Appendix F

Traffic Noise Abatement Analysis
Volume 1

I-290 Eisenhower Expressway
Cook County, Illinois

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Illinois Department of Transportation

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Section One: Introduction

This traffic noise analysis has been prepared to evaluate traffic noise for the Eisenhower Expressway (I-290) Reconstruction Project. The noise study area, shown in Figure 1, is in within the Villages of Hillside, Westchester, Bellwood, Broadview, Maywood, Forest Park, Oak Park, and the City of Chicago in Cook County, Illinois. The noise study evaluates existing and future traffic noise conditions, and if appropriate, will evaluate potential noise abatement measures.

This Volume 1 noise report is divided into sections as follows: Noise Background and Regulations (Section 2); Noise Receptor Selection (Section 3), Field Noise Measurements (Section 4), Noise Analysis Methodology (Section 5), Traffic Noise Model Results (Section 6), and conclusions and next steps (Section 7). Volume 2 of the traffic noise analysis will present impacts and abatement analysis for the Build condition, an analysis of currently undeveloped lands within the noise study area, and a discussion of construction noise considerations.

Section 2: Noise Background and Regulations

Noise Background

Sound is a pressure fluctuation in air, transmitting mechanical energy caused by vibration. Loudness is measured on a logarithmic scale using units of decibels (dB). Sound is composed of a wide range of frequencies; however, the human ear is not uniformly sensitive to all frequencies. Therefore, an "A" weighted scale was devised to correspond with the sensitivity of the human ear. The A-weighting generally weights more heavily noise levels in the humanly audible range and screens out noise levels that cannot be heard but are still generated, such as by a high-frequency dog whistle. The A-weighted scale is used because:

1) It is easily measured.
2) It approximates the sensitivity of the human ear to sounds of different frequencies.
3) It matches attitudinal surveys of noise annoyance better than other noise measurements.
4) It has been adopted as the basic unit of environmental noise by many agencies around the world for community noise issues.

The equivalent sound level (L_{eq}) is the steady-state, A-weighted sound level that contains the same amount of acoustic energy as the actual time-varying, A-weighted sound level over a specified period. If the period is 1 hour, the descriptor is the hourly equivalent sound level or $L_{eq}(h)$, which is widely used by state highway agencies as a descriptor of traffic noise. It is generally the equivalent level of sound (in dB(A)) that represents the level of sound, held constant over a specified period, that reflects the same amount of energy as the actual fluctuating noise over that period. L_{eq} is based on the energy average, not a noise level average.

Federal Regulations

Traffic noise analyses are required for all projects considered a Type I project. The Federal regulations define Type I projects as any of the following:

- The construction of a highway on new location,
- The physical alteration of an existing highway where there is either:
    - Substantial Horizontal Alteration. A project that halves the distance between the traffic noise source and the closest receptor between the existing condition to the future build condition or
    - Substantial Vertical Alteration. A project that removes shielding therefore, exposing the line-of-sight between the receptor and the traffic noise source. (This is done by either altering the vertical alignment of the highway or by altering the topography between the highway traffic noise source and the receptor.)
- The addition of a through-traffic lane(s). (This includes the addition of a through-traffic lane that functions as a HOV lane, High-Occupancy Toll (HOT) lane, bus lane, or truck climbing lane.)
- The addition of an auxiliary lane, except for when the auxiliary lane is a turn lane,
- The addition or relocation of interchange lanes or ramps added to a quadrant to complete an existing partial interchange,
- Restriping existing pavement for the purpose of adding a through-traffic lane or an auxiliary lane, or,
- The addition of a new or substantial alteration of a weigh station, rest stop, ride-share lot or toll plaza.

This proposed improvement to I-290 would be characterized as a Type I noise project as it includes the addition of through-traffic lanes.

Federal regulations establish noise abatement criteria to establish noise levels where noise abatement should be evaluated. Five separate noise abatement criteria (NAC) based upon land use are used by the FHWA to assess potential noise impacts. A traffic noise impact occurs when noise levels approach (within 1 dB(A)) or exceed the NAC listed in Table 1.[1] In determining the applicable noise activity category for the study area, existing land use was reviewed. The applicable NAC for all residential noise receptors evaluated is 67 dB(A).

[1] Based on 23 Code of Federal Regulations Part 772, Procedures for Abatement of Highway Traffic Noise and Construction Noise. (adopted 2010).

TABLE 1
NOISE ABATEMENT CRITERIA - HOURLY WEIGHTED SOUND LEVEL

Activity Category[1]	$L_{eq}(h)$	Evaluation Location	Activity Description
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67	Exterior	Residential.
C	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D[2]	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.
F	---	---	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	---	---	Undeveloped lands that are not permitted.

IDOT Policy

Based on the FHWA regulations, State Highway Authorities are allowed to define the noise impacts as 1) the build noise level determined to approach the NAC and 2) the increase in build noise levels determined to be a substantial increase from existing levels. The Illinois Department of Transportation (IDOT) defines noise impacts as follows:

- Design-year traffic noise levels approach, meet or exceed the NAC, with approach defined as 66 dB(A) for the residential NAC of 67 dB(A).
- Design-year traffic noise levels are a substantial increase over existing traffic-generated noise levels, defined as an increase greater than 14 dB(A).

[2] FHWA does not determine interior noise impacts for residential land uses. An interior noise analysis is completed only if no exterior areas of frequent human use exist.

Section 3: Noise Receptor Selection

Receptor locations are selected to reflect changes in traffic noise levels as a result of changes in traffic volumes, speed, composition (trucks and cars), roadway alignment (horizontal and vertical), number of lanes, shielding, and ground cover. The distance to I-290 from the receptor was the primary factor used to select receptors for this project and was limited to receptors within 500 feet of the proposed improvements. The distance of 500 feet is based on FHWA's 2010 performance evaluation of the Traffic Noise Model (TNM) 2.5, the model that will be used to predict existing, no build, and build noise levels for the proposed project. The evaluation found that TNM is most accurate when used to assess receptors within 500 feet of the roadway, and that TNM under-predicted sound levels for "soft" ground types (turf) and over-predicted sound levels for "hard" ground types (pavement) for receptors farther than 500 feet from the roadway.[3] The IDOT Highway Traffic Noise Assessment Manual (2011) states that noise receptors should be screened within 500 feet of the roadway, based upon the findings of the FHWA 2010 performance evaluation.

The traffic noise analysis evaluates the study area using common noise environments (CNEs). A CNE is a group of receptors within the same activity category that are exposed to similar noise sources and levels. Within each of the CNEs, the closest receptor was selected to represent the CNE, thereby representing the worst-case traffic noise condition. The represented receptors within the CNEs will have similar traffic noise levels as the selected receptor.

Table 2 lists the receptor number, location, receptor type, and the approximate distance to the existing I-290 edge of pavement. Figure 3 depicts aerial photographs of each representative receptor and its corresponding CNE. The figure shows "primary" and "secondary" land use classifications used to identify the Land Use Activity Category for each area within the project corridor. This distinction was made because the land uses in the project area are urban and sometimes have multiple land uses within a single building. Buildings with more than one land use that could be represented by multiple Activity Categories were designated with "Primary" and "Secondary" land uses that were used to determine traffic noise impacts. For instance, a single building could contain a café with sidewalk seating on the first floor, with residential on the second floor (with an outdoor balcony) that could be considered either Activity Category B (residential) or E (restaurant). "Primary" land uses represent the most noise-sensitive land use in that building, and represent the land use category that will be used for traffic noise impacts determination.

For example, residential land use/Activity Category B has a lower NAC (67 dB(A)) than restaurants/Activity Category E (72 dB(A)); therefore the "primary" land use category for that site would be Activity Category B (NAC of 67 dB(A)). "Secondary" land uses are shown as a hatching over the "Primary" land use to indicate the other uses in the building that have NAC, but the NAC is greater than or equal to that of the primary land use. In the example given, Activity Category E (NAC of 72 dB(A)) would be the category of the "secondary" land use.

[3] U.S. Department of Transportation Research and Innovative Technology Administration. "Ground and Pavement Effects using FHWA's Traffic Noise Model 2.5." April 2010.

The existing land use adjacent to the entirety of the I-290 corridor is urban, comprised mainly of residential use, with sections of industrial, commercial, office, cemetery, and parks/recreational uses interspersed. The study area contains a wide variety of land uses, as represented in Table 2. There were no identified land uses in the project area that would be classified as Activity Category A. Table 1 defines Activity Category A as "lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose." An example of this is the Tomb of the Unknown Soldier located at the Arlington National Cemetery in Washington D.C. Very few areas qualify to be Activity Category A. For this analysis, parks in the I-290 study area were designated as Activity Category C, a typical designation for a park. The IDOT traffic noise policy states noise receptors in parks exist at outdoor gathering areas, such as a baseball field, playground equipment, or a bench. It is recognized that there are notable parks in the study area, including Columbus Park (between Austin Boulevard and Central Avenue), which is listed in the National Register of Historic Places; however, the park is presently located adjacent to the I-290 corridor, and none of the park's uses appear to be restricted by its proximity to I-290 and the existing highway noise.

Activity Category D is the only activity category for which interior noise is studied. The IDOT traffic noise policy states that primary consideration should be given to exterior areas where frequent human use occurs for Activity Categories A, B, C, and E. The policy states that consideration should be given to Activity Category D land uses only if no exterior use areas are identified. No Activity Category D areas were found to exist within the project corridor. In the I-290 noise study area, exterior use areas were identified for all Activity Category D land uses in the corridor (see Table 1 for a list of all Activity Category D land uses). No recording, radio, or television studios were identified within the noise study area.

Noise receptors were located using aerial photography and field investigations to determine exterior areas of frequent human use, such as balconies, benches, or other gathering places, in accordance with the IDOT traffic noise policy. Receptors were studied on each floor of multi-story buildings where outdoor areas of frequent human use existed (such as balconies on every story of a multi-story apartment building) in order to determine which floor of the building constituted the worst-case noise level for the building. Noise level results (in Section 6) present only the worst-case receptor per building.

TABLE 2
IDENTIFIED NOISE RECEPTORS
INTERSTATE ROUTE 290: WEST OF US 45 (MANNHEIM ROAD) TO RACINE AVENUE

Receptor/CNE No.	NAC Activity Category[/a]	Type[/b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R1	E / 72	Office	375	Hillside
R2	C / 67	Church	490	
R3	B / 67	Single-family Residence (SFR)	130	
R4	B / 67	SFR	220	
R5	B / 67	SFR	65	
R6	B / 67	SFR	140	
R7	B / 67	SFR	145	
R8	B / 67	SFR	165	
R9	C / 67	School, Park, Medical Facility	200	
R10	E / 72	Hotel	270	
R11	C / 67	Church, Medical Lab, Day Care	325	
R12	E / 72	Office	450	
R13	B / 67	SFR	150	
R14	E / 72	Restaurant	655	
R15	B / 67	Mixed Residential	445	Bellwood, Westchester, Broadview
R16	B / 67	SFR	385	
R17	B / 67	Mixed Residential	115	
R18	C / 67	Church	350	
R19	B / 67	Multi-family Residence (MFR)	150	
R20	B / 67	MFR and Church/Community Center	260	
R21	B / 67	MFR	340	
R22	C / 67	Medical Clinic	425	
R23	E / 72	Restaurant	445	
R24	B / 67	MFR	495	
R25	B / 67	SFR	110	
R26	B / 67	MFR	120	
R27	B / 67	SFR	110	

Receptor/CNE No.	NAC Activity Category[/a]	Type[/b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R28	B / 67	SFR	190	Bellwood, Westchester, Broadview
R29	B / 67	SFR	110	
R30	B / 67	SFR	150	
R31	C / 67	Medical Services	350	
R32	C / 67	Medical Clinic	240	
R33	C / 67	Educational Center	520	
R34	E / 72	Office	420	
R35	B / 67	SFR	490	
R36	B / 67	SFR	455	Bellwood, Maywood
R37	B / 67	SFR	110	
R38	B / 67	SFR	120	
R38A	C / 67	Church	550	
R39	B / 67	Mixed Residential	115	
R40	B / 67	SFR	130	Maywood
R41	B / 67	SFR	125	
R42	C / 67	Church	140	
R43	B / 67	Mixed Residential	100	
R44	B / 67	Mixed Residential	135	
R45	C / 67	Playground for MFR housing	265	
R46	E / 72	Office	175	
R47	B / 67	Mixed Residential	150	
R48	C / 67	School	315	
R49	B / 67	SFR	135	
R50	C / 67	Church	270	
R51	B / 67	SFR (Church Rectory)	350	
R52	C / 67	Church/Community Center	440	
R52A	C / 67	Day Care	615	
R53	C / 67	School	360	
R54	B / 67	Mixed Residential	140	
R55	B / 67	Mixed Residential	135	
R56	C / 67	School	150	
R57	C / 67	Park	530	
R58	B / 67	Mixed Residential	110	
R59	B / 67	Mixed Residential	120	Forest Park

Receptor/CNE No.	NAC Activity Category[/a]	Type[/b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R60	E / 72	Restaurant	175	Forest Park
R61	E / 72	Office	180	
R62	C / 67	Cemetery	330	
R63	C / 67	Courthouse	220	
R64	C / 67	Cemetery	110	
R65	C / 67	Cemetery	320	
R66	C / 67	Medical Clinic	445	
R67	C / 67	Park	170	
R68	B / 67	Mixed Residential	460	
R69	C / 67	Park	120	
R70	B / 67	Mixed Residential	130	
R71	E / 72	Restaurant	615	
R72	C / 67	Medical Clinic	590	
R73	C / 67	Park	110	
R74	B / 67	Mixed Residential	565	
R75	C / 67	Church	525	
R76	B / 67	Mixed Residential	85	
R76A	C / 67	Community Garden	100	
R77	C / 67	Post Office	285	Oak Park
R78	C / 67	Yoga Studio	315	
R79	C / 67	Park	70	
R79A	B / 67	SFR	115	
R80	C / 67	Veterinarian, Daycare, Dance School	250	
R81	C / 67	School	200	
R82	B / 67	Mixed Residential	75	
R83	B / 67	Mixed Residential, Office	180	
R84	B / 67	MFR	165	
R85	B / 67	MFR, Office	160	
R86	B / 67	MFR, Office	65	
R87	E / 72	Restaurant	170	
R88	B / 67	MFR, Daycare, Medical Clinic	265	
R89	E / 72	Office	55	
R90	E / 72	Restaurant, Office	300	
R91	B / 67	MFR, Restaurant	500	

Receptor/CNE No.	NAC Activity Category[/a]	Type[/b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R92	B / 67	Mixed Residential	180	Oak Park
R93	C / 67	Conservatory	180	
R94	B / 67	Mixed Residential	50	
R95	C / 67	School	440	
R96	C / 67	Recreation	300	
R96A	C / 67	Fire Station	195	
R97	B / 67	Mixed Residential	625	
R98	C / 67	Library	155	
R99	B / 67	Mixed Residential	170	
R100	B / 67	MFR, Office, Clinic	60	
R101	C / 67	Clinic, Theater	75	
R102	B / 67	MFR, Health Care	260	
R103	C / 67	Veterinarian	270	
R104	B / 67	MFR, Spa	180	
R105	B / 67	MFR, Office	290	
R107	C / 67	Community Center	295	
R108	C / 67	Dance Studio	310	
R109	E / 72	Office	310	
R110	E / 72	Restaurant	310	
R111	B / 67	Mixed Residential	220	
R112	E / 72	Restaurant	390	
R113	B / 67	MFR, School	410	
R114	C / 67	Daycare	410	
R115	B / 67	MFR, Office	420	
R116	E / 72	Restaurant	280	
R117	C / 67	Park and Recreation	210	
R118	C / 67	Daycare	430	
R119	B / 67	Mixed Residential, Office	65	
R120	C / 67	Health Care	460	
R121	C / 67	Church	220	
R122	B / 67	Mixed Residential	200	
R123	C / 67	Religious Center	480	
R124	C / 67	Nursing Home/Health Care	200	Chicago
R125	B / 67	Mixed Residential	205	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R126	C / 67	Park	115	Chicago
R127	C / 67	Loretto Hospital	240	
R127A	C / 67	Church	365	
R127B	C / 67	School	375	
R128	B / 67	MFR	515	
R129	B / 67	Mixed Residential	100	
R129A	C / 67	Church	460	
R130	C / 67	Church	440	
R131	B / 67	SFR	460	
R132	C / 67	School	450	
R133	B / 67	MFR	460	
R134	C / 67	IDOT Driver's License Facility	260	
R136	B / 67	SFR	460	
R137	C / 67	Church	460	
R138	B / 67	Mixed Residential	260	
R139	C / 67	School	505	
R140	B / 67	Mixed Residential	110	
R141	B / 67	MFR	455	
R142	E / 72	Office	515	
R143	C / 67	School	160	
R143A	C / 67	Church	450	
R144	C / 67	Church	390	
R145	C / 67	School	545	
R146	B / 67	Mixed Residential	100	
R147	B / 67	Mixed Residential	495	
R148	C / 67	Church	315	
R149	B / 67	MFR	185	
R150	B / 67	MFR	350	
R151	B / 67	Mixed Residential	170	
R152	B / 67	Mixed Residential	240	
R153	C / 67	Church	300	
R154	B / 67	MFR/Restaurant	420	
R155	B / 67	MFR	330	
R156	B / 67	Mixed Residential	105	
R157	C / 67	Church	470	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R158	B / 67	MFR	415	Chicago
R159	B / 67	Mixed Residential, Church	210	
R160	C / 67	Church	340	
R161	C / 67	Church	165	
R162	B / 67	Mixed Residential	190	
R163	B / 67	Mixed Residential	165	
R164	B / 67	MFR	120	
R165	B / 67	Mixed Residential	100	
R166	B / 67	MFR	100	
R167	C / 67	School	490	
R168	C / 67	Church	130	
R169	C / 67	School	150	
R170	B / 67	Mixed Residential	105	
R171	C / 67	Church	105	
R172	B / 67	MFR	100	
R173	B / 67	Mixed Residential	100	
R174	C / 67	Health Club/Gym	110	
R175	C / 67	Church	100	
R176	B / 67	Mixed Residential	105	
R177	B / 67	MFR, Restaurant, Church	95	
R178	E / 72	Restaurant	160	
R179	C / 67	Dentist, Church, Medical Doctor	350	
R180	B / 67	MFR	105	
R181	B / 67	MFR, Church, Daycare	100	
R182	B / 67	MFR	110	
R183	C / 67	Church	100	
R184	B / 67	MFR	110	
R185	B / 67	MFR	100	
R186	E / 72	Restaurant	100	
R187	B / 67	MFR	340	
R188	C / 67	Church	450	
R189	B / 67	MFR	100	
R190	E / 72	Office	360	
R191	B / 67	MFR	455	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R192	B / 67	MFR	290	Chicago
R193	B / 67	MFR	135	
R194	C / 67	Park, School	495	
R195	B / 67	Mixed Residential	290	
R196	E / 72	Restaurant	210	
R197	B / 67	MFR, Bar/Restaurant	100	
R198	C / 67	Church, Park	105	
R199	B / 67	MFR	100	
R200	B / 67	MFR	110	
R201	C / 67	Church	280	
R202	C / 67	Church	100	
R203	C / 67	Medical Center	250	
R204	B / 67	MFR	100	
R205	C / 67	Park	430	
R206	B / 67	Mixed Residential	100	
R207	C / 67	Park	600	
R208	E / 72	Office	95	
R209	C / 67	Park	110	
R210	B / 67	Mixed Residential	130	
R211	C / 67	Park	325	
R212	B / 67	MFR, Restaurant	305	
R213	E / 72	Restaurant	250	
R214	B / 67	MFR	420	
R216	B / 67	Mixed Residential	510	
R217	B / 67	MFR, Church	340	
R218	C / 67	Park	140	
R219	B / 67	MFR, Church	240	
R220	C / 67	School, Social Services Center	215	
R221	B / 67	MFR	430	
R222	E / 72	Restaurant	500	
R223	B / 67	MFR	305	
R224	E / 72	Office	175	
R225	C / 67	Church	475	
R226	C / 67	Park	280	
R227	B / 67	MFR	155	

Receptor/CNE No.	NAC Activity Category[/a]	Type[/b]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R228	B / 67	MFR	115	Chicago
R229	C / 67	Church	505	
R230	B / 67	MFR	125	
R231	E / 72	Office	505	
R232	B / 67	MFR, Restaurant	505	
R233	C / 67	Medical Center	505	
R234	E / 72	Restaurant	130	
R235	B / 67	MFR	370	
R236	C / 67	Church	275	
R237	C / 67	Church	330	
R238	B / 67	MFR	120	
R239	C / 67	Church	90	
R240	B / 67	Mixed Residential	90	
R241	C / 67	Park	145	
R241A	C / 67	Church	235	
R242	B / 67	Mixed Residential	135	
R243	B / 67	Mixed Residential	120	
R244	B / 67	MFR	125	
R245	B / 67	MFR	335	
R246	C / 67	School	120	
R247	B / 67	MFR	140	
R248	B / 67	MFR	125	
R248A	C / 67	Church	320	
R249	B / 67	MFR	120	
R250	C / 67	School	240	
R251	C / 67	UIC Labs and Medical Offices, Sleep Center, Vet Clinic	280	
R252	E / 72	Office	400	
R253	C / 67	Play Area/Daycare/ Medical Clinic	185	
R254	B / 67	MFR, Church	115	
R255	C / 67	Church	115	
R256	E / 72	Office	315	
R257	C / 67	Play Area/Community Center	145	
R258	B / 67	MFR	300	

Receptor/CNE No.	NAC Activity Category[a/]	Type[b/]	Distance to I-290 Mainline Existing Edge of Pavement, ft.	Geographic Area
R259	C / 67	Medical Clinic	240	Chicago
R260	C / 67	College	175	
R261	B / 67	MFR	205	
R262	C / 67	Hospital	245	
R263	C / 67	Medical Clinic	275	
R264	C / 67	Medical Clinic	135	
R265	C / 67	Hospital/University	120	
R266	E / 72	Office	110	
R267	E / 72	Office	150	
R268	E / 72	Hotel/Restaurant	530	
R269	B / 67	MFR	170	
R270	B / 67	MFR	120	
R271	C / 67	School	260	
R272	B / 67	MFR	115	
R273	C / 67	School	250	
R273A	C / 67	Church	555	
R274	B / 67	MFR	515	
R275	B / 67	MFR	100	
R276	E / 72	Office	490	
R277	C / 67	College	320	
R278	B / 67	MFR, Restaurant	275	
R279	B / 67	MFR	420	

[a/] due to many mixed-use buildings, the activity category listed is the most noise-sensitive use of the uses within that CNE.

[b/] Land uses with NAC are listed; land uses without NAC are not included.

SFR denotes Single Family Residential

MFR denotes Multiple Family Residential

Note 1: Several receptors locations have been modified since the initial Receptor Memo due to subsequent information collected.

Note 2: Several receptors are noted to be located beyond 500 feet away from the I-290 edge of pavement. These receptors are within the I-290 noise study area; however, because they are within 500 feet of other improvements associated with the I-290 project, such as interchanges or frontage roads.

SECTION 4: FIELD NOISE MEASUREMENTS

Noise level measurements provide a "snapshot" of existing site conditions. Field measurements and the data collected during monitoring are used to validate the traffic noise models used for the project alternatives, ensuring the models can accurately predict each area's noise environment. The following methodology was used to collect noise level measurements for the I-290 traffic noise analysis.

Traffic noise levels measured during monitoring events are representative of the traffic characteristics (volume, speed, and composition) for the period measured. The period measured may or may not be the peak-hour traffic condition. The monitored noise levels may be influenced by noise sources in the area other than traffic noise or the characteristics of the location that are represented in the traffic model, such as shielding afforded by existing berms or structures.

Noise monitoring for I-290 was conducted at 49 receptor locations, representing the variety of land uses and noise environments present in the corridor. The selection of these locations was reviewed and approved by IDOT and FHWA.

Traffic Volumes

Traffic volumes on roadways adjacent to receptors were counted during each ten-minute noise monitoring period. The number of cars and trucks were recorded separately along with any other noise sources observed during monitoring. The traffic volumes counted were extrapolated to hourly volumes for entry into the traffic noise model. This procedure is accepted by FHWA as a representative noise monitoring method, detailed in the IDOT Highway Traffic Noise Assessment Manual, Section 3.5.2.

Time and Day for Measurements

Noise monitoring is typically conducted during the period representing the worst hourly noise level. This may or may not be during the peak hour traffic volumes, as traffic may be operating under stop-and-go conditions or at a reduced travel speed during the peak hour. Monitoring typically occurred during the midday off peak period of travel, when free-flow conditions were present on I-290 (generally 10:00 AM to 2:00 PM), which would generate higher sound levels as compared to congested peak hour conditions. Noise monitoring was conducted at the sites on April 9, 22, and 30, May 7, 14, 21, and 22; and October 30, 2014.

Weather Conditions

Weather conditions affect noise measurement readings. Noise measurements cannot be taken if wind speed exceeds 12 miles per hour (mph). A wind screen was used at all times during noise monitoring to reduce wind noise. The conditions during noise monitoring are summarized as follows:

WEATHER CONDITIONS DURING I-290 TRAFFIC NOISE MONITORING

	Pavement	Humidity	Temperature	Wind Speed
Required Condition	*Dry*	*Less than 90%*	*14 to 112 degrees F*	*12 mph or less*
04/09/14	Dry	32% to 61%	50 to 60 degrees F	7 mph to 11 mph
04/22/14	Dry	39% to 46%	51 to 58 degrees F	8 mph to 12 mph
04/30/14	Dry	77% to 86%	50 to 51 degrees F	10 mph to 12 mph
05/07/14	Dry	47% to 50%	72 to 77 degrees F	7 mph to 11 mph
05/14/14	Dry	57% to 69%	52 to 55 degrees F	10 mph to 12 mph
05/21/14	Dry	29% to 54%	81 to 88 degrees F	4 mph to 11 mph
05/22/14	Dry	58%	65 degrees F	7 mph to 10 mph
10/30/14	Dry	54%	51 degrees F	9 mph to 10 mph

Source: National Weather Service Data

The weather conditions during the noise monitoring were within the recommended ranges for all parameters listed.

Instrumentation

A Brüel & Kjaer Type 2250L sound level meter was used for field monitoring noise levels. The L_{eq} was recorded for the "A" weighted scale. The sound level meter was calibrated prior to use. Per IDOT policy, the sound level meter was set up approximately five (5) feet from the ground and the measurement was conducted for 10 minutes at each location. The sound level meter was placed in an outdoor location where human activity typically occurs or in a location representative of that location.

Field Noise Monitoring Results and Model Validation

To validate the noise model, the noise monitoring results are compared to existing conditions noise modeling results (Table 3). Modeled noise levels (including traffic conditions noted during monitoring) must be within 3 dB of the monitored noise levels for the model to be validated. Traffic noise modeling is completed using the FHWA-approved Traffic Noise Model (TNM 2.5).

Traffic noise monitoring occurred at 49 representative receptors in the study area, accounting for 17% of all receptors. Due to the large number of potential receptors in the corridor, the percentage of receptors monitored is less than what is recommended in the IDOT traffic noise policy (25% to 50%); however, FHWA and IDOT determined that the selected 49 monitoring locations would provide an appropriate representative survey of existing ambient noise levels in the project area, and that additional monitoring locations would be redundant. For more information, reference the October 31, 2013 Noise Receptor Memo. Many of the study are receptors were designated due to differences in land use (many portions of the study area are mixed-use) rather than changes in the noise environment due to elevation, location, or roadway characteristics.

Monitored noise levels for the 49 monitored receptors ranged from 63 dB(A) to 78 dB(A). The difference between modeled and monitored noise levels provides an indication of noise model representativeness. For this analysis, monitored noise levels are within 3 dB(A) of the modeled noise levels, which validates the noise model per the IDOT traffic noise policy.

TABLE 3
NOISE MONITORING RESULTS, Leq

Receptor	Modeled Existing Noise Level, dB(A)*	Noise Level Monitored, dB(A)	Difference Between Modeled and Monitored, dB(A)
R2	65	63	2
R5	64	62	2
R8	68	65	3
R13	65	67	-2
R14	64	61	3
R17**	69	70	-1
R26	63	65	-2
R29	65	64	1
R36	65	64	1
R38	73	70	3
R43	73	71	2
R54	72	70	2
R56	70	67	3
R61	70	69	1
R64	70	67	3
R67	69	66	3
R75	67	66	1
R76	73	71	2
R79	71	71	0
R85	73	75	-2
R94	70	69	1
R96	67	64	3
R107	66	63	3
R119	78	78	0
R122	68	69	-1
R125	70	69	1
R126	68	65	3
R129	73	70	3
R143	71	68	3
R146	69	70	-1
R156	72	70	2
R164	71	68	3
R173	71	70	1
R182	73	70	3
R198	73	70	3
R204	72	71	1

Receptor	Modeled Existing Noise Level, dB(A)*	Noise Level Monitored, dB(A)	Difference Between Modeled and Monitored, dB(A)
R209	71	69	2
R220	68	65	3
R228	72	74	-2
R238	72	69	3
R242	71	72	-1
R248	75	72	3
R250	70	72	-2
R257	70	67	3
R262	67	64	3
R264	75	73	2
R270	71	69	2
R273	70	68	2
R275	73	72	1

Note: The traffic noise impact analysis (Section 6 of this report) and abatement evaluation (Volume 2 noise report) will be conducted using the build traffic noise model results. Traffic noise impacts are not identified for existing or future no build conditions.

*Represents modeled noise levels using the existing condition traffic noise model and the traffic conditions observed in the field during the given monitoring event. The observed traffic during noise monitoring varied from the existing predicted peak-hour traffic volumes used for project development. The modeled noise levels shown in Table 3 will vary from those in Table 4 for this reason.

**During field monitoring, it was observed that an existing I-290 noise barrier shielding R17 from I-290 required repair. The barrier is mounted on top of a retaining wall, and a gap was observed between the base of the barrier and the top of the retaining wall. The gap offers a direct line of sight from the receptor to I-290, and produced louder ambient noise levels than what would be expected with an intact barrier. During model validation, the barrier at R17 was modeled with the observed gap included to match observed field conditions. IDOT anticipates repairing the barrier; for this reason, the existing, 2040 No Build, and 2040 Build models were all modeled assuming the barrier at R17 was repaired.

SECTION 5: NOISE ANALYSIS METHODOLOGY

Traffic noise modeling at the identified receptors was conducted utilizing the FHWA-approved TNM 2.5. Prediction of noise levels is one step in assessing potential noise impacts and abatement strategies. Traffic noise levels for the receptor sites were predicted using existing and future (2040) traffic volumes. Inputs into TNM are described in the following sections, and include traffic volume, traffic mix (cars, heavy trucks, and medium trucks), traffic controls, receptor distance, elevation, and average speeds during free flowing conditions.

Traffic Volumes

Study area traffic volumes (daily and peak hour) were provided by the project's design engineering consultant for the most recent year available (considered to be the existing condition), the 2040 No Build condition, and the four build alternatives carried forward for the 2040 Build condition.

Several low-volume local streets in the project area were not included in the lead Phase I consultant's traffic analysis. In these locations, traffic volumes collected during traffic noise monitoring were used for existing conditions, and were extrapolated to 2040 for the future year conditions.

Traffic Composition

TNM traffic composition input for the project area was dependent upon the level of traffic data received from IDOT and the lead Phase I consultant, and included cars, single-unit (medium) trucks, and multi-unit (heavy) trucks. From traffic data collected in the project area, it was determined that heavy truck volumes ranged from 55% to 60% of total truck traffic throughout the corridor, with the balance of truck traffic as medium trucks.

For all conditions, the percentage of automobiles for the I-290 mainline is estimated to be between 93 percent and 95 percent, with combined truck traffic accounting for between 5 percent and 7 percent.

Receptor Distance/Elevation

The distance and elevation of each receptor influences the predicted traffic noise level. As shown in Table 2, the distances from the receptor to the I-290 edge of pavement ranges from 50 feet at Receptor R94 to 655 feet at Receptor R14. The specific location of the receptor is based upon the location where outdoor activity occurs, verified via aerial photography and field reviews.

Speed Conditions

Posted speed limits were used for speed data inputs for the noise analysis. Using posted speed limits for the analysis is a conservative approach, as current I-290 traffic has been observed to travel at lower speeds than posted speed limits due to traffic delay. Using the posted speed would yield higher noise level results than using travel speeds of delayed traffic. The existing speed limit for I-290 is 55 mph. All existing speed limits on other roads were projected to remain the same in the future condition.

Existing and Planned Traffic Noise Barriers

The western end of the project study area contains several existing traffic noise barriers that were constructed during the reconstruction of the I-290/I-88/I-294 interchange. Physical characteristics of the noise barriers were inventoried via aerial photography (location of the barrier) and field review (height of the barrier). The existing noise barriers identified below (from west to east, listed by municipality) were added to the I-290 traffic noise models for the existing, 2040 No Build, and 2040 Build conditions:

Hillside Existing Noise Barriers in Study Area:

- 12′ - 13′ tall barrier north of I-290, from IL 56/Butterfield Road to Wolf Road
- 13′ tall barrier south of I-88, from I-294 to Darmstadt Road
- 13′ tall barrier south of I-290, from Darmstadt Road to Wolf Road
- 13′ tall barrier south of I-290, immediately east of Wolf Road
- 11′ tall barrier north of I-290, from Wolf Road to frontage road underpass of I-290
- 11′ tall barrier south of I-290, from Harrison Road to east of Oak Avenue

Westchester Existing Noise Barriers in Study Area:

- 12′ - 15′ tall barrier south of I-290, from Mannheim Road to Westchester Boulevard
- 15′ - 16′ tall barrier south of I-290, from Westchester Boulevard to Bristol Avenue

Bellwood Existing Noise Barriers in Study Area:

- 16′ – 18′ tall barrier north of I-290, from Bellwood Avenue to 30th Avenue

Additionally, one traffic noise barrier is planned to be constructed within the project limits as part of the Jane Byrne Interchange (formerly the Circle Interchange) project. The traffic noise analysis for the Jane Byrne Interchange found that a 14-foot tall to 23-foot tall noise barrier between Loomis Street and Racine Avenue was reasonable, feasible, and supported by those who would benefit from the barrier. The reconstruction of the Jane Byrne interchange is currently in progress; the planned noise barrier was included in the I-290 traffic noise models for 2040 conditions.

SECTION 6: TNM RESULTS

Existing and No Build Noise Evaluation

Existing and No Build (2040) traffic noise levels were predicted for the 288 receptor sites utilizing TNM 2.5. Table 4 presents the Existing and No Build noise levels, as well as the anticipated difference in noise levels for these two periods. The Existing noise levels range from 57 dB(A) at R256 to 78 dB(A) at R100, R119, R172, R198, and R206. The projected No Build 2040 traffic noise levels range from 57 dB(A) at R256 to 79 dB(A) at R119 and R172. Receptor noise levels either remain the same or increase up to 3 dB(A) from the Existing condition to the 2040 No Build condition; the majority of receptors have no change or a 1 dB(A) increase in noise from Existing to 2040 No Build.

TABLE 4
NOISE LEVELS SUMMARY – TNM MODELING RESULTS

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R1	E / 72	68	68
R2	C / 67	66	66
R3	B / 67	64	64
R4	B / 67	72	72
R5	B / 67	65	65
R6	B / 67	65	65
R7	B / 67	66	66
R8	B / 67	69	70
R9	C / 67	65	65
R10	E / 72	74	74
R11	C / 67	73	73
R12	E / 72	64	64
R13	B / 67	65	66
R14	E / 72	66	66
R15	B / 67	70	70
R16	B / 67	64	64
R17	B / 67	62	63
R18	C / 67	59	60
R19	B / 67	68	68
R20	B / 67	69	69
R21	B / 67	60	60
R22	C / 67	67	67
R23	E / 72	66	66
R24	B / 67	66	66
R25	B / 67	64	65
R26	B / 67	63	64
R27	B / 67	63	64
R28	B / 67	62	63
R29	B / 67	64	65
R30	B / 67	73	75
R31	C / 67	61	62
R32	C / 67	68	69
R33	C / 67	70	70
R34	E / 72	71	74

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R35	B / 67	69	69
R36	B / 67	64	65
R37	B / 67	75	76
R38	B / 67	73	74
R38A	C / 67	61	61
R39	B / 67	73	74
R40	B / 67	71	72
R41	B / 67	74	75
R42	C / 67	72	73
R43	B / 67	77	77
R44	B / 67	77	77
R45	C / 67	73	73
R46	E / 72	75	75
R47	B / 67	74	75
R48	C / 67	65	66
R49	B / 67	75	75
R50	C / 67	63	63
R51	B / 67	69	69
R52	C / 67	67	67
R52A	C / 67	64	65
R53	C / 67	67	68
R54	B / 67	76	76
R55	B / 67	76	76
R56	C / 67	73	74
R57	C / 67	64	64
R58	B / 67	75	77
R59	B / 67	75	76
R60	E / 72	74	74
R61	E / 72	74	75
R62	C / 67	73	73
R63	C / 67	75	75
R64	C / 67	75	75
R65	C / 67	73	73
R66	C / 67	70	71
R67	C / 67	73	74
R68	B / 67	69	69

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R69	C / 67	76	76
R70	B / 67	75	75
R71	E / 72	69	69
R72	C / 67	71	71
R73	C / 67	76	77
R74	B / 67	69	70
R75	C / 67	69	70
R76	B / 67	73	75
R76A	C / 67	72	74
R77	C / 67	69	70
R78	C / 67	72	73
R79	C / 67	75	76
R79A	B / 67	75	76
R80	C / 67	72	73
R81	C / 67	72	73
R82	B / 67	75	75
R83	B / 67	76	76
R84	B / 67	76	76
R85	B / 67	76	76
R86	B / 67	77	77
R87	E / 72	70	71
R88	B / 67	67	68
R89	E / 72	77	78
R90	E / 72	69	70
R91	B / 67	67	68
R92	B / 67	75	75
R93	C / 67	75	76
R94	B / 67	77	77
R95	C / 67	63	63
R96	C / 67	69	69
R96A	C / 67	74	74
R97	B / 67	63	64
R98	C / 67	75	75
R99	B / 67	75	75
R100	B / 67	78	78
R101	C / 67	77	78

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R102	B / 67	72	73
R103	C / 67	69	69
R104	B / 67	73	73
R105	B / 67	67	67
R107	C / 67	66	66
R108	C / 67	62	62
R109	E / 72	60	61
R110	E / 72	59	60
R111	B / 67	75	75
R112	E / 72	62	62
R113	B / 67	66	66
R114	C / 67	61	62
R115	B / 67	66	67
R116	E / 72	65	65
R117	C / 67	75	75
R118	C / 67	62	62
R119	B / 67	78	79
R120	C / 67	68	68
R121	C / 67	61	62
R122	B / 67	73	73
R123	C / 67	59	60
R124	C / 67	71	72
R125	B / 67	74	74
R126	C / 67	72	73
R127	C / 67	73	74
R127A	C / 67	70	71
R127B	C / 67	63	64
R128	B / 67	65	66
R129	B / 67	77	78
R129A	C / 67	66	67
R130	C / 67	66	67
R131	B / 67	67	67
R132	C / 67	68	68
R133	B / 67	68	69
R134	C / 67	76	76
R136	B / 67	68	68

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R137	C / 67	68	68
R138	B / 67	71	71
R139	C / 67	62	63
R140	B / 67	72	73
R141	B / 67	66	66
R142	E / 72	64	64
R143	C / 67	74	75
R143A	C / 67	62	63
R144	C / 67	62	62
R145	C / 67	60	61
R146	B / 67	72	73
R147	B / 67	64	64
R148	C / 67	71	71
R149	B / 67	76	76
R150	B / 67	70	70
R151	B / 67	74	75
R152	B / 67	68	69
R153	C / 67	66	67
R154	B / 67	71	71
R155	B / 67	69	70
R156	B / 67	77	77
R157	C / 67	65	66
R158	B / 67	66	66
R159	B / 67	73	74
R160	C / 67	71	72
R161	C / 67	75	75
R162	B / 67	72	73
R163	B / 67	77	77
R164	B / 67	75	76
R165	B / 67	77	77
R166	B / 67	77	78
R167	C / 67	68	68
R168	C / 67	73	74
R169	C / 67	72	72
R170	B / 67	76	76
R171	C / 67	77	77

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R172	B / 67	78	79
R173	B / 67	76	76
R174	C / 67	73	73
R175	C / 67	77	77
R176	B / 67	76	77
R177	B / 67	75	76
R178	E / 72	73	73
R179	C / 67	69	71
R180	B / 67	76	77
R181	B / 67	75	76
R182	B / 67	76	77
R183	C / 67	76	77
R184	B / 67	75	76
R185	B / 67	76	77
R186	E / 72	75	76
R187	B / 67	71	72
R188	C / 67	66	66
R189	B / 67	76	76
R190	E / 72	66	66
R191	B / 67	67	68
R192	B / 67	69	69
R193	B / 67	76	77
R194	C / 67	65	65
R195	B / 67	73	73
R196	E / 72	73	74
R197	B / 67	75	75
R198	C / 67	78	78
R199	B / 67	74	75
R200	B / 67	76	77
R201	C / 67	61	61
R202	C / 67	75	76
R203	C / 67	58	58
R204	B / 67	77	77
R205	C / 67	67	67
R206	B / 67	78	78
R207	C / 67	59	59

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R208	E / 72	74	75
R209	C / 67	74	74
R210	B / 67	75	76
R211	C / 67	66	66
R212	B / 67	72	72
R213	E / 72	72	72
R214	B / 67	58	58
R216	B / 67	64	64
R217	B / 67	72	73
R218	C / 67	75	76
R219	B / 67	73	74
R220	C / 67	71	72
R221	B / 67	68	69
R222	E / 72	67	67
R223	B / 67	71	72
R224	E / 72	75	76
R225	C / 67	65	66
R226	C / 67	70	71
R227	B / 67	73	74
R228	B / 67	75	77
R229	C / 67	63	64
R230	B / 67	76	76
R231	E / 72	64	65
R232	B / 67	65	66
R233	C / 67	66	67
R234	E / 72	75	76
R235	B / 67	73	74
R236	C / 67	74	75
R237	C / 67	69	70
R238	B / 67	77	77
R239	C / 67	76	77
R240	B / 67	76	78
R241	C / 67	76	76
R241A	C / 67	68	69
R242	B / 67	76	77
R243	B / 67	76	76

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R244	B / 67	75	75
R245	B / 67	71	71
R246	C / 67	75	76
R247	B / 67	76	77
R248	B / 67	76	76
R248A	C / 67	66	66
R249	B / 67	75	76
R250	C / 67	70	71
R251	C / 67	66	67
R252	E / 72	62	62
R253	C / 67	74	74
R254	B / 67	75	77
R255	C / 67	76	77
R256	E / 72	57	57
R257	C / 67	74	75
R258	B / 67	72	73
R259	C / 67	70	70
R260	C / 67	75	76
R261	B / 67	73	74
R262	C / 67	73	74
R263	C / 67	62	62
R264	C / 67	75	76
R265	C / 67	71	71
R266	E / 72	75	76
R267	E / 72	72	72
R268	E / 72	62	62
R269	B / 67	66	67
R270	B / 67	74	76
R271	C / 67	70	71
R272	B / 67	74	76
R273	C / 67	72	73
R273A	C / 67	62	63
R274	B / 67	63	64
R275	B / 67	75	77
R276	E / 72	63	64
R277	C / 67	64	65

Receptor Number	Activity Category/NAC	Existing Noise Level, dB(A)	No Build 2040 Noise Level, dB(A)
R278	B / 67	69	71
R279	B / 67	67	68

Noise Findings Relative to Mainline I-290 Traffic and Design

The elevation of I-290 relative to the receptors also influenced noise levels; areas in a "trench" (such as in Oak Park) or other areas where I-290 is at a lower elevation than the surrounding land uses typically had lower noise levels than areas at nearly the same elevation as I-290. The "trench" provides some noise shielding to the surrounding receptors.

SECTION 7: CONCLUSIONS AND NEXT STEPS

This Volume 1 report of the I-290 Traffic Noise Analysis identified receptors where traffic noise would be studied for the proposed project. The Volume 1 report presents the Federal and state noise regulations, a discussion of noise sensitive receptors, field noise monitoring, a description of the noise analysis methodology, and the analysis of the Existing and future No Build noise levels.

Two hundred and eighty-eight (288) traffic noise receptors were studied in the I-290 study area. Traffic noise monitoring occurred at 49 receptors, to validate the traffic noise models used for traffic noise level calculations.

The relative noise level changes from the Existing condition to the 2040 No Build Condition are reported in Table 5 both by the change in decibels and a description of how the human ear would perceive that level of noise change. Commonly accepted principles regarding perception of noise level changes, as cited in the IDOT Highway Traffic Noise Assessment Manual, include:

- ± 10 dB(A) a doubling or halving of perceived noise level
- ± 5 dB(A) readily perceptible change
- ± 3 dB(A) barely perceptible change
- ± 1 dB(A) less than barely perceptible change

TABLE 5
RECEPTORS WITH PERCEPTABLE NOISE CHANGE
EXISTING TO NO BUILD CONDITIONS

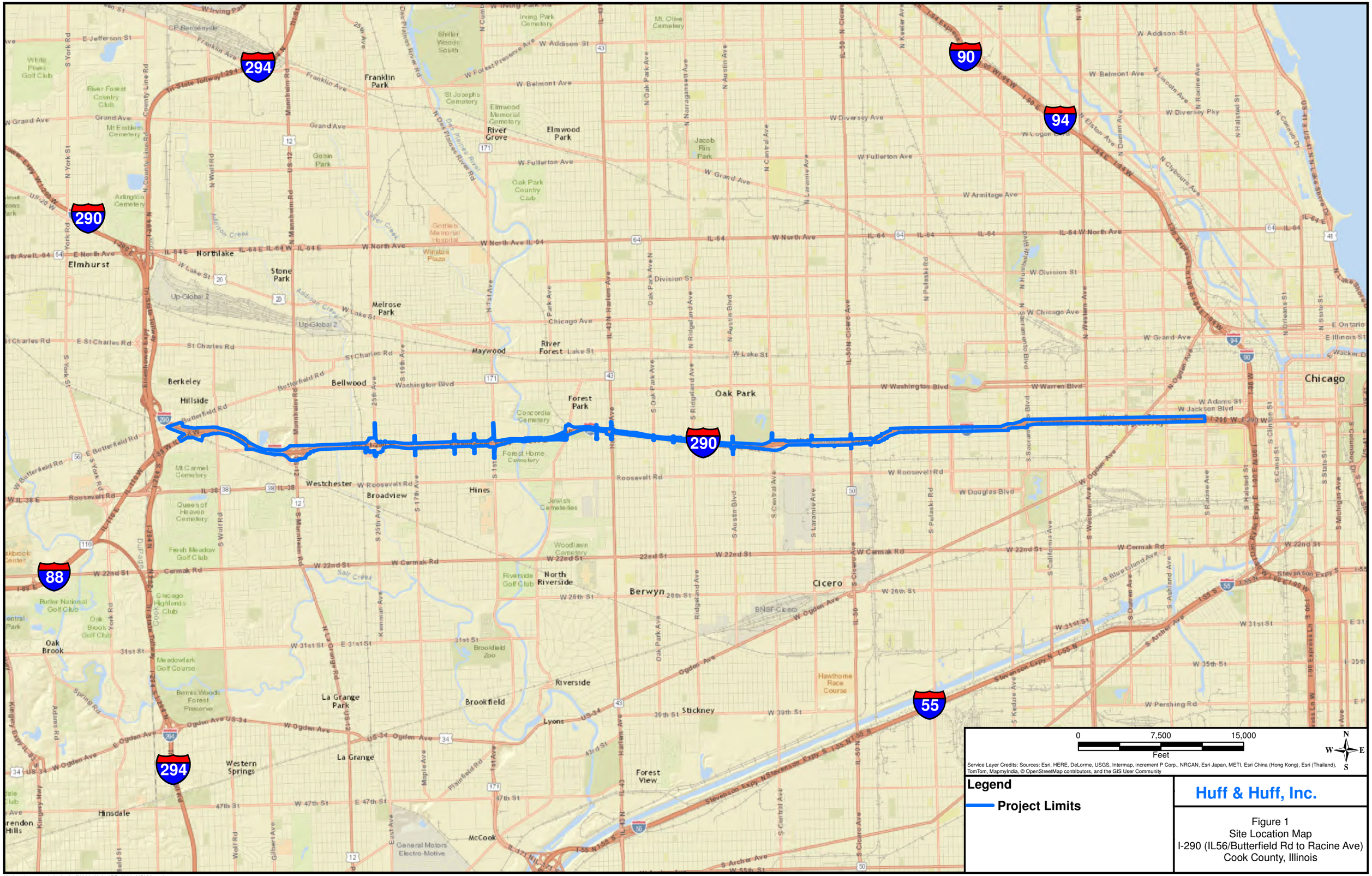
Noise Level Perception	dB(A)	Number of Receptors
Readily Perceptible	>= +5	0
Barely Perceptible	>= +3	1
Less than Barely Perceptible	2 to -2	287
Barely Perceptible	<= -3	0
Readily Perceptible	<= -5	0
	Total	288

The table indicates that the noise levels of the year 2040 No Build alternative would generally be perceived by the human ear similarly to those of the Existing condition. The No Build alternative would minimally influence noise levels compared to the Existing condition, with over 99% of receptors experiencing either no change or a change that is considered imperceptible (less than barely perceptible) to the human ear. One receptor (R34) would experience a barely perceptible increase in noise levels from the Existing to the No Build condition.

The Existing condition would have 220 receptors with noise levels approaching, meeting, or exceeding the NAC. The No Build alternative would have 227 receptors with noise levels approaching, meeting, or exceeding the NAC. Seventy-nine percent of all receptors would have noise levels exceeding the NAC in the No Build condition, and the majority of those receptors are in the first row of receptors adjacent to I-290.

The first row of noise receptors associated with the I-290 project already exceeds the NAC in the Existing and No Build conditions, unless the receptor is behind an existing noise barrier or is set farther back from the mainline than other first row receptors. The noise levels for the Build condition will be assessed in Volume 2 of the I-290 noise analysis, and traffic noise abatement analysis (mitigation for traffic noise impacts) will occur in Volume 2 where noise levels for the Preliminary Preferred Alternative condition approaches, meets, or exceeds the NAC. Volume 2 will recommend noise barrier locations and heights that are considered feasible and reasonable per IDOT policy and that provide noise reduction benefits to as many receptors as possible. The public will then have the opportunity to decide if they support the recommended noise barriers; receptors that would be benefited by a recommended barrier are asked to vote if they support the barrier in a process called "viewpoints solicitation." Multiple public forums are expected to be held in advance of the viewpoints solicitation so that residents may discuss the recommended barriers with the I-290 project team.

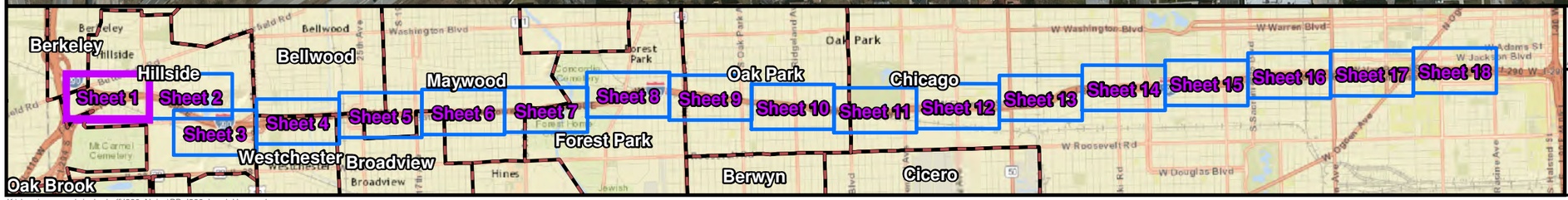
APPENDIX A



Huff & Huff, Inc.

Figure 1
Site Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NSLM.mxd



0 250 500
Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

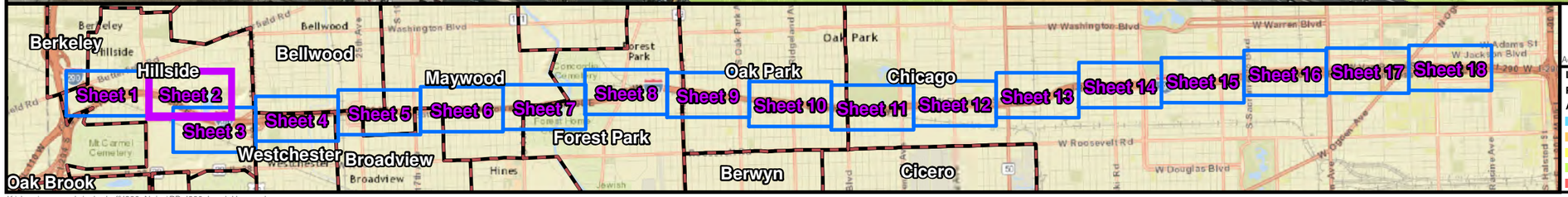
Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 1 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd



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Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 2 of 18

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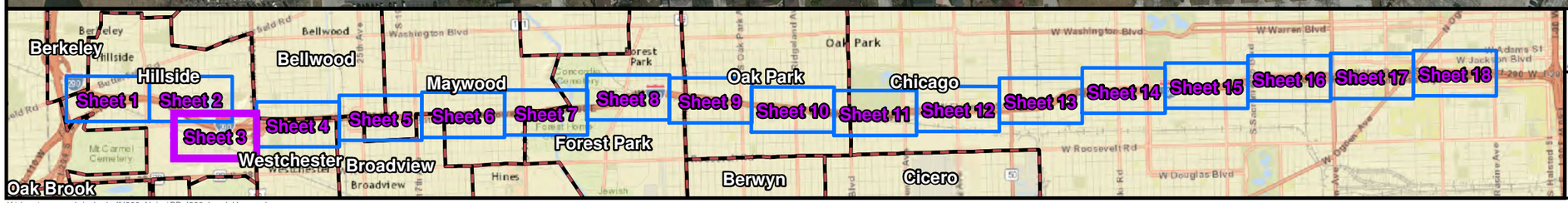

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

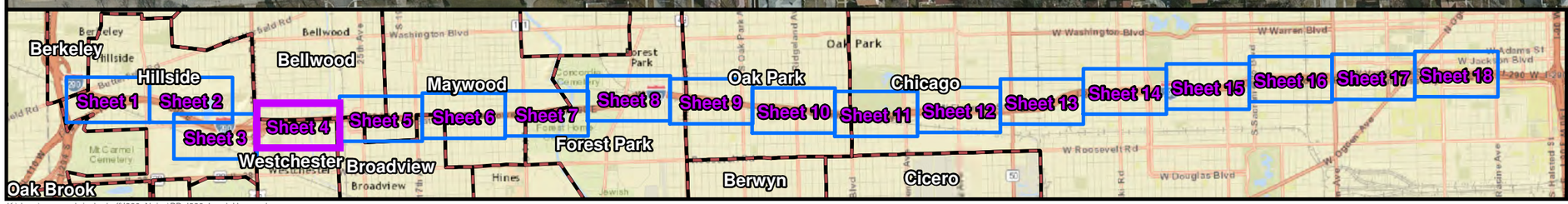
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 3 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

Van Buren
Marshall Ave
Bellwood Ave
Bohland Ave
Linden Ave
Rice Ave
Eastern Ave
32nd Ave
31st St
30th Ave
Cernan Dr
Congress Pkwy
Harrison St
290
Eisenhower Expwy
Indian Joe Dr
Wedgwood Dr
York St
Newcastle Ave
Balmoral Ave
Gardner Rd
Westchester Blvd
Hull Ave
Kitchener St
Portsmouth Ave
Suffolk Ave
Norfolk Ave
Manchester Ave
Bristol Ave
Worchester Ave
Cromwell
Gladstone St



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Feet

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 4 of 18

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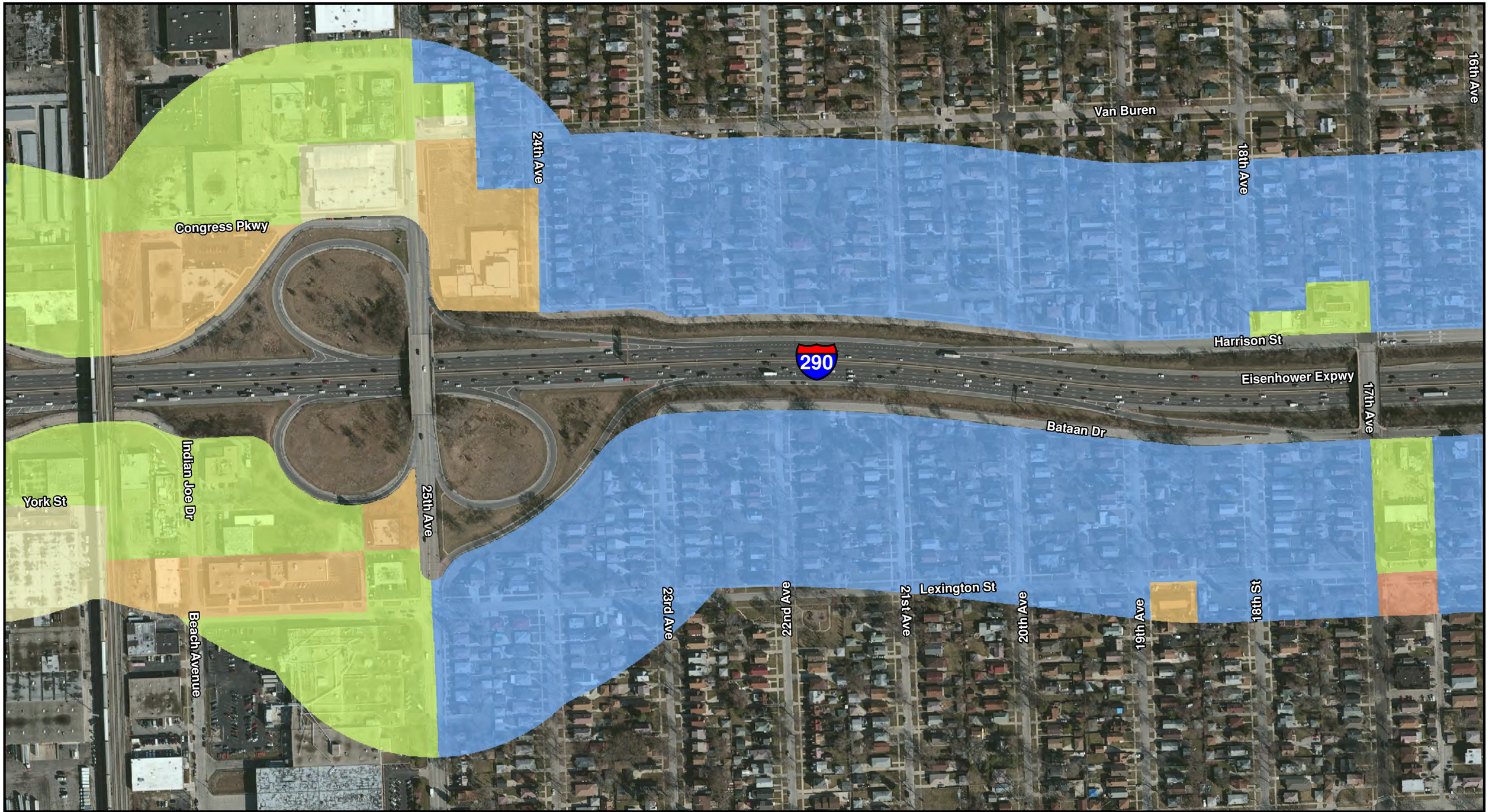

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Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

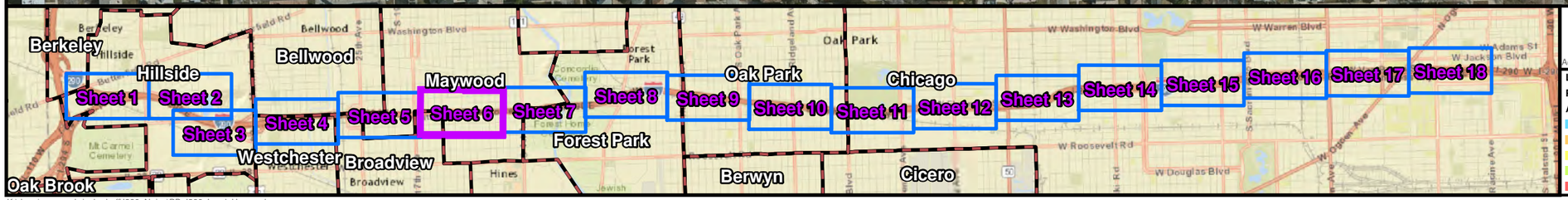
Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 5 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd



0 250 500
Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 6 of 18

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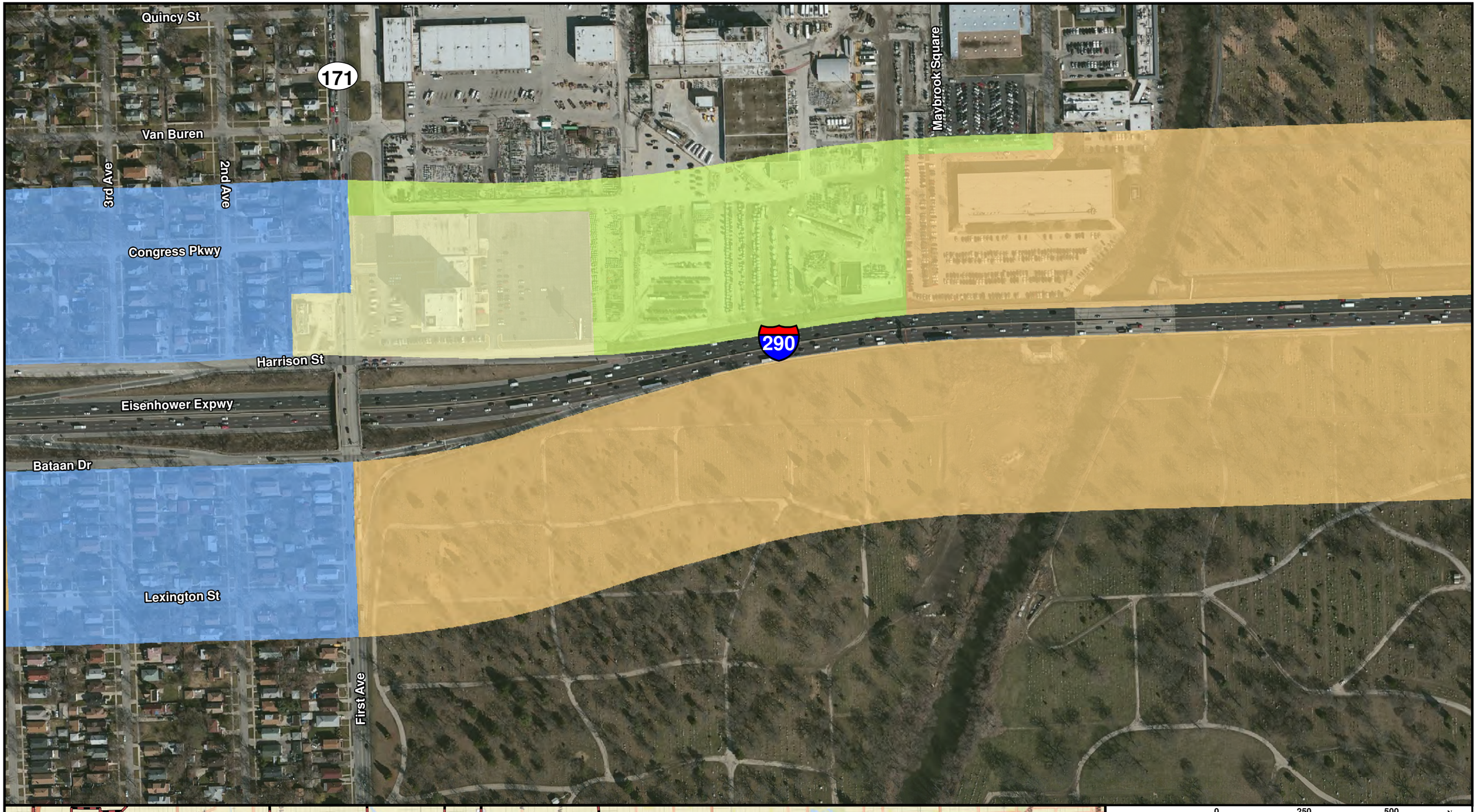

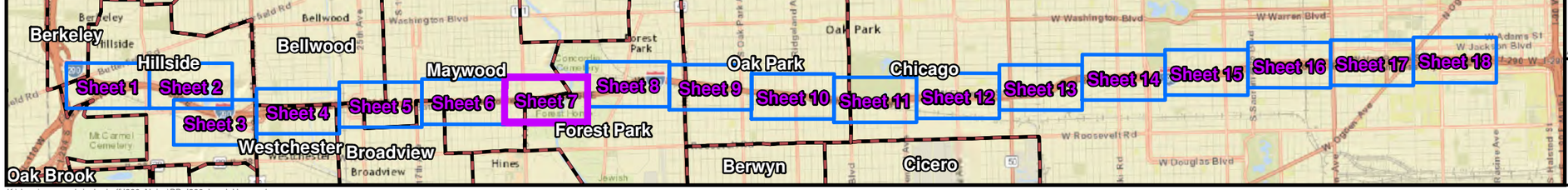

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Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

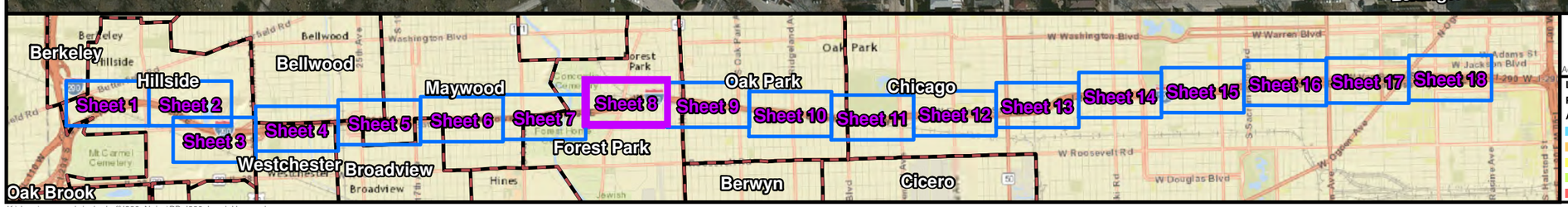
Legend	
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 7 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

Jackson Blvd
Ferdinand Ave
Thomas Ave
Van Buren
Lehmer Ave
Eisenhower Expwy
290
Harrison St
Des Plaines Ave
Dunlop Ave
Lathrop Ave
Beloit Ave
Hannah Ave
Circle Ave
York St
Lexington St



0 250 500
Feet

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W E
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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 8 of 18

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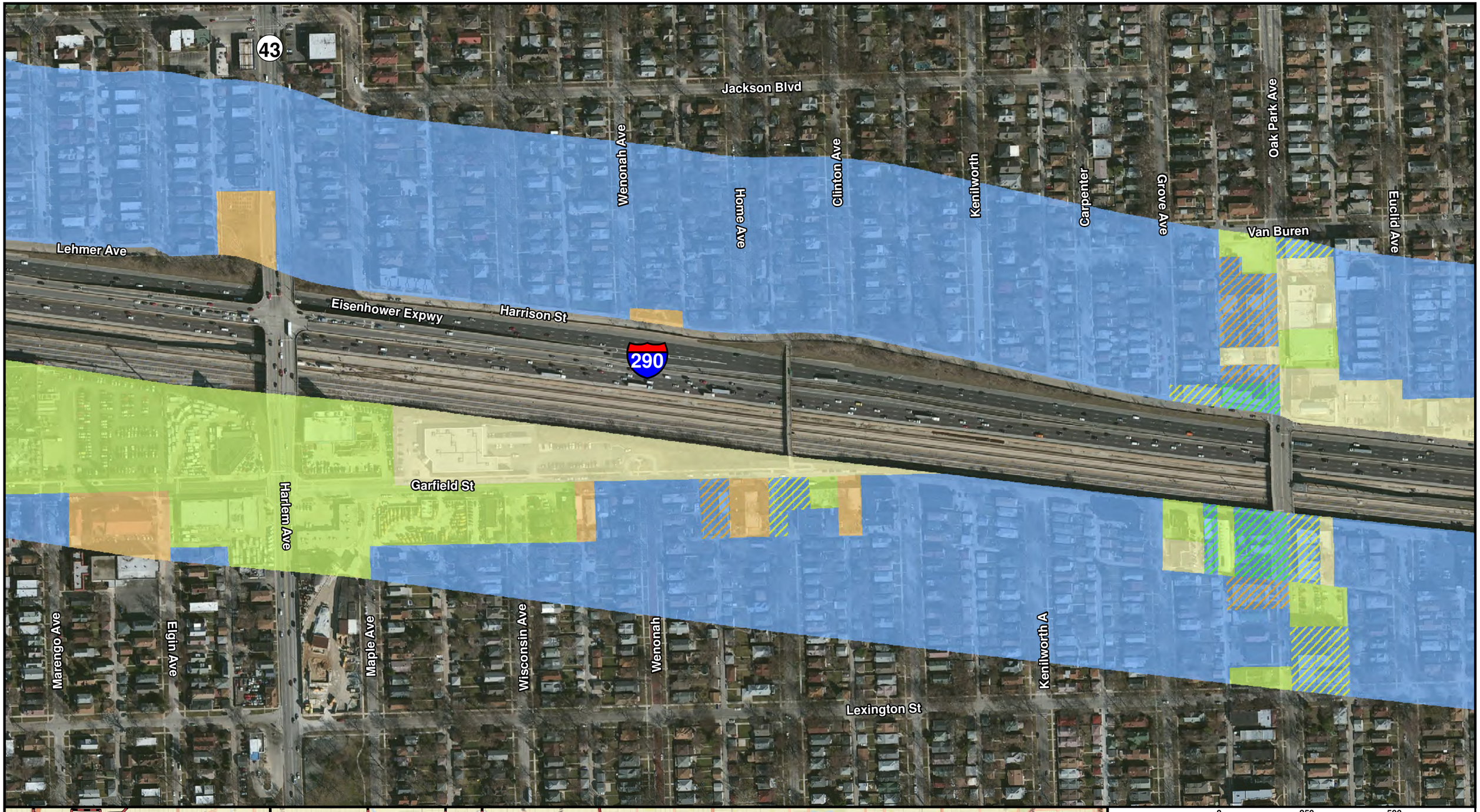

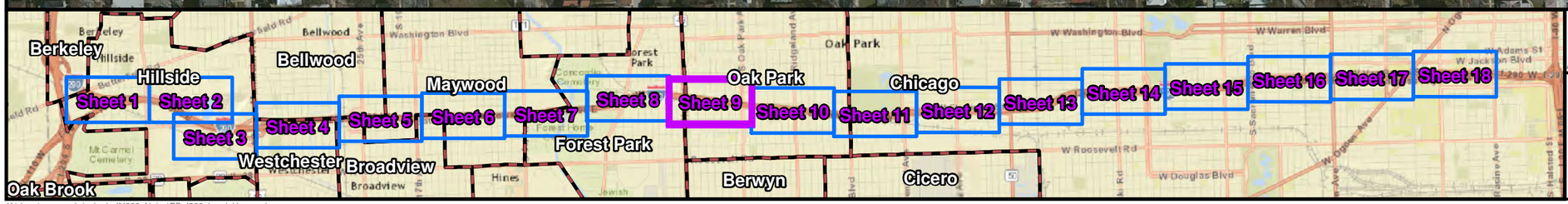

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N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

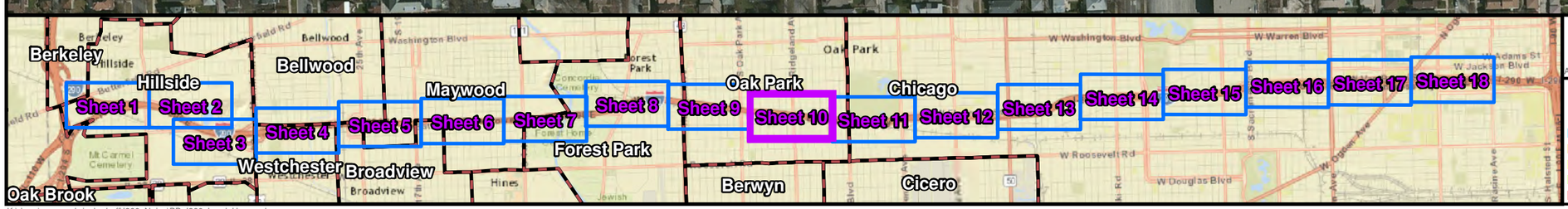
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 9 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

Van Buren
East Ave
Scoville Ave
Highland Ave
Lombard Ave
Taylor Ave
Harrison St
290
Eisenhower Expwy
Flournoy St
Garfield St
Lexington St
Wesley Ave
Clarence Ave
Gunderson Ave
Elmwood Ave
Ridgeland Ave
Cuyler Ave
Harvey Ave
Harvard St



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Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

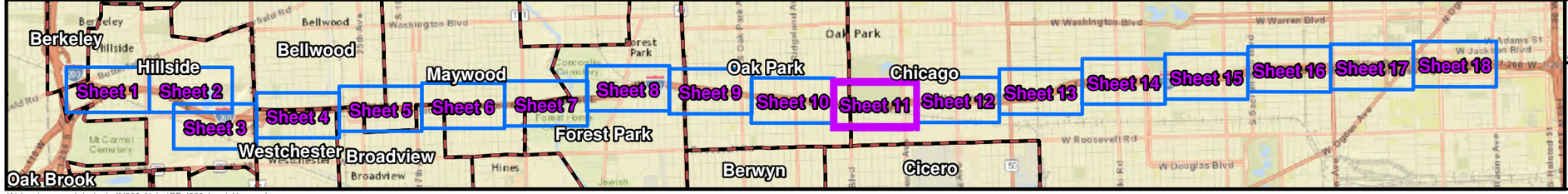
Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 10 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd



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N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 11 of 18

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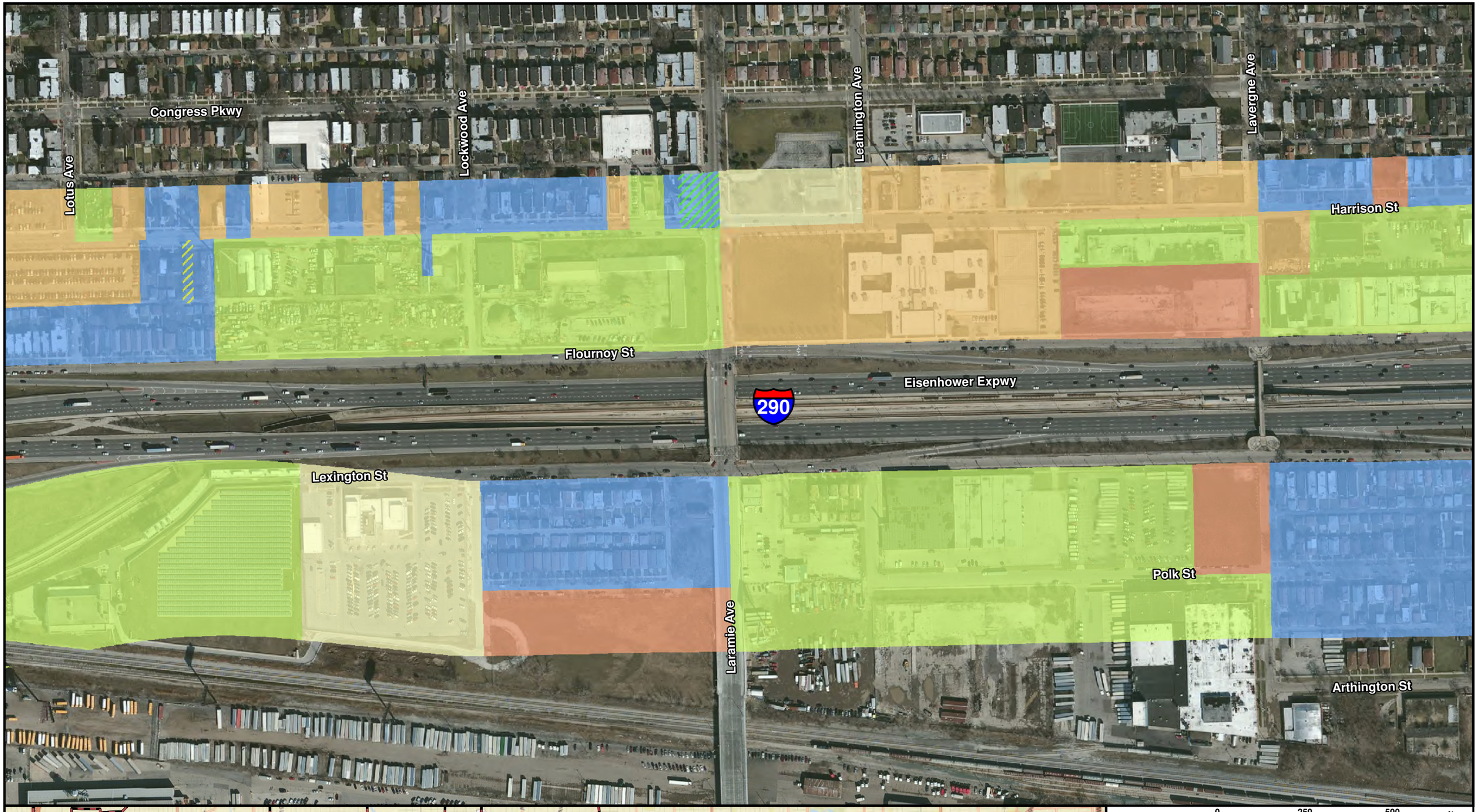

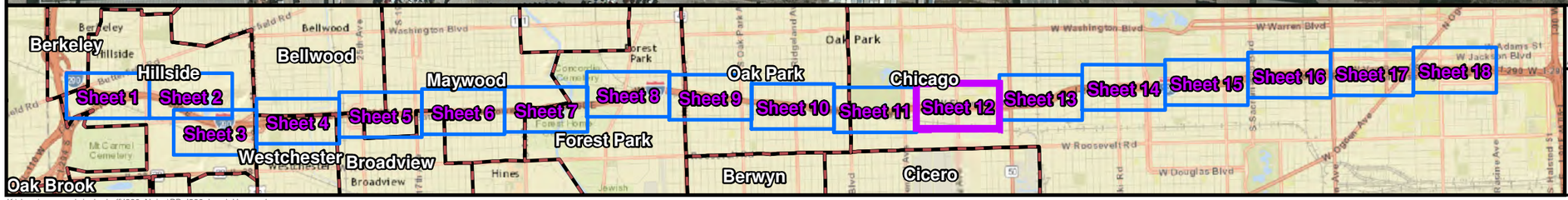

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

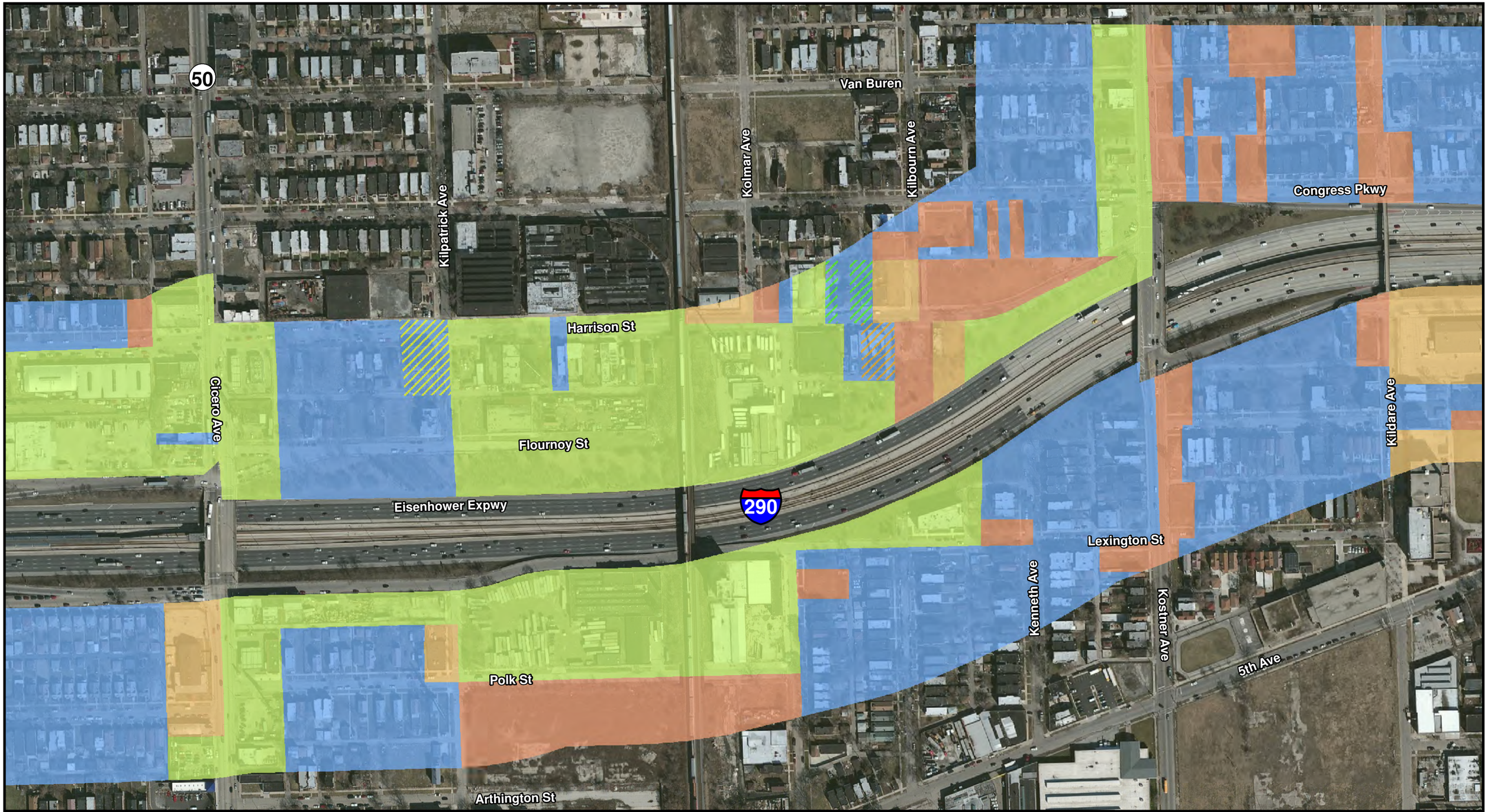
Legend

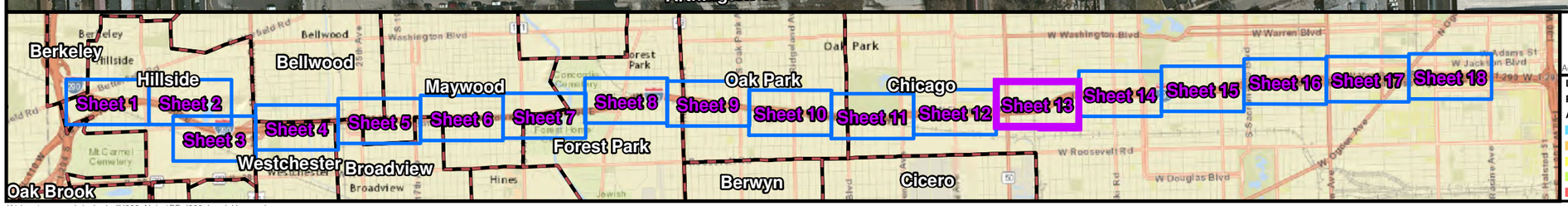
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 12 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd





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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

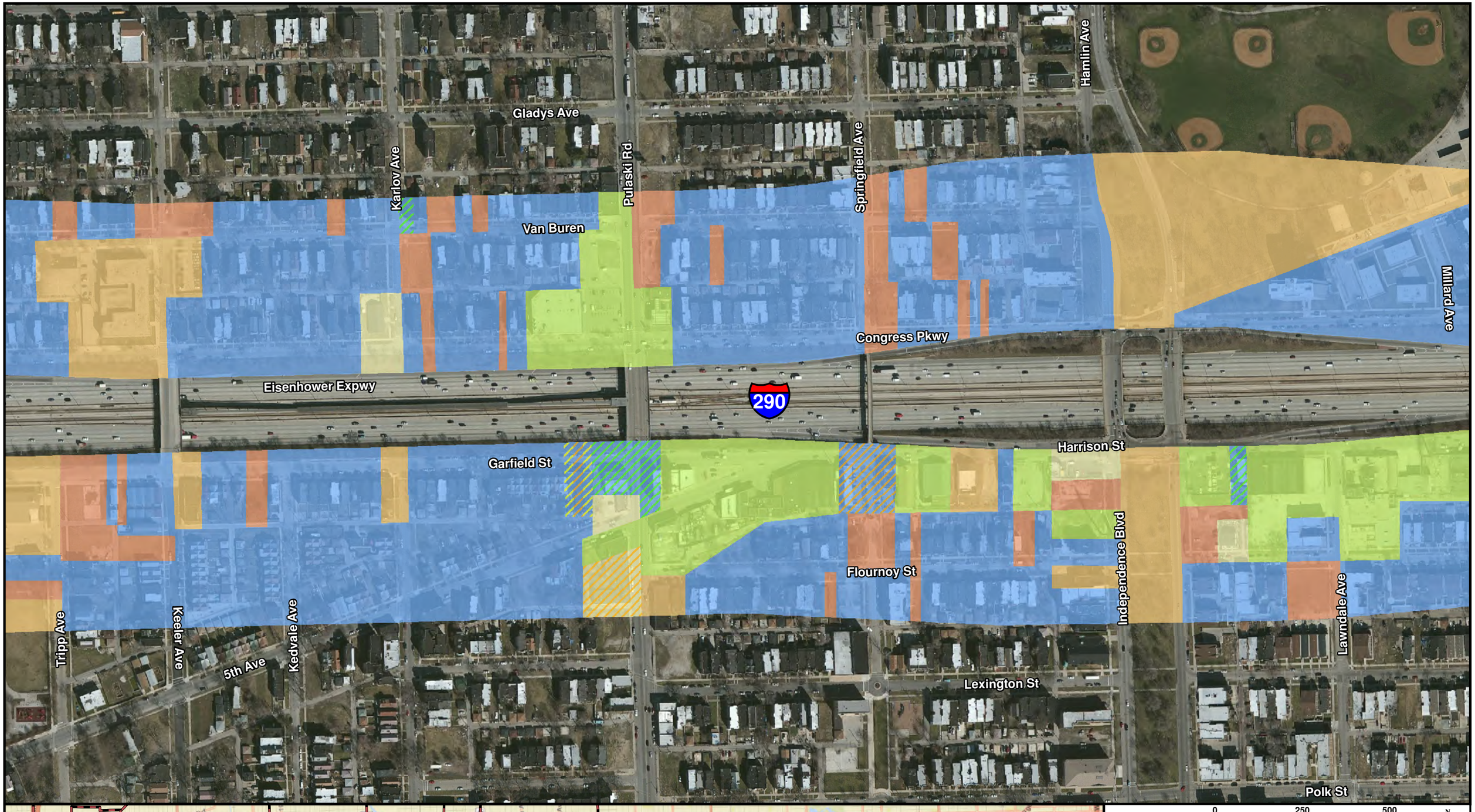
Legend

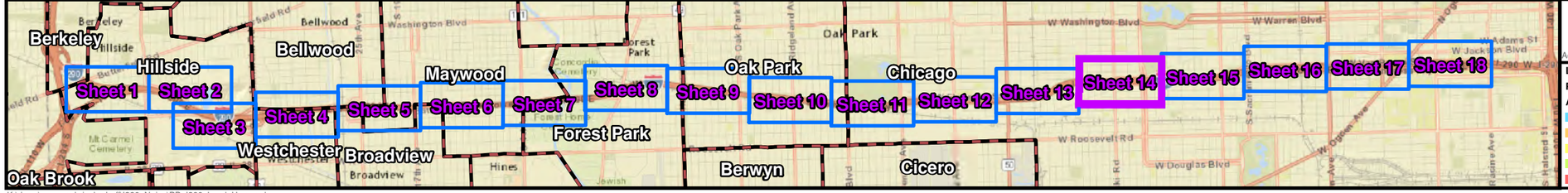
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 13 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd





0 250 500
Feet

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

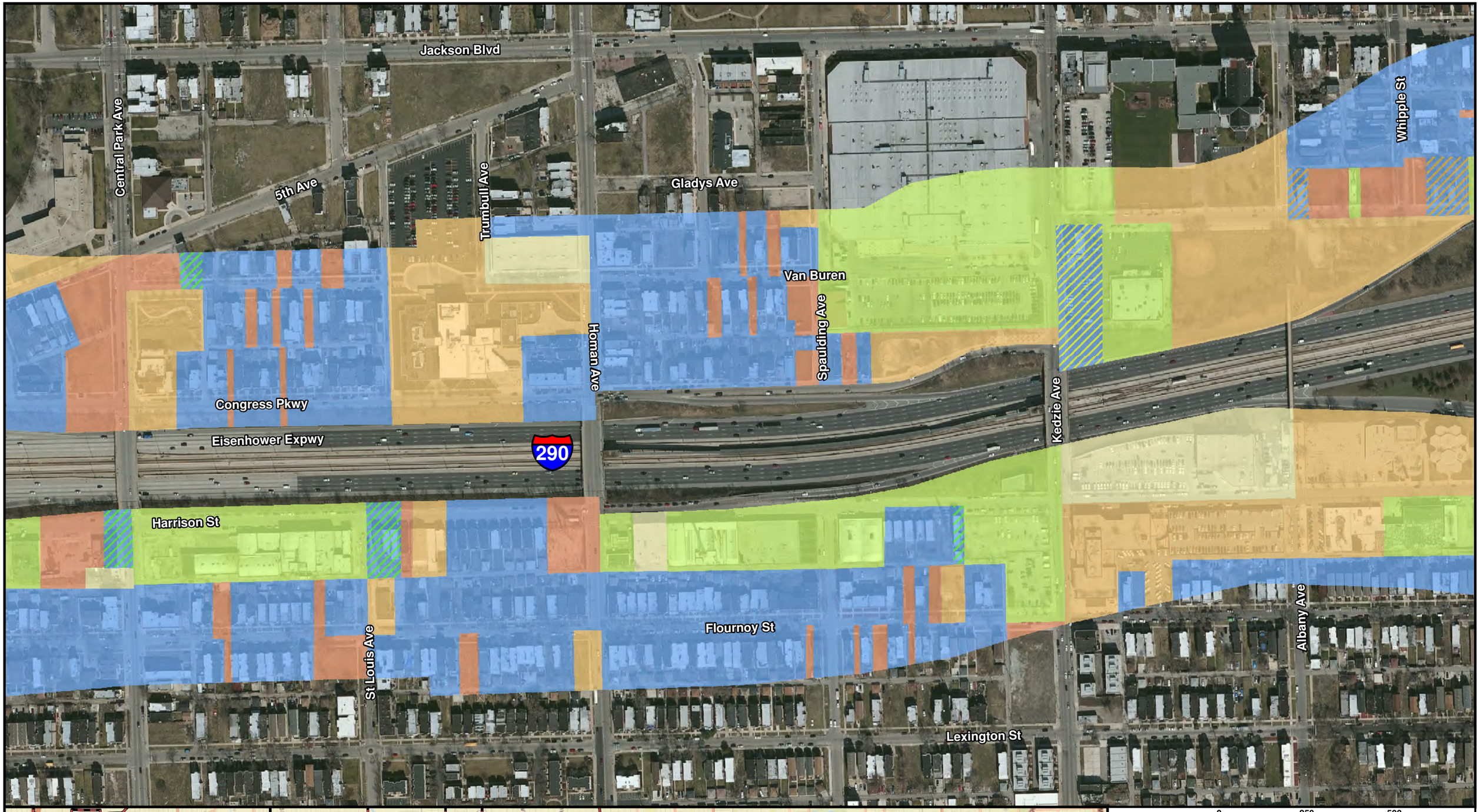
Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 14 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

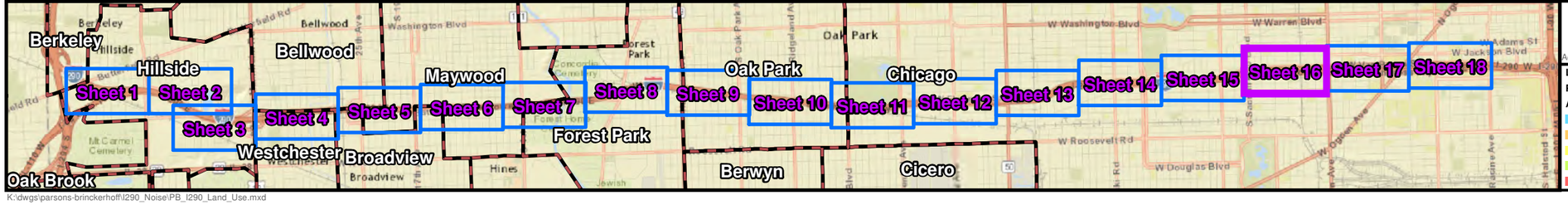


Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 15 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

Adams St
Rockwell St
Jackson Blvd
Richmond St
Mozart St
Gladys Ave
Maplewood Ave
Artesian Ave
Van Buren
Eisenhower Expwy
290
Congress Pkwy
Washtenaw Ave
Denvir Ave
Sacramento Dr
Francisco Ave
California Ave
Harrison St
Flournoy St
Bellwood Ave
Campbell Ave



0 250 500
Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

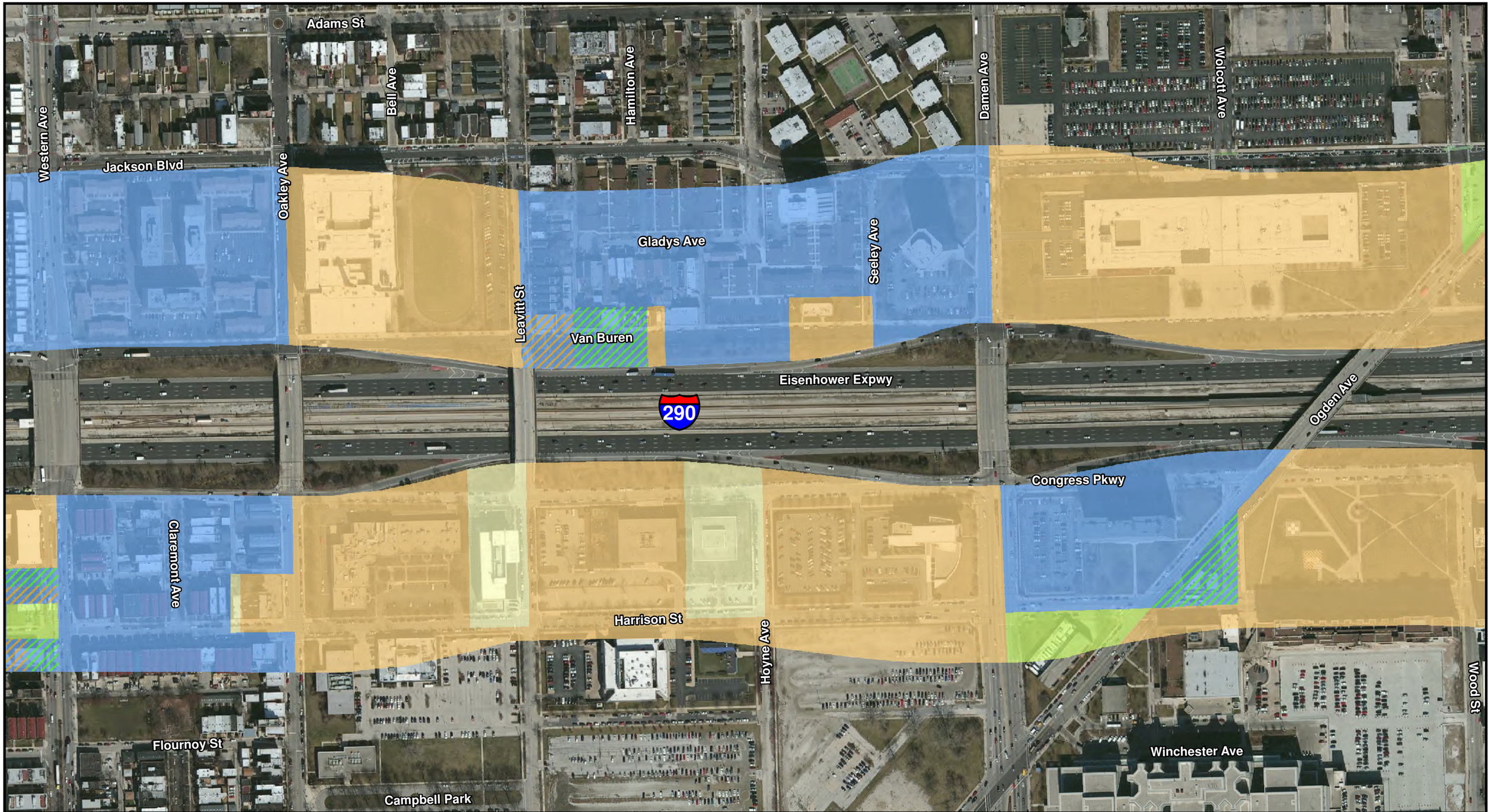
Legend

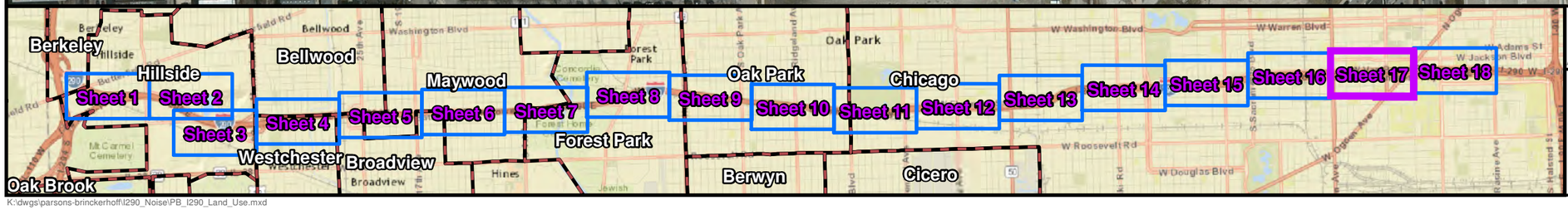
Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 16 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd





0 250 500
Feet

N
W E
S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 17 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_Land_Use.mxd

Adams St
Quiincy St
Cottage Pl
Racine Ave
Throop St
Laflin St
Jackson Blvd
Ogden Ave
Paulina St
Marshfield Ave
Gladys Ave
Van Buren
Eisenhower Expwy
Ashland Ave
290
Congress Pkwy
Loomis St
Harrison St
Wood St
Flournoy St
Ada St
Lytle St

Berkeley
Hillside
Bellwood
Maywood
Oak Park
Chicago
Forest Park
Westchester
Broadview
Berwyn
Cicero
Oak Brook
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 15
Sheet 16
Sheet 17
Sheet 18

0 250 500
Feet

N
W E
S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 18 of 18

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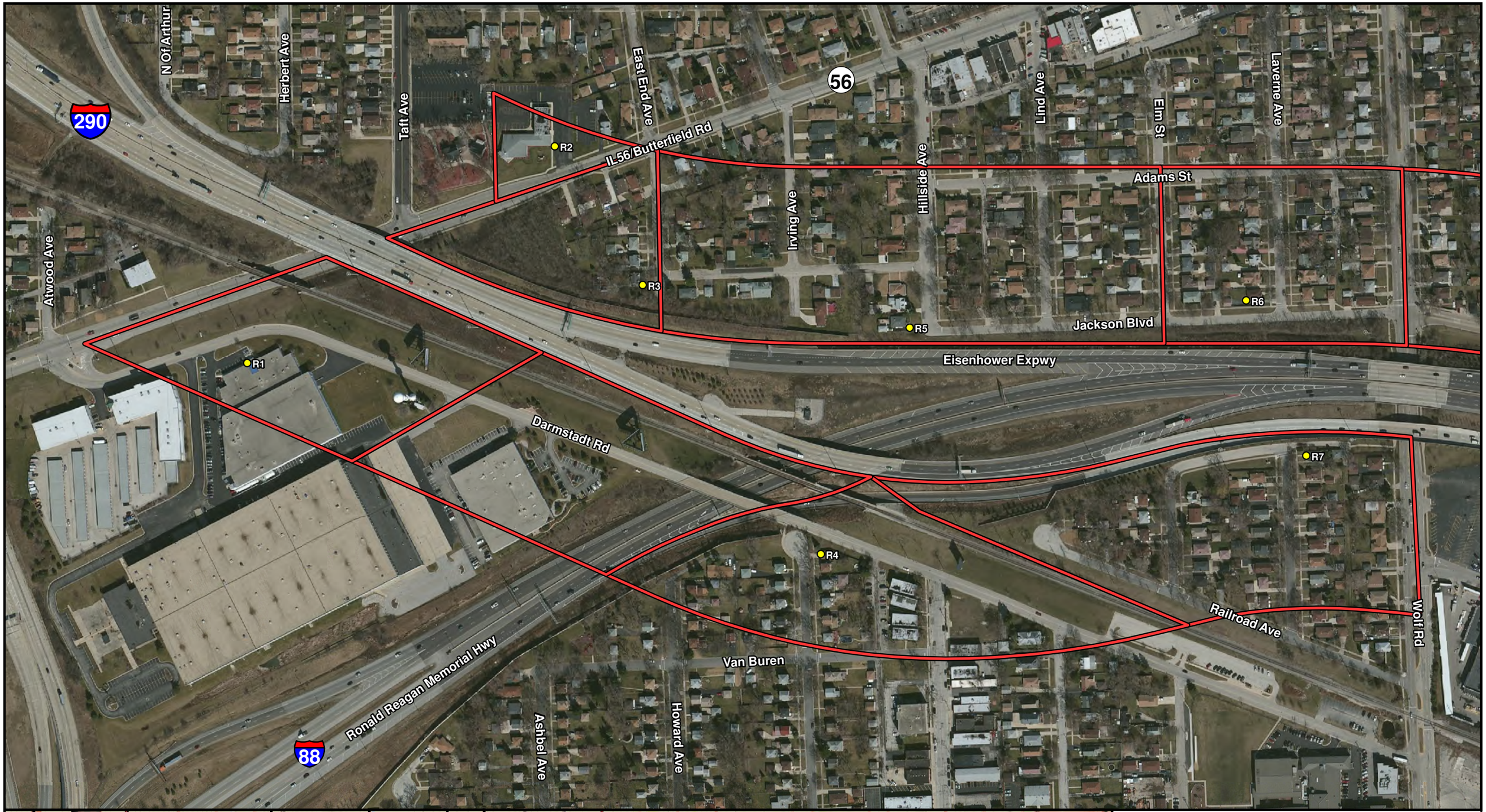

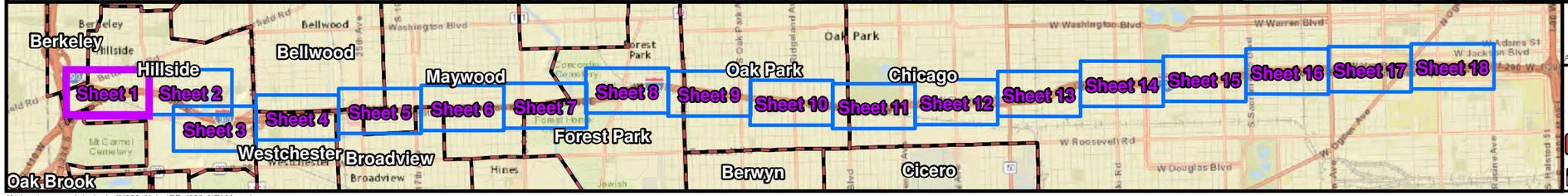

0 250 500
Feet

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W E
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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 1 of 18

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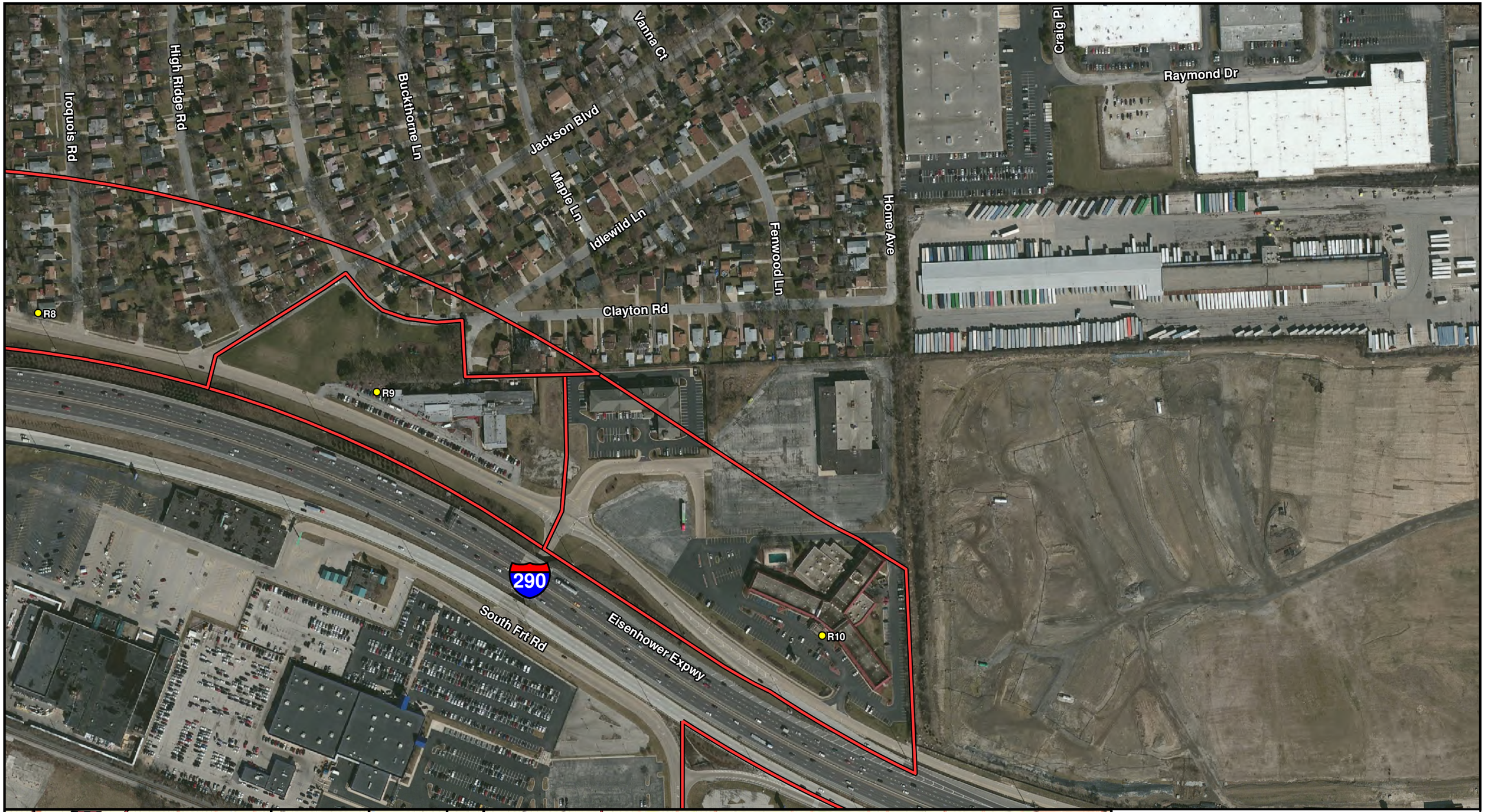

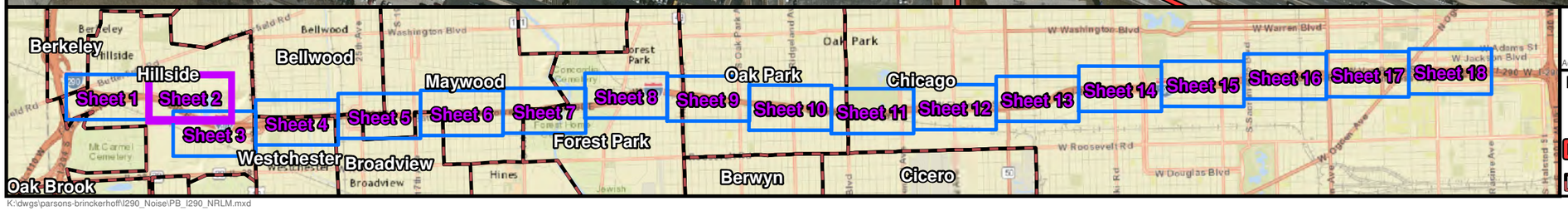

0 250 500
Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 2 of 18

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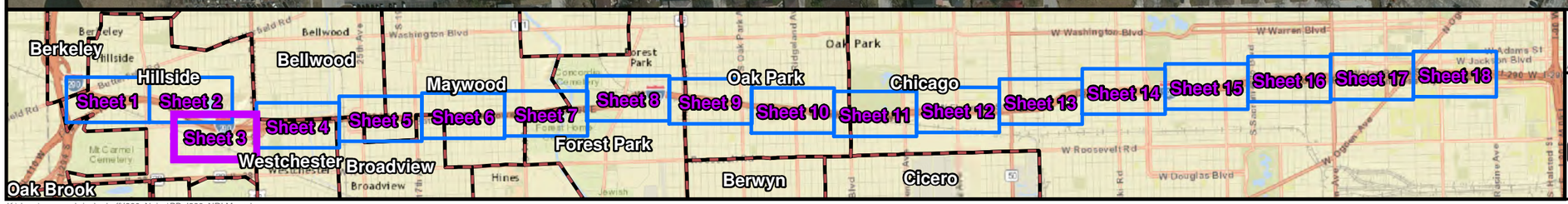

0 250 500
Feet

N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 3 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Van Buren
Harrison St
Kitchener St
Gladstone St
Eisenhower Expwy
290
Wedgwood Dr
Indian Joe Dr
York St
Congress Pkwy
Bellwood Ave
Marshall Ave
Bohland Ave
Linden Ave
Rice Ave
Eastern Ave
32nd Ave
31st St
30th Ave
Cernan Dr
Gardner Rd
Newcastle Ave
Balmoral Ave
Westchester Blvd
Hull Ave
Portsmouth Ave
Suffolk Ave
Norfolk Ave
Manchester Ave
Bristol Ave
Worchester Ave
Cromwell
R15
R16
R17
R18
R19
R20
R21
R22
R23
R24
R25
R26
R27
R28
R29
R30
R31

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

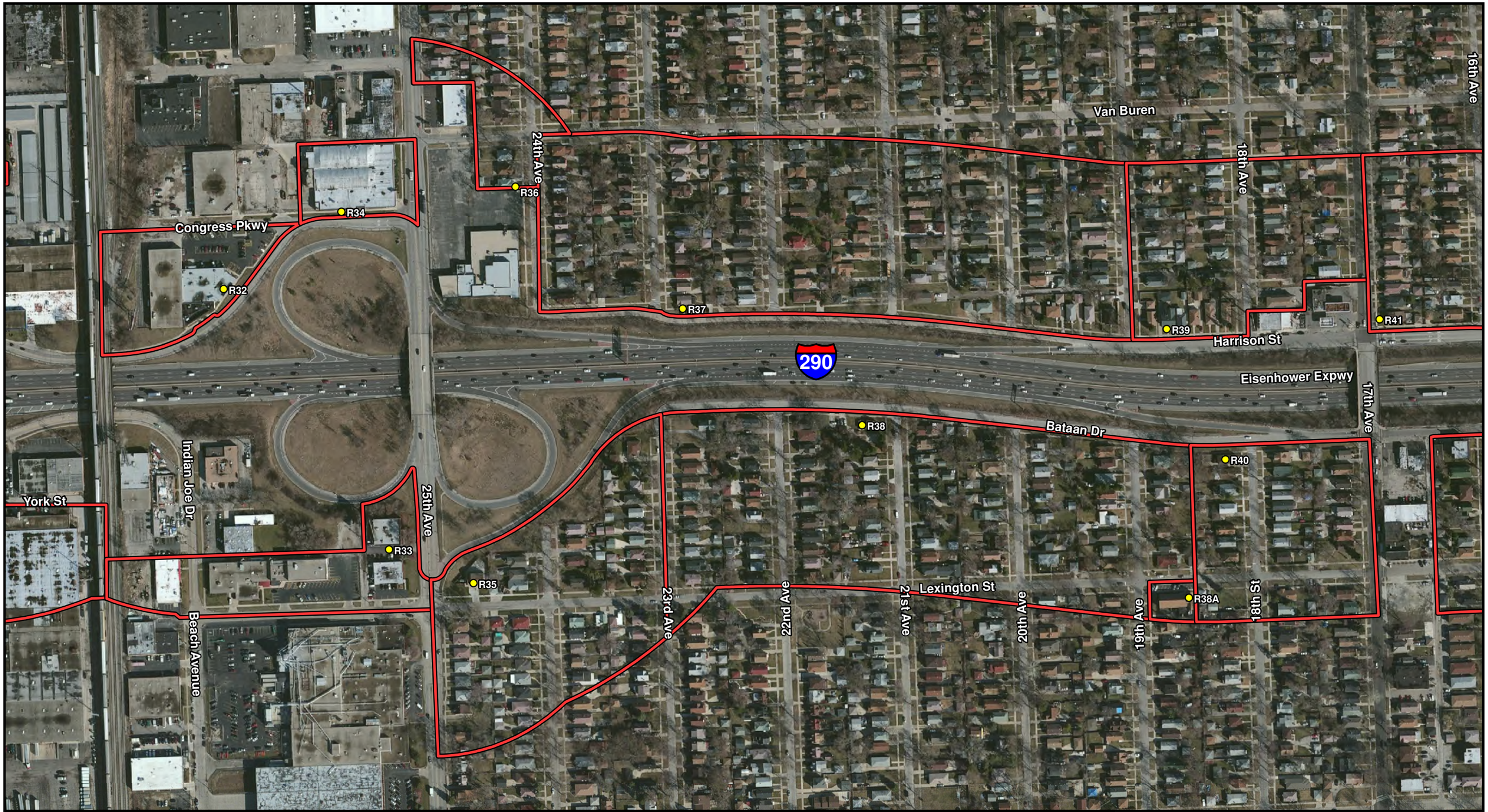
Legend

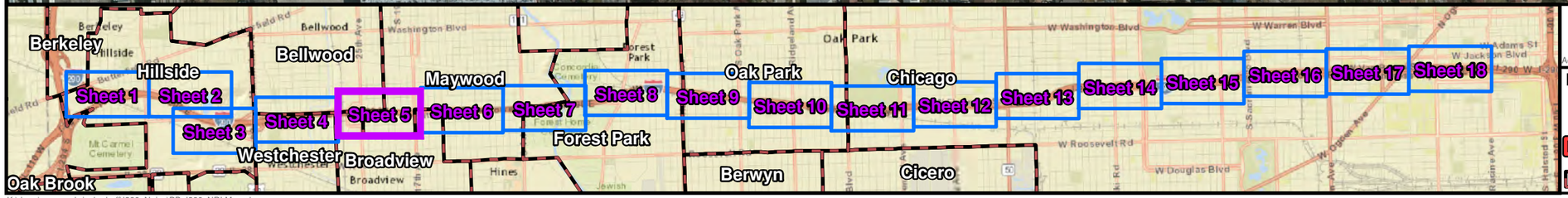
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 4 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd





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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

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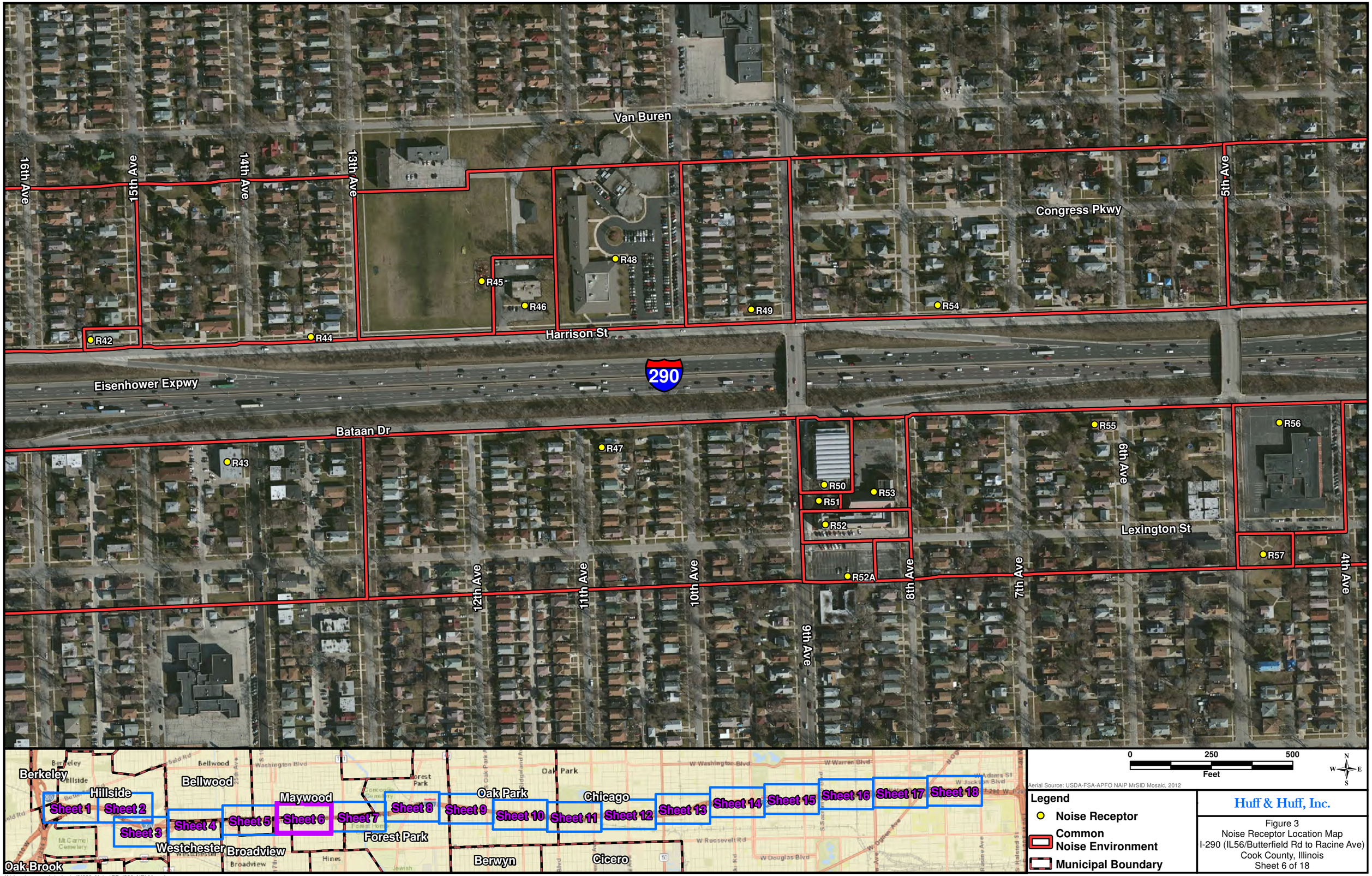
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 5 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd



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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 6 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Quincy St
171
Van Buren
3rd Ave
2nd Ave
Congress Pkwy
Maybrook Square
R63
R64
R60
R61
R58
Harrison St
290
Eisenhower Expwy
Bataan Dr
R59
R62
Lexington St
First Ave

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

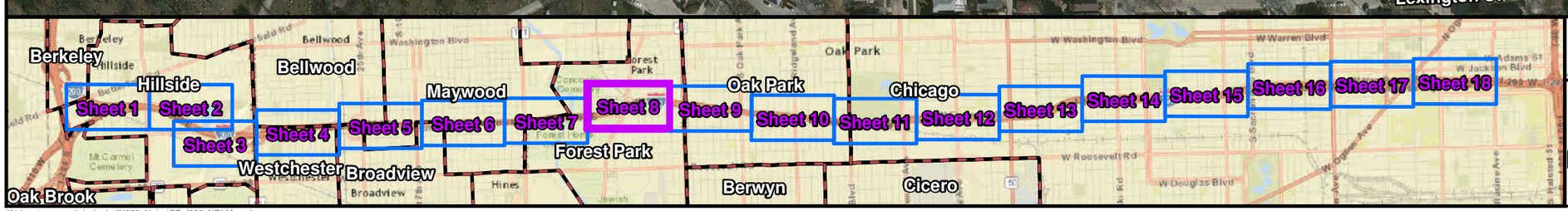
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 7 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Jackson Blvd
Ferdinand Ave
Thomas Ave
Van Buren
R70
R73
Lehmer Ave
Eisenhower Expwy
R69
290
R67
Harrison St
R68
R71
R72
R74
Des Plaines Ave
R66
Dunlop Ave
Lathrop Ave
Beloit Ave
Hannah Ave
Circle Ave
York St
R65
Lexington St



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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 8 of 18

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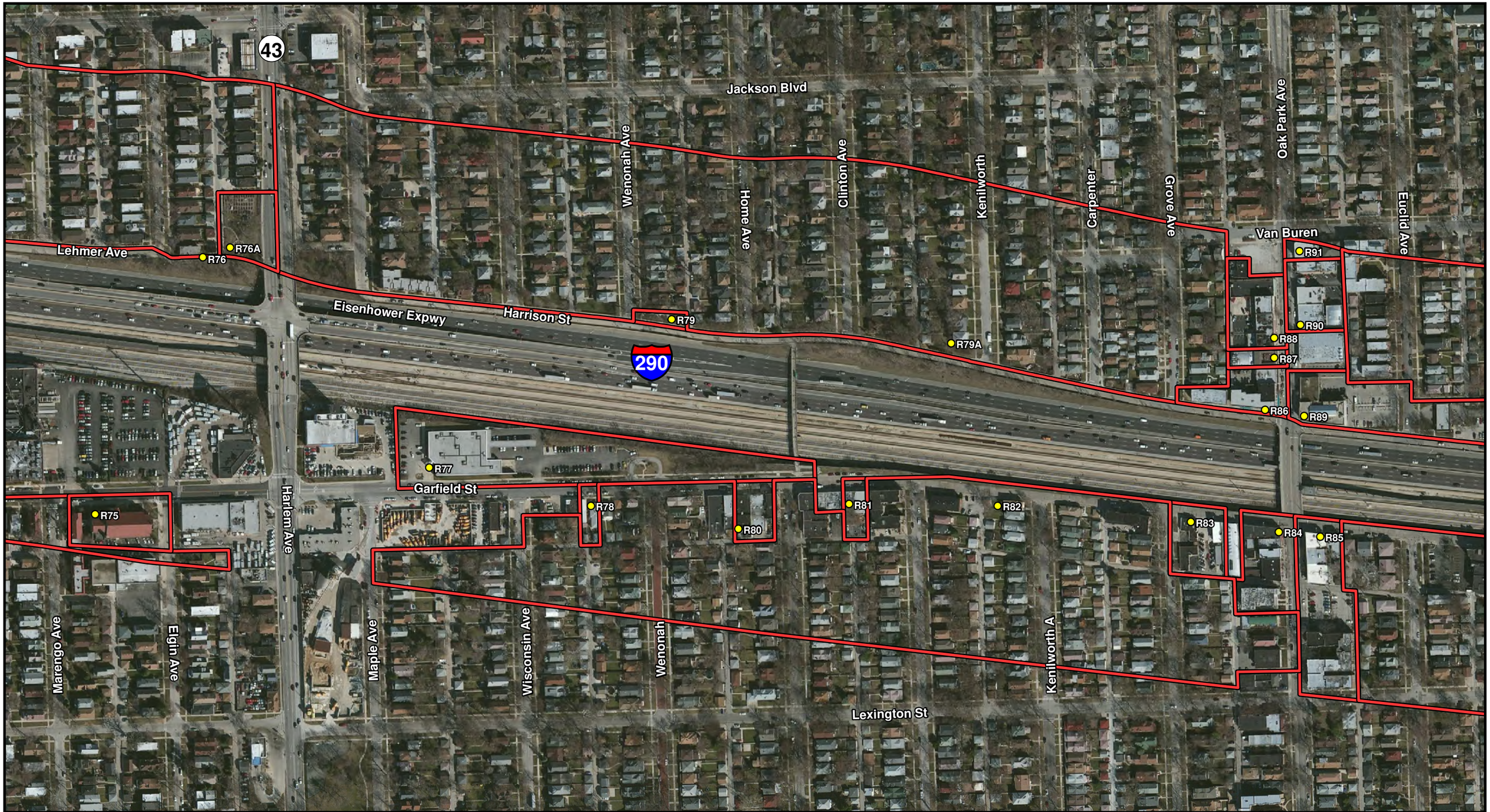

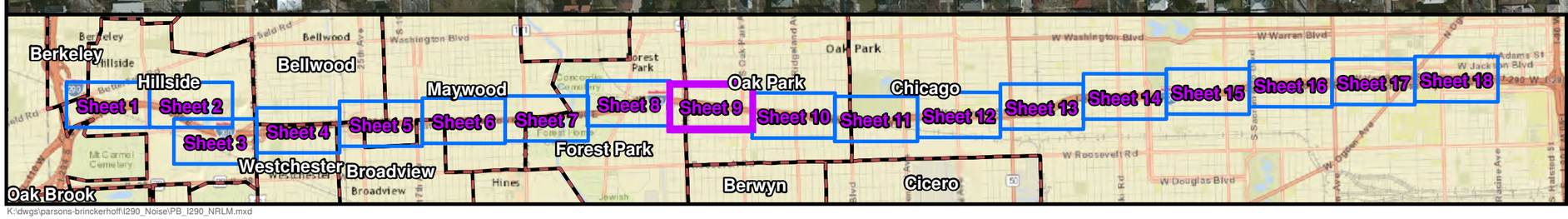

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N W E S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

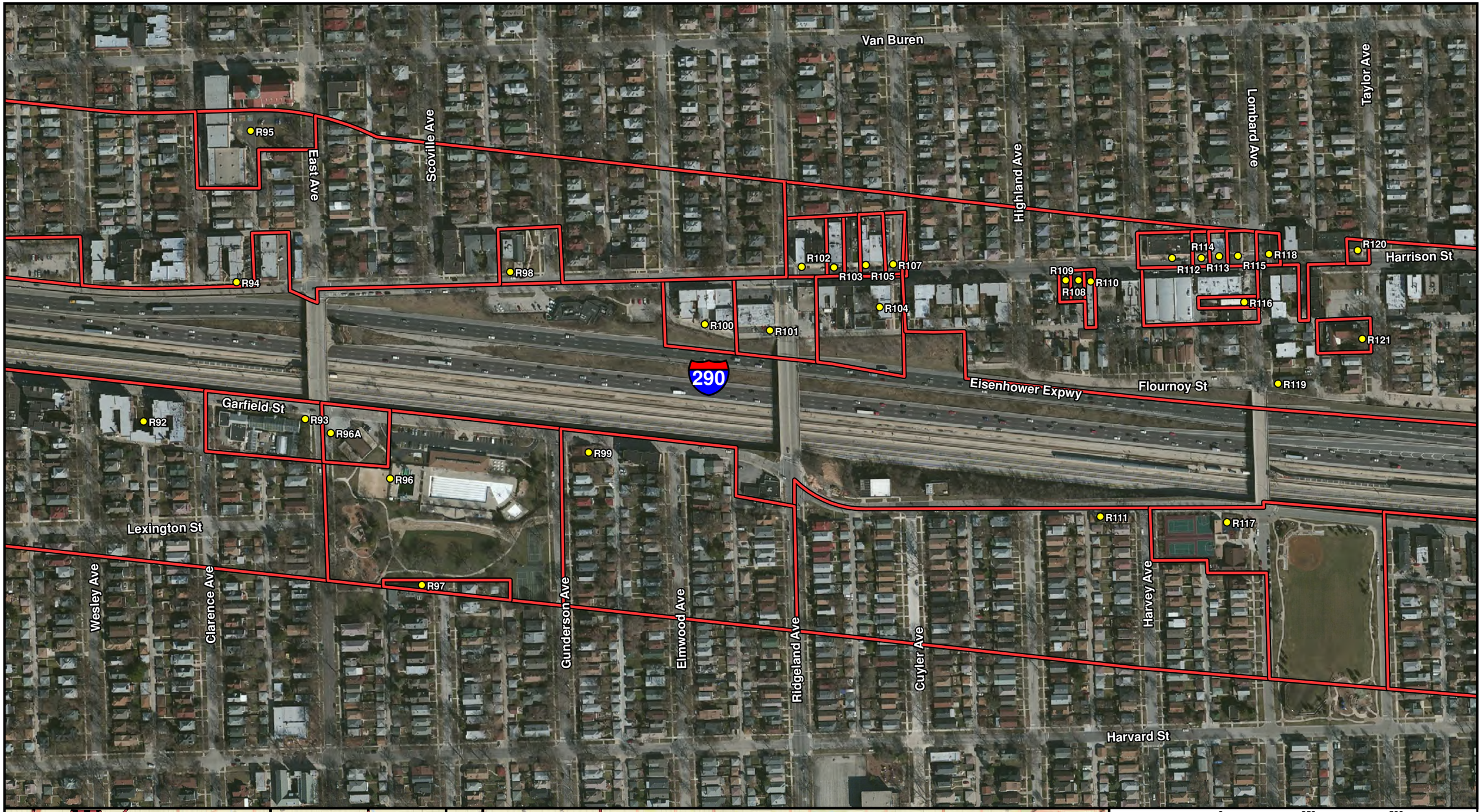
Legend

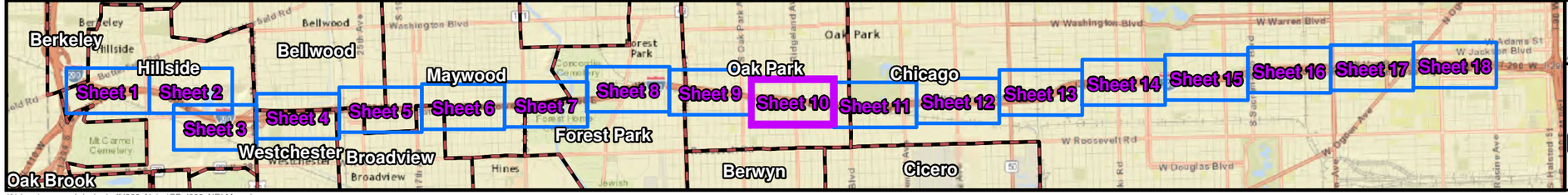
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 9 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd





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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 10 of 18

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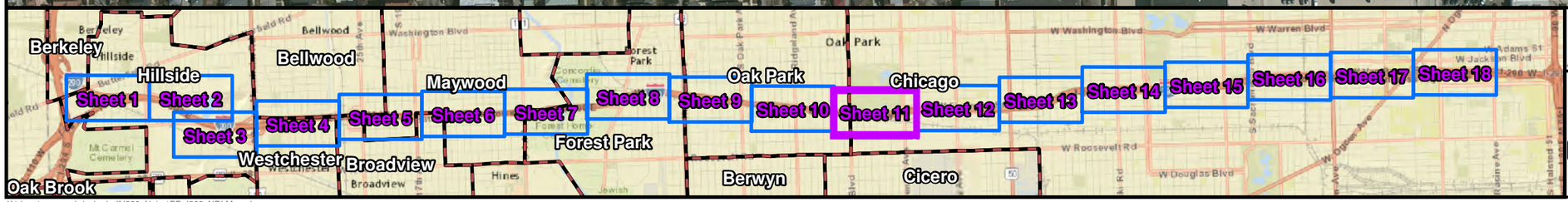

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

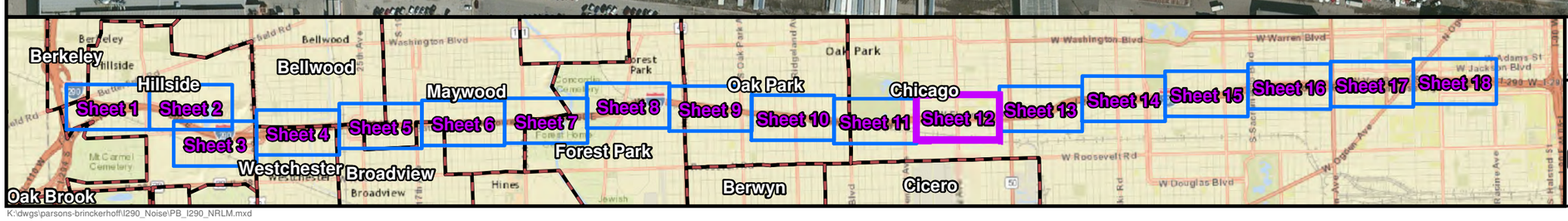
Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 11 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Congress Pkwy
Lotus Ave
Lockwood Ave
Leamington Ave
Lavergne Ave
Harrison St
Flournoy St
Eisenhower Expwy
290
Lexington St
Laramie Ave
Polk St
Arthington St

R129
R129A
R130
R131
R132
R133
R134
R136
R137
R138
R139
R140
R141
R142
R143
R143A
R144
R145
R146



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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 12 of 18

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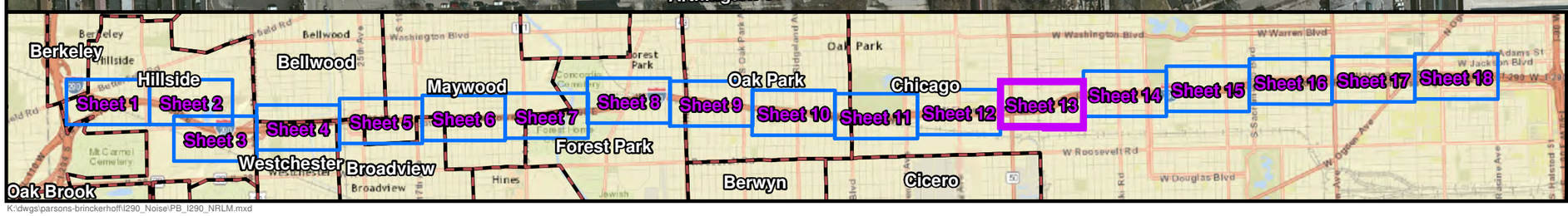

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

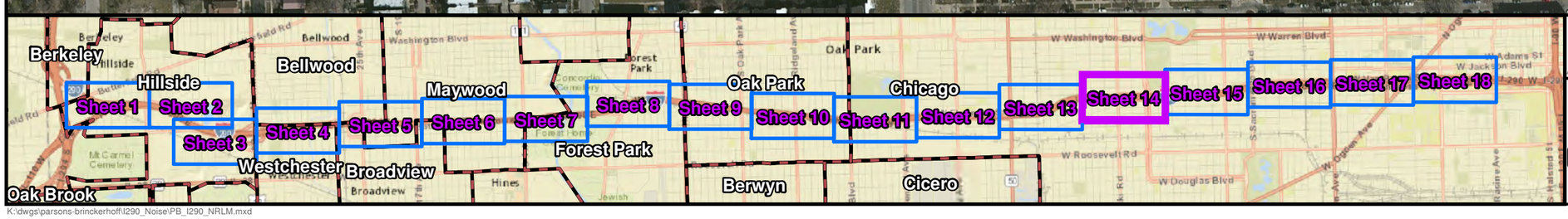
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 13 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Gladys Ave
Karlov Ave
Pulaski Rd
Springfield Ave
Hamlin Ave
Van Buren
Millard Ave
R194
R193
R185
R182
R180
R169
R172
R174
R176
Congress Pkwy
Eisenhower Expwy
290
Harrison St
Garfield St
R168
R170
R171
R173
R175
R177
R178
R179
R181
R183
R184
R186
R189
R187
R188
R190
R191
R192
Independence Blvd
Lawndale Ave
Flournoy St
Tripp Ave
Keeler Ave
Kedvale Ave
5th Ave
Lexington St
Polk St



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Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 14 of 18

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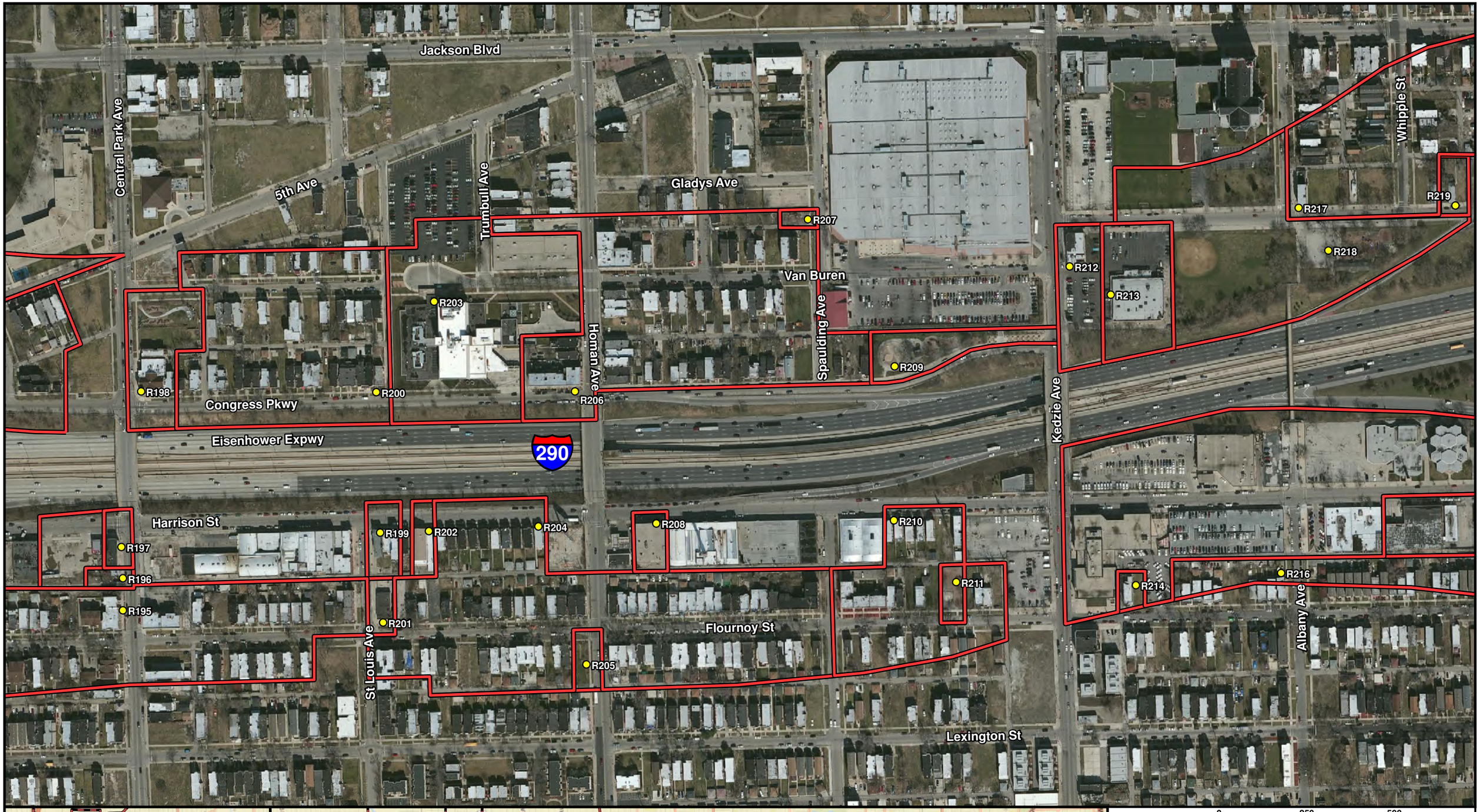

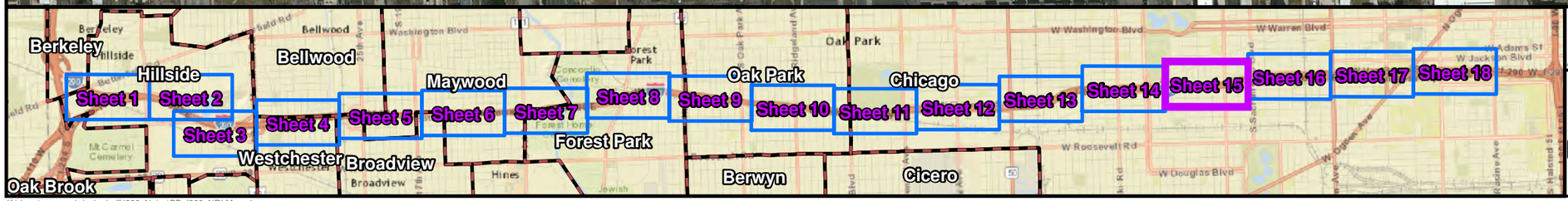

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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

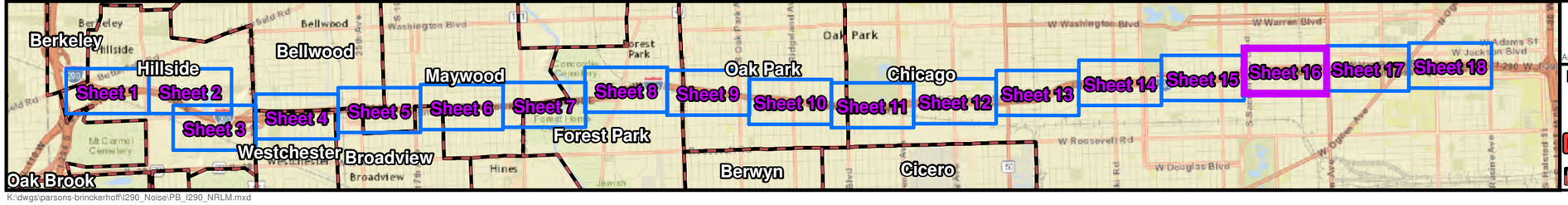
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 15 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Adams St
Rockwell St
Jackson Blvd
Richmond St
Mozart St
R235
R236
Gladys Ave
Maplewood Ave
Artesian Ave
R247
R242
R219
R224
R227
R228
Van Buren
R234
R239
R240
Eisenhower Expwy
290
Congress Pkwy
R238
R230
R241
R246
R244
R243
R241A
Denvir Ave
R220
Sacramento Dr
R226
R223
R221
R222
R225
Francisco Ave
R229
R231
R233
R232
California Ave
R237
Washtenaw Ave
Harrison St
Flournoy St
Bellwood Ave
Campbell Ave



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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

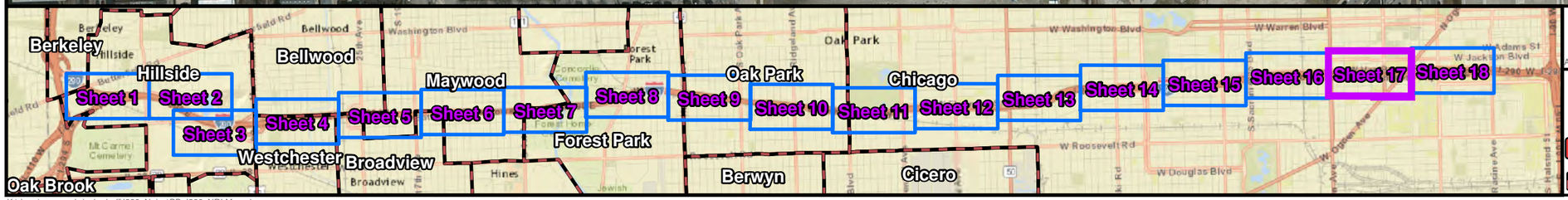
- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 16 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Adams St
Western Ave
Bell Ave
Hamilton Ave
Damen Ave
Wolcott Ave
Jackson Blvd
Oakley Ave
Leavitt St
Gladys Ave
Seeley Ave
R247
R249
R250
R254
R255
R257
R258
R260
Van Buren
Eisenhower Expwy
290
Ogden Ave
Congress Pkwy
R246
R248
R245
Claremont Ave
R248A
R251
R252
R253
R256
R259
R261
R262
Harrison St
Hoyne Ave
Wood St
Flournoy St
Winchester Ave
Campbell Park



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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

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Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 17 of 18

K:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM.mxd

Adams St
Quiincy St
Cottage Pl
Racine Ave
Throop St
Jackson Blvd
Laflin St
Ogden Ave
Paulina St
Marshfield Ave
Ashland Ave
Van Buren
Gladys Ave
Eisenhower Expwy
290
Congress Pkwy
Harrison St
Loomis St
Wood St
Flournoy St
Lytle St
Ada St
R263
R264
R265
R266
R267
R268
R269
R270
R271
R272
R273
R273A
R274
R275
R276
R277
R278
R279
Berkeley
Hillside
Bellwood
Maywood
Oak Park
Chicago
Forest Park
Westchester
Broadview
Berwyn
Cicero
Oak Brook
Sheet 1
Sheet 2
Sheet 3
Sheet 4
Sheet 5
Sheet 6
Sheet 7
Sheet 8
Sheet 9
Sheet 10
Sheet 11
Sheet 12
Sheet 13
Sheet 14
Sheet 15
Sheet 16
Sheet 17
Sheet 18
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Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Legend

- Noise Receptor
- Common Noise Environment
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois
Sheet 18 of 18

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APPENDIX B

Huff & Huff, incorporated
environmental engineers and consultants

915 Harger Road, Suite 330
Oak Brook, IL 60523
Phone (630) 684-9100
Fax (630) 684-9120
Website: http://huffnhuff.com

MEMORANDUM – RECEPTOR SELECTION

To: Pete Harmet, P.E., IDOT Bureau Chief of Programming
Illinois Department of Transportation

From: Tim Kelly, Huff & Huff, Inc.
Jamie Bents, Huff & Huff, Inc.

Date: October 31, 2013

Re: Traffic Noise and Noise Abatement Study
FAI 290 (Interstate 290), Eisenhower Expressway
IL Route 56 to Racine
Project Number: P-91-597-10
PTB Number: 157-001
Cook County, Illinois

The first step in assessing traffic noise is to select representative receptors. A noise receptor is an exterior area where frequent human use occurs, based on a review of aerial photography or site inspection. The noise receptors selected for the Eisenhower Expressway noise assessment were chosen based on site inspection to determine if exterior areas of frequent human use existed. Two hundred and ninety (290) receptor locations were identified as representative of existing and proposed conditions for the study area. These receptors are described herein and will be used for modeling. A receptor is typically representative of an area, a group, or cluster of noise sensitive receptors. The area, group, or cluster is referred to as a Common Noise Environment (CNE).

The project area, shown in Figure 1, is along Interstate 290 (I-290) from IL Route 56/Butterfield Road to Racine Avenue. The project area is within the Villages of Hillside, Westchester, Bellwood, Broadview, Maywood, Forest Park, Oak Park, and the City of Chicago. The proposed project is in two parts. Between the western terminus and Cicero Avenue, the widening of I-290 to four lanes in each direction is proposed, generally aligned along the existing roadway and improvements of the I-290 interchanges and bridges. From Cicero Avenue to the eastern terminus, the existing I-290 corridor is expected to be restriped to add a through lane; no bridges will be improved in the eastern half of this project.

1. Land Use

The surrounding land use is suburban and urban development. Table 1 lists the activity categories associated with the FHWA Noise Abatement Criteria (NAC), as referenced from the Illinois DOT Highway Traffic Noise Assessment Manual. This information was used to identify receptors in the project area.

TABLE 1
FHWA NOISE ABATEMENT CRITERIA
HOURLY WEIGHTED SOUND LEVEL

Activity Category	$L_{eq}(h)$	Evaluation Location	Description of Activity Category
A	57	Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B[1]	67	Exterior	Residential.
C[1]	67	Exterior	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails and trail crossings.
D	52	Interior	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios.
E[1]	72	Exterior	Hotels, motels, offices, restaurants/bars, and other developed lands, properties, or activities not included in A-D or F.
F	-	-	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing.
G	-	-	Undeveloped lands that are not permitted.

[1] Includes undeveloped lands permitted for this activity category

No Activity Category A facilities were identified in the project area. The project area includes land uses within Activity Categories B (residences), C (churches, medical clinics/offices/laboratories, hospitals, health care centers, schools, day care centers, parks and recreation facilities, cemeteries, government/institutional buildings, colleges, veterinaries, a conservatory, a library, community centers, dance and yoga studios, and an events center), and E (hotel, restaurants, offices). These land uses have NAC as shown in Table 1.

Several Activity Category F land uses were identified near the project corridor. These uses include retail facilities, gas stations, and various industrial and commercial uses. Activity Category F uses have no established noise abatement criteria and do not need to be analyzed for noise impacts.

There are several areas in the project corridor that are Activity Category G, vacant or undeveloped

land. The majority of vacant land in the project area is located within the City of Chicago, between Central Avenue and Western Avenue. Activity Category G uses do not have established NAC, but traffic noise levels may be predicted for these uses during the traffic noise analysis.

Figure 2 (Sheets 1 through 21) depicts the existing land use along the project corridor.

2. Selected Noise Receptors

Receptor locations are selected to reflect changes in traffic noise levels as a result of changes in traffic volumes, speed, composition (trucks and cars), roadway alignment (horizontal and vertical), number of lanes, background noise, shielding, and ground cover. Distance to I-290 from the receptor was the main component used to select receptors for this project and was limited to receptors within 500 feet of the proposed improvements. The distance of 500 feet is based on FHWA's 2010 performance evaluation of the Traffic Noise Model (TNM) 2.5, the model that will be used to predict existing, no build, and build noise levels for the proposed project. The evaluation found that TNM is most accurate when used to assess receptors within 500 feet of the roadway, and that TNM under-predicted sound levels for "soft" ground types (turf) and over-predicted sound levels for "hard" ground types (pavement) for receptors farther than 500' from the roadway.[1] The closest receptor to the roadway within each CNE was selected, thereby representing the worst case traffic noise scenario for proposed conditions. For purposes of modeling and abatement concept evaluation, the CNE represents a collection of receptors with similar noise levels within a sensitive land use area.

Table 2 lists the receptor number, location, receptor type, and the approximate distance to the existing centerline. Figure 3 (Sheets 1 through 21) depict aerial photographs of each representative receptor and its corresponding CNE. The figure shows "primary" and "secondary" land use classifications used to identify the Land Use Activity Category for each area within the project corridor. This distinction was made because the land uses in the project area are urban and sometimes have multiple land uses within a single building. Buildings with more than one land use that could be represented by multiple Activity Categories were designated with "Primary" and "Secondary" land uses that identify which of the present land uses will be used to determine traffic noise impacts. For instance, a single building could contain a café with sidewalk seating on the first floor, with residential on the second floor (with an outdoor balcony), that could be considered either Activity Category B (residential) or E (restaurant). "Primary" land uses represent the most noise-sensitive land use in that building, and represent the land use category that will be used for traffic noise impacts determination. Per the previous example, residential land use/Activity Category B has a lower NAC (67 dB(A)) than restaurants/Activity Category E (72 dB(A)); therefore the "primary" land use category for that site would be Activity Category B (NAC of 67 dB(A)) so that the most noise-sensitive land use would be used to determine noise impacts. "Secondary" land uses are shown as a hatching over the "Primary" land use to indicate the other land use in the building that have NAC, but the NAC is higher than that of the primary land use. In the example given, Activity Category E (NAC of 72 dB(A)) would be the "secondary" land use.

Noise receptors were located using field investigations to determine exterior areas of frequent human use, such as balconies, benches, or other gathering places. Noise receptors may change or be added

1 U.S. Department of Transportation Research and Innovative Technology Administration. "Ground and Pavement Effects using FHWA's Traffic Noise Model 2.5." April 2010.

as the traffic noise analysis progresses, and additional site data is collected.

Enclosures

TABLE 2
SELECTED NOISE RECEPTORS
INTERSTATE ROUTE 290
IL Route 56/Butterfield Road to Racine Avenue

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R1	E	Office	375	Hillside
R2	C	Church	490	
R3	B	SFR	130	
R4	B	SFR	220	
R5	B	SFR	65	
R6	B	SFR	140	
R7	B	SFR	145	
R8	B	SFR	165	
R9	C	School, Park, Medical Facility	200	
R10	E	Hotel	270	
R11	C	Church, Medical Lab, Day Care	325	
R12	E	Office	450	
R13	B	SFR	150	
R14	E	Restaurant	655	
R15	B	Mixed Residential	445	Bellwood, Westchester, Broadview
R16	B	SFR	385	
R17	B	Mixed Residential	115	
R18	C	Church	350	
R19	B	MFR	150	
R20	B	MFR and Church/Community Center	260	
R21	B	MFR	340	
R22	C	Medical Clinic	425	
R23	E	Restaurant	445	
R24	B	MFR	495	
R25	B	SFR	110	
R26	B	MFR	120	
R27	B	SFR	110	
R28	B	SFR	190	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R29	B	SFR	110	Bellwood, Westchester, Broadview
R30	B	SFR	150	
R31	C	Medical Services	350	
R32	C	Medical Clinic	240	
R33	C	Educational Center	520	
R34	E	Office	420	
R35	B	SFR	490	
R36	B	SFR	455	Bellwood, Maywood
R37	B	SFR	110	
R38	B	SFR	120	
R38A	C	Church	550	
R39	B	Mixed Residential	115	
R40	B	SFR	130	Maywood
R41	B	SFR	125	
R42	C	Church	140	
R43	B	Mixed Residential	100	
R44	B	Mixed Residential	135	
R45	C	Playground for MFR housing	265	
R46	E	Office	175	
R47	B	Mixed Residential	150	
R48	C	School	315	
R49	B	SFR	135	
R50	C	Church	270	
R51	B	SFR (Church Rectory)	350	
R52	C	Church/Community Center	440	
R52A	C	Day Care	615	
R53	C	School	360	
R54	B	Mixed Residential	140	
R55	B	Mixed Residential	135	
R56	C	School	150	
R57	C	Park	530	
R58	B	Mixed Residential	110	
R59	B	Mixed Residential	120	Forest Park
R60	E	Restaurant	175	
R61	E	Office	180	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R62	C	Cemetery	330	Forest Park
R63	C	Courthouse	220	
R64	C	Cemetery	110	
R65	C	Cemetery	320	
R66	C	Medical Clinic	445	
R67	C	Park	170	
R68	B	Mixed Residential	460	
R69	C	Park	120	
R70	B	Mixed Residential	130	
R71	E	Restaurant	615	
R72	C	Medical Clinic	590	
R73	C	Park	110	
R74	B	Mixed Residential	565	
R75	C	Church	525	
R76	B	Mixed Residential	85	
R77	C	Post Office	285	Oak Park
R78	C	Yoga Studio	315	
R79	C	Park	70	
R79A	B	SFR	115	
R80	C	Veterinarian, Daycare, Dance School	250	
R81	C	School	200	
R82	B	Mixed Residential	75	
R83	B	Mixed Residential, Office	180	
R84	B	MFR	165	
R85	B	MFR, Office	160	
R86	B	MFR, Office	65	
R87	E	Restaurant	170	
R88	B	MFR, Daycare, Medical Clinic	265	
R89	E	Office	55	
R90	E	Restaurant, Office	300	
R91	B	MFR, Restaurant	500	
R92	B	Mixed Residential	180	
R93	C	Conservatory	225	
R94	B	Mixed Residential	50	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R95	C	School	440	Oak Park
R96	C	Recreation	300	
R96A	C	Fire Station	195	
R97	B	Mixed Residential	625	
R98	C	Library	155	
R99	B	Mixed Residential	170	
R100	B	MFR, Office, Clinic	60	
R101	C	Clinic, Theater	75	
R102	B	MFR, Health Care	260	
R103	C	Veterinarian	270	
R104	B	MFR, Spa	180	
R105	B	MFR, Office	290	
R106	B	MFR	285	
R107	C	Community Center	295	
R108	C	Dance Studio	310	
R109	E	Office	310	
R110	E	Restaurant	310	
R111	B	Mixed Residential	220	
R112	E	Restaurant	390	
R113	B	MFR, School	410	
R114	C	Daycare	410	
R115	B	MFR, Office	420	
R116	E	Restaurant	280	
R117	C	Park and Recreation	210	
R118	C	Daycare	430	
R119	B	Mixed Residential, Office	65	
R120	C	Health Care	460	
R121	C	Church	220	
R122	B	Mixed Residential	200	
R123	C	Religious Center	480	
R124	C	Nursing Home/Health Care	200	Chicago
R125	B	Mixed Residential	205	
R126	C	Park	115	
R127	C	Loretto Hospital	240	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R127A	C	Church	365	Chicago
R127B	C	School	375	
R128	B	MFR	515	
R129	B	Mixed Residential	100	
R129A	C	Church	460	
R130	C	Church	440	
R131	B	SFR	460	
R132	C	School	450	
R133	B	MFR	460	
R134	C	IDOT Driver's License Facility	260	
R135	C	Church	460	
R136	B	SFR	460	
R137	C	Church	460	
R138	B	Mixed Residential	260	
R139	C	School	505	
R140	B	Mixed Residential	110	
R141	B	MFR	455	
R142	E	Office	515	
R143	C	School	160	
R143A	C	Church	450	
R144	C	Church	390	
R145	C	School	545	
R146	B	Mixed Residential	100	
R147	B	Mixed Residential	495	
R148	C	Church	315	
R149	B	MFR	185	
R150	B	MFR	350	
R151	B	Mixed Residential	170	
R152	B	Mixed Residential	240	
R153	C	Church	300	
R154	B	MFR/Restaurant	420	
R155	B	MFR	330	
R156	B	Mixed Residential	105	
R157	C	Church	470	
R158	B	MFR	415	
R159	B	Mixed Residential, Church	210	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R160	C	Church	340	Chicago
R161	C	Church	165	
R162	B	Mixed Residential	190	
R163	B	Mixed Residential	165	
R164	B	MFR	120	
R165	B	Mixed Residential	100	
R166	B	MFR	100	
R167	C	School	490	
R168	C	Church	130	
R169	C	School	150	
R170	B	Mixed Residential	105	
R171	C	Church	105	
R172	B	MFR	100	
R173	B	Mixed Residential	100	
R174	C	Health Club/Gym	110	
R175	C	Church	100	
R176	B	Mixed Residential	105	
R177	B	MFR, Restaurant, Church	95	
R178	E	Restaurant	160	
R179	C	Dentist, Church, Medical Doctor	350	
R180	B	MFR	105	
R181	B	MFR, Church, Daycare	100	
R182	B	MFR	110	
R183	C	Church	100	
R184	B	MFR	110	
R185	B	MFR	100	
R186	E	Restaurant	100	
R187	B	MFR	340	
R188	C	Church	450	
R189	B	MFR	100	
R190	E	Office	360	
R191	B	MFR	455	
R192	B	MFR	290	
R193	B	MFR	135	
R194	C	Park, School	495	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R195	B	Mixed Residential	290	Chicago
R196	E	Restaurant	210	
R197	B	MFR, Bar/Restaurant	100	
R198	C	Church, Park	105	
R199	B	MFR	100	
R200	B	MFR	110	
R201	C	Church	280	
R202	C	Church	100	
R203	C	Medical Center	250	
R204	B	MFR	100	
R205	C	Park	430	
R206	B	Mixed Residential	100	
R206A	C	Park	600	
R207	E	Office	425	
R208	E	Office	95	
R209	C	Park	110	
R210	B	Mixed Residential	130	
R211	C	Park	325	
R212	B	MFR, Restaurant	305	
R213	E	Restaurant	250	
R214	B	MFR	420	
R215	E	Office	177	
R216	B	Mixed Residential	510	
R217	B	MFR, Church	340	
R218	C	Park	140	
R219	B	MFR, Church	240	
R220	C	School, Social Services Center	215	
R221	B	MFR	430	
R222	E	Restaurant	500	
R223	B	MFR	305	
R224	E	Office	175	
R225	C	Church	475	
R226	C	Park	280	
R227	B	MFR	155	
R228	B	MFR	115	
R229	C	Church	505	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R230	B	MFR	125	Chicago
R231	E	Office	505	
R232	B	MFR, Restaurant	505	
R233	C	Medical Center	505	
R234	E	Restaurant	130	
R235	B	MFR	370	
R236	C	Church	275	
R237	C	Church	330	
R238	B	MFR	120	
R239	C	Church	90	
R240	B	Mixed Residential	90	
R241	C	Park	145	
R241A	C	Church	235	
R242	B	Mixed Residential	135	
R243	B	Mixed Residential	120	
R244	B	MFR	125	
R245	B	MFR	335	
R246	C	School	120	
R247	B	MFR	140	
R248	B	MFR	125	
R248A	C	Church	320	
R249	B	MFR	120	
R250	C	School	240	
R251	C	UIC Labs and Medical Offices, Sleep Center, Vet Clinic	280	
R252	E	Office	400	
R253	C	Play Area/Daycare/ Medical Clinic	185	
R254	B	MFR, Church	115	
R255	C	Church	115	
R256	E	Office	315	
R257	C	Play Area/Community Center	145	
R258	B	MFR	300	
R259	C	Medical Clinic	240	
R260	C	College	175	

Receptor/CNE No.	NAC Activity Category[a]	Type[b]	Distance to I-290 Mainline Existing Edge of Pavement, ft	Geographic Area
R261	B	MFR	205	Chicago
R262	C	Hospital	245	
R263	C	Medical Clinic	275	
R264	C	Medical Clinic	135	
R265	C	Hospital/University	120	
R266	E	Office	110	
R267	E	Office	150	
R268	E	Hotel/Restaurant	530	
R269	B	MFR	170	
R270	B	MFR	120	
R271	C	School	260	
R272	B	MFR	115	
R273	C	School	250	
R273A	C	Church	555	
R274	B	MFR	515	
R275	B	MFR	100	
R276	E	Office	490	
R277	C	College	320	
R278	B	MFR, Restaurant	275	
R279	B	MFR	420	

a/ due to many mixed-use buildings, the activity category listed is the most noise-sensitive use of the uses within that CNE.

b/ Land uses with NAC are listed; land uses without NAC are not included.

SFR denotes Single Family Residential

MFR denotes Multiple Family Residential

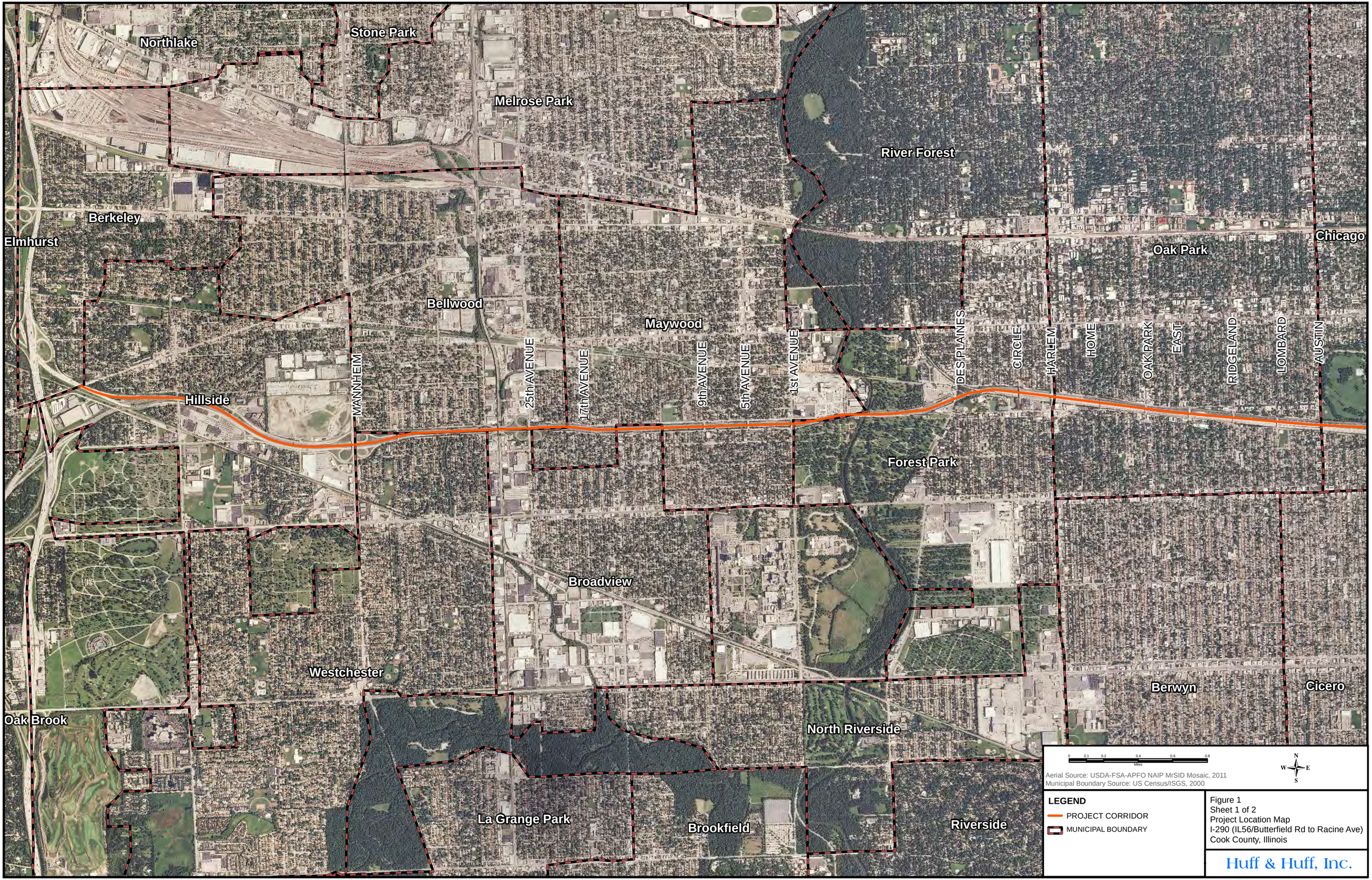

Figure 1
Sheet 1 of 2
Project Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

Huff & Huff, Inc.

CICERO
KOSTNER
KILDARE
KEELER
PULASKI
INDEPENDENCE
CENTRAL PARK
HOMAN
KEDZIE
ALBANY
SACREMENTO
CALIFORNIA
WESTERN
OAKLEY
LEAVITT
DAMEN
OGDEN
PAULINA
ASHLAND
LOOMIS
RACINE
MORGAN
HALSTED

Chicago

Cicero

0 0.1 0.2 0.4 0.6 0.8
Miles

N
W E
S

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2011
Municipal Boundary Source: US Census/ISGS, 2000

LEGEND

- PROJECT CORRIDOR
- MUNICIPAL BOUNDARY

Figure 1
Sheet 2 of 2
Project Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

Huff & Huff, Inc.

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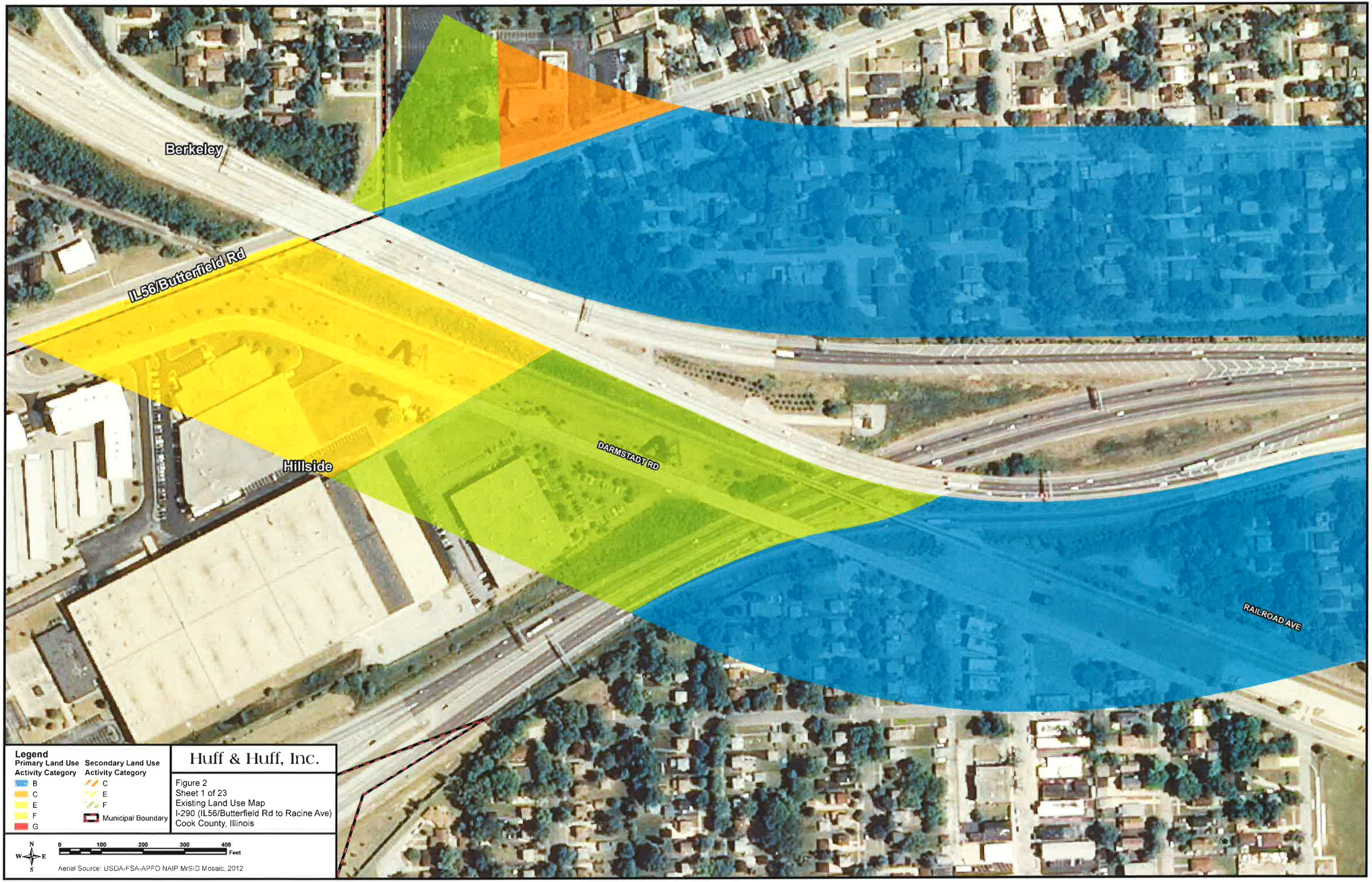

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Sheet 1 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_01.mxd

IROQUOIS ROAD

HIGH RIDGE ROAD

JACKSON BLVD

IDLEWILD LANE

CLAYTON ROAD

NORTH FRONTAGE RD

HILLSIDE DR

Hillside

SOUTH FRT RD

Eisenhower Expwy

I-290 EB C-D

I-290 WB TO WOLF RD

WOLF RD TO I-290EBCD

HARRISON ST/S FRT RD

Wolf Rd

RAILROAD AVE

DARMSTADT RD

HARRISON ST

Harrison St

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 2
Sheet 2 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_02.mxd

VAN BUREN
Bellwood
CONGRESS ST
Mannheim Rd
I-290 WB TO US-45
WOLF RD TO I-290EBCD
I-290 WB TO WOLF RD
I-290 EB C-D
HARRISON ST/S FRT RD
NORTH FRONTAGE RD
US-45 SB TO I-290 WB
Eisenhower Expwy
US-45 NB TO I-290 WB
Eisenhower Expwy
US-45SB TO I-290EBCD
Hillside
I-290EBCD TO US-45NB
Westchester
ORCHARD AV
OAK RIDGE AV
OAK AV
I-290 EBCD TO US-45
US-45NB TO I-290EBCD
Mannheim Rd
S RAILROAD AV
N RAILROAD AV
GLADSTONE ST

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Sheet 3 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

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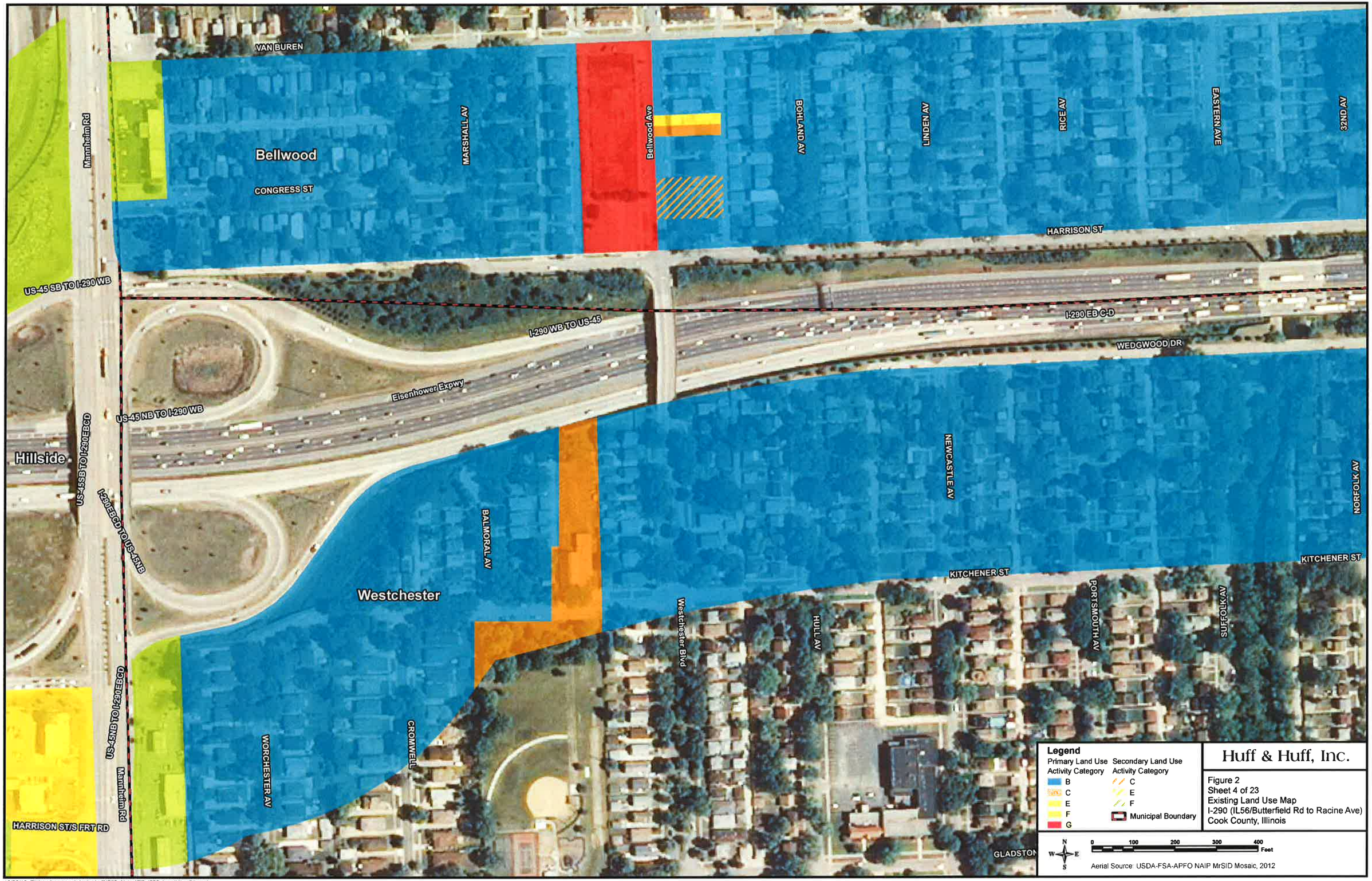

Huff & Huff, Inc.

Figure 2
Sheet 4 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_04.mxd

VAN BUREN ST
VAN BUREN ST
VAN BUREN
32ND AV
31ST ST
30TH AV
24TH AV
23RD AV
Bellwood
CONGRESS ST
CONGRESS ST
HARRISON ST
HARRISON ST
I290 WB TO 25THAV SB
I290 WB TO 25THAV NB
25TH AV TO I-290 WB
Eisenhower Expwy
I290 EB TO 25THAV NB
I-290 EB TO 25TH AV
INDIAN JOE DR
WEDGWOOD DR
25THAV SB TO I290 EB
25THAV NB TO I290 EB
BATAAN DR
25th Ave
Westchester
Broadview
Maywood
24TH AV
23RD AV
LEXINGTON ST
Gardiner Rd
NORFOLK AV
MANCHESTER AV
Bristol Ave
KITCHENER ST
BEACH AVENUE
25th Ave

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Sheet 5 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

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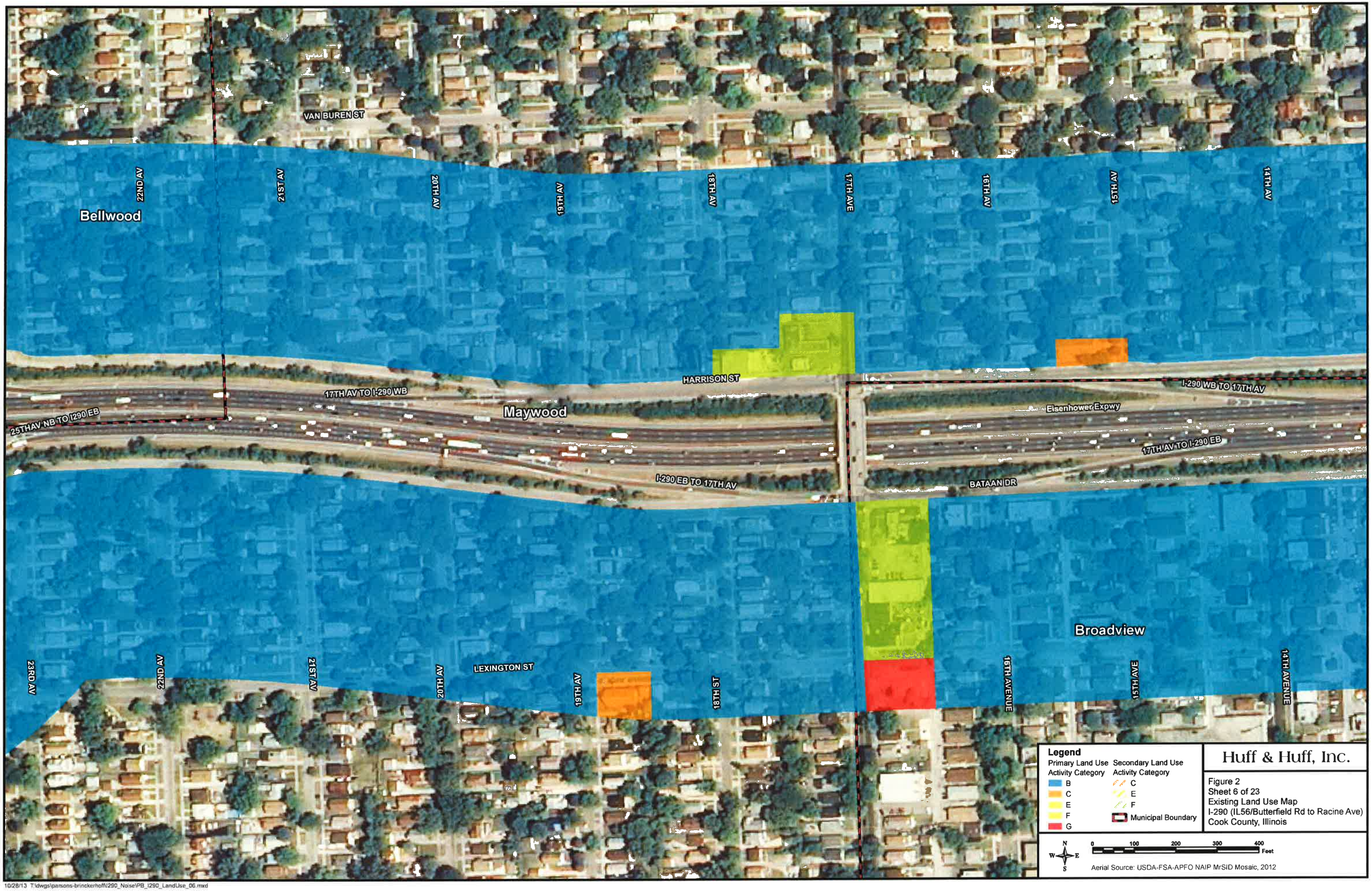

Huff & Huff, Inc.

Figure 2
Sheet 6 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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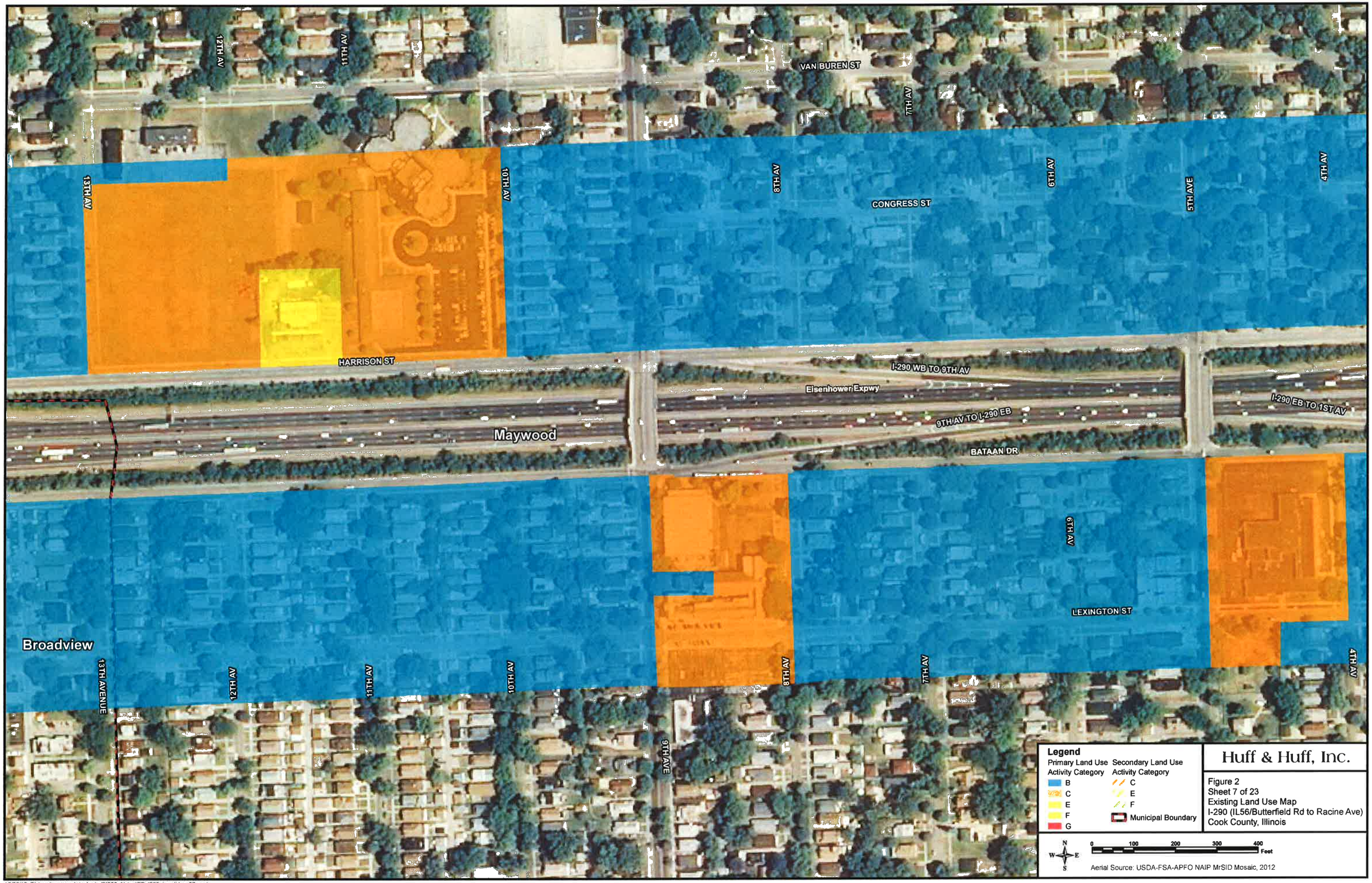

Huff & Huff, Inc.

Figure 2
Sheet 7 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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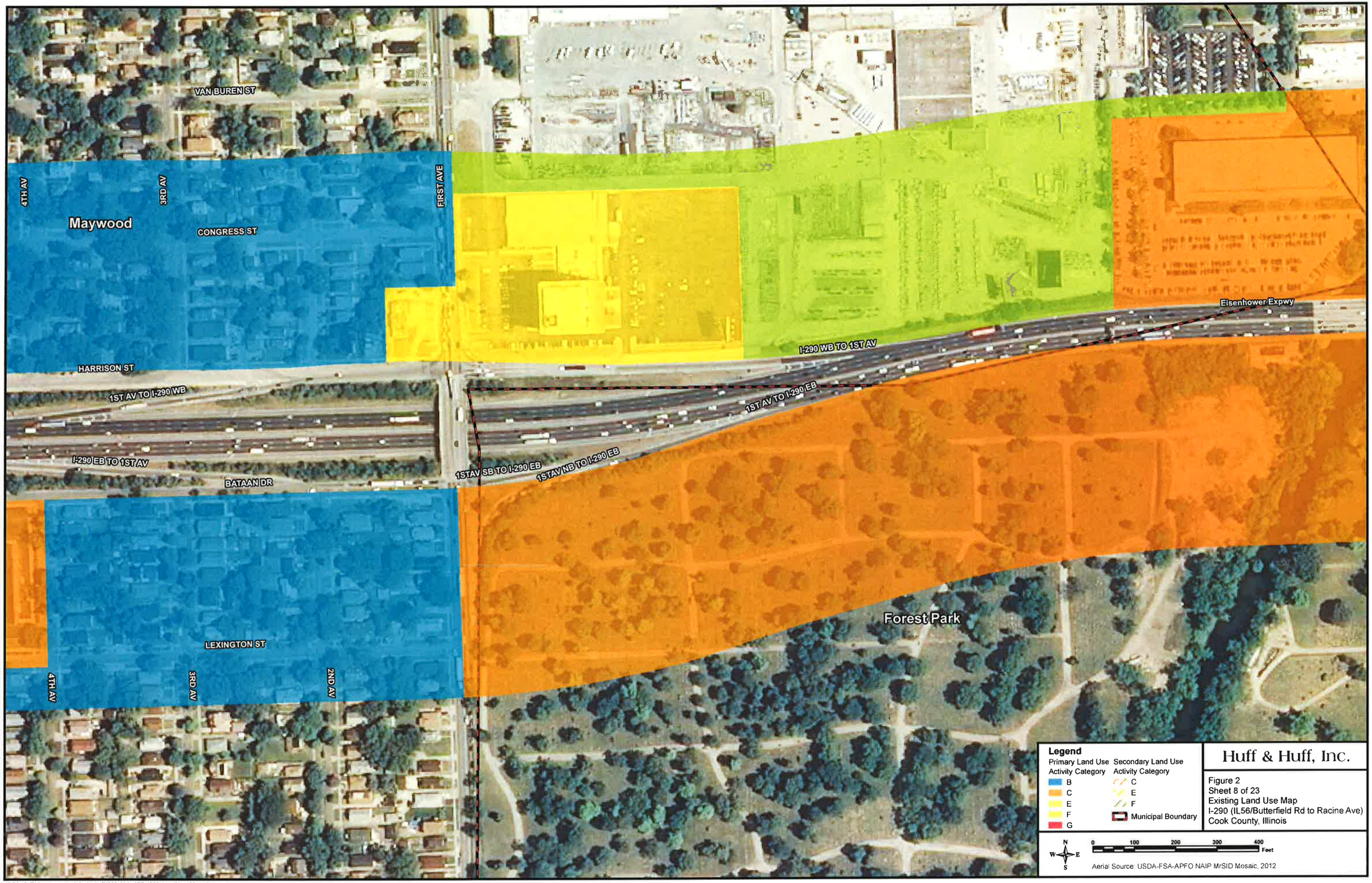

Huff & Huff, Inc.

Figure 2
Sheet 8 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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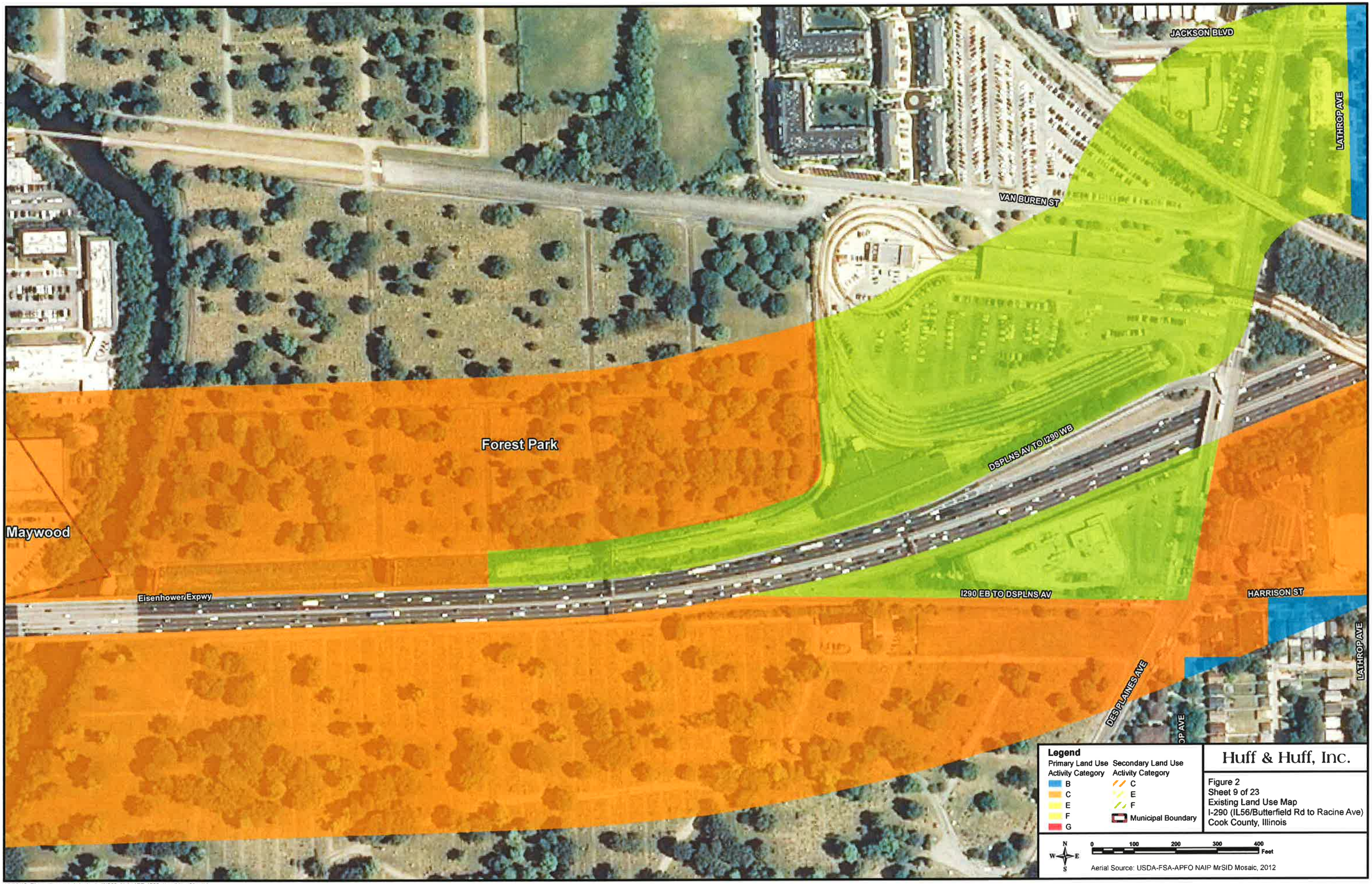

Huff & Huff, Inc.

Figure 2
Sheet 9 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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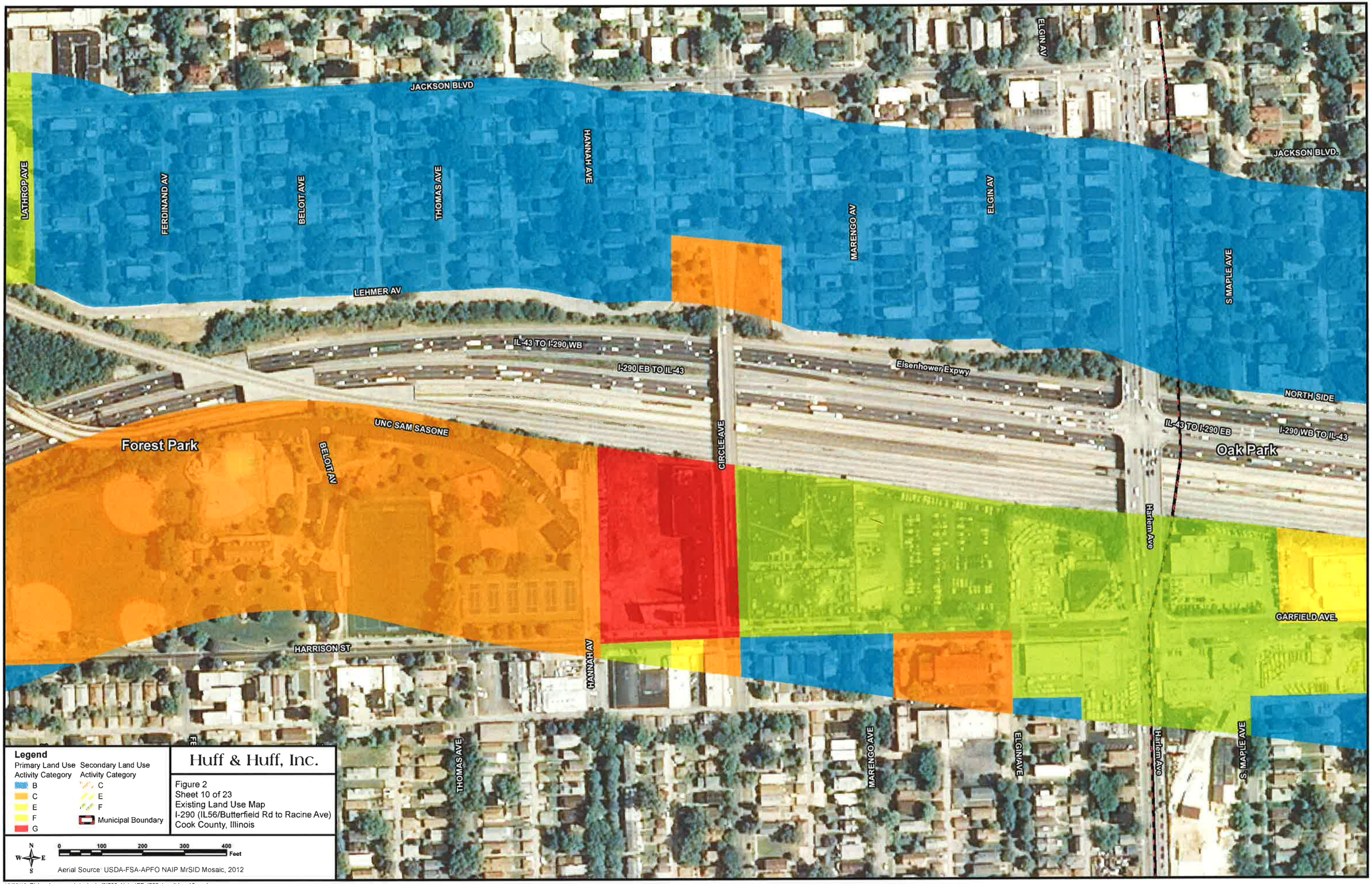

Huff & Huff, Inc.

Figure 2
Sheet 10 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_10.mxd

JACKSON BLVD.

S WENONAH AVE

N. FOREST AVE.

S CLINTON AVE

S KENILWORTH

S CARPENTER

VANBUREN ST

S GROVE AVE

VANBUREN ST

OAK PARK AVE

S EUCLID AVE

S. WESLEY AVE.

NORTH SIDE

Eisenhower Expwy

I-290 WB TO IL-43

IL-43 TO I-290 EB

Eisenhower Expwy

Oak Park

GARFIELD AVE.

SOUTH SIDE

S. WISCONSIN AV

S. WENONAH

N FOREST AVE

S. CLINTON AVE.

S. KENILWORTH A

S. GROVE AVE.

LEXINGTON ST.

LEXINGTON ST.

S. EUCLID AVE

S. WESLEY AVE.

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Sheet 11 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_11.mxd

VANBUREN ST

S. WESLEY AVE.

S WESLEY AVE

EAST AVE

S SCOVILLE AVE

S. GUNDERSON AV

S ELMWOOD AVE

S. CUYLER AVE.

S HIGHLAND AVE

S HARVEY AVE

HARRISON ST

NORTH SIDE

Eisenhower Expwy

Oak Park

Flournoy St

SOUTH SIDE

SOUTH GARFIELD ST

LEXINGTON ST

S. WESLEY AVE.

S CLARENCE AVE

S. GUNDERSON AV

S. ELMWOOD AVE.

RIDGELAND AVE

S. CUYLER AVE.

S. HIGHLAND AVE

S. HARVEY AVE.

S. SCOVILLE AVE

HARVARD ST

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 2
Sheet 12 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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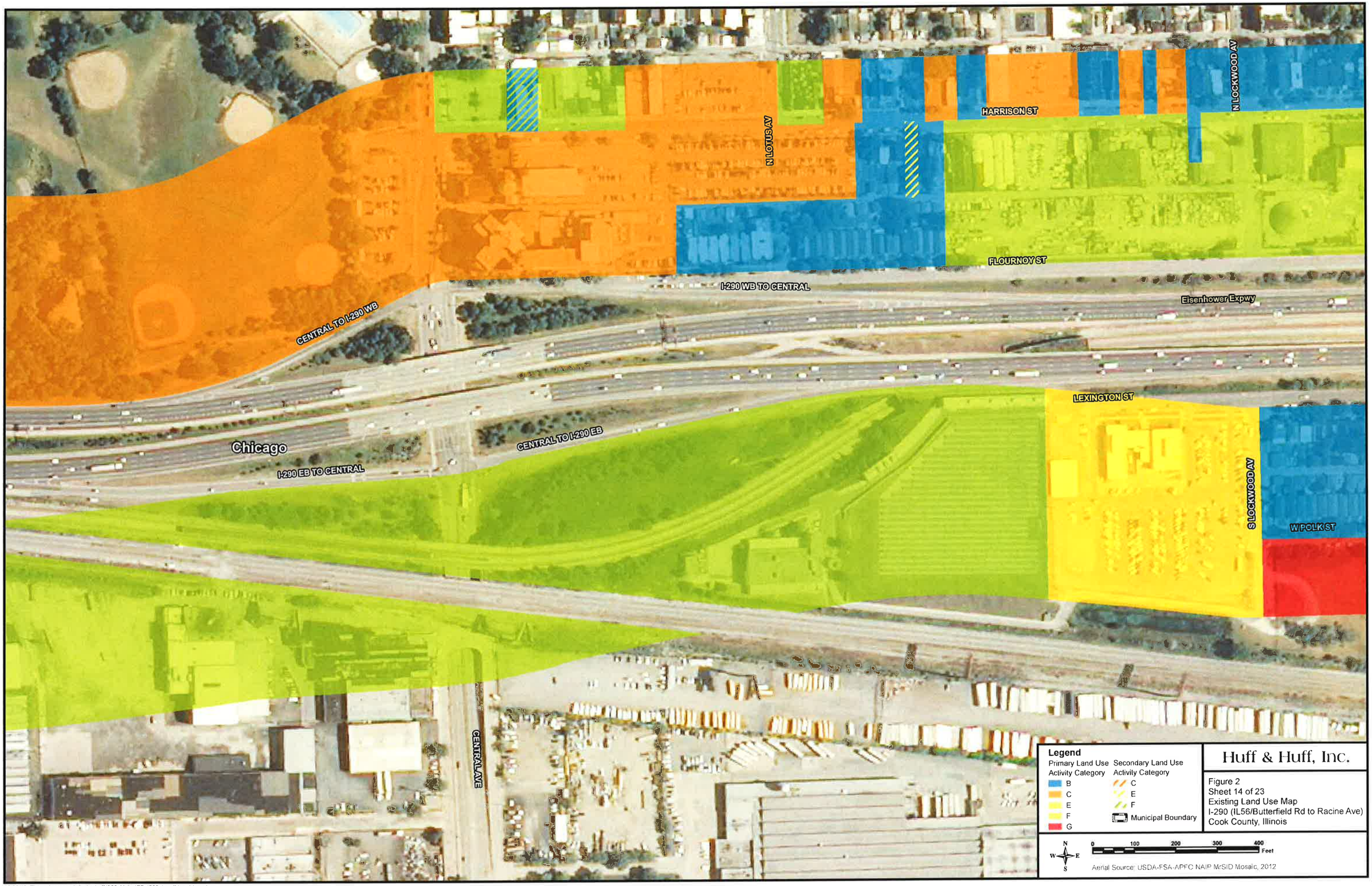

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

N
W E
S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 2
Sheet 14 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

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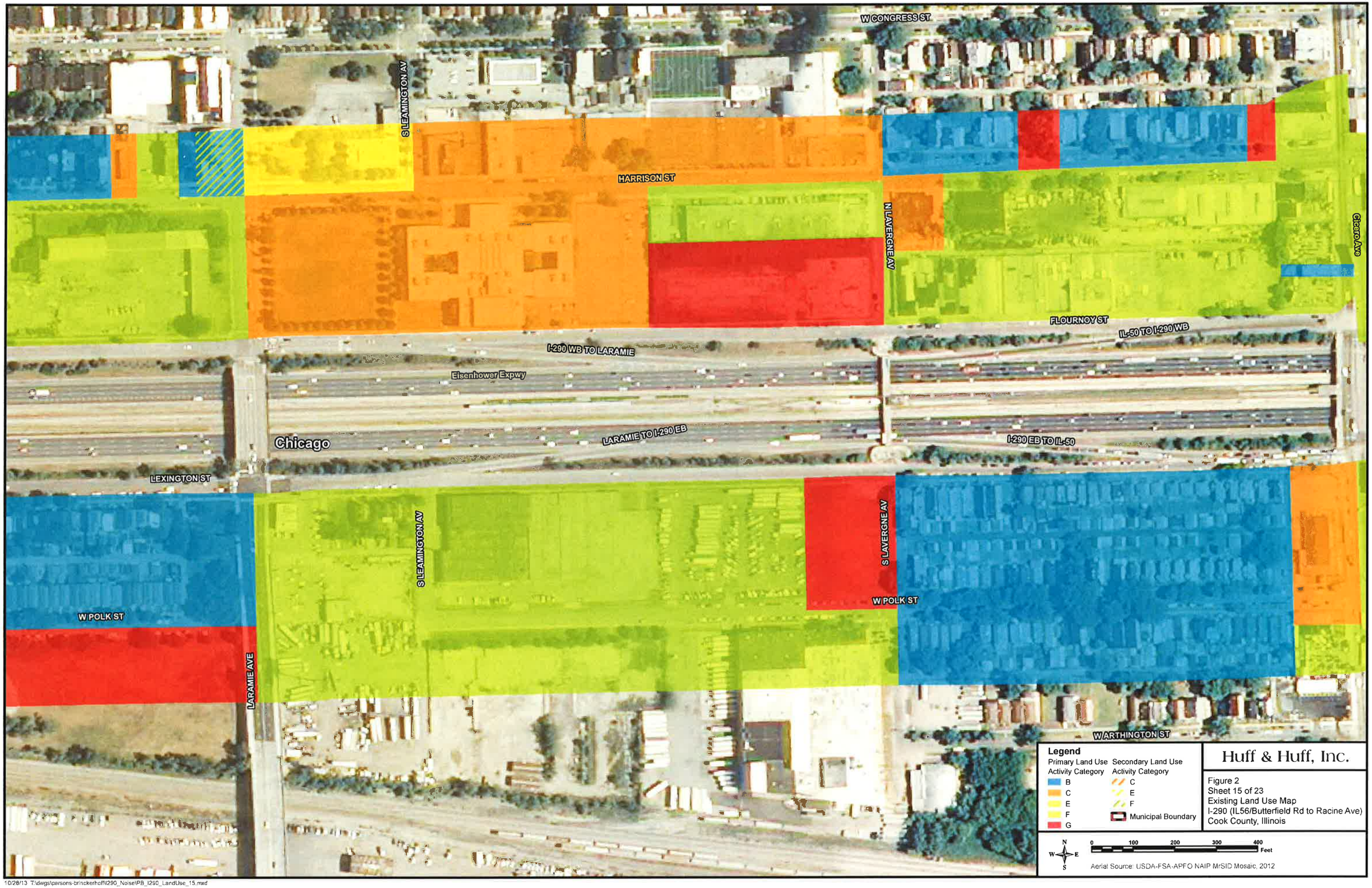
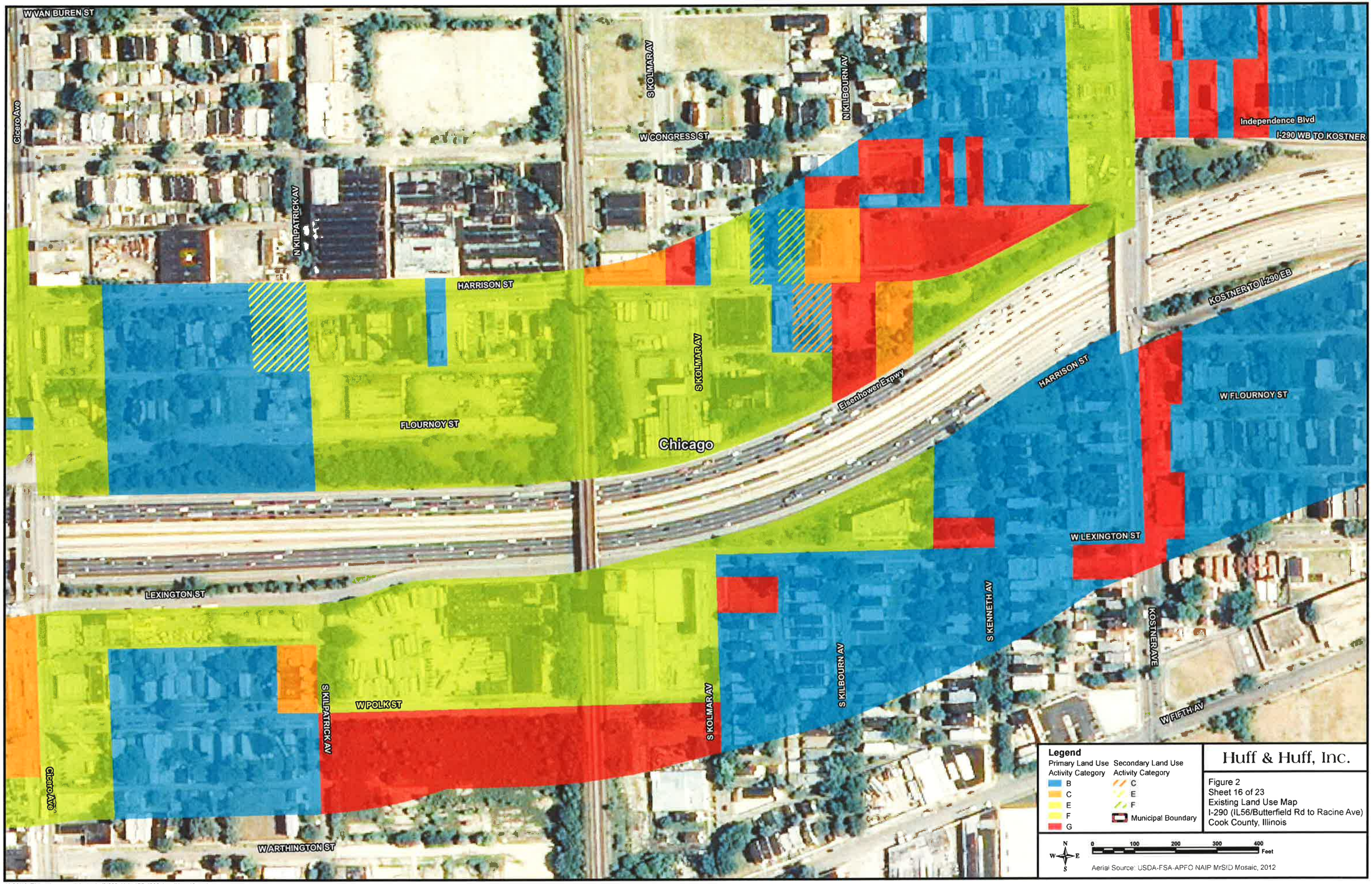


Huff & Huff, Inc.

Figure 2
Sheet 15 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\persons-brinckerhoff\I290_Noise\PB_I290_LandUse_15.mxd



Huff & Huff, Inc.

Figure 2
Sheet 16 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_16.mxd

W GLADYS AV
KOSTNER AVE
N KILDARE AV
W VAN BUREN ST
N KARLOV AV
Pulaski Rd
W CONGRESS ST
Independence Blvd
I-290 WB TO KOSTNER
Eisenhower Expwy
Chicago
HARRISON ST
W HARRISON ST
SOUTH SIDE
South Side
KOSTNER TO I-290 EB
S KILDARE AV
N KEELER AV
HARRISON ST
W FLOURNOY ST
S STRIPP AV
S KEDVALE AV
S KARLOV AV
W LEXINGTON ST
W FIFTH AV
S KENNETH AV
W LEXINGTON ST

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

Figure 2
Sheet 17 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_17.mxd

W GLADYS AV
W VAN BUREN ST
S SPRINGFIELD AV
HAMLIN AVE
W FIFTH AV
W VAN BUREN ST
MILLARD AV
Independence Blvd
INDPNDNCE TO I290 WB
Eisenhower Expwy
I290 WB TO INDPNDNCE
Chicago
I290 EB TO INDPNDNCE
INDPNDNCE TO I290 EB
Harrison St
Harrison St
5th
CENTRAL PARK AVE
INDEPENDENCE BLVD
S SPRINGFIELD AV
W FLOURNOY ST
S LAWNDALE AV
W LEXINGTON ST
W LEXINGTON ST
Pulaski Rd
W POLK ST

Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

N W E S

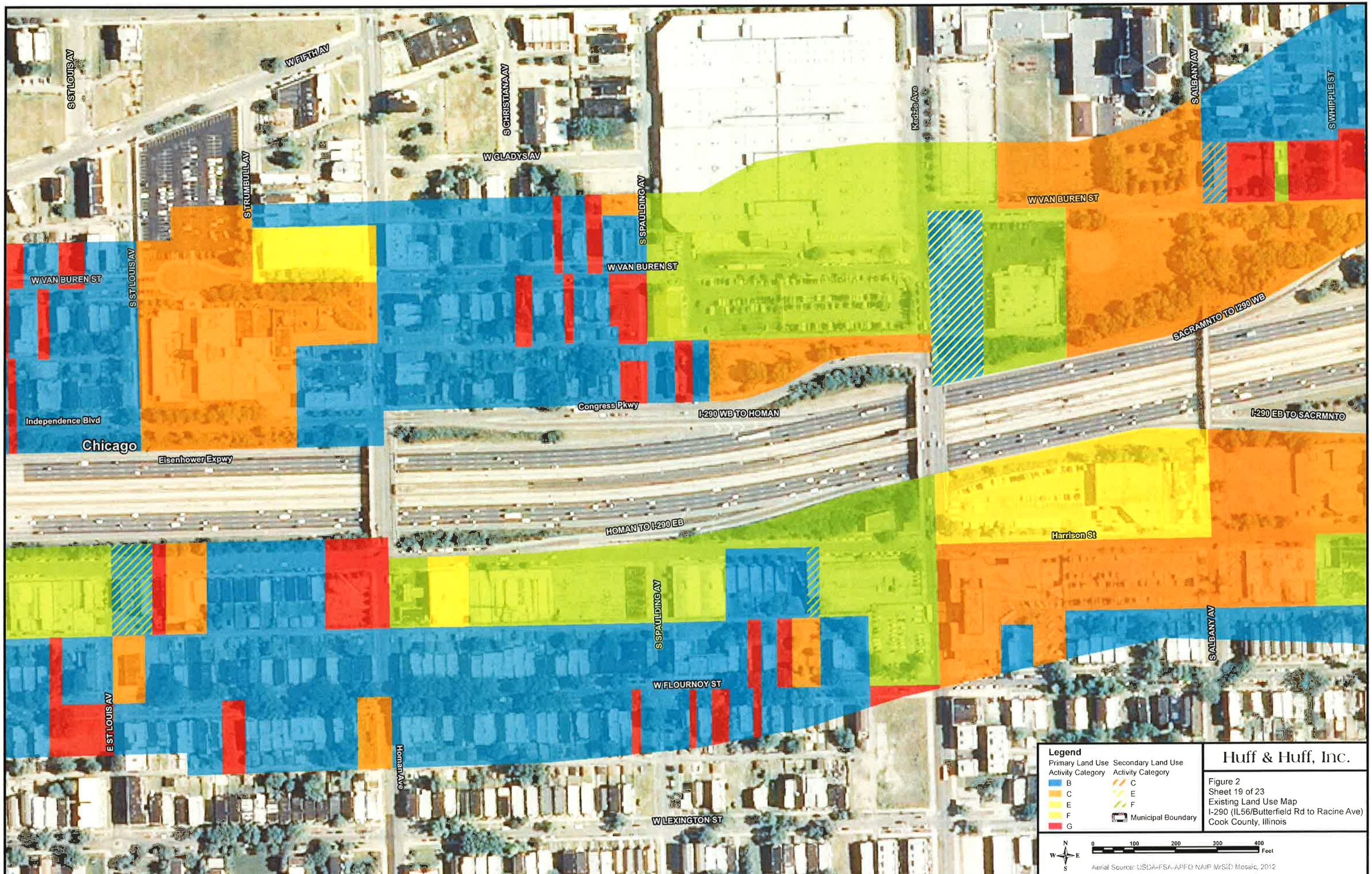
0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 2
Sheet 18 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_18.mxd



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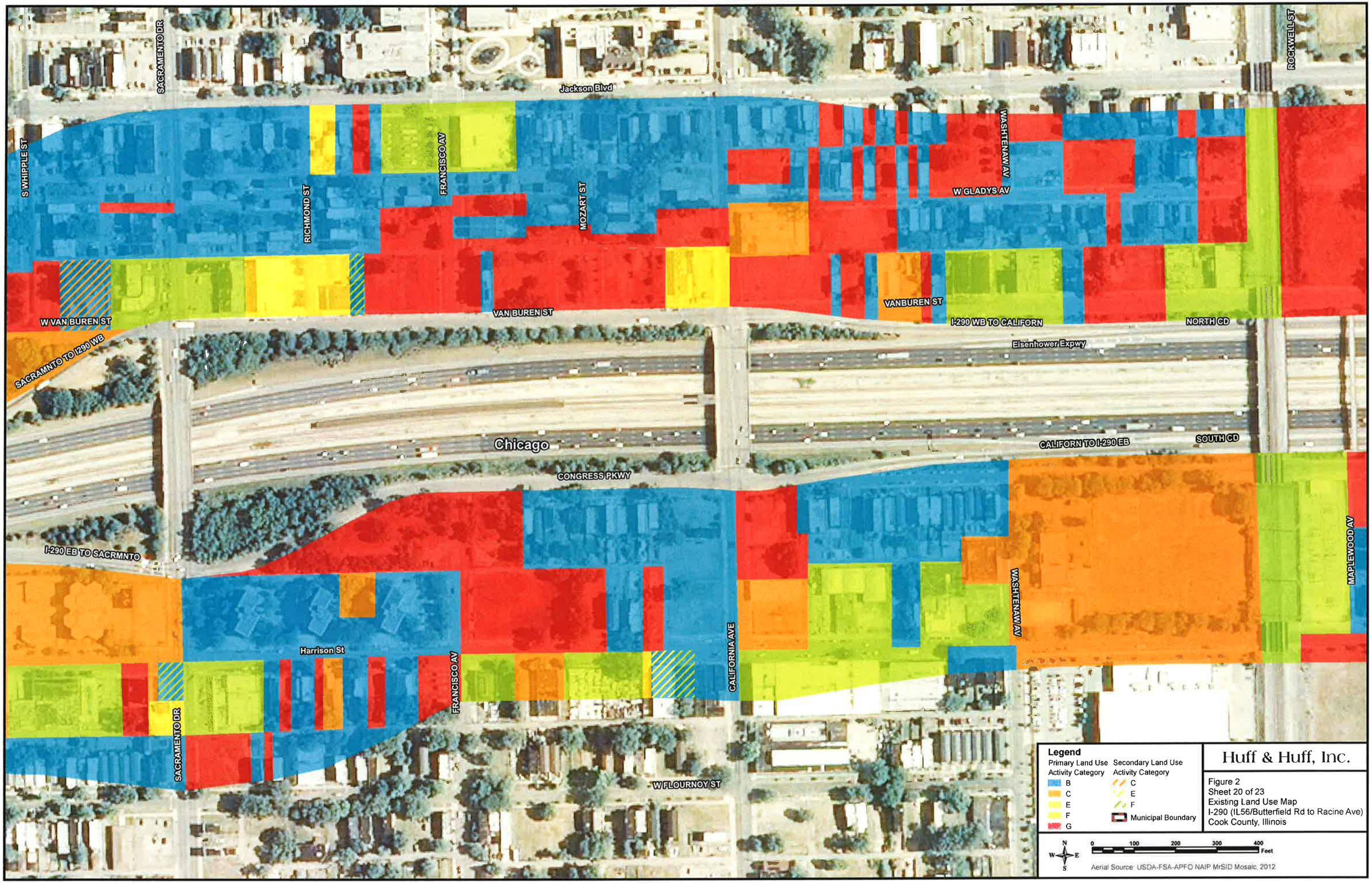
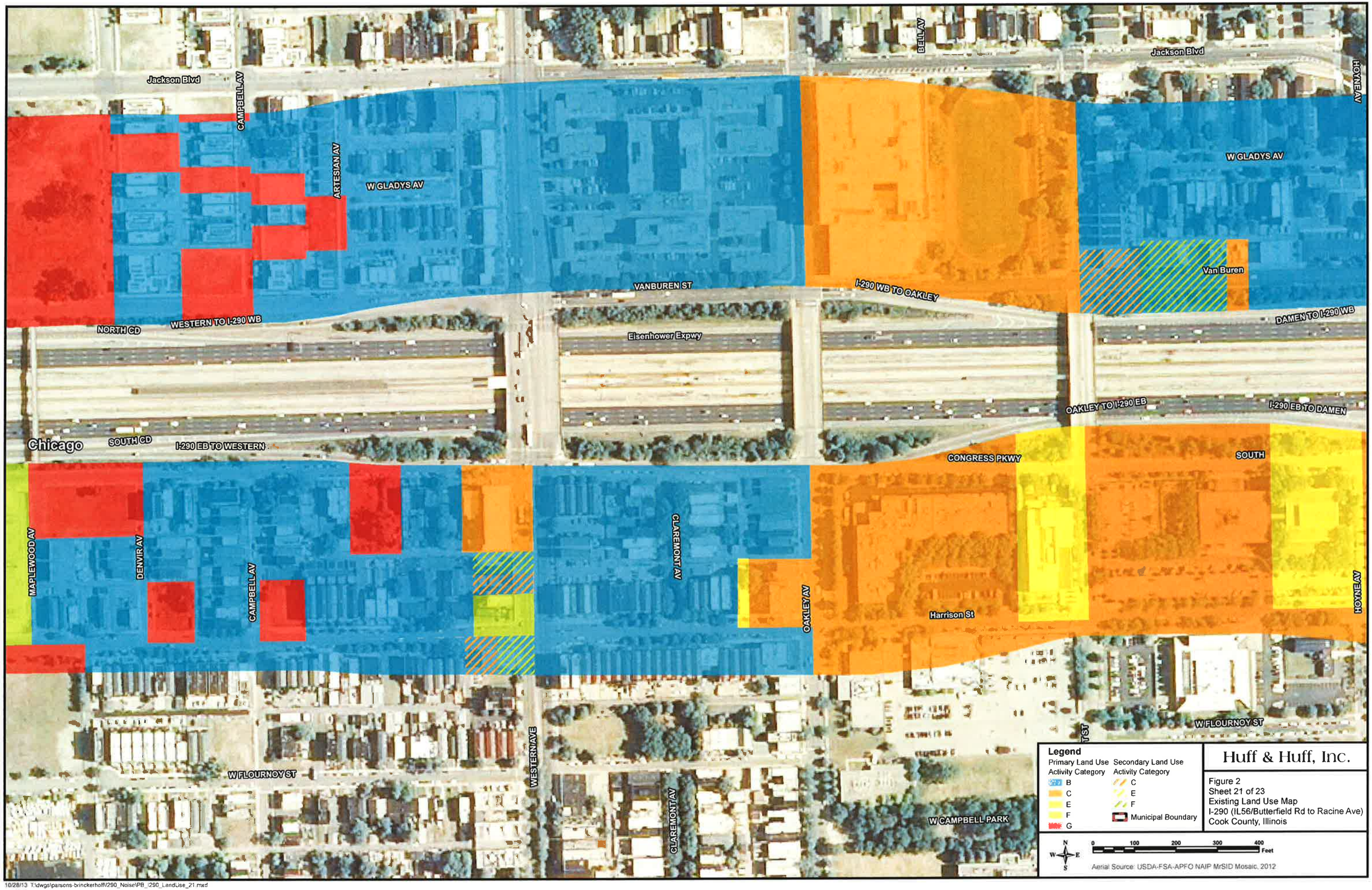


Huff & Huff, Inc.

Figure 2
Sheet 20 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_20.mxd



Legend

Primary Land Use Activity Category	Secondary Land Use Activity Category
B	C
C	E
E	F
F	Municipal Boundary
G	

Huff & Huff, Inc.

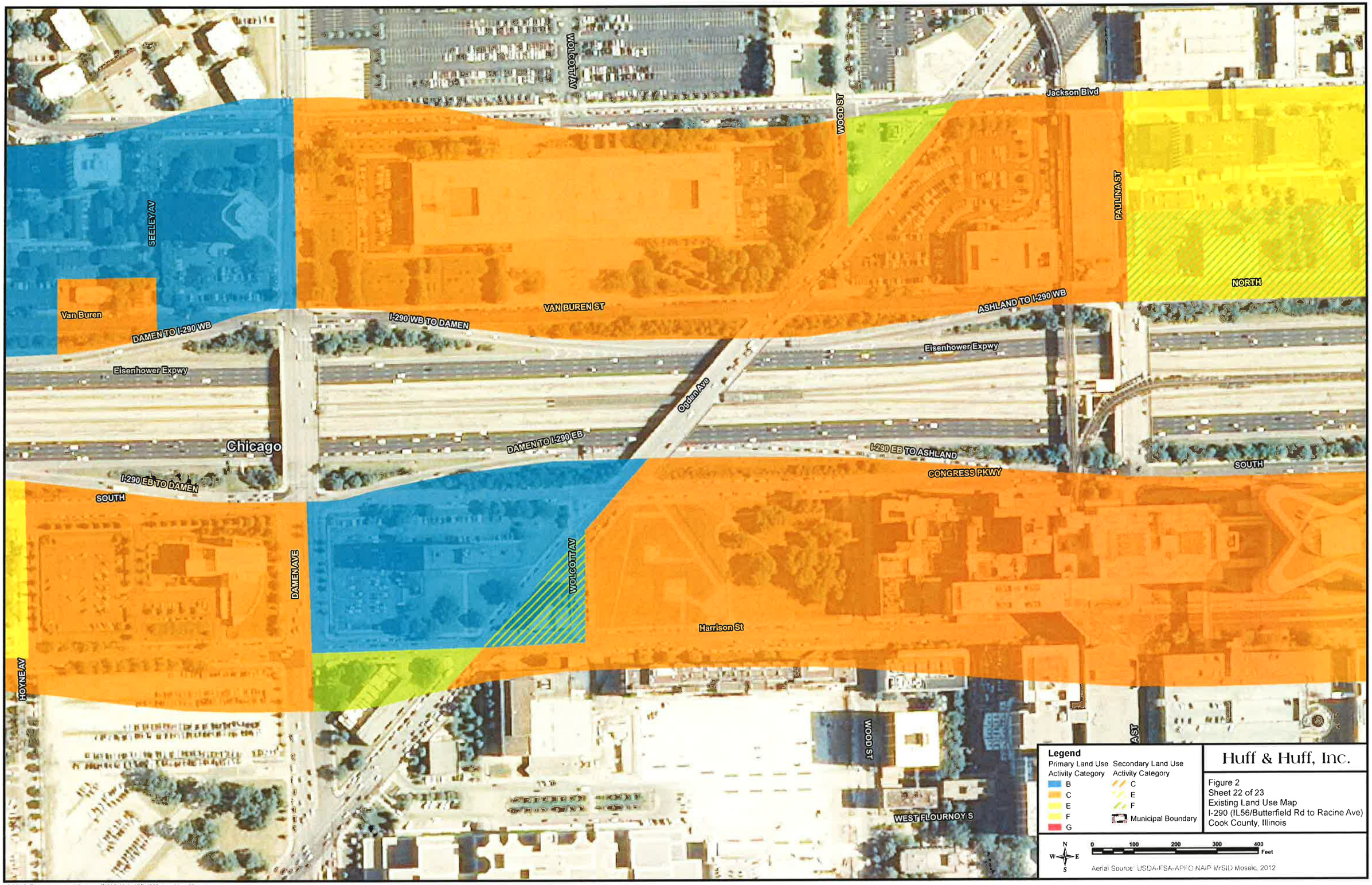
Figure 2
Sheet 21 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

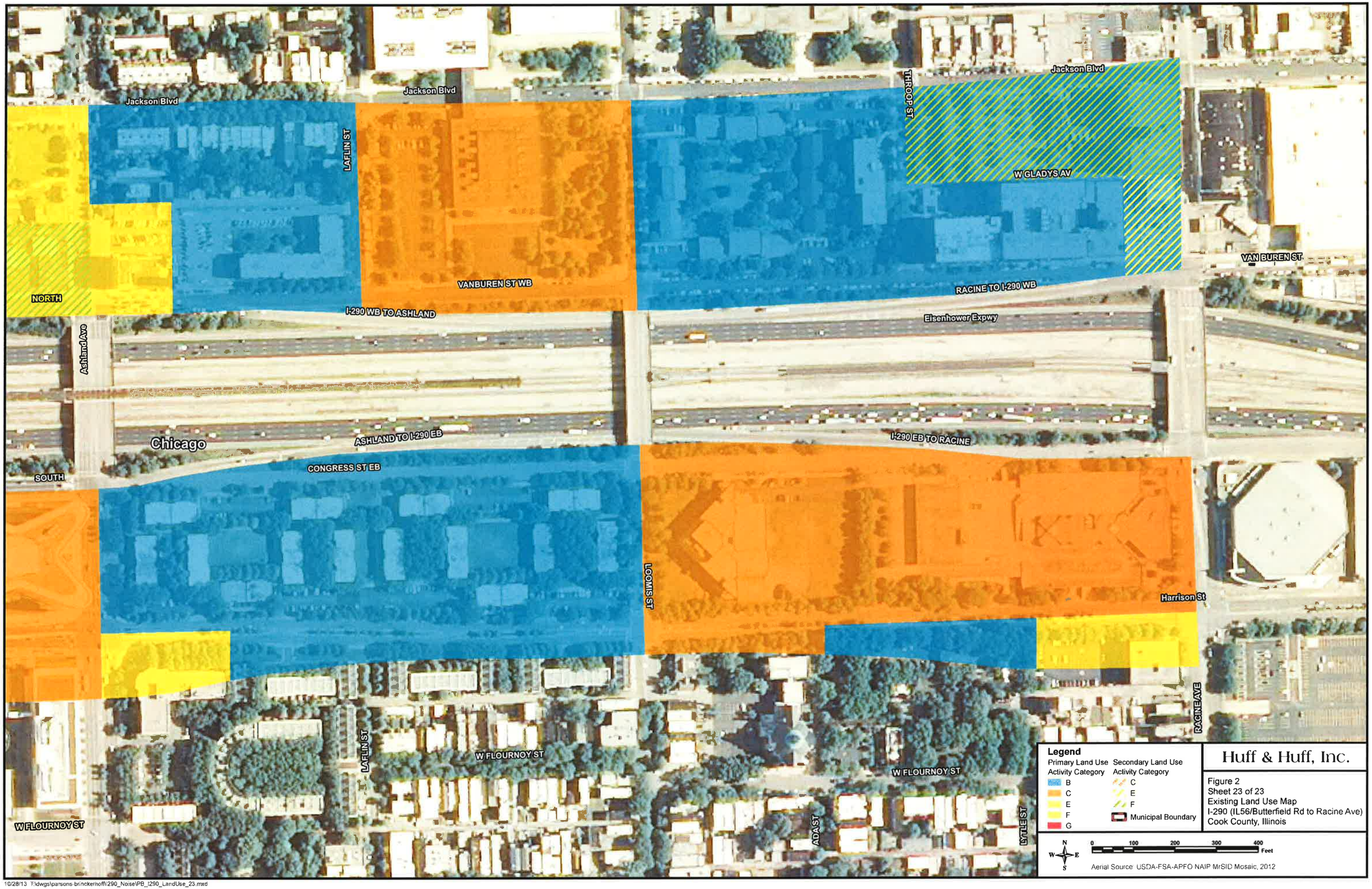
10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_21.mxd



Huff & Huff, Inc.

Figure 2
Sheet 22 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

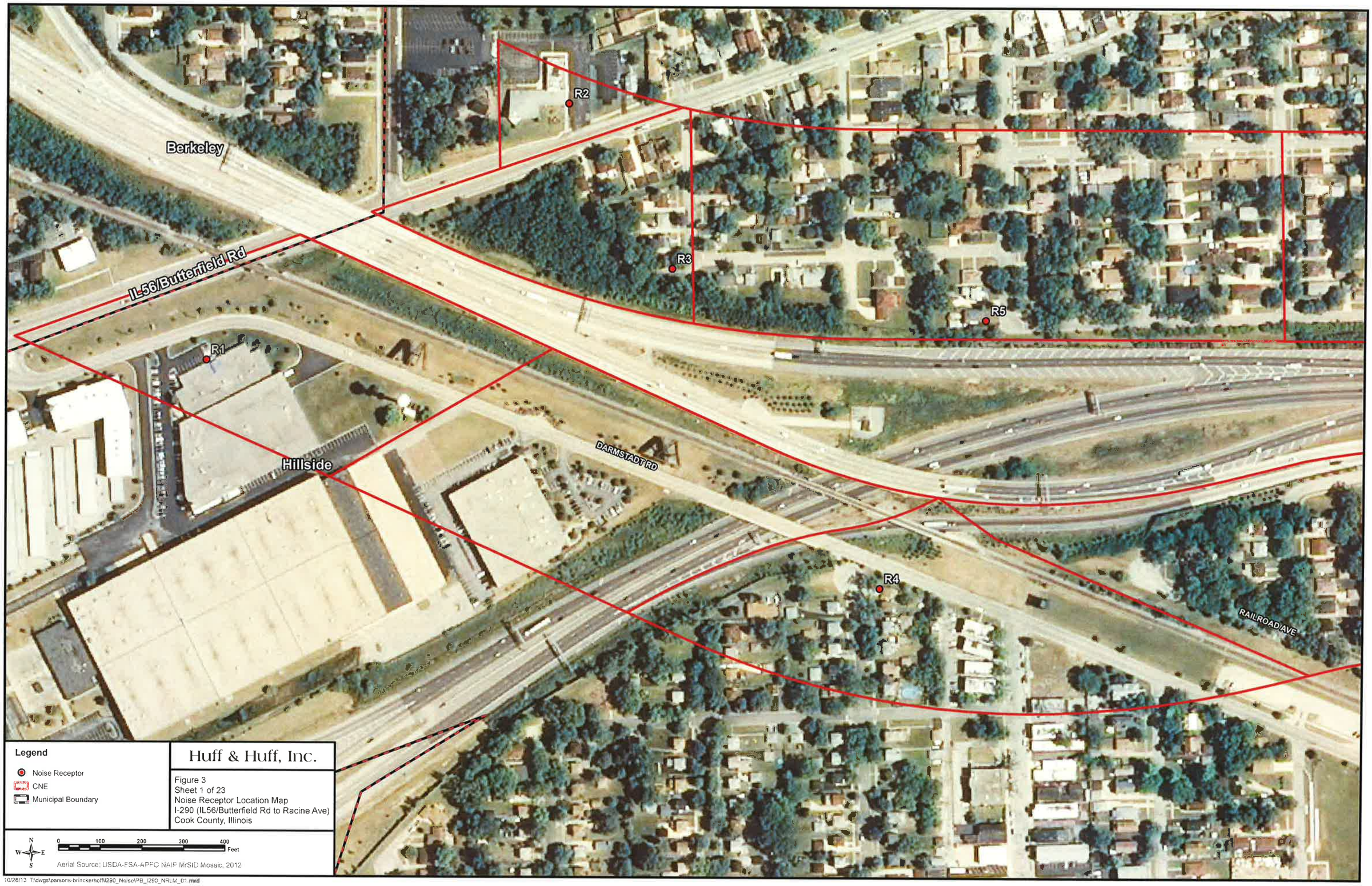
10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_LandUse_22.mxd



Huff & Huff, Inc.

Figure 2
Sheet 23 of 23
Existing Land Use Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\290_Noise\PB_I290_LandUse_23.mxd



Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

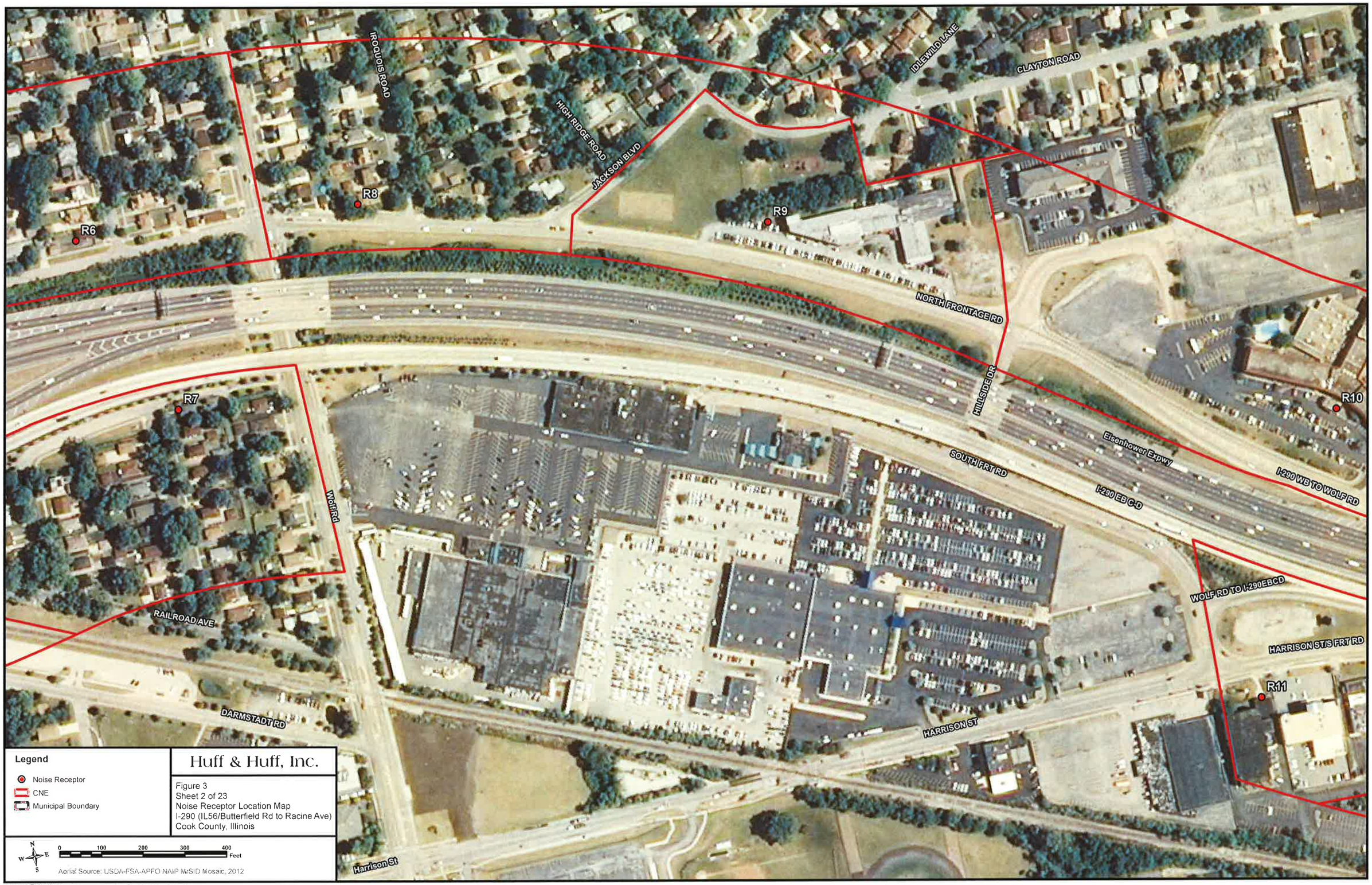
Figure 3
Sheet 1 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_01.mxd



Legend

- Noise Receptor
- CNE
- Municipal Boundary

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 3
Sheet 2 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/29/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_02.mxd

R10
R13
R12
R15
R14
Hillside
Bellwood
Westchester
VAN BUREN
CONGRESS ST
Mannheim Rd
I-290 WB TO US-45
WOLF RD TO I-290EBCD
I-290 WB TO WOLF RD
I-290 EB C-D
HARRISON ST/S FRT RD
NORTH FRONTAGE RD
US-45 SB TO I-290 WB
US-45 NB TO I-290 WB
Eisenhower Expwy
US-45SB TO I-290EBCD
I-290EBCD TO US-45NB
US-45NB TO I-290EBCD
I-290 EBCD TO US-45
ORCHARD AV
OAKRIDGE AV
OAK AV
S RAILROAD AV
N RAILROAD AV
GLADSTONE ST

Legend

- Noise Receptor
- CNE
- Municipal Boundary

N W E S

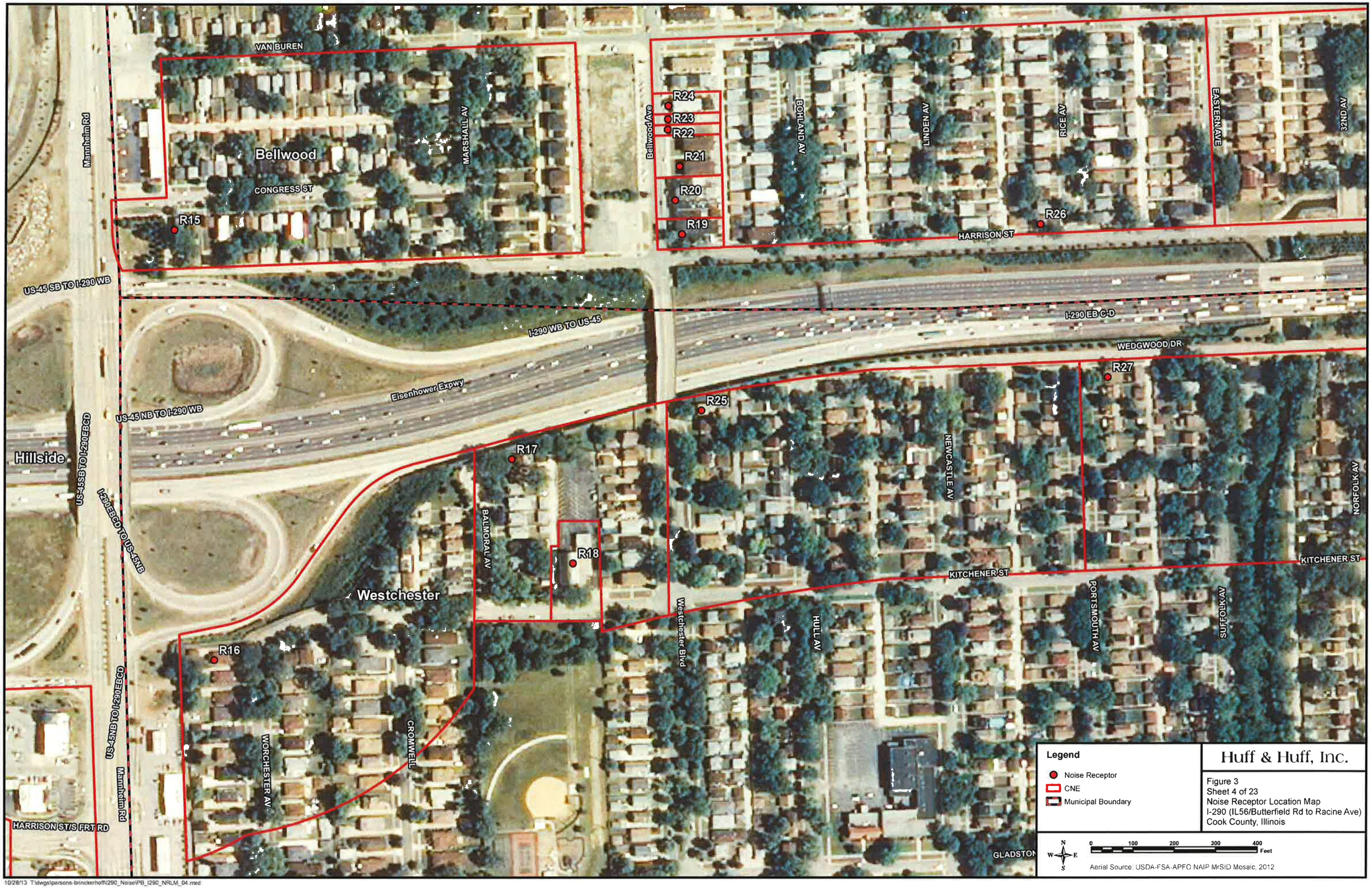
0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 3
Sheet 3 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_03.mxd



10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_04.mxd

VAN BUREN
32ND AV
31ST ST
30TH AV
Bellwood
CONGRESS ST
R28
R30
HARRISON ST
25TH AV TO I-290 WB
I-290 EB TO 25TH AV
WEDGWOOD DR
R29
Westchester
NORFOLK AV
MANCHESTER AV
KITCHENER ST
Bristol Ave
Gardner Rd
INDIAN JOE DR
R31
VAN BUREN ST
R34
CONGRESS ST
R32
I290 WB TO 25THAV SB
Eisenhower Expwy
I290 EB TO 25THAV NB
25THAV SB TO I290 EB
25th Ave
R33
Broadview
BEACH AVENUE
VAN BUREN ST
R36
24TH AV
23RD AV
HARRISON ST
R37
I290 WB TO 25THAV NB
BATAAN DR
25THAV NB TO I290 EB
Maywood
R35
24TH AV
LEXINGTON ST
23RD AV

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

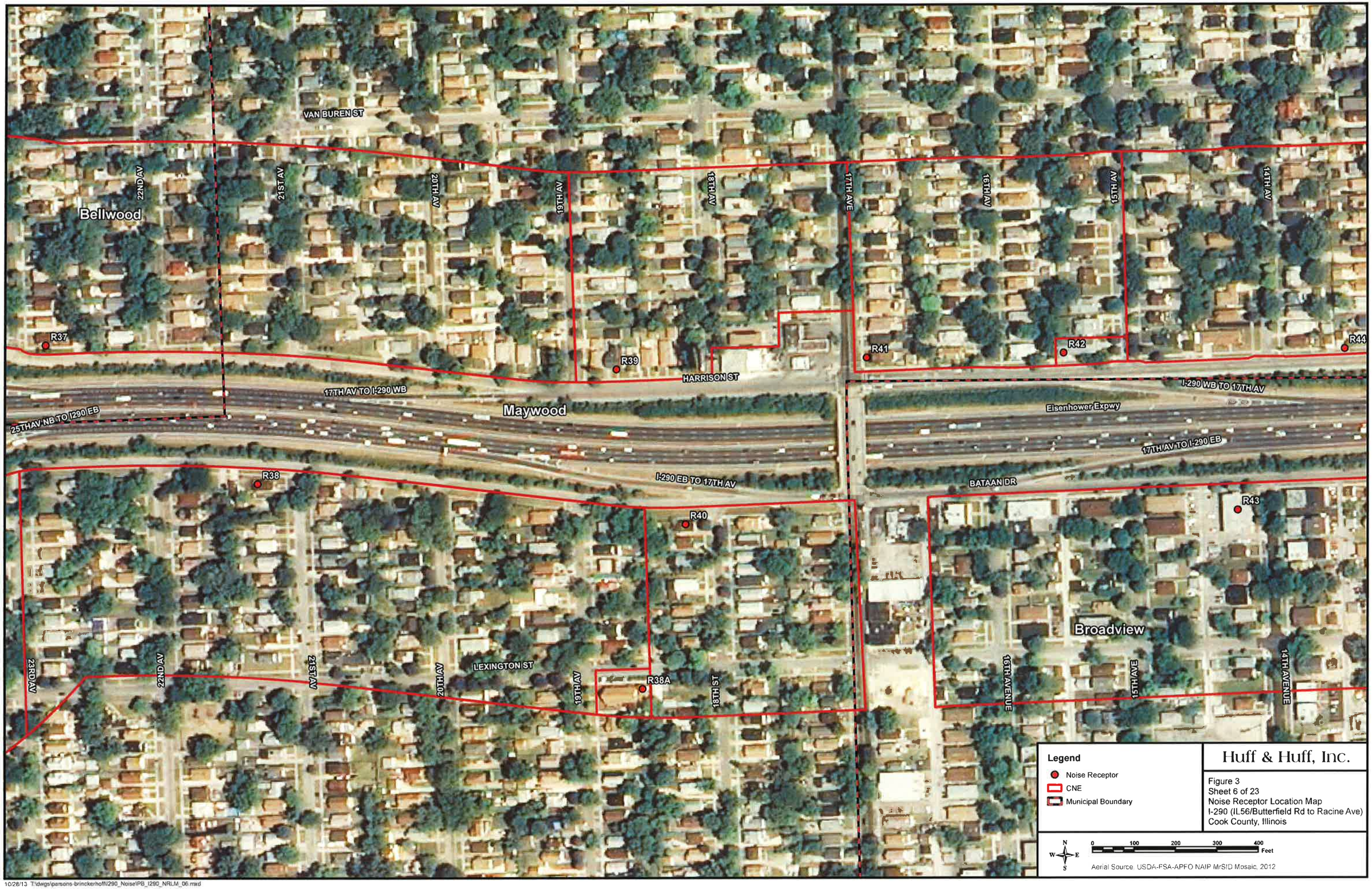
Figure 3
Sheet 5 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

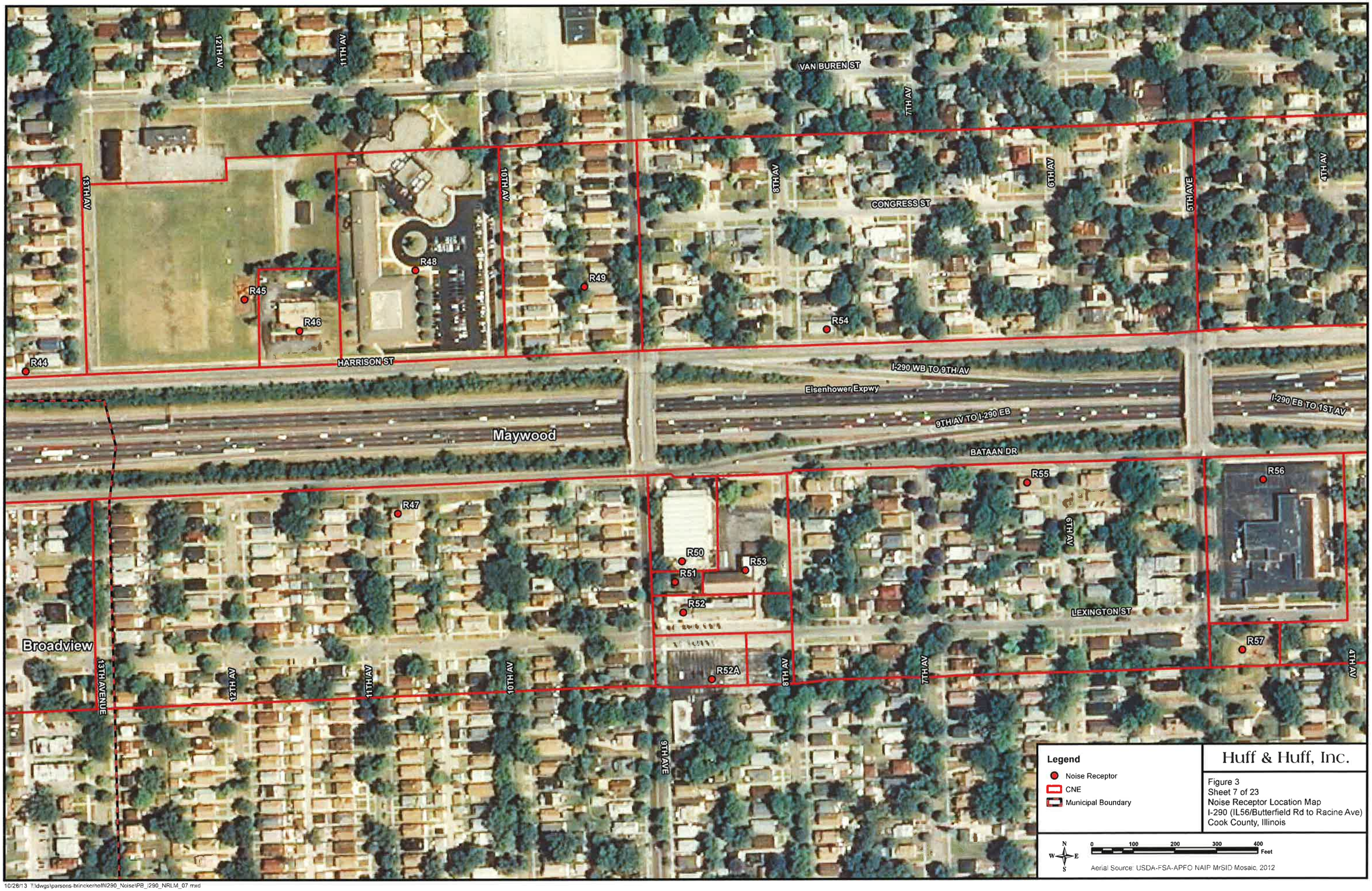
10/29/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_05.mxd



Huff & Huff, Inc.

Figure 3
Sheet 6 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_06.mxd



Huff & Huff, Inc.

Figure 3
Sheet 7 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_i290_NRLM_07.mxd

VAN BUREN ST
4TH AV
3RD AV
Maywood
CONGRESS ST
FIRST AVE
R58
R60
R61
R63
HARRISON ST
1ST AV TO I-290 WB
I-290 EB TO 1ST AV
BATAAN DR
R59
1STAV SB TO I-290 EB
1STAV NB TO I-290 EB
I-290 WB TO 1ST AV
1ST AV TO I-290 EB
Eisenhower Expwy
R62
Forest Park
LEXINGTON ST
4TH AV
3RD AV
2ND AV

Legend

- Noise Receptor
- CNE
- Municipal Boundary

N W E S

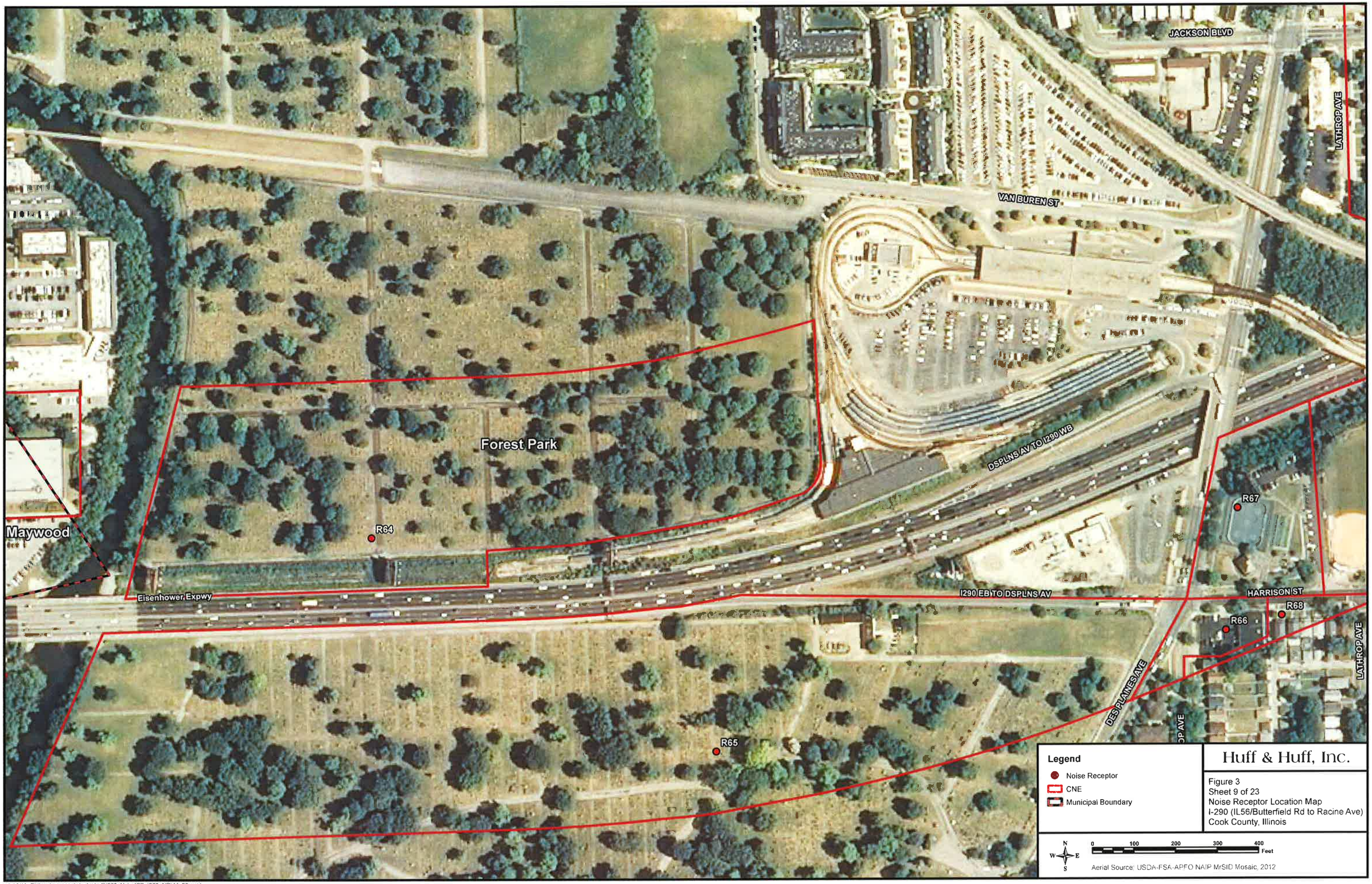
0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

Huff & Huff, Inc.

Figure 3
Sheet 8 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

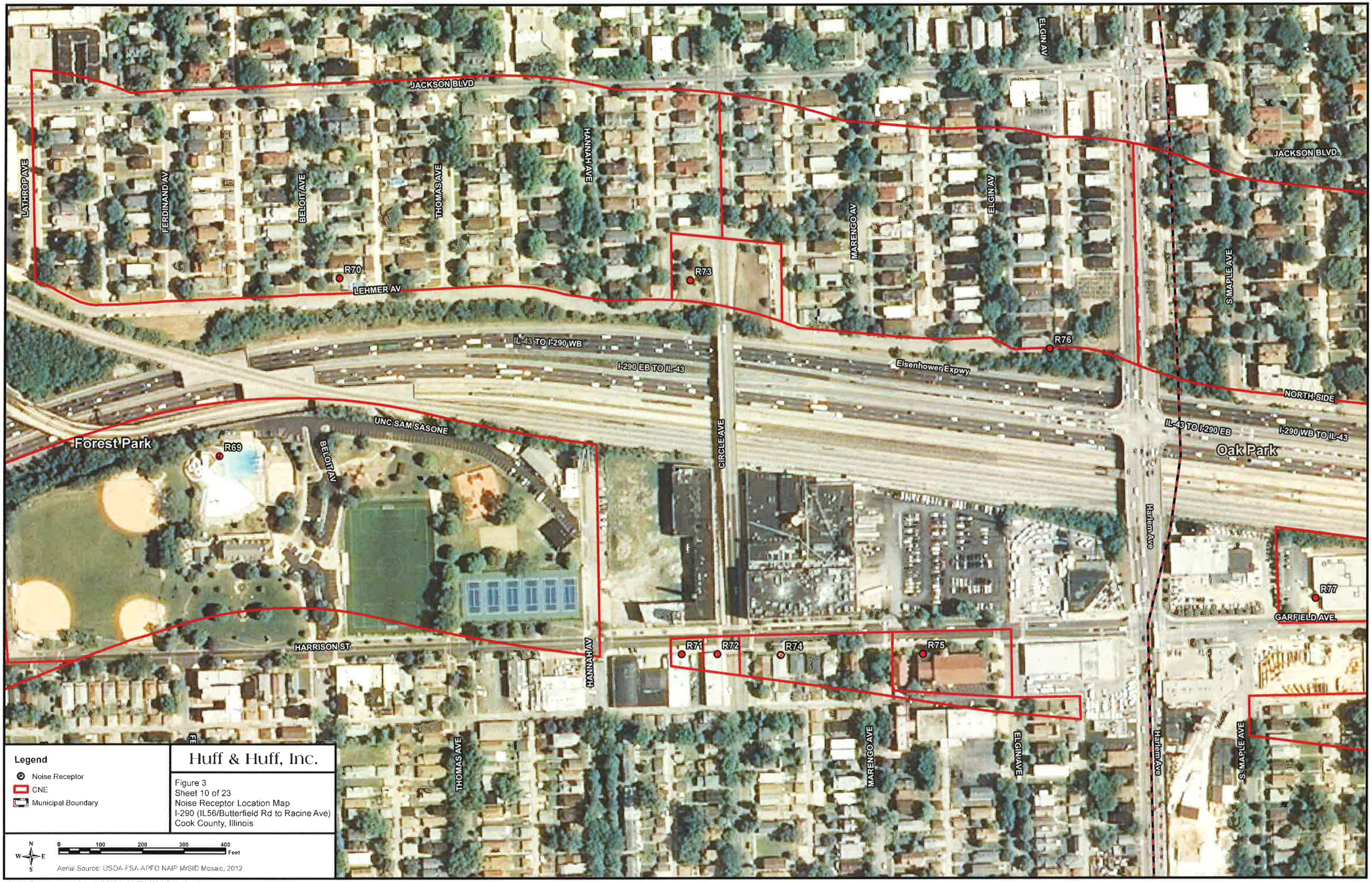
10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_08.mxd



Huff & Huff, Inc.

Figure 3
Sheet 9 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_09.mxd



Huff & Huff, Inc.

Figure 3
Sheet 10 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_10.mxd

JACKSON BLVD.
S WENONAH AVE
N. FOREST AVE
S CLINTON AVE
S KENILWORTH
S CARPENTER
VANBUREN ST
S GROVE AVE
VANBUREN ST
OAK PARK AVE
S EUCLID AVE
S. WESLEY AVE.
R91
R90
R88
R87
R86
R89
R79
R79A
NORTH SIDE
Eisenhower Expwy
I-290 WB TO IL-43
IL-43 TO I-290 EB
Eisenhower Expwy
Oak Park
R77
GARFIELD AVE.
R78
R80
R81
SOUTH SIDE
R82
R83
R84
R85
S. WISCONSIN AV
S. WENONAH
N. FOREST AVE
S. CLINTON AVE.
S. KENILWORTH
S. GROVE AVE.
LEXINGTON ST.
LEXINGTON ST
S. EUCLID AVE
S. WESLEY AVE.

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 11 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_11.mxd

VANBUREN ST
S. WESLEY AVE.
S WESLEY AVE
EAST AVE
S SCOVILLE AVE
S. GUNDERSON AV
S ELMWOOD AVE
S. CUYLER AVE.
S HIGHLAND AVE
S HARVEY AVE
R95
R94
NORTH SIDE
R98
R102
R103
R105
R106
R107
R104
HARRISON ST
R112
R113
R114
R108
R109
R110
R100
R101
Eisenhower Expwy
Oak Park
Flournoy St
SOUTH SIDE
R92
R93
R96A
SOUTH GARFIELD ST
R99
R96
R111
R117
LEXINGTON ST
S. WESLEY AVE.
S CLARENCE AVE
R97
S. GUNDERSON AV
S. ELMWOOD AVE.
RIDGELAND AVE
S. CUYLER AVE.
S. HIGHLAND AVE
S. HARVEY AVE.
S. SCOVILLE AVE
HARVARD ST

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 12 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/29/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_12.mxd

R114 R115 R118 R120 S. TAYLOR AVE S. HARRISON ST S. LYMAN AVE S.HUMPHREY AVE R123 AUSTIN BLVD

R116 LOMBARD AVE R121

Flournoy St R119 Flournoy St

AUSTIN AV TO I290 WB I290 EB TO AUSTIN AV I290 WB TO AUSTIN AV Eisenhower Expwy AUSTIN AV TO I290 EB

Oak Park Chicago

R117 Garfield St R122 R124 R125 W RAILROAD AV I-290 EB TO CENTRAL

S.TAYLOR AVE. S.LYMAN AVE S.HUMPHREY AVE. HARVARD ST S MASON AV S MAYFIELD AV W ARTHINGTON ST S MONITOR AV S MENARD AV

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 13 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_13.mxd

R128
R127B
R127A
R127
R126
R129A
R129
R130
R131
R132
R133
R135
R136
R137
R138
R134
N LOTUS AV
N LOCKWOOD AV
HARRISON ST
FLOURNOY ST
I-290 WB TO CENTRAL
CENTRAL TO I-290 WB
Eisenhower Expwy
LEXINGTON ST
S LOCKWOOD AV
W POLK ST
Chicago
I-290 EB TO CENTRAL
CENTRAL TO I-290 EB
CENTRAL AVE

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

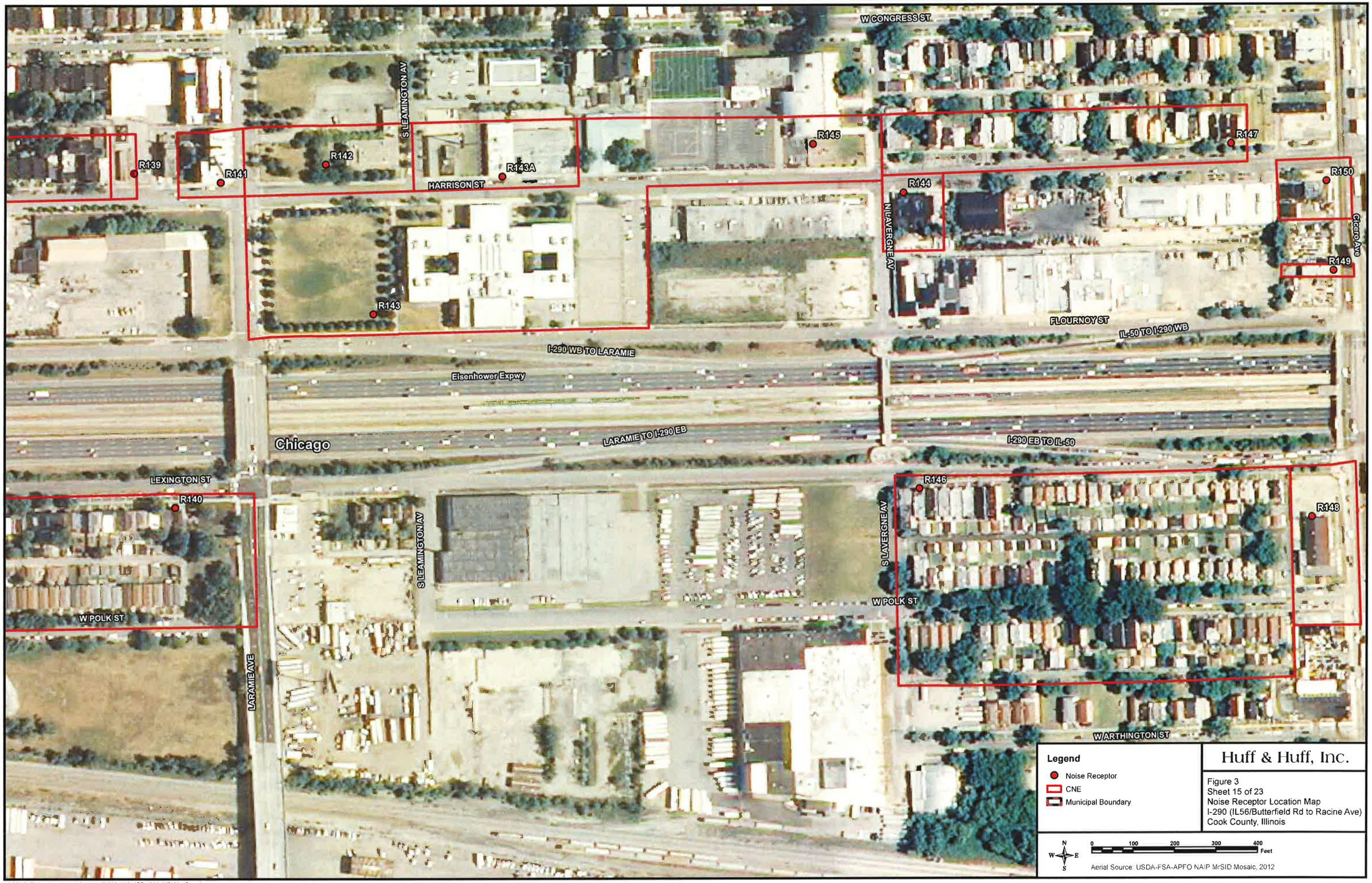
Figure 3
Sheet 14 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N
W E
S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_14.mxd



Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 15 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_15.mxd

W VAN BUREN ST
Cicero Ave
N KILPATRICK AV
HARRISON ST
S KOLMAR AV
N KILBOURN AV
W CONGRESS ST
Independence Blvd
I-290 WB TO KOSTNER
R164
R162
R157
R158
R160
R161
R165
KOSTNER TO I-290 EB
R150
R154
R155
R159
R149
R151
FLOURNOY ST
Chicago
Eisenhower Expwy
HARRISON ST
R163
W FLOURNOY ST
W LEXINGTON ST
R156
LEXINGTON ST
S KENNETH AV
KOSTNER AVE
R152
R153
S KILPATRICK AV
W POLK ST
S KILBOURN AV
S KOLMAR AV
W FIFTH AV
Cicero Ave
W ARTHINGTON ST

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 16 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N
W E
S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_16.mxd

W GLADYS AV
KOSTNER AVE
N KILDARE AV
N KARLOV AV
W VAN BUREN ST
R164
R166
R169
R172
R174
R176
Independence Blvd
W CONGRESS ST
I-290 WB TO KOSTNER
Eisenhower Expwy
R162
Chicago
HARRISON ST
W HARRISON ST
R165
R168
R170
R171
SOUTH SIDE
South Side
R173
R175
R177
KOSTNER TO I-290 EB
S KILDARE AV
N KEELER AV
R178
5th
HARRISON ST
R163
W FLOURNOY ST
R179
R167
S STRIPP AV
S KEDVALE AV
S KARLOV AV
W LEXINGTON ST
S KENNETH AV
W FIFTH AV
Park

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

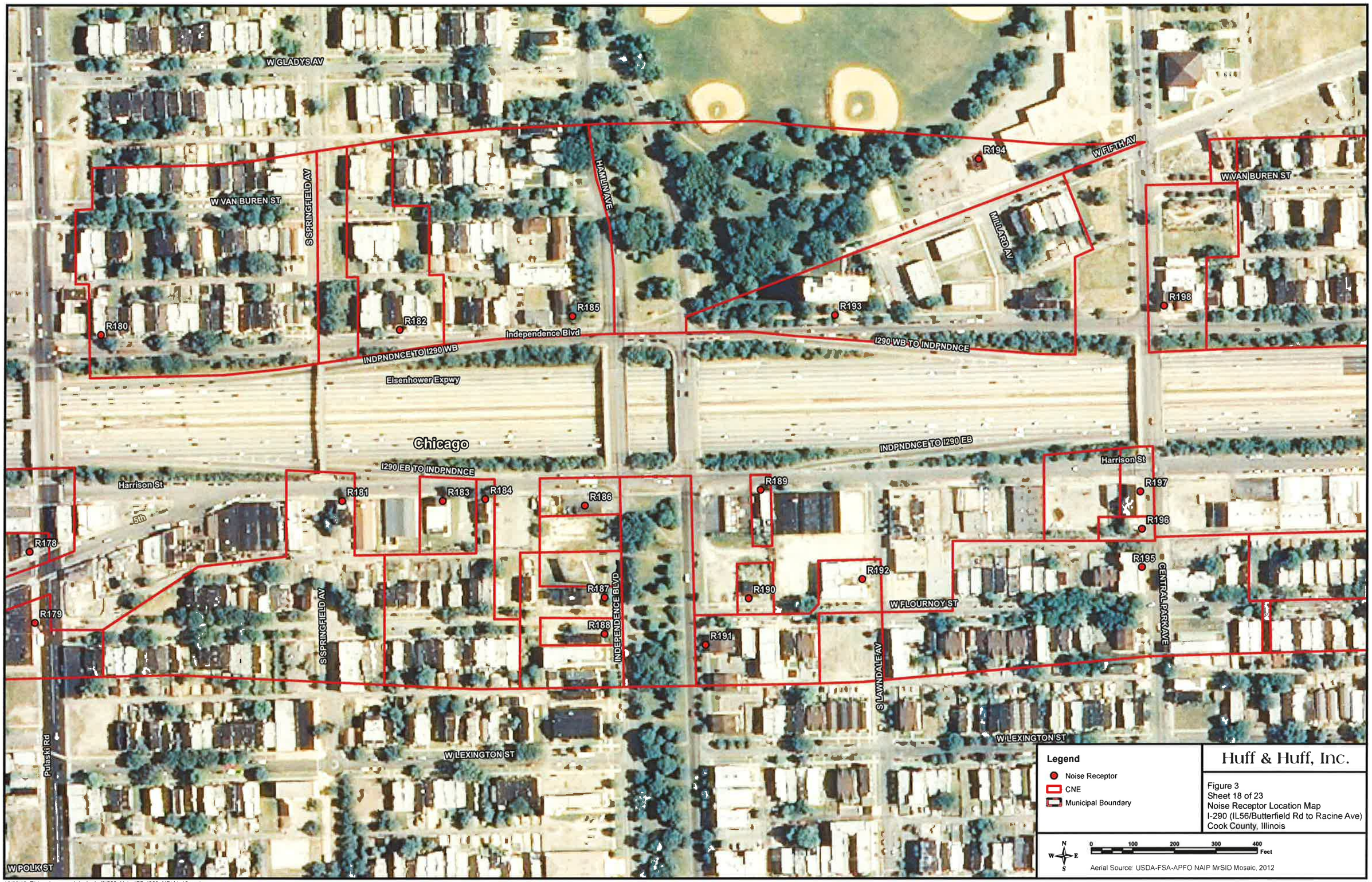
Figure 3
Sheet 17 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/29/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_17.mxd



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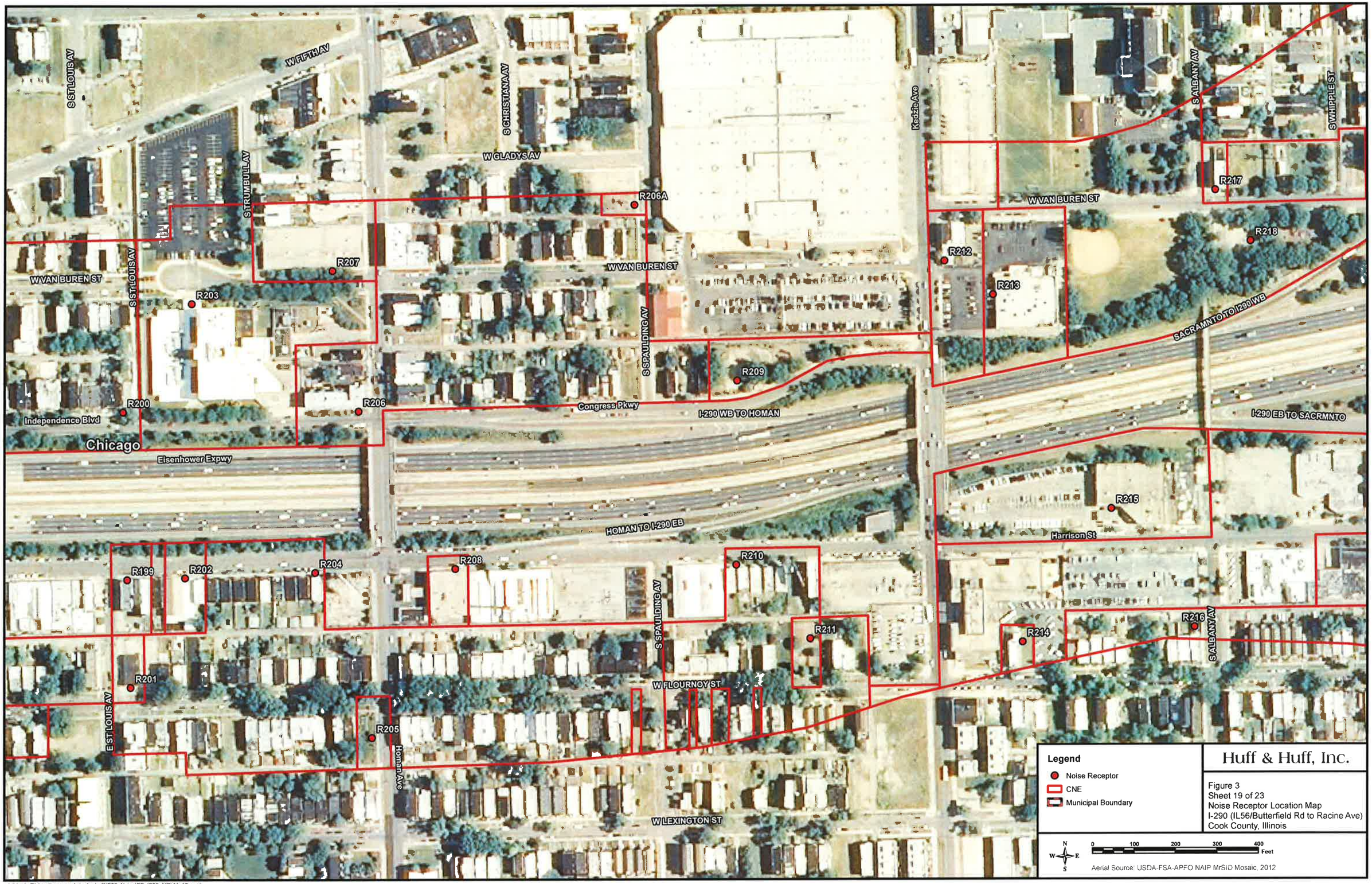


Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

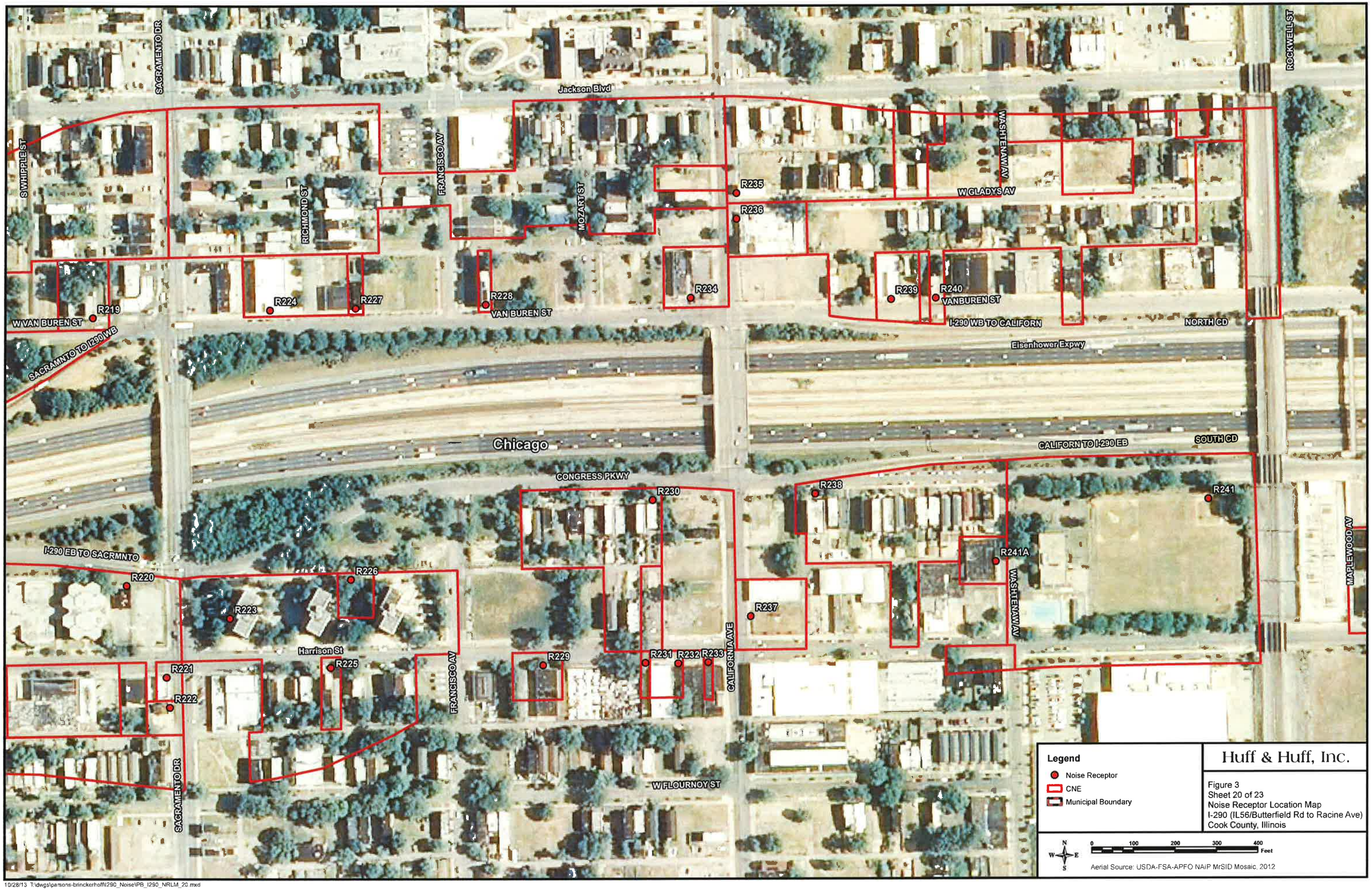
Figure 3
Sheet 19 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

10/28/13 T:\dwgs\parsons-brinckerhoff\I290_Noise\PB_I290_NRLM_19.mxd



Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 20 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

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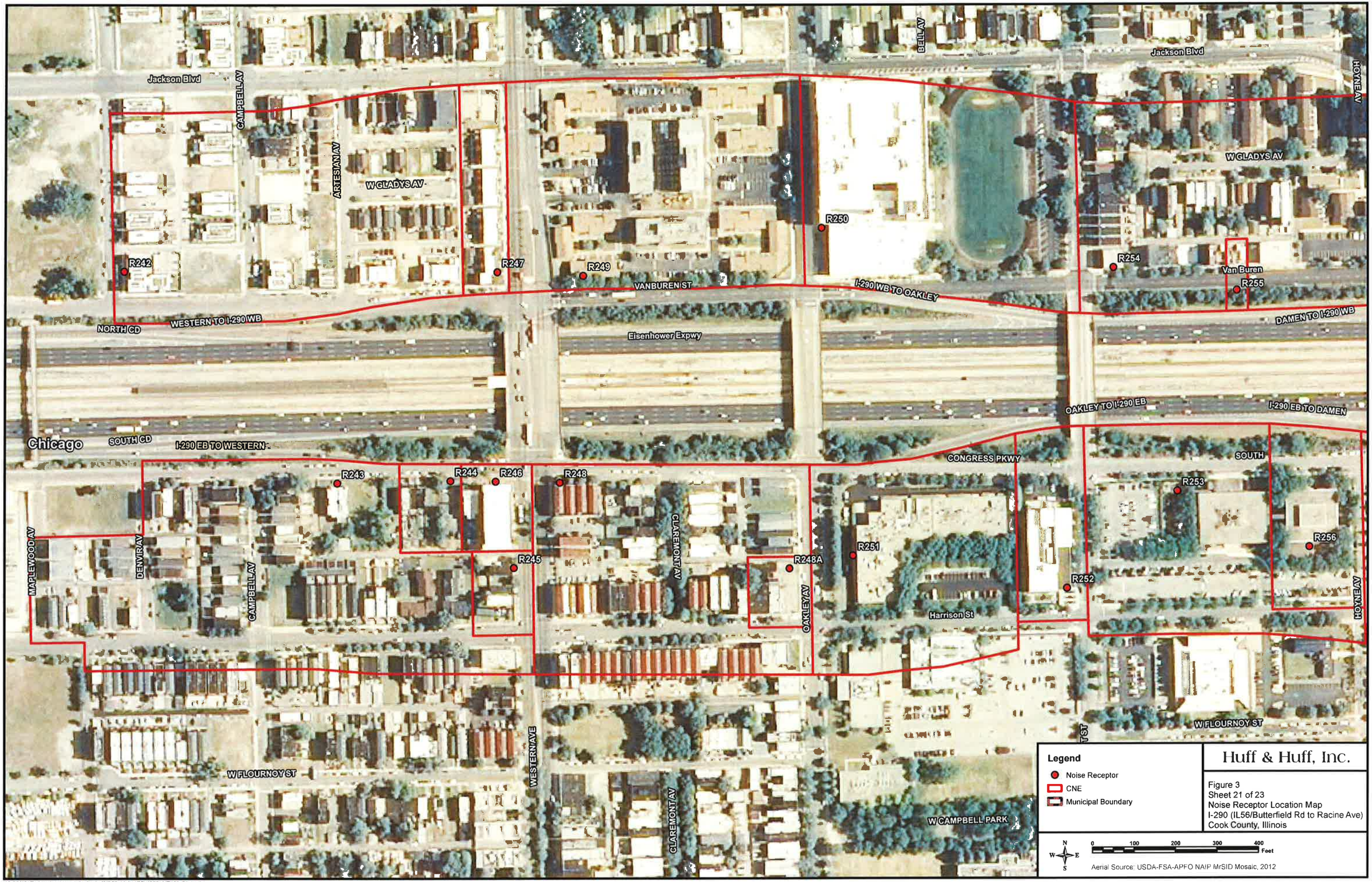

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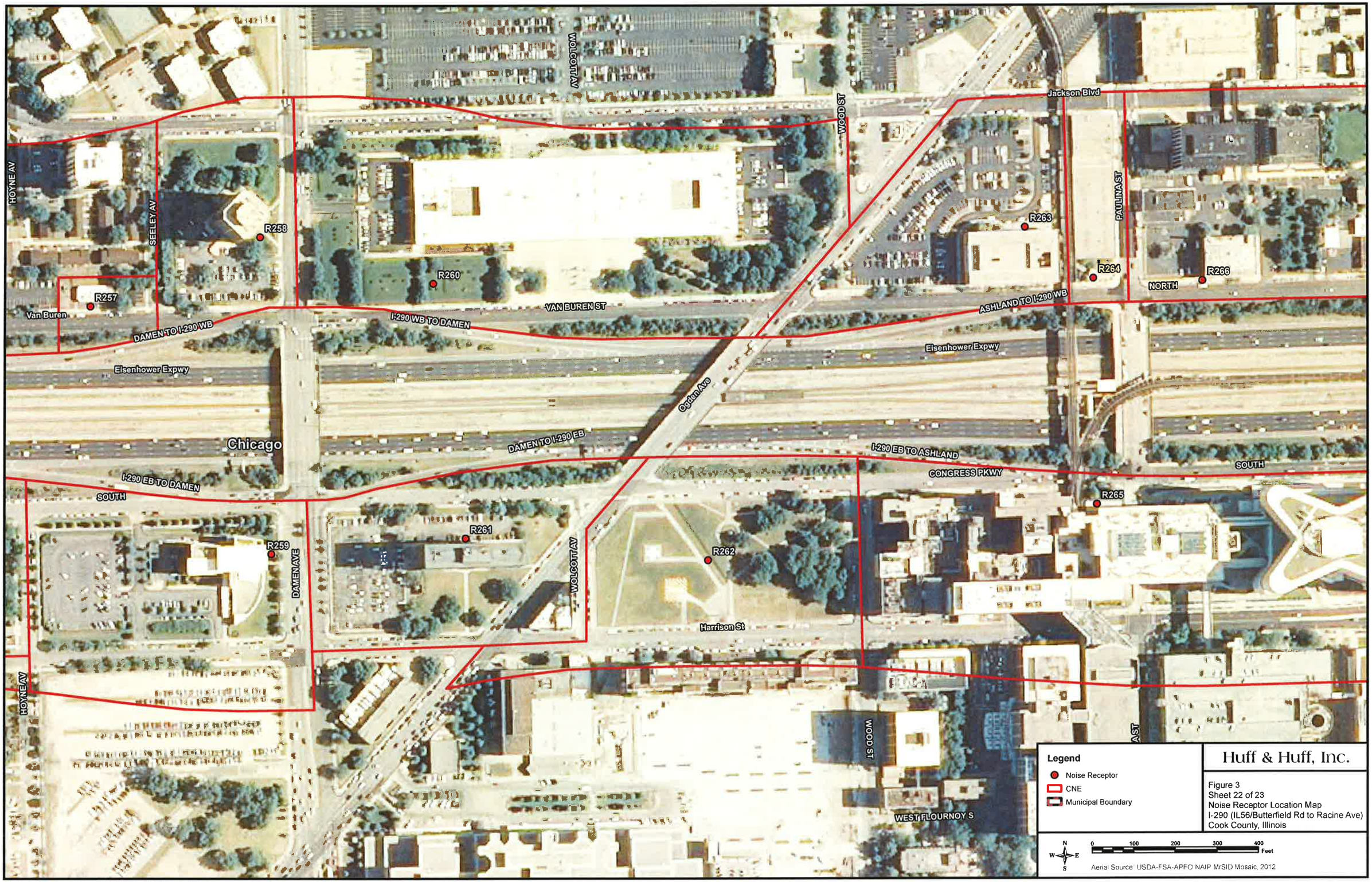

Legend

- Noise Receptor
- CNE
- Municipal Boundary

Huff & Huff, Inc.

Figure 3
Sheet 22 of 23
Noise Receptor Location Map
I-290 (IL56/Butterfield Rd to Racine Ave)
Cook County, Illinois

N W E S

0 100 200 300 400 Feet

Aerial Source: USDA-FSA-APFO NAIP MrSID Mosaic, 2012

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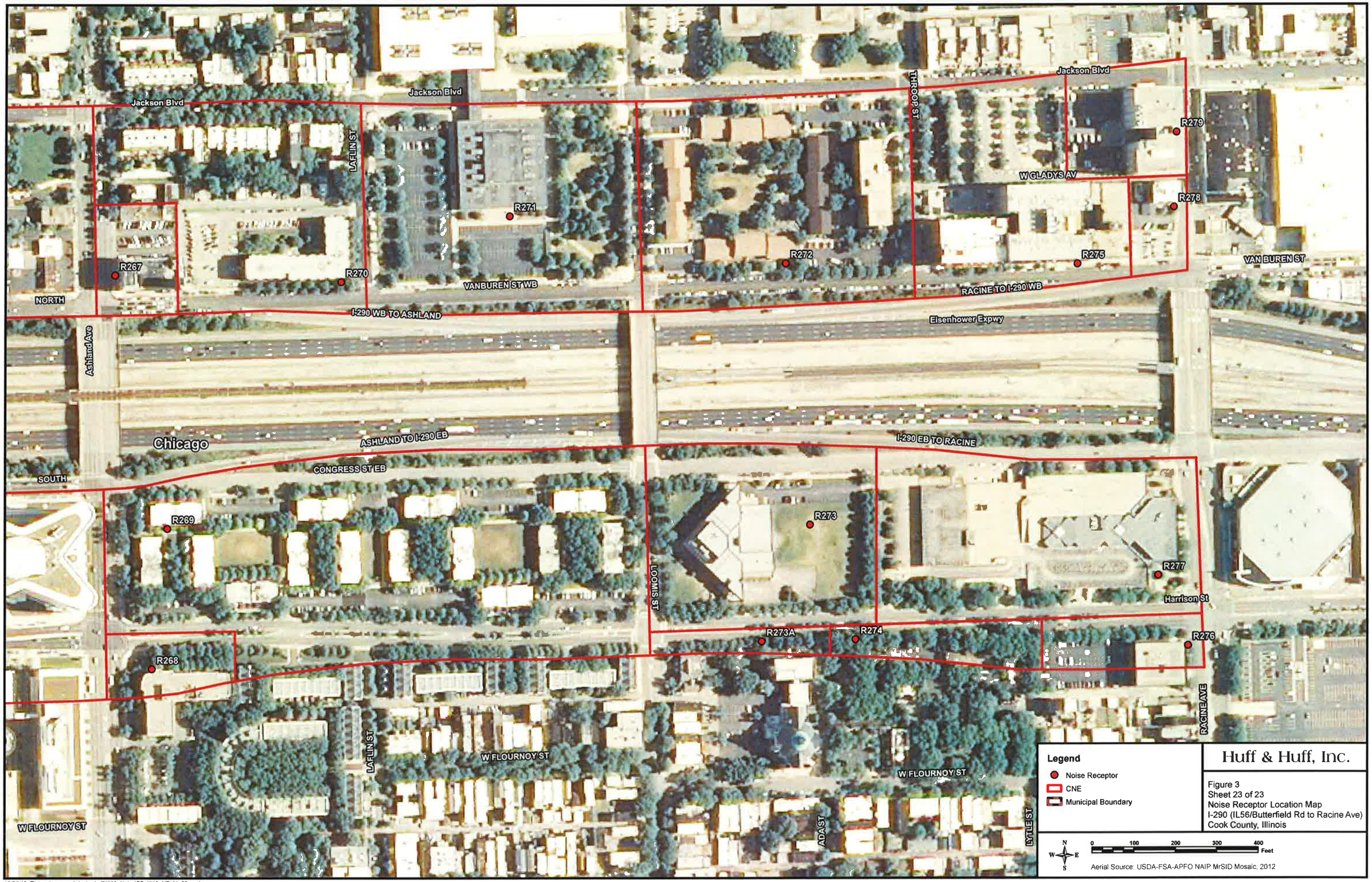

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