AERMOD Air Dispersion Modeling Report

Goodyear Niagara Falls Facility; DEC ID No. 9-2911-00036

PREPARED FOR

The Goodyear Tire & Rubber Company

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0771139

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ACRONYMS AND ABBREVIATIONS

Acronym	Description
AGC	Annual Guideline Concentrations
ASF	Air State Facility Permit
CFR	Code of Federal Regulations
ERM	ERM Consulting & Engineering, Inc.
HAP	Hazardous Air Pollutant
HTAC	High Toxicity Air Contaminant
lbs/yr	Pounds per year
NYCRR	New York Code, Rules and Regulations
NYSDEC	New York State Department of Environmental Conservation
O-T	ortho-Toluidine
PM	Particulate Matter
PTE	Potential-to-Emit
RTO	Regenerative Thermal Oxidizer
SGC	Short-term guideline concentration
tpy	Tons per year
USEPA	United States Environmental Protection Agency

2. INTRODUCTION

On behalf of The Goodyear Tire and Rubber Company ("Goodyear"), ERM Consulting & Engineering, inc. ("ERM") prepared this Air Dispersion Modeling Analysis and Part 212 Assessment Report (the "Report") for Goodyear's manufacturing facility located in the City of Niagara Falls, New York (the "Facility"). This Report is submitted as supporting documentation for the application to modify and renew the Facility's Air State Facility (ASF) Permit (DEC Permit ID 9-2911-00036/00151) (the "Permit").

The majority of the emission sources at the Facility qualify as "process emission sources" that are subject to the requirements of Title 6 of the New York Codes, Rules and Regulations, Part 212 (6 NYCRR Part 212). This regulation includes (but is not limited to) requirements for compound-specific air contaminants (commonly referred to as air toxics) from process emission sources that are subject to permitting. Per 6 NYCRR Part 212-1.1, a facility that has process emission sources must demonstrate compliance with the revised requirements of Part 212 upon issuance of a new or modified permit or registration, or upon issuance of a renewal for an existing air permit or registration.

This document provides the results of the air quality impacts from the Facility's emission sources and processes and describes the air dispersion methodology that was used to evaluate the potential short-term and annual ambient impacts from the emission sources that are subject to Part 212-2. The modeling and Part 212 Analysis was conducted in accordance with the combined AERMOD Modeling Protocol and Part 212 Analysis (the "Protocol") that was submitted to the New York State Department of Environmental Conservation ("NYSDEC") on March 27, 2026 and conditionally approved by the NYSDEC on May 6, 2026. This Report documents the results of the air quality impacts analysis to fulfill the submission requirements for the air dispersion modelling report.

3. BACKGROUND

On 14 June 2015, revisions to 6 NYCRR Part 212 (Part 212") became effective that included significant changes to the regulation of air toxics. Tables 3 & 4 of §212-2.3 indicate that air dispersion modeling must be performed to demonstrate that the maximum offsite air concentration is less than the applicable National Ambient Air Quality Standard (NAAQS) or Annual Guideline Concentration (AGC)/Short-term Guideline Concentration (SGC) values. The results of the air dispersion modeling are used to support the environmental rating for each air contaminant, as well as determine the degree of air cleaning required. A subsequent revision to Part 212 became effective on 25 February 2021.

On 10 August 2016, the New York State Department of Environmental Conservation (NYSDEC) also revised and issued NYSDEC Policy DAR-1 ("Guidelines for the Evaluation and Control of Ambient Air Contaminants Under 6 NYCRR Part 212") to provide additional guidance regarding Part 212 implementation and compliance. A subsequent revision to DAR-1 became effective on 12 February 2021.

Table 2 of §212-2.2 provides a list of 61 air contaminants that the NYSDEC has established as "High Toxicity Air Contaminants" (HTACs). For compounds that are regulated as HTACs, §212-

2.1(a) states that a facility “shall either limit the actual annual emissions from all process operations at the facility so as to not exceed the mass emission limit listed for the individual HTAC; or demonstrate compliance with the air cleaning requirements for the HTAC as specified in <<Table 4 of §212-2.3(b)>> for the environmental rating assigned to the contaminant by the department”. For compounds that do not qualify as an HTAC, §212-2.1(b) indicates that a facility “shall not allow emissions of <<the>> contaminant to violate the requirements specified in…Table 3 – Degree of Air Cleaning Required for Criteria Air Contaminant, or…Table 4 – Degree of Air Cleaning Required for Non-Criteria Air Contaminants…for the environmental rating assigned to the contaminant by the department.”

For process emission sources that are subject to a Federal New Source Performance Standard (NSPS), §212-1.5(e)(1) states that the Part 212 requirements for the air contaminants that are regulated by the standard are satisfied if the facility owner or operator can demonstrate that the facility is compliant with the NSPS. For process emission sources that are subject to a Federal National Emission Standard for Hazardous Air Pollutants (NESHAP), §212-1.5(e)(2) indicates that the Part 212 requirements for the air contaminants that are regulated by the standard are satisfied if the facility owner or operator can demonstrate that the process emission source is in compliance with the relevant Federal regulation. For those NESHAPs regulating HTACs, the facility owner or operator must provide a Toxic Impact Assessment (TIA) demonstrating that the maximum offsite ambient air concentration is less than the [respective] Annual Guideline Concentration/Short-term Guideline Concentration (AGCs/SGCs) and that emissions are less than the Persistent, Bioaccumulative (PB) trigger for the respective air contaminant.

Based upon an evaluation of the emissions from the Facility, an air dispersion modeling analysis is required for the Facility’s Part 212-regulated emissions. The resulting predicted ambient impacts from the modeling analysis were compared against the respective AGCs/SGCs for each compound.

Section 3.0 provides an overview of the Facility and its operations as it pertains to this Report. Section 4 describes the NYSDEC-approved modeling methodology used for the air dispersion evaluation. Section 5 provides the results of this air quality modeling demonstration.

4. FACILITY DESCRIPTION

4.1 FACILITY LOCATION

The Facility is located at 5500 Goodyear Drive, in the City of Niagara Falls, Niagara County, New York and is situated on a 29-acre parcel of land approximately that is 300 by 500 meters at its widest portions. Access to the Facility is limited by perimeter fencing and security gates.

The Facility is bounded to the south by other manufacturing facilities and to the north by private businesses. To the immediate west of the facility are rail lines and undeveloped land. To the east is 56th street and subsequent residential areas.

Significant activities that are located near the Goodyear facility include the following:

- A residential neighborhood is located directly across 56th Street adjacent to the eastern property line;

- A daycare facility (Safari Kids Club Daycare) is located approximately 2 kilometers to the west of the Facility;
- A school (Cataract Elementary School) is located approximately 1 kilometer to the east of the Facility;
- A hospital (Niagara Falls Memorial) is located about 4 kilometers to the west of the Facility; and
- An assisted living facility (Niagara Rehabilitation) is located approximately 4.2 kilometers to the west of the Facility.

4.2 FACILITY OPERATIONS

The Facility specializes in the manufacture of an antioxidant product that enhances the durability and performance of rubber, particularly in production of vehicle tires. The primary manufacturing equipment associated with the ASF Permit includes pre-mix tanks, a centrifuge, drum flaker, remelt tank, a replacement Tri-Mer® wet scrubber, a new Regenerative Thermal Oxidizer (RTO), and Elimination Tanks. The Facility also has nine tanks that are equipped with conservation vents and used to store raw materials and recycled material used in the manufacturing process. Additionally, the Facility has an onsite wastewater treatment system that removes organics using solvents and a packed-bed air stripper.

Air emission controls at the Facility include activated carbon systems, a vapor recovery system, fabric filters, condensers, a replacement wet scrubber and a new regenerative thermal oxidizer. This AERMOD and Part 212 Analysis was performed to predict the air quality impacts once the replacement wet scrubber and new RTO are installed at the Facility.

4.3 FACILITY PROPERTY DESCRIPTION

As stated above, the Facility is located at 5500 Goodyear Drive in the City of Niagara Falls, Niagara County, New York. The approximate Universal Transverse Mercator (UTM) coordinates for the facility are 662694.44 meters Easting by 4772372.33 meters Northing (NAD 1983, Zone 17). Figure 3-1 provides a general area map showing the location of the facility and surrounding area, while Figures 3-2 and 3-3 show the buildings within the property boundary as well as the location of the emission points that require Part 212 air dispersion modeling, respectively. Table A-2 in Appendix A lists the structures included in the downwash analysis, which corresponds to the model IDs in Figure 3-2. Maximum length and width are estimated for most structures because they were drawn as polygons and that information is not provided in the Building Profile Input Program (BPIP). A continuous fence and gate will restrict public access to the Facility. Consistent with modeling guidance, impact receptors were removed from within the Facility’s fence line.

Figure 4-1: Location of the Goodyear Facility

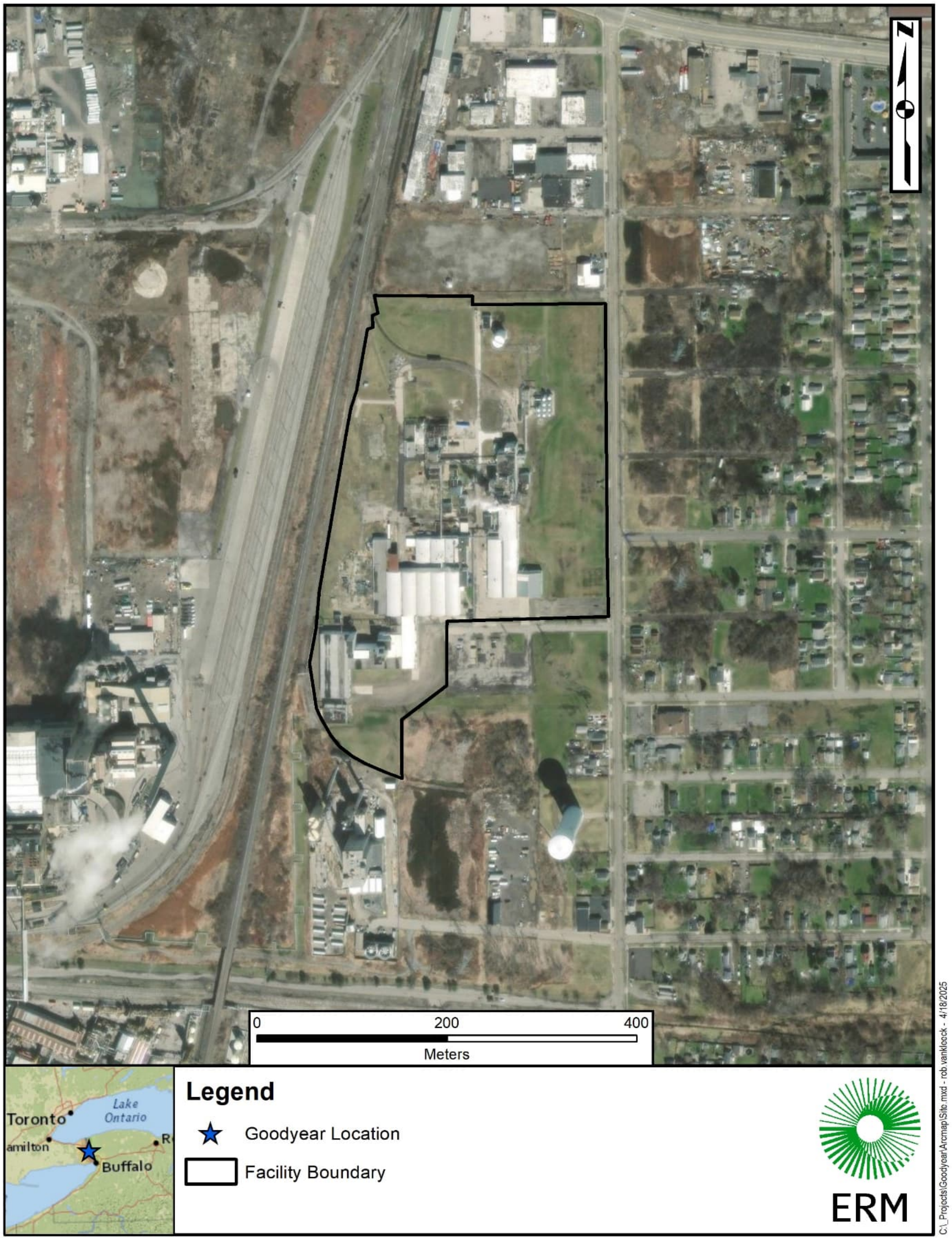


Figure 4-2: Structures at the Goodyear Niagara Falls Facility

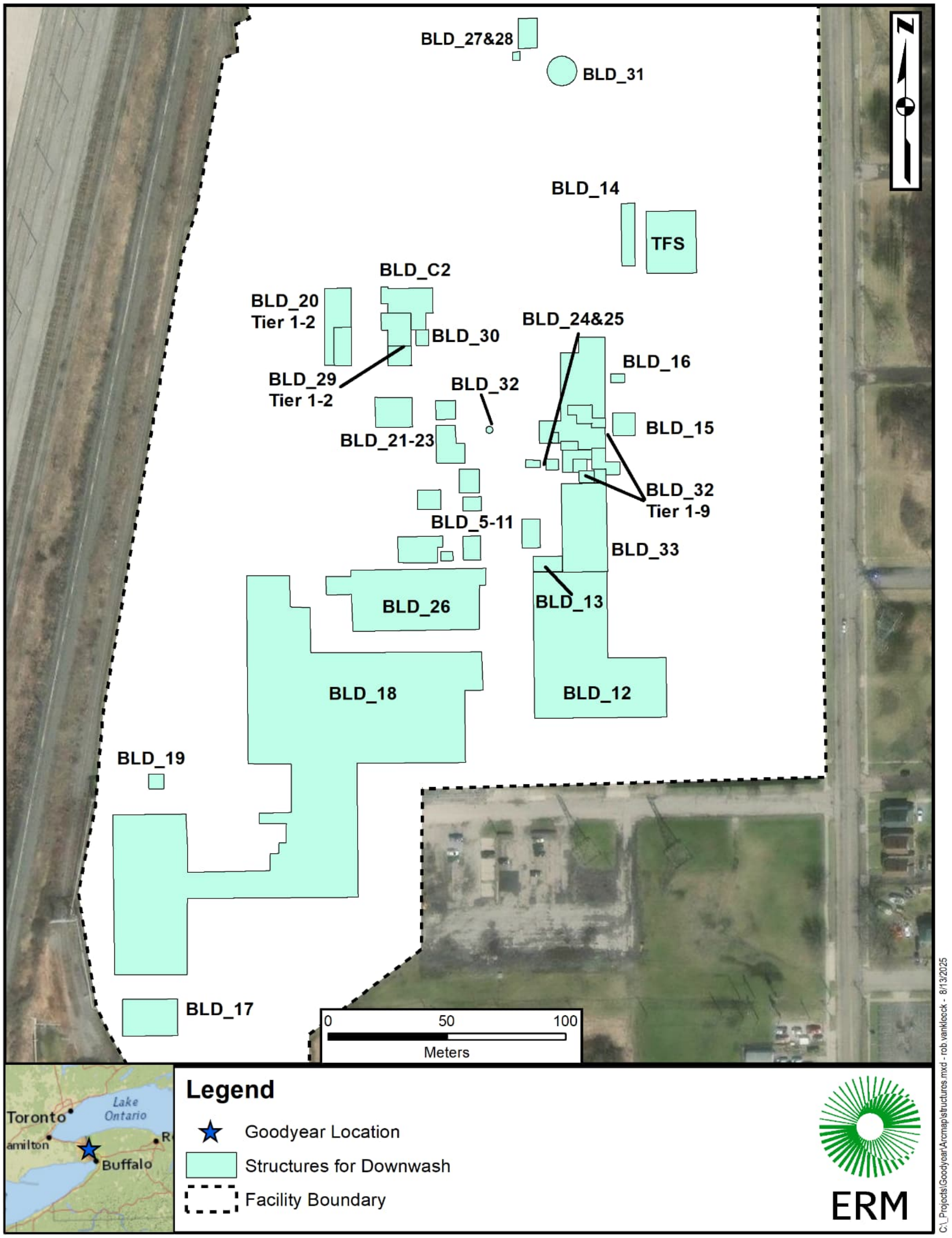
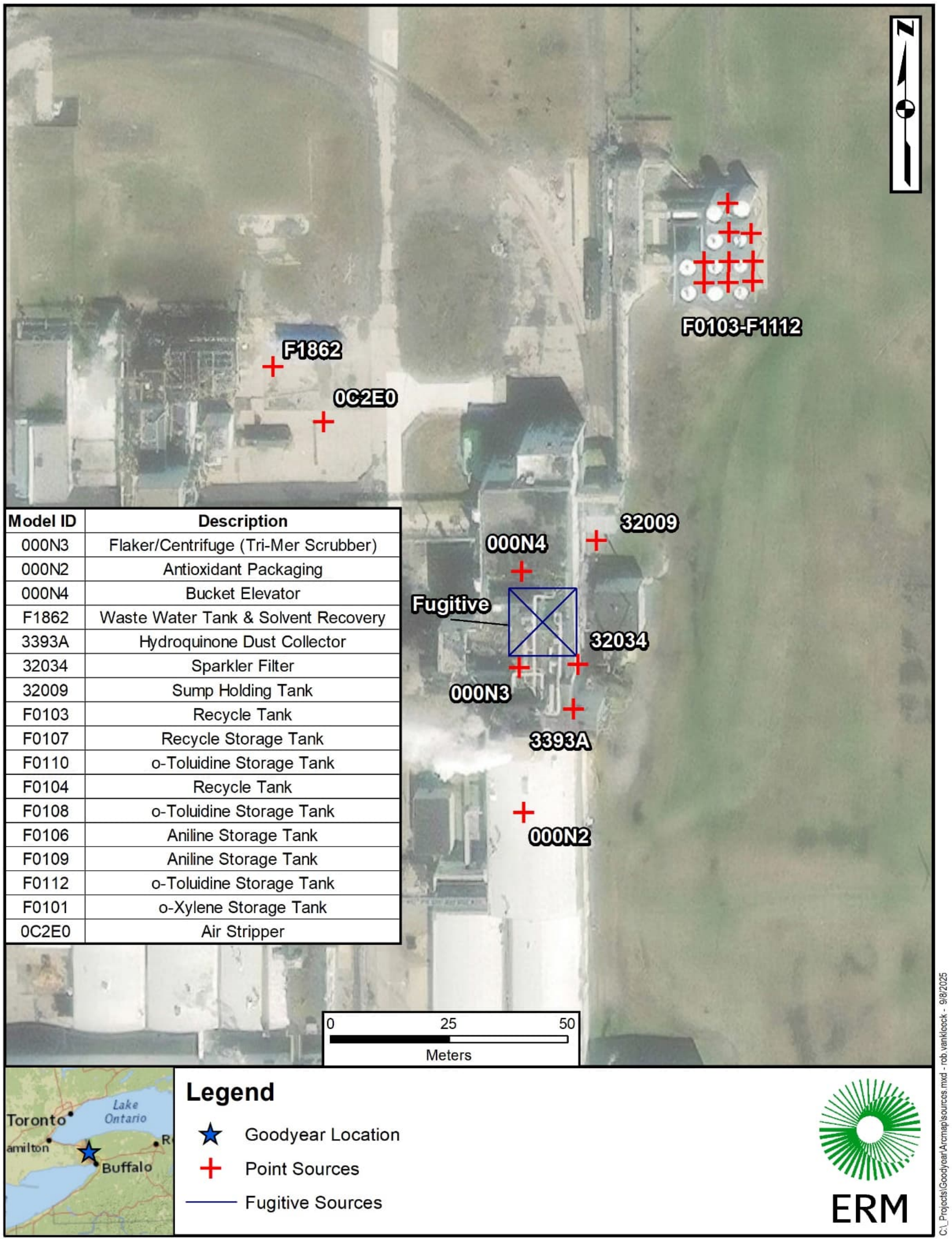


Figure 4-3: Sources at the Goodyear Niagara Falls Facility



Model ID	Description
000N3	Flaker/Centrifuge (Tri-Mer Scrubber)
000N2	Antioxidant Packaging
000N4	Bucket Elevator
F1862	Waste Water Tank & Solvent Recovery
3393A	Hydroquinone Dust Collector
32034	Sparkler Filter
32009	Sump Holding Tank
F0103	Recycle Tank
F0107	Recycle Storage Tank
F0110	o-Toluidine Storage Tank
F0104	Recycle Tank
F0108	o-Toluidine Storage Tank
F0106	Aniline Storage Tank
F0109	Aniline Storage Tank
F0112	o-Toluidine Storage Tank
F0101	o-Xylene Storage Tank
0C2E0	Air Stripper

In various recycle tanks, unreacted raw material from the product manufacturing process is recovered and recycled back into the manufacturing process. The recycle material composition varies based on the variability of recovered and recycled unreacted raw materials from the batch manufacturing process, but recent recycled raw material composition testing conducted at the Facility provides the average weight percentages of the following raw materials:

- 33.09% O-xylene
- 13.28% Aniline
- 13.12% Phenol
- 22.49% O-Toluidine
- 0.61% Hydroquinone
- 2.93% Nailax
- 1.88% Water

4.4 EMISSION SOURCE CHARACTERIZATION

The Goodyear Manufacturing facility has 16 emission points that require Part 212 air dispersion modeling. All emission points were modeled as point sources that exhaust vertically; some sources have rain caps or other obstructions to vertical flow. Table 3-1 provides the source characteristics that were input into the dispersion model. Fugitive emissions were also addressed as described in the conditionally approved Protocol. The approximate location of the fugitive source is indicated in Figure 3-3, with a release height of approximately 14 meters. It was modeled as a volume source centered at this height; this represents fugitives escaping the top of the main structure in the vicinity of other process sources.

Table 4-1: Point Source Characteristics

Emission Point ID	UTMx (m)	UTMy (m)	Base Elevation (m)	Stack Height (m)	Exit Temp (K)	Exit Velocity (m/s)	Stack Diameter (m)	Capped?
000N2	662675.52	4772301.27	173.64	10.36	297.04	8.62	0.46	Yes
000N3	662674.65	4772331.75	173.64	24.38	306.89	7.88	0.65	No
000N4	662675.11	4772351.95	173.64	18.59	310.78	5.83	0.30	No
32009	662690.91	4772358.44	173.64	15.54	294.26	0.58	0.10	No
32034	662686.96	4772332.42	173.64	16.76	300.93	8.18	0.81	Yes
3393A	662686.04	4772322.99	173.64	17.07	295.37	10.20	0.56	Yes
0C2E0	662633.42	4772383.48	173.64	3.35	294.26	1.17	0.10	No

Emission Point ID	UTMx (m)	UTMy (m)	Base Elevation (m)	Stack Height (m)	Exit Temp (K)	Exit Velocity (m/s)	Stack Diameter (m)	Capped?
F0101	662718.59	4772429.54	173.64	8.84	294.00	0.23	0.05	Yes
F0103	662723.84	4772413.10	173.64	8.84	294.26	0.23	0.05	Yes
F0104	662723.86	4772417.30	173.64	8.84	294.26	0.23	0.05	Yes
F0106	662723.50	4772423.16	173.64	1.22	294.26	0.23	0.05	Yes
F0107	662718.62	4772412.80	173.64	8.84	294.26	0.23	0.05	No
F0108	662718.78	4772417.21	173.64	8.84	294.26	0.23	0.05	Yes
F0109	662713.61	4772417.12	173.64	1.22	294.26	0.23	0.05	Yes
F0110	662713.61	4772412.71	173.64	8.84	294.26	0.23	0.05	Yes
F0112	662718.82	4772423.38	173.64	8.84	294.26	0.23	0.05	Yes
F1862	662622.73	4772395.16	173.64	3.35	294.26	1.17	0.10	No

Appendix A provides a summary of the emission rates that were used in the air modeling exercise. Values were calculated using the maximum annual emission rate (pounds per year) and maximum hourly emission rate (pounds per hour). Where more than one emission source is exhausted via a common emission point, the emission rate represents the total mass flow from all sources ducted to the emission point.

5. MODELING METHODOLOGY

5.1 MODEL SELECTION AND APPLICATION

The latest version of USEPA's AERMOD model (version 24142) was used to predict the ambient impacts for each modeled air contaminant. Regulatory default options were used in the analysis.

5.2 GEOGRAPHIC SETTING – TERRAIN AND LAND USE CHARACTERISTICS

The terrain around the facility and within the modeling domain is generally flat with a slight downward slope towards the south. The Niagara River (located approximately 1.4 kilometers south of the facility) runs through the modeling domain.

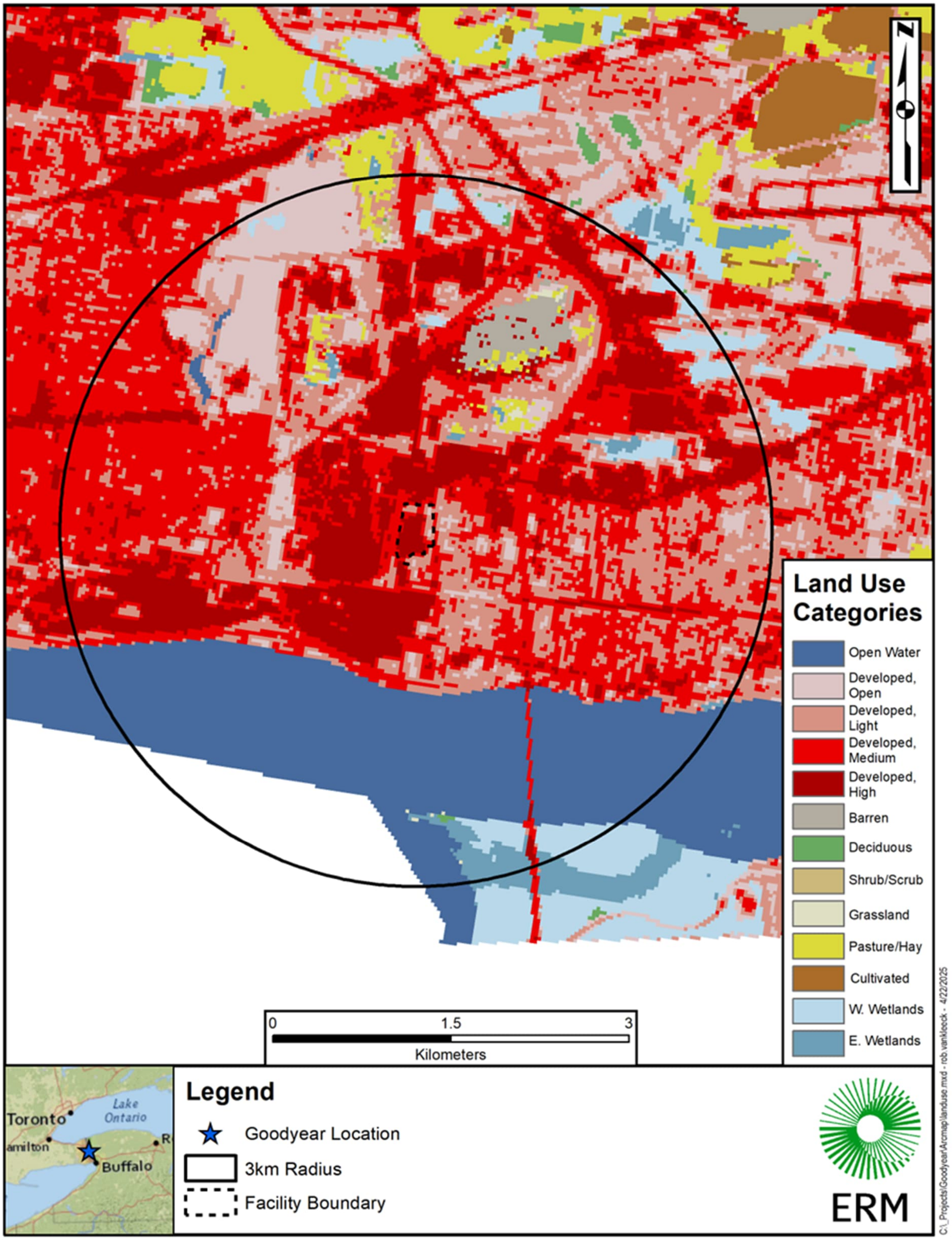
The land use surrounding the facility can be generally described as developed land, or more specifically high/medium/low intensity developed land use. Although the area is generally high to medium intensity developed land, the relative percentage of this land use category did not meet the criteria to be classified as "urban" that is described in Section 7.2.1.1(b)(i) of 40 CFR 51 Appendix W (The Guideline on Air Quality Models). The urbanized land use categories (Medium and Urban Development) accounted for about 29.26% of the total land use within three kilometers of the proposed location. Low intensity developed land accounted for about 24% of the total land use area.

Table 4-1 tabulates the results of the National Land Cover Dataset (2016) within 3 kilometers of the Facility and the data are also depicted in Figure 4-1. Some of this radius includes uncategorized land use across the international border under Grid Code 0.

Table 5-1: Land Use Analysis Around 3-km of the Goodyear Facility

Grid Code	Grid Code Description	pixel count	Area (km^2)	Area (%)
0	Missing/Out-of-Bounds:	1,301	1.17	4.14%
11	Open Water:	5,787	5.21	18.42%
21	Developed, Open Space:	3,506	3.16	11.16%
22	Developed, Low Intensity:	7,827	7.05	24.92%
23	Developed, Medium Intensity:	5,104	4.59	16.25%
24	Developed, High Intensity:	4,085	3.68	13.01%
31	Barren Land (Rock/Sand/Clay):	830	0.75	2.64%
41	Deciduous Forest:	195	0.18	0.62%
43	Mixed Forest:	10	0.01	0.03%
52	Shrub/Scrub:	395	0.36	1.26%
71	Grasslands/Herbaceous:	169	0.15	0.54%
81	Pasture/Hay:	578	0.52	1.84%
82	Cultivated Crops:	501	0.45	1.60%
90	Woody Wetlands:	797	0.72	2.54%
95	Emergent Herbaceous Wetland:	325	0.29	1.03%
TOTAL		31,410	28.27	100.00%
URBAN AREA		9,189	8.27	29.26%

Figure 5-1: Land Use Categorizations Around the Goodyear Facility



5.3 METEOROLOGICAL DATA

Guidance for air quality modeling recommends the use of one year of onsite meteorological data or five years of representative off-site meteorological data. Since onsite data are not available for the Facility, meteorological data available from the National Weather Service (NWS) was used in this analysis.

NYSDEC provided the most recent five years (2020-2024) of AERMOD-ready pre-processed meteorological data (AERMET v. 24142) using surface observations from Niagara Falls International Airport (KIAG) and upper air data from Buffalo, New York. The relative locations of the Facility and the Niagara Falls International Airport are shown in Figure 4-2. Table 4-2 summarizes the data characteristics of the surface observation site. The 5-year wind rose for the Niagara Falls International Airport is provided in Figure 4-3. The predominant wind direction at this airport is from the southwest (with secondary flow from the east).

Table 5-2: Characteristics of Meteorological Data from the Niagara Falls International Airport

Parameter	Value
Distance from Goodyear	5.82 km
Average Wind Speed	4.54 m/s
Percent Calm Hours	0.68%
Data Completeness	99.61%

Due to its close proximity to the Facility, the meteorological data available from Niagara Falls International Airport is suitably representative of conditions at the Facility. ERM used the NYSDEC-provided five years of pre-processed meteorological data from this airport in the modeling analysis.

Figure 5-2: Location of Goodyear in Relation to Niagara Falls International Airport

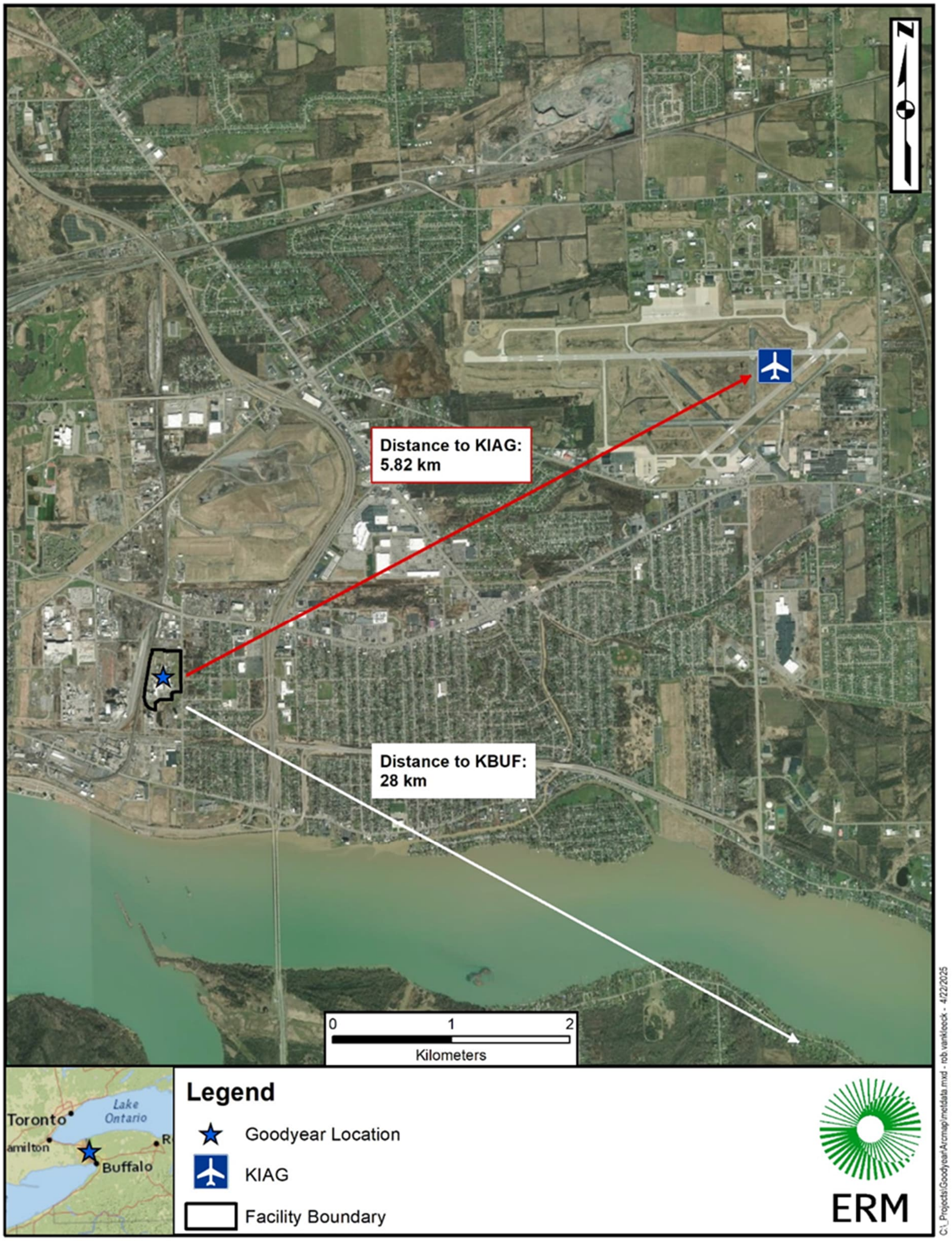
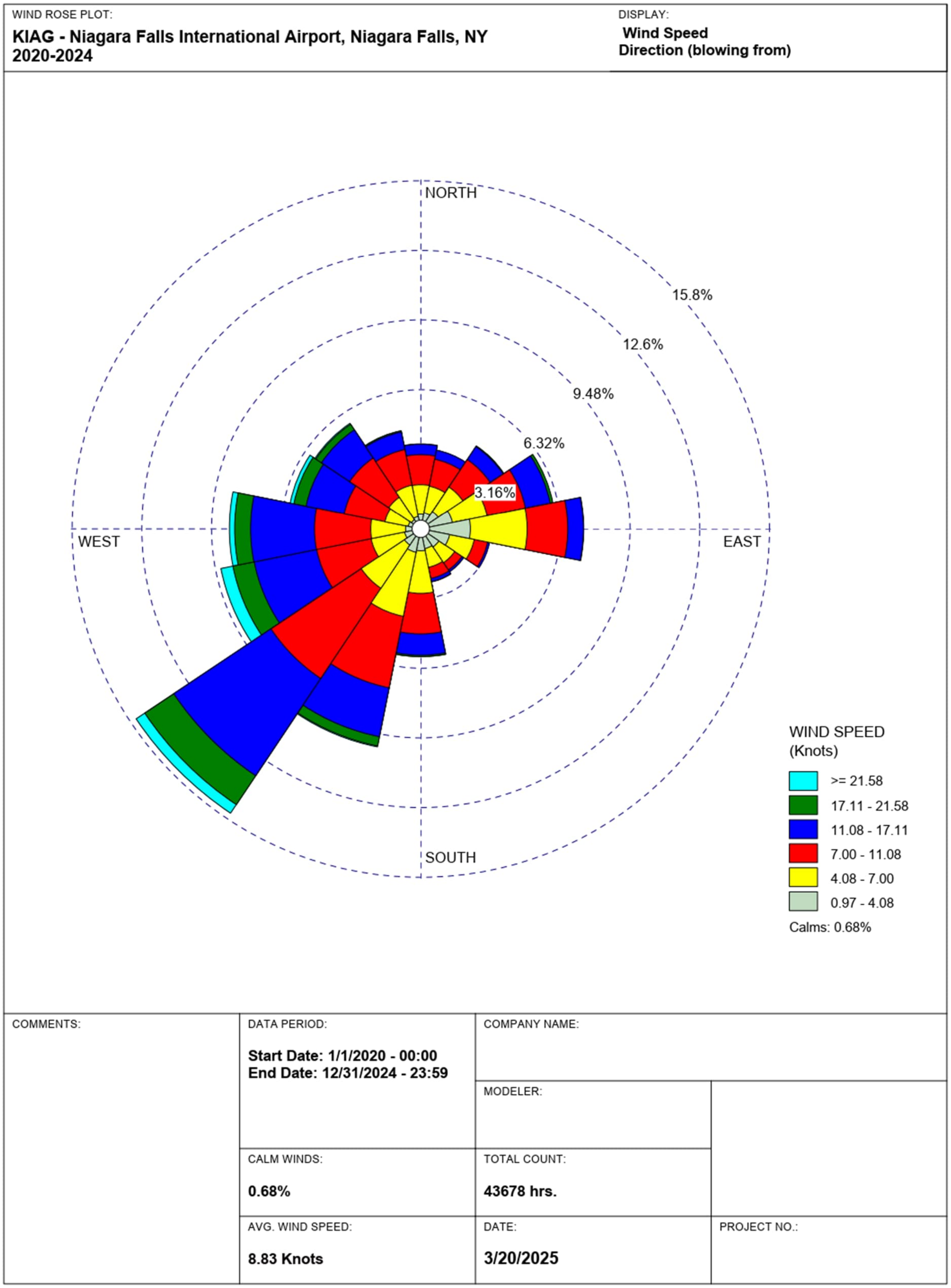


Figure 5-3: 5-year Wind Rose (2020-2024) for Niagara Falls International Airport



5.4 RECEPTOR GRID

A comprehensive Cartesian receptor grid extending out to approximately 10 kilometers (km) from the center of the proposed facility was used in the AERMOD modeling analysis to assess the maximum ground-level concentration of each air contaminant. All maximum impacts were resolved within the fine grid near the facility boundary, and concentrations decrease towards the edge of the grid.

The Cartesian receptor grid consists of the following receptor spacing, per NYSDEC Modeling Guidance:

- 20-meter spacing along the facility fenceline;
- 70- meter spacing extending from the fenceline to 1 km;
- 100-meter spacing extending from 1 km to 2 km;
- 250-meter spacing extending from 2 km to 5 km; and
- 500-meter spacing extending from 5 km to 10 km.

Figures 4-4 and 4-5 show the near field and far field Cartesian receptor grid, respectively. Receptors were removed in areas across the international border. In addition to the receptor grid, 14 sensitive receptors were identified representing five categories (hospitals, daycare centers, nursing homes, schools, and residences). These sensitive receptors were selected based on proximity to the facility and are located spatially around the property. Table 4-3 provides a summary of these sensitive receptors, while Figure 4-6 shows the location of the sensitive receptors relative to the location of Goodyear. All sensitive receptor addresses are in the City of Niagara Falls, and Figure 4-6 labels receptors by their Receptor No. in Table 4-3.

Terrain elevations from National Elevation Data (NED) from USGS were processed using the most recent version of AERMAP (v.24142) to develop the receptor terrain elevations required by AERMOD. Per DAR-10 Guidance, 1/3 arc second (10m) data was used for assigning these elevations.

Table 5-3: Identification of Sensitive Receptors

Receptor No.	Type	Name	Address	Approximate Distance from Goodyear (km)
1	Hospital	Niagara Falls Medical Center	621 10th St	4.01
2	Daycare	Safari Kids Club Daycare	2745 Niagara St	2.07
3	Daycare	LaSalle Early Childhood Center	8477 Buffalo Ave	3.20
4	Daycare	First Step Child Care Center	2113 Military Rd	2.53
5	Nursing Home	Niagara Rehabilitation-Nursing	822 Cedar Ave	4.28
6	School	Cataract Elementary School	6431 Girard Ave	1.02
7	School	Bloneva Elementary School	2513 Niagara St	2.39
8	School	Gaskill Preparatory School	910 Hyde Park Blvd	2.36
9	School	LaSalle Preparatory School	7436 Buffalo Ave	2.32
10	Residence	Nearby Residence	547 56th St	0.22
11	Residence	Nearby Residence	512 56th St	0.28
12	Residence	Nearby Residence	5631 Girard Ave	0.26
13	Residence	Nearby Residence	5629 Charles Ave	0.31
14	Business	Fred's Your Auto Body Repair	530 56th St	0.26

Figure 5-4: Near-Field Receptor Grid

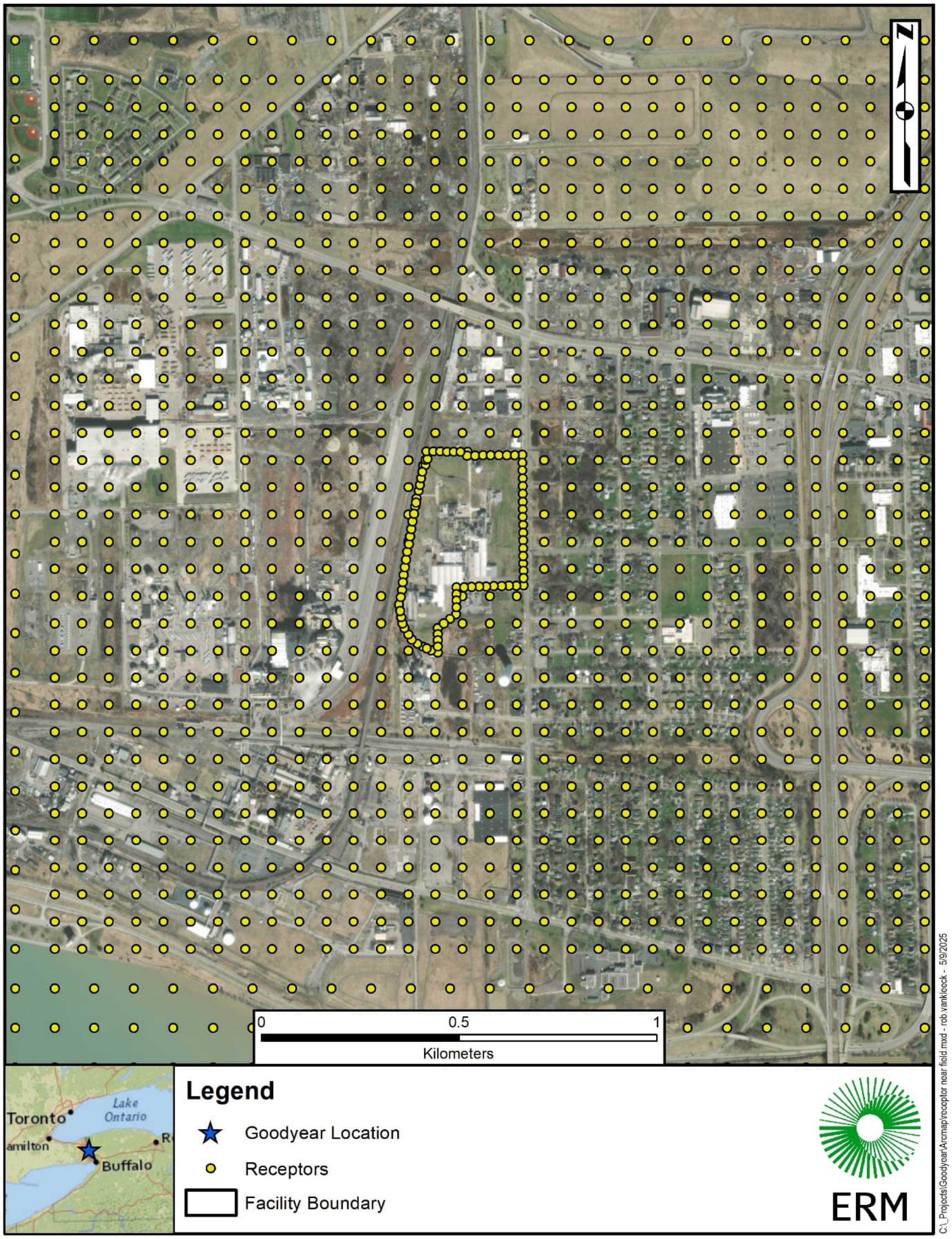


Figure 5-5: Far-Field Receptor Grid

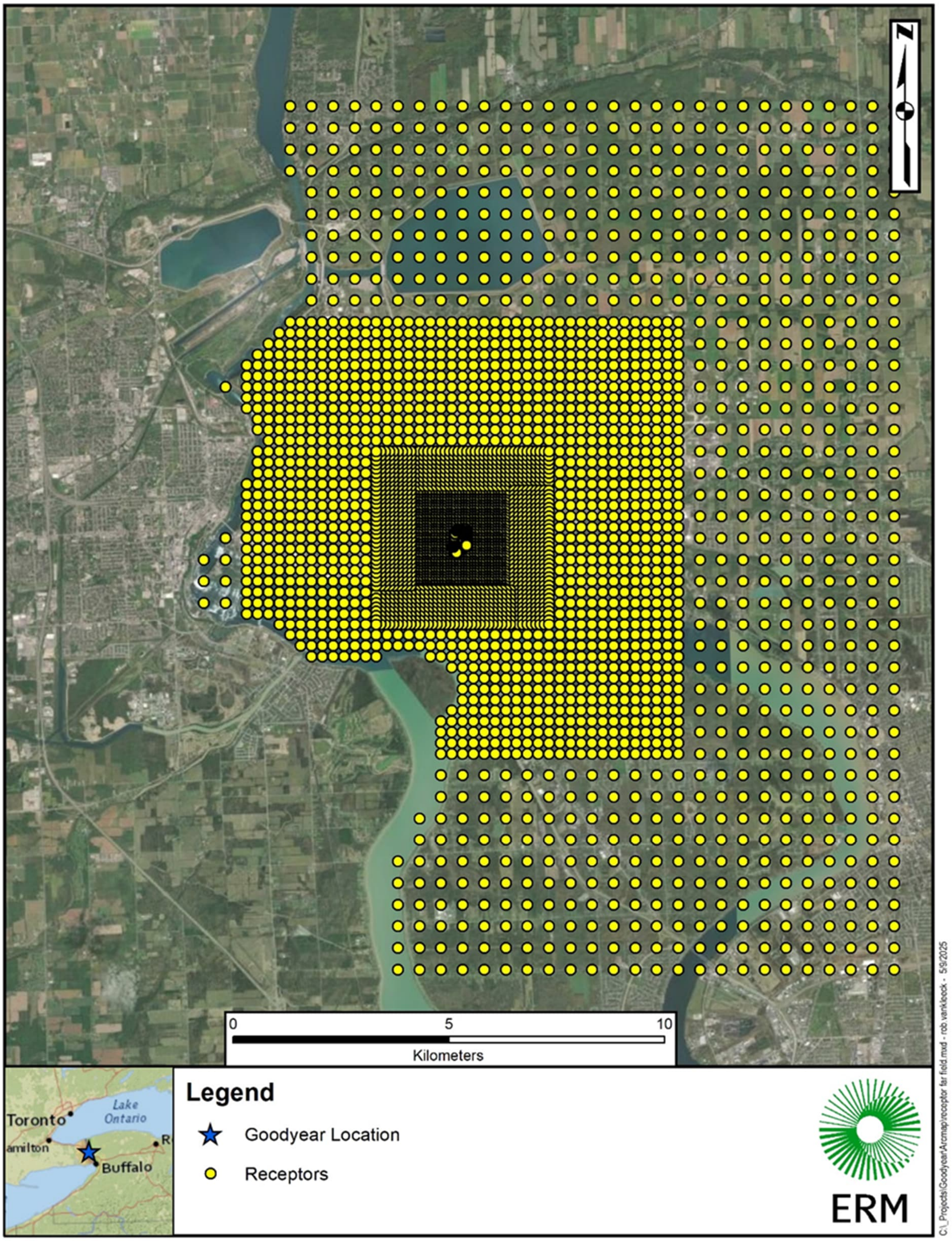
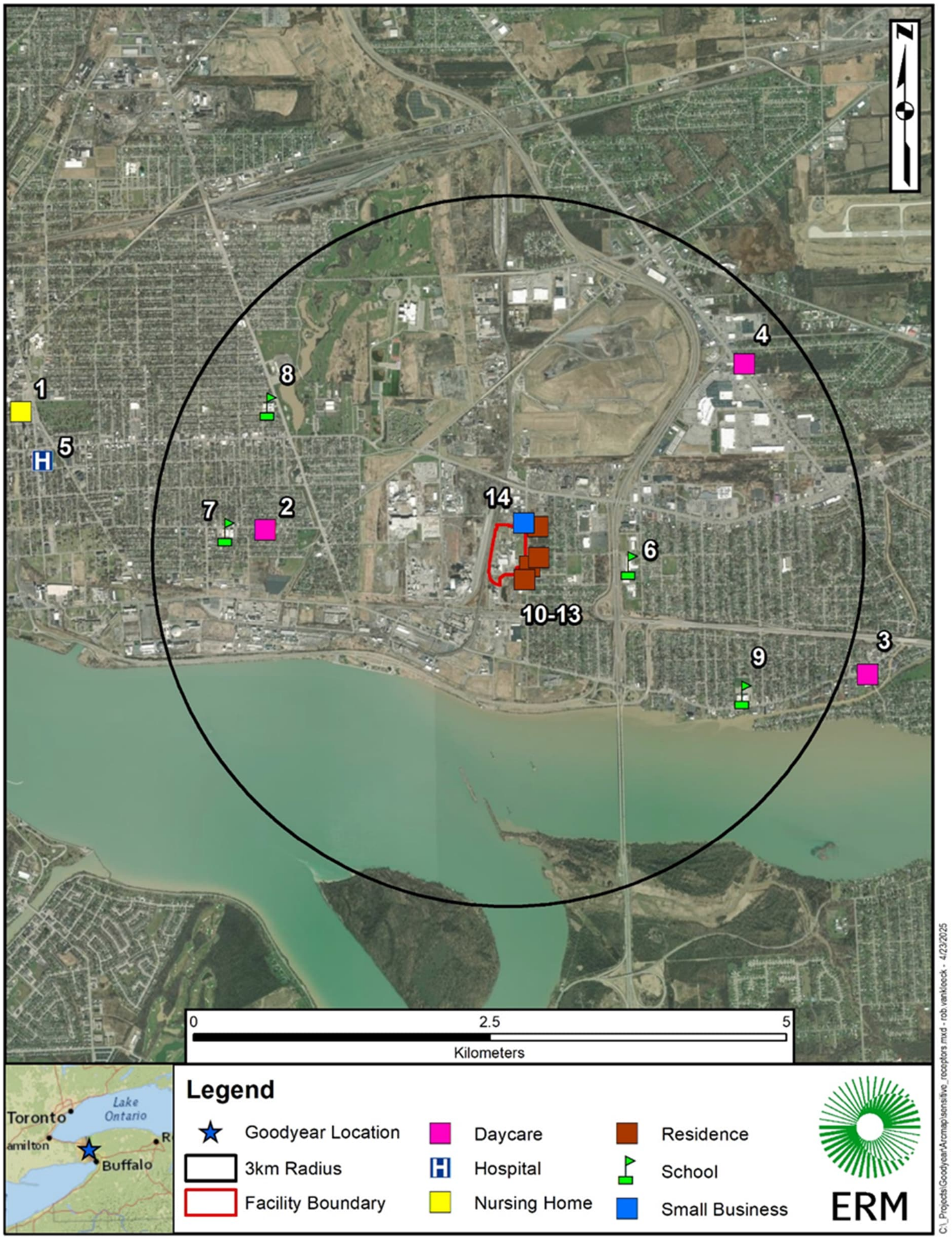


Figure 5-6: Location of Sensitive Receptors



5.5 GOOD ENGINEERING PRACTICE (GEP) STACK HEIGHT ANALYSIS

Per 40 CFR 51, stack heights in excess of the Good Engineering Practice (GEP) stack height may not be used to establish emissions limitations. GEP is defined as the greater of 65 m or the formula height, defined by the following:

$H_{GEP} = H_b + 1.5 L$

where,

H_{GEP} = formula GEP stack height

H_b = height of nearby building

L = lesser of the height and maximum projected width of adjacent or nearby building

The Building Profile Input Program (BPIP), version 04274, was used to make the determination on what building(s) affect(s) each modeled point source and the appropriate dimensions of the building to use for each source in the modeling analysis, as well as calculate the formula GEP height for each modeled source.

To evaluate whether aerodynamic building downwash from any building could affect a stack, the radius of influence from the building was identified. For purposes of downwash in regulatory dispersion modeling, the radius of influence of a building is a distance referred to as “5L”, that is, five times the height or maximum projected width (whichever is less) of the building itself. Any point source located within the 5L distance from a building would potentially be subject to downwash. BPIP was used to make the determination on what building(s) affect a modeled point source and the appropriate dimensions of the building to use in AERMOD’s downwash algorithms. Figure 3-2 shows the structure heights and relative location to the sources.

6. MODELING RESULTS

Table 5-1 provides the summary of results of the modeling analysis for all required pollutants. All pollutants are below their respective AGCs and SGCs.

Table 6-1: Part 212 Modeling Results

Air Containment	SGC (µg/m^3)	Maximum AERMOD Predicted 1hr Concentration (µg/m^3)	% of SGC	AGC (µg/m^3)	Maximum AERMOD Predicted Annual Concentration (µg/m^3)	% of AGC
Aniline	---	---	---	0.63	0.05	7.8%
Diphenylamine	---	---	---	24	0.02	0.1%
Phenol	5,800	1.3	0.02%	20	0.02	0.1%
Ortho-Toluidine	---	---	---	0.02	0.01	63.1%
Ortho-Xylene	22,000	1245.7	5.66%	100	20.68	20.7%
Hydrogen Chloride	2,100	3.5	0.17%	20	0.12	0.6%
Hydroquinone	---	---	---	2.4	0.01	0.6%
Nailax	2,400	21.3	0.89%	4.0	0.39	9.7%

While only annual maximum emissions of Aniline exceeded its MEL and therefore was not subject to the dispersion modeling analysis, Goodyear chose to include both Aniline and ortho-Toluidine in the air dispersion modeling and impacts analysis. As shown in Table 4-1, aniline and ortho-toluidine have assigned AGCs and fall well below their respective AGCs.

6.1 CUMULATIVE INHALATION RISK

In accordance with DAR-1 Section V.B and the NYSDEC request, a cumulative inhalation cancer risk assessment of the emissions of aniline and ortho-toluidine were to be incorporated into the modeling analysis following procedure identified the NYSDEC's May 6, 2026 conditional approval of the Protocol.

A cumulative inhalation cancer risk assessment of the HTAC emissions from aniline and ortho-toluidine was incorporated into the modeling analysis using post-installation estimates for the replacement wet scrubber and the new RTO using the following procedure.

1. Aniline and o-toluidine will be modelled individually (as defined above);
2. The inhalation cancer risk of aniline ($Risk_A$) and o-toluidine ($Risk_{O-T}$) will be estimated using the following equations:

$Risk_A$ (unitless) = C_A (µg/m^3) ÷ AGC_A (µg/m^3)

$Risk_{O-T}$ (unitless) = C_{O-T} (µg/m^3) ÷ AGC_{O-T} (µg/m^3)

where C_A and C_{O-T} are the annual maximum model-predicted concentrations of aniline and o-toluidine, respectively, and AGC_A and AGC_{O-T} are the annual guideline concentrations of aniline and o-toluidine, respectively.

3. Estimate the cumulative inhalation cancer risk ($Risk_T$) of aniline and o-toluidine using the following equation:

$Risk_T$ = $Risk_A$ + $Risk_{O-T}$

If $Risk_T$ is less than a one-in-a-million inhalation cancer risk (i.e., 1 × 10−6), no further action is needed. If $Risk_T$ is greater than 1×10^{-6}, Goodyear shall:

- Demonstrate the degree of air cleaning requirements specified in 6 NYCRR Part 212 are being met for both contaminants, or
- Successfully demonstrate the use of Toxics Best Available Control Technology (T-BACT) for emission sources of aniline and o-toluidine.

Note that the $Risk_T$ of 10-in-a-million inhalation cancer risk (i.e., 1×10^{-5}) is allowed.

The results of the cumulative inhalation cancer risk assessment are presented Table 5-2 below.

Table 5-2: Cumulative Inhalation Risk Assessment

C_A µg/m^3	AGC_A µg/m^3	$Risk_A$ (unitless)	C_{O-T} µg/m^3	AGC_{O-T} µg/m^3	$Risk_{O-T}$ (unitless)	$Risk_T$ (unitless)
0.05	0.063	0.79	0.01	0.02	0.5	1.3

While the cumulative inhalation risk depicted in Table 5-2 above is greater than 1.0×10^{-6} threshold, the degree of air cleaning requirements specified in 6 NYCRR Part 212 are being met for both contaminants through the replacement of the wet scrubber and the addition of the new RTO; demonstrated by the results of the air dispersion modeling analysis presented in Table 5-1 above.

Therefore, no further cumulative inhalation risk analysis is needed.

7. CONCLUSION

The results of the AERMOD Air Quality Impacts analysis of the process emission sources at the Goodyear Facility in Niagara Falls, New York indicate that with the installation of the replacement wet scrubber and the new RTO, model-predicted concentrations of all air contaminants beyond the Facility fenceline will be well below the NYSDEC's DAR-1 SGCs and AGCs. Once Goodyear has completed the installation, commissioning and source testing of the replacement wet scrubber and new RTO, an updated AERMOD Air Quality Impacts Analysis will be performed using the results of the source testing program to confirm the expected performance of the newly installed air pollution control devices.

The Modeling Archive that provides the details of this AERMOD analysis will be issued separately to the NYSDEC's office of Air Quality Analysis for their use.

8. REFERENCES

New York State Department of Environmental Conservation, “DAR-1: Guidelines for the Evaluation and Control of Ambient Air Contaminants Under Part 212”, 12 February 2021.

New York State Department of Environmental Conservation, “DAR -10: NYSDEC Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analysis”, 1 September 2020.

U.S. Environmental Protection Agency, AERMOD Implementation Guide (EPA-454/b-241-0006) November 2024.

U.S. Environmental Protection Agency, Guideline on Air Quality Models (GAQM, 40 CFR Appendix W), 17 January 2017.

AERMOD Air Dispersion Modeling Protocol & Part 212 Analysis; The Goodyear Tire & Rubber Company, Niagara Falls, NY (DEC ID: 9-2911-00036). ERM Consulting & Engineering, Inc. March 26, 2026.; *Revised* June 10, 2026.

NYSDEC Letter of Conditional Approval of the AERMOD Air Dispersion Modeling Protocol & Part 212 Analysis: The Goodyear Tire & Rubber Company. May 6, 2026.

APPENDIX A – PART 212 SOURCE EMISSIONS AND STRUCTURES FOR DOWNWASH

Table A-1: Summary of Emission Rates used in Modeling Analysis

	Aniline (CAS 00062-53-3)		Ortho-toluidine (CAS 00095-53-4)		Phenol (CAS 00108-95-2)		Ortho-xylene (CAS 00095-47-6)		Diphenylamine (CAS 00122-39-4)	
EP ID	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)
FUG	4.38E+00	5.00E-04	1.93E+01	2.20E-03	1.75E+00	2.00E-04	7.08E+01	8.08E-03	0.00E+00	0.00E+00
000N2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
000N3	9.39E+01	1.07E-02	4.78E+01	1.02E-02	2.00E+01	2.28E-03	2.04E+03	2.33E-01	5.62E+01	6.41E-03
000N4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.72E+00	3.10E-04
32009	4.38E-01	5.00E-05	1.75E-01	2.00E-05	3.50E-01	4.00E-05	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32034	1.55E+02	1.77E-02	6.33E+00	5.32E-02	7.76E+01	8.86E-03	3.10E+01	3.54E-03	6.21E+01	7.09E-03
3393A	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
0C2E0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.38E+03	5.00E-01	0.00E+00	0.00E+00
F0101	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.42E+04	1.62E+00	0.00E+00	0.00E+00
F0103	3.50E-01	4.00E-05	1.75E-01	2.00E-05	1.75E-01	2.00E-05	1.05E+01	1.20E-03	0.00E+00	0.00E+00
F0104	3.50E-01	4.00E-05	1.75E-01	2.00E-05	1.75E-01	2.00E-05	1.05E+01	1.20E-03	0.00E+00	0.00E+00
F0106	1.33E-01	6.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0107	3.50E-01	4.00E-05	1.75E-01	2.00E-05	1.75E-01	2.00E-05	1.05E+01	1.20E-03	0.00E+00	0.00E+00
F0108	0.00E+00	0.00E+00	1.06E+00	2.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0109	1.33E-01	6.63E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0110	0.00E+00	0.00E+00	1.06E+00	2.84E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0112	0.00E+00	0.00E+00	7.29E-01	1.95E-03	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F1862	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.84E+03	2.10E-01	0.00E+00	0.00E+00

Table A-1: Summary of Emission Rates used in Modeling Analysis *(cont'd)*

	Hydrogen Chloride (CAS 07647-01-0)		Hydroquinone (CAS 00123-31-9)		Nailax (68953-84-4)	
EP ID	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)	MAX ANNUAL (lbs/yr)	HOURLY (lbs/hr)
FUG	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
000N2	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
000N3	1.51E+03	1.72E-01	4.56E-02	5.20E-06	0.00E+00	0.00E+00
000N4	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.13E+01	5.86E-03
32009	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
32034	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.30E+03	1.49E-01
3393A	0.00E+00	0.00E+00	4.50E+01	5.14E-03	0.00E+00	0.00E+00
0C2E0	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0101	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0103	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0104	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0106	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0107	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0108	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0109	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
F0110	0.00E+00	0.00E+00	0.00E+00	2.84E-03	0.00E+00	0.00E+00
F0112	0.00E+00	0.00E+00	0.00E+00	1.95E-03	0.00E+00	0.00E+00
F1862	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

Table A-2: Summary of Structures Included in Downwash Analysis

Building ID	Tier Number	Tier Height (m)	Maximum X-Length (m)	Maximum Y-Length (m)	Diameter (m)
BLD_5	1	3	10	7.6	--
BLD_6	1	3	8	9.1	--
BLD_7	1	3	8.2	5.5	--
BLD_8	1	3	7.5	11.7	--
BLD_9	1	3	19	10.7	--
BLD_10	1	3	5.5	3.7	--
BLD_11	1	3	7.7	9.5	--
BLD_12	1	6	55.5	61.5	--
BLD_13	1	3	12.2	6.6	--
BLD_14	1	3	5.9	26	--
BLD_15	1	3	9.4	9.4	--
BLD_16	1	3	5.9	3.6	--
BLD_17	1	3	23	15.3	--
BLD_18	1	6	103	103	--
BLD_19	1	3	6.3	6.3	--
BLD_20	1	3	11.2	32.2	--
	2	6	7.2	15.8	--
BLD_21	1	3	15.6	12.3	--
BLD_22	1	3	8.4	8	--
BLD_23	1	3	12	15.8	--
BLD_24	1	3	6.1	3.2	--
BLD_25	1	3	5.3	4.3	--
BLD_26	1	6	67.4	25.6	--
BLD_27	1	3	8	12.7	--
BLD_28	1	3	3	3.7	--
BLD_29	1	3	12.5	21.8	--
	2	6	10	8	--
BLD_30	1	3	5	6.6	--

Building ID	Tier Number	Tier Height (m)	Maximum X-Length (m)	Maximum Y-Length (m)	Diameter (m)
BLD_31	1	8.84	--	--	12.44
BLD_32	1	3	5.9	5.5	--
	2	11.02	5	5.6	--
	3	14.02	12.3	9.1	--
	4	14.02	47.4	27.8	--
	5	17.02	12	7.5	--
	6	17.02	7.3	3.6	--
	7	17.02	3	4.4	--
	8	17.02	11.7	8.4	--
	9	18.52	6.3	5.1	--
BLD_33	1	10.36	19	37.3	--
BLD 34	1	8.84	--	--	2.94
BLD_C2	1	10.67	21.8	17.4	--
TFS	1	8.23	21	26	--

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