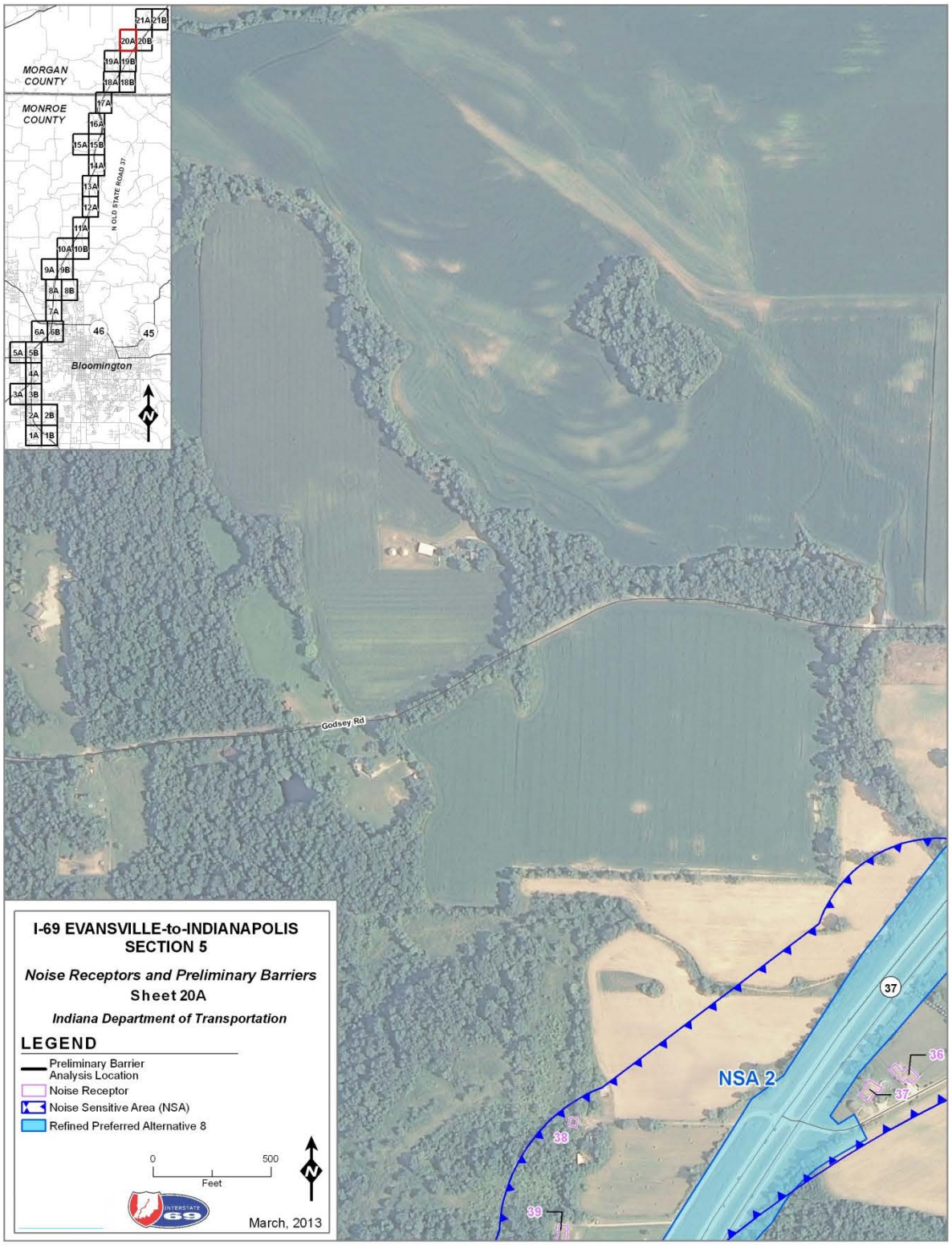


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 20A)

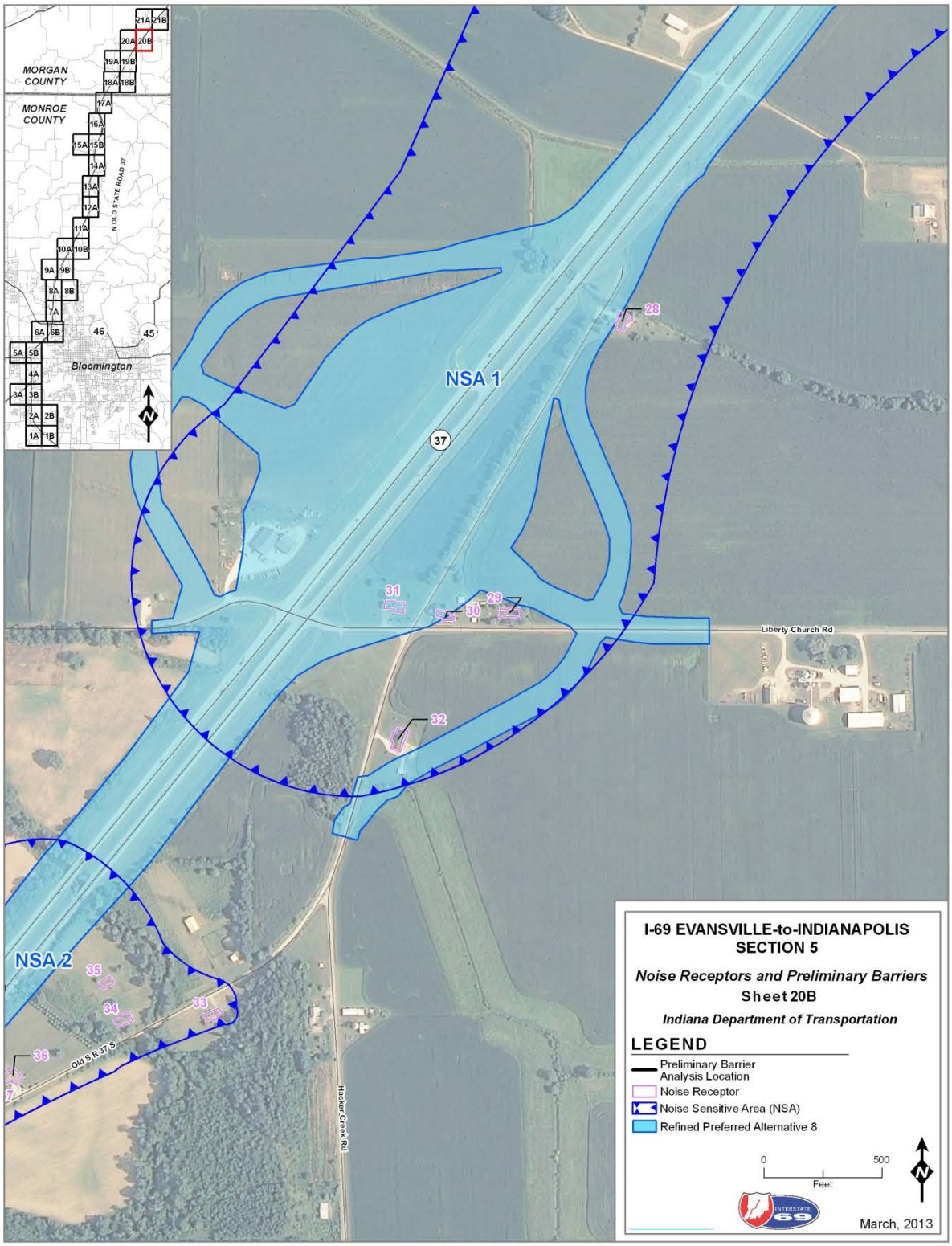


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 20B)

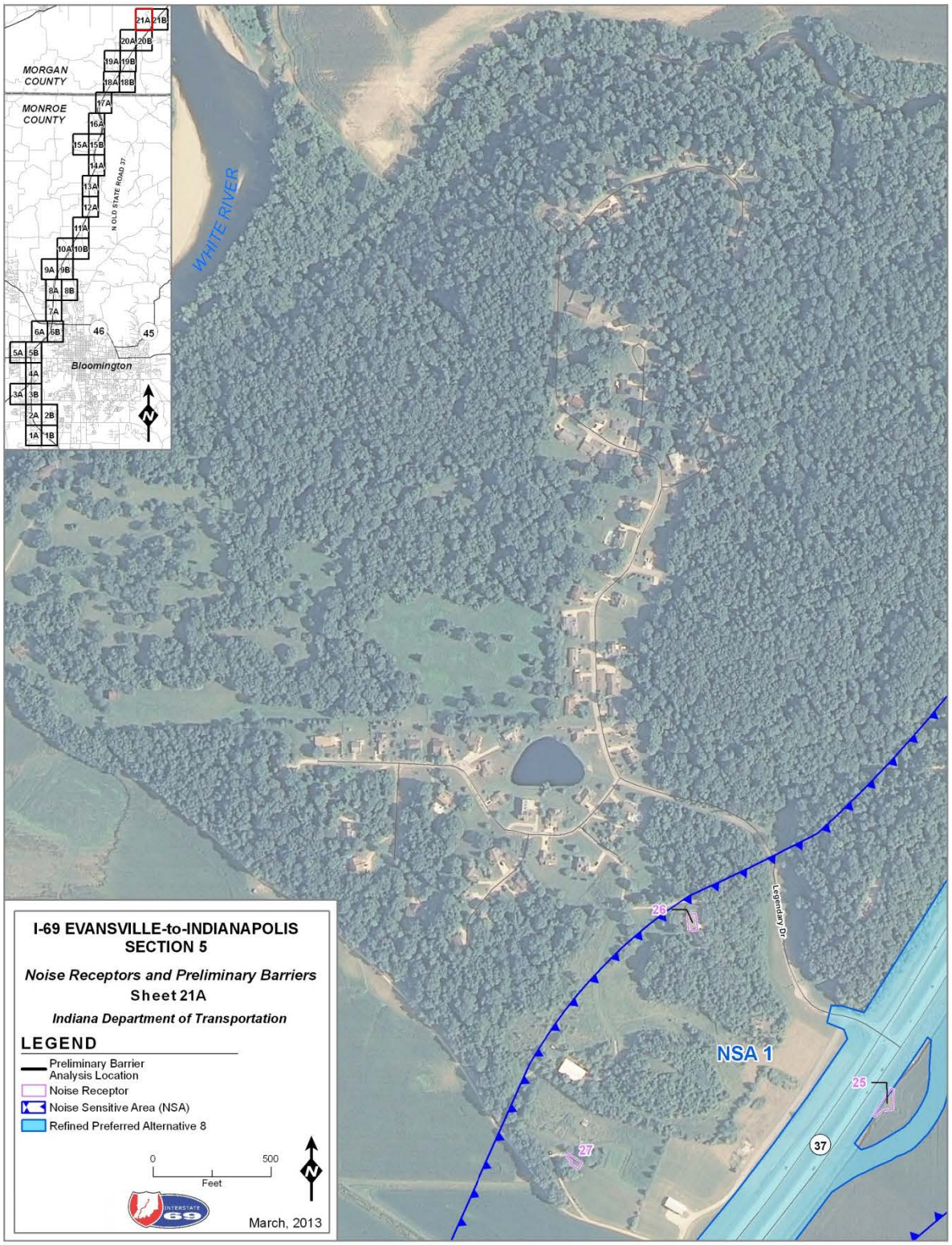


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 21A)

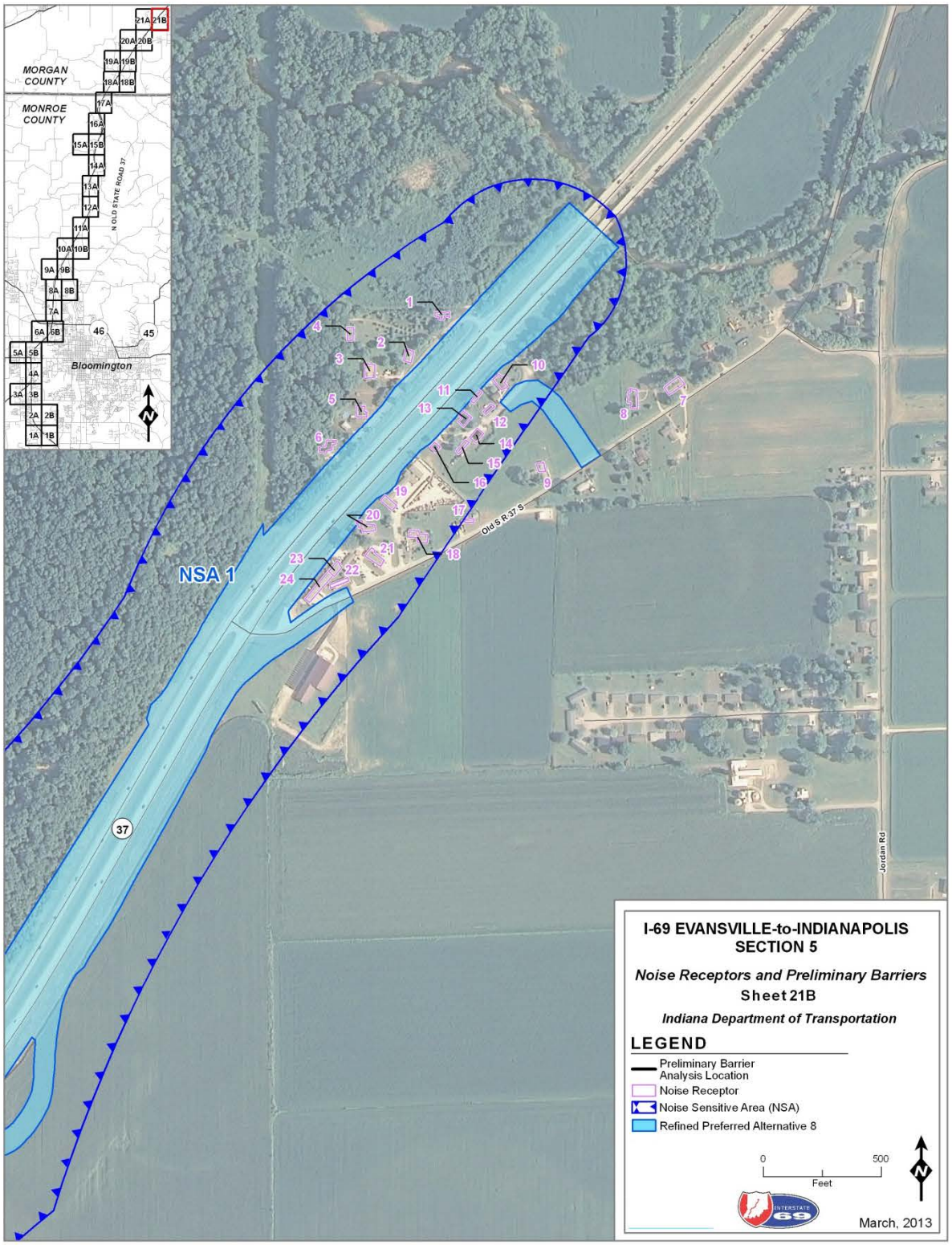


Figure 6: Noise Receptors & Preliminary Barrier Locations for Refined Preferred Alternative 8 (Sheet 21B)

APPENDIX W
FINAL NOISE TECHNICAL REPORT

TECHNICAL REPORT APPENDICES

APPENDIX A	Figures
APPENDIX B	**Noise Meter Calibration and Weather Data**
APPENDIX C	Ambient Noise Measurement Logs
APPENDIX D	Traffic Volumes
APPENDIX E	Predicted Sound Levels
APPENDIX F	TNM Input/Output Tables

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1 ACCREDITED
by NVLAP (an ILAC and APLAC signatory)

NVLAP®

NVLAP Lab Code: 200625-0

Calibration Certificate No.25725

Instrument:	Acoustical Calibrator	*Date Calibrated:* 3/15/2012 *Cal Due:*			
Model:	407744	*Status:*	Received	Sent	
Manufacturer:	Extech	*In tolerance:*	X	X	
Serial number:	H.175429-Z205457	*Out of tolerance:*			
Class (IEC 60942):	2	*See comments:*			
Barometer type:		*Contains non-accredited tests:* __ Yes X No			
Barometer s/n:					

Customer:	Michael Baker Jr., Inc.	*Address:*	Airside Business Park 100 Airside Drive Moon Township, PA 15108
Tel/Fax:	412-269-4644 / -375-3988		

Tested in accordance with the following procedures and standards:
Calibration of Acoustical Calibrators, Scantek Inc., Rev. 10/1/2010

Instrumentation used for calibration: Nor-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
488B-Norsonic	SMC Cal Unit	25747	Jul 1, 2011	Scantek, Inc./ NVLAP	Jul 1, 2012
05-760-505	Function Generator	65615	Nov 16, 2011	ACR Env./ A2LA	Nov 16, 2013
34401A-Agilent Technologies	Digital Voltmeter	MY41022043	Dec 9, 2011	ACR Env./ A2LA	Dec 9, 2012
DPI 141-Druck	Pressure Indicator	290/50-01	Dec 13, 2010	ACR Env./ A2LA	Dec. 13, 2012
HMP233-Vaisala Oyj	Humidity & Temp. Transmitter	V3820001	Jul 29, 2011	Vaisala / A2LA	Jul 29, 2012
8903A HP	Audio Analyzer	2514A05691	Dec 1, 2010	ACR Env./ A2LA	Dec 1, 2013
-C Program 1018-Norsonic	Calibration software	v.0.2	Validated March 2011	Scantek, Inc.	-
4134-Brüel&Kjær	Microphone	1/3309	Dec 13, 2011	Scantek, Inc. / NVLAP	Dec 13, 2012
1202-Norsonic	Preamplifier	14059	Jan 3, 2012	Scantek, Inc./ NVLAP	Jan 3, 2013

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK)

Calibrated by	Valentin Bordugo	Checked by	Marius Bordugo
Signature		Signature	
Date	3/15/2012	Date	3/15/2012

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

Document stored as: Z:\Calibration Lab\Cal 2012\Ex407744_H.175429 Z205457 M1.doc

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC and APLAC signatory)

NVLAP®

NVLAP Lab Code: 200625-0

Calibration Certificate No.25724

Instrument:	Microphone	*Date Calibrated:* 3/15/2012	*Cal Due:*
Model:	1229	*Status:*	Received / Sent
Manufacturer:	Norsonic	*In tolerance:*	X / X
Serial number:	00529	*Out of tolerance:*	
Composed of:		*See comments:*	
		Contains non-accredited tests:	Yes X No

Customer:	Michael Baker Jr., Inc.	*Address:*	Airside Business Park 100 Airside Drive Moon Township, PA 15108
Tel/Fax:	412-269-4644 / -375-3988		

Tested in accordance with the following procedures and standards:
Calibration of Measurement Microphones, Scantek, Inc., Rev. 11/30/2010

Instrumentation used for calibration: N-1504 Norsonic Test System:

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. Lab / Accreditation	Cal. Due
1830-Norsonic	SME Cal Unit	25747	Jul 1, 2011	Scantek, Inc. / NVLAP	Jul 1, 2012
DS-360-SRS	Function Generator	61646	Nov 16, 2011	ACR Env / A2LA	Nov 16, 2013
34401A-Agilent Technologies	Digital Voltmeter	MY41072043	Dec 9, 2011	ACR Env / A2LA	Dec 9, 2013
DPI 141-Druck	Pressure Indicator	790/00-04	Dec 13, 2010	ACR Env / A2LA	Dec 13, 2012
HMP77-Vaisala Oyj	Humidity & Temp. Transmitter	V3820002	Jul 29, 2011	Vaisala / A2LA	Jul 29, 2013
PC Program 1017 Norsonic	Calibration software	v.5.2	Validated Mar 2011	Scantek, Inc.	-
1251-Norsonic	Calibrator	28826	Dec 23, 2011	Scantek, Inc / NVLAP	Dec 23, 2012
1209-Norsonic	Preamplifier	14059	Jan 3, 2012	Scantek, Inc / NVLAP	Jan 3, 2013
4160-Brüel&Kjær	Microphone	2246115	Nov 21, 2011	NPL-UK / UKAS	Nov 21, 2013

Instrumentation and test results are traceable to SI - BIPM through standards maintained by NPL (UK) and NIST (USA)

Calibrated by	Valentin Buzduga	**Checked by**	Marlana Buzduga
Signature		Signature	
Date	3/15/2012	Date	3/16/2012

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.
Document stored as: Z:\Calibration Lab\Mic 2012\NOM1229_00529_M1.doc

Scantek, Inc.
CALIBRATION LABORATORY

ISO 17025: 2005, ANSI/NCSL Z540:1994 Part 1
ACCREDITED by NVLAP (an ILAC and APLAC signatory)

NVLAP®

NVLAP Lab Code: 200025-0

Calibration Certificate No.25723

Instrument:	Sound Level Meter	*Date Calibrated:* 3/15/2012	*Cal Due:*
Model:	132	*Status:*	Received / Sent
Manufacturer:	Norsonic	*In tolerance:*	X / X
Serial number:	1322870	*Out of tolerance:*	
Tested with:	Microphone 1225 s/n 00529 Preamplifier	*See comments:*	
		Contains non-accredited tests:	___ yes X No
Type (class):	2	*Calibration service:*	___ Basic X Standard
Customer:	Michael Baker Jr., Inc.	*Address:*	Airside Business Park 100 Airside Drive Moon Township, PA 15108
Tel/Fax:	412-269-4644 / -375-9988		

Tested in accordance with the following procedures and standards:
Calibration of Sound Level Meters, Scantek Inc., Rev. 6/7/2005
SLM & Dosimeters – Acoustical Tests, Scantek Inc., Rev. 7/6/2011

Instrumentation used for calibration: Nor-1504 Norsonic Test System

Instrument - Manufacturer	Description	S/N	Cal. Date	Traceability evidence Cal. lab / Accreditation	Cal. Due
4833-Norsonic	SMF Cal Unit	25347	Jul 6, 2011	Scantek, Inc / NVLAP	Jul 11, 2012
DS-360-SRS	Function Generator	61140	Nov 16, 2011	ACR Env. / A2LA	Nov 16, 2013
34401A-Agilent Technologies	Digital Voltmeter	MY41022043	Dec 9, 2011	ACR Env. / A2LA	Dec 9, 2012
DPI 141-Druck	Pressure Indicator	790/00 04	Dec 13, 2010	ACR Env. / A2LA	Dec 13, 2012
HMP233-Vaisala Oyj	Humidity & Temp. Transmitter	V5820001	Jul 29, 2011	Vaisala / A2LA	Jul 29, 2012
PC Program 1019 Norsonic	Calibration software	v.5.2	Validated Mar 2011	Scantek, Inc.	-
1251-Norsonic	Calibrator	32848	Dec 13, 2011	Scantek, Inc / NVLAP	Dec 13, 2012

Instrumentation and test results are traceable to SI (International System of Units) through standards maintained by NIST (USA) and NPL (UK).

Environmental conditions:

Temperature (°C)	Barometric pressure (kPa)	Relative Humidity (%)
24.3 °C	100.074 kPa	47.7 %RH

Calibrated by	Valentin Bodiga	Checked by	Mariana Rusuioga
Signature		Signature	
Date	3/15/2012	Date	3/15/2012

Calibration Certificates or Test Reports shall not be reproduced, except in full, without written approval of the laboratory.
This Calibration Certificate or Test Reports shall not be used to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the federal government.

History for Bloomington, IN

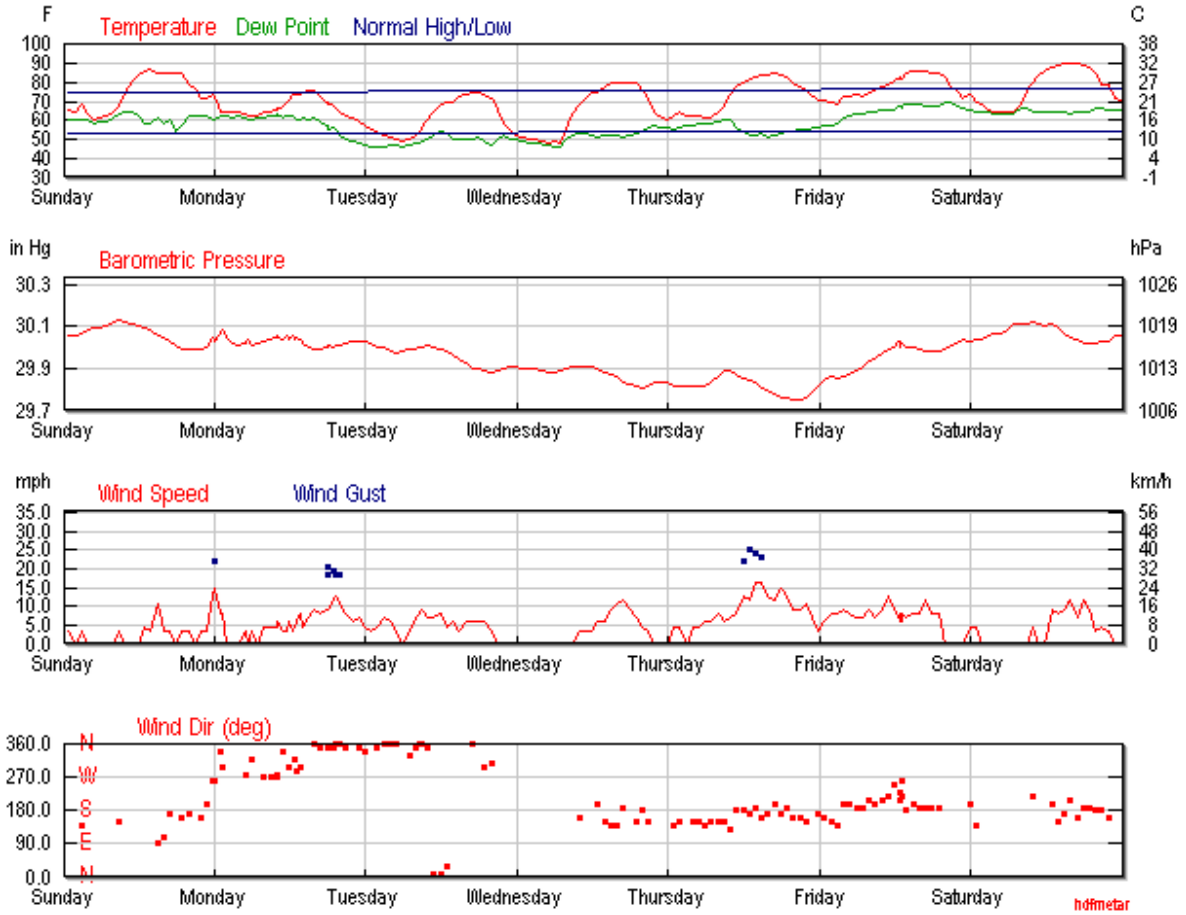
Week of May 20, 2012 through May 26, 2012 — View Current Conditions

Week of May 20, 2012 through May 26, 2012

« Previous Week | May | 22 | 2012 | View | Next Week »

Daily | **Weekly** | Monthly | Custom

	Max	Avg	Min	Sum
Temperature				
Max Temperature	91 °F	84 °F	76 °F	
Mean Temperature	78 °F	71 °F	63 °F	
Min Temperature	69 °F	58 °F	47 °F	
Degree Days				
Heating Degree Days (base 65)	2	0	0	3
Cooling Degree Days (base 65)	13	6	0	45
Growing Degree Days (base 50)	28	21	12	144
Dew Point				
Dew Point	70 °F	58 °F	46 °F	
Precipitation				
Precipitation	0.07 in	0.01 in	0.00 in	0.10 in
Snowdepth	-	-	-	-
Wind				
Wind	21 mph	5 mph	0 mph	
Gust Wind	29 mph	20 mph	17 mph	
Sea Level Pressure				
Sea Level Pressure	30.13 in	29.97 in	29.75 in	


F
Temperature
Dew Point
Normal High/Low
C
100
90
80
70
60
50
40
30
38
32
27
21
16
10
4
-1
Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
in Hg
Barometric Pressure
hPa
30.3
30.1
29.9
29.7
1026
1019
1013
1006
mph
Wind Speed
Wind Gust
km/h
35.0
30.0
25.0
20.0
15.0
10.0
5.0
0.0
56
48
40
32
24
16
8
0
Wind Dir (deg)
360.0
270.0
180.0
90.0
0.0
N
W
S
E
N
hdfmetar

Noise Field Calibration Results		
Site	**Starting Calibration (dB)**	**Ending Calibration (dB)**
M-1	93.2	93.2
M-2	93.2	93.2
M-3	93.2	93.2
M-4	93.1	93.1
M-5	93.1	93.1
M-6	93.1	93.1
M-7	93.1	93.1
M-8	93.2	93.2
M-9	93.1	93.1
M-10	93.2	93.2
M-11	93.1	93.1
M-12	92.9	92.9
M-13	93.1	93.1
M-14	93.1	93.1
M-15	92.8	92.8
M-16	93.1	93.1
M-17	93.1	93.1
M-18	93.1	93.1
M-20	93.1	93.1
M-21	92.9	92.9
M-22	92.9	92.9
M-23	93.1	93.1
M-24	93.1	93.1
M-25	93.1	93.1
M-26	93.1	93.1
M-27	92.9	92.9
M-28	93.1	93.1
M-29	93.1	93.1
M-31	93.1	93.1
M-32	93.1	93.1
M-34	93.1	93.1