February 17, 2022

VIA E-MAIL JR.GISKA@DEQ.OREGON.GOV

J.R. Giska, P.E.
Cleaner Air Oregon Program Engineer
Oregon Department of Environmental Quality
700 NE Multnomah St., Ste. 600
Portland, OR 97232

Re: Cleaner Air Oregon
Modeling Protocol
ENTEK International LLC

Dear Mr. Giska:

Please find enclosed the Cleaner Air Oregon – Modeling Protocol for ENTEK International LLC for the agency's review.

Please contact me if you have any questions about this submittal.

Sincerely,
ENTEK International LLC

Agustin Figueroa
Director, EHS

Enclosure: CAO – Modeling Protocol

cc: Kim Medford, ENTEK
Geoff Schiveley, ENTEK
Tom Wood, Stoel Rives
File

CLEANER AIR OREGON—MODELING PROTOCOL

ENTEK INTERNATIONAL LLC
LEBANON, OREGON

Prepared for
OREGON DEPARTMENT OF ENVIRONMENTAL QUALITY
CLEANER AIR OREGON AIR TOXICS PROGRAM
February 17, 2022
Project No. 8006.61.01

Prepared by
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MAUL FOSTER ALONGI

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ACRONYMS AND ABBREVIATIONS

Appendix W	40 CFR Appendix W to Part 51
BPIP-PRM	Building Profile Input Program incorporating the Plume Rise Model Enhancements
CAO	Cleaner Air Oregon
DEQ	Oregon Department of Environmental Quality
ENTEK	ENTEK International LLC
EPA	U.S. Environmental Protection Agency
Title V permit	Title V Permit No. 22-6024-TV-01
the facility	ENTEK's manufacturing facility located in Lebanon, OR
g/s	gram(s) per second
m	Meter
MFA	Maul Foster & Alongi, Inc.
MMBtu	million British thermal units
NLCD16	State of Oregon National Land Cover Dataset, 2016
OAR	Oregon Administrative Rule
RBC	risk-based concentration
sigma-theta	standard deviation of horizontal wind direction
SLA	Solvent Laden Air
TAC	toxic air contaminant
TCE	trichloroethylene
TEU	toxic emissions unit
ug/m³	microgram(s) per cubic meter
USGS	U.S. Geological Survey
VOC	volatile organic compound

1 INTRODUCTION

ENTEK International LLC (ENTEK) owns and operates a polymer-based film manufacturing facility ("the facility") located at 250 Hansard Avenue in Lebanon, Oregon. The facility currently operates under Title V Permit No. 22-6024-TV-01 (the "Title V permit") issued by the Oregon Department of Environmental Quality (DEQ) on December 21, 2018.

Maul Foster & Alongi, Inc. (MFA) was retained by ENTEK to complete the Cleaner Air Oregon (CAO) permitting process for the facility. ENTEK was "called-in" to the CAO program by the DEQ on March 4, 2019. ENTEK submitted a toxic air contaminant (TAC) emissions inventory to the DEQ on June 3, 2019. A final emissions inventory was approved by the DEQ on January 18, 2022.

As stated in Oregon Administrative Rule (OAR) 340-245-0030(1)(b), a modeling protocol must be submitted no later than 30 days after receipt of DEQ approval of the emissions inventory. As the approval occurred on January 18, 2022, the modeling protocol is due February 17, 2022. ENTEK intends to conduct a Level 3 risk assessment to determine the potential excess cancer risk and chronic and acute noncancer risk (expressed numerically as the chronic and acute hazard index) impacts from the facility for comparison to the applicable risk action levels shown in OAR 340-245-8010 Table 1. The remainder of this modeling protocol outlines the proposed modeling methodology and specific information required by OAR 340-245-0210(1).

2 FACILITY DESCRIPTION

2.1 Facility Location

The facility is located approximately one-half mile northwest of downtown Lebanon, Oregon on the eastern edge of the Willamette Valley at the foothills of the Cascade Mountain range, and along the Santiam River. The area immediately surrounding the facility is characterized primarily by flat terrain. Agricultural and industrial land-use zones border the facility to the north and west, and a mixture of residential, mixed-use, and industrial land-use zones border the facility to the south and west. An aerial image showing the facility location overlaid with the proposed modeling boundary is shown in Figure 2-1. The topography of the area immediately surrounding the facility is presented in Figure 2-2.

2.2 Process Description

The facility manufacturers microporous polymer-based films on 11 production lines. Dry raw materials and process oils are delivered to the facility by rail and trucks throughout the year and are stored in enclosures on site. The raw materials are transferred to the mix areas where the dry materials (such as polyethylene and silica) and process oils are mixed together before they enter the process line.

Once the correct mixture of raw materials is achieved, the mixture is transferred to a twin screw extruder via enclosed conveyors. The mix is extruded into a film which is then conveyed through an extractor which employs trichloroethylene (TCE) to remove oil from the film. Each extractor is contained inside a negatively pressurized permanent total enclosure.

After leaving the extractor, the polymer-based film goes through a heated dryer and hot air ovens to remove TCE from the film. Upon exiting the oven, the film passes through a vision and defect marking system. Once through the vision and defect marking system, the film is wound onto rolls to be put into boxes that are then stretch-wrapped. The stretch-wrapped boxes are transported from the production facility by truck to the finished goods warehouse or directly to the customer.

ENTEK maintains two certified Permanent Total Enclosures (PTEs) so as to prevent fugitive emissions. One of the two PTEs encompasses the film production operation and is identified as TEU-1A. Exhaust from equipment in the film production PTE is routed into a duct that discharges to the carbon bed adsorption system. The other of the two PTEs is the product storage warehouse which is identified as TEU-1C. Emissions from both PTEs are continuously monitored using certified monitors compliant with 40 CFR 60, Appendix F quality assurance procedures.

In addition to the film production operations, the facility operates a fiberglass mat lamination line, which consists of adhering a fiberglass mat (made offsite) to the finished film, drying the water-based glue on the fiberglass mat via an electric heater, and then packaging the finished product.

Process steam is provided by a high-efficiency natural-gas-fired boiler. A second high-efficiency natural-gas-fired boiler is maintained as backup for the primary boiler. Since the primary boiler supplies enough steam to heat all necessary processes at the facility, the secondary boiler is used only in instances where the primary boiler is shut down. Both boilers are fired primarily on natural gas; however, they have limited capability to operate on diesel in the event of natural gas curtailment.

3 EMISSION ESTIMATES AND MODEL SOURCES

Daily and annual TAC emission estimates for the process equipment and emission-control devices, considered to be toxic emissions units (TEUs) as defined in OAR 340-245-0020(59), were prepared as shown in the TAC emissions inventory. The annual and daily TAC emission estimates will be converted to units of grams per second (g/s) for purposes of conducting the Level 3 risk assessment, as shown in Tables 3-1 and 3-2. Only TACs that have a risk-based concentration (RBC) set forth in OAR 340-245-8010 Table 2 will be assessed. Additional detail regarding how the daily and annual TAC emission rates will be used to complete the Level 3 risk assessment will be provided in the risk assessment work plan submittal.

The TEUs identified in the TAC emissions inventory will be represented in the dispersion model developed to represent the facility. For annual (chronic cancer and noncancer) assessments, each TEU included in the dispersion model will be modeled using a unit emission rate equivalent to 1 g/s for all modeled sources. Additional details describing unit emission rate modeling are provided in Section

4.4. For the 24-hour (acute) assessment, a risk equivalent emission rate has been developed for each TEU, as shown in Table 3-3. Additional detail describing the risk equivalent emission rate modeling is also provided in Section 4.4.

3.1 Microporous Plastic Production Operation (Permanent Total Enclosure) (TEU-1A)

All process lines containing TCE are contained in the film production PTE located in the manufacturing building. The air in the PTE is constantly exhausted to the carbon bed adsorption system. The carbon bed exhausts to atmosphere through a single stack, which will be represented in the model as model ID C_STK. The proposed model exhaust parameters for the carbon bed stack are presented in Table 3-4.

3.2 Microporous Plastic Production Operation (Component Fugitive Emissions) (TEU-1B1 & TEU-1B2)

TCE may be released in small amounts from components (e.g., valves, flanges, connectors) in TCE service located outside of the PTEs. Some of these components are located in structures that are maintained under negative pressure and that exhaust through elevated emission points. These components are within TEU-1B1. Other components are located outside of any structure and so release directly to the atmosphere and are identified as TEU-1B2.

Fugitive emissions will be represented in the model by nine volume sources (model IDs TCE1_1, TCE1_2, TCE4, TCE16, and TCE15_1-5), three line volume sources (model IDs TCE13_V, TCE19_V, and TCE20_V) and two point sources (model IDs STK_Z45, STK_Z11). The proposed model exhaust parameters for the fugitive emissions sources LD are presented in Table 3-4.

3.3 Warehouse (TEU-1C)

Polymer-based film awaiting shipment to customers is stored in the warehouse building located at the western side of the property, where trace amounts of TCE off-gas from the plastic stretch-wrapped and boxed product. The warehouse building is a certified PTE with an exhaust system that pulls air from inside the building and vents it through a stack located on the north end of the warehouse. The warehouse stack contains a continuous emissions monitor. The warehouse stack will be represented in the model as a point source, as model ID WHST. The proposed model exhaust parameters for the warehouse stack are presented in Table 3-4.

3.4 Welding for Metal Fabrication Activities (TEU-4)

Welding activities are conducted in building 2, which is located at the south end of the facility. There are 16 vents on the roof of building, including two that passively allow airflow into and out of the building. Emissions from the welding activities will be modeled as 16 discrete volume sources with model IDs (BLD2_1 through BLD2_16). The proposed model exhaust parameters for fugitive welding activities are presented in Table 3-4.

3.5 Coating Line (TEU-5)

The coating process takes place in an enclosed room, on the southeast corner of building 1. Air from the room is exhausted by a fan through a horizontal stack on the side of the building. The coating line will be represented in the model by a horizontal point source with the model ID COATLINE. The proposed model exhaust parameters for the coating line are presented in Table 3-4.

3.6 Natural-Gas-Fired Boilers (TEU-2.3 and TEU-2.1)

The facility uses two Cleaver Brooks high-efficiency natural-gas-fired boilers to provide process steam. The primary boiler (TEU-2.3) has a maximum heat input rating of 96.6 million British thermal units (MMBtu) per hour, while the secondary boiler (TEU-2.1) has a maximum heat input rating of 64.8 MMBtu per hour. The secondary boiler serves only as a backup to the primary boiler and does not operate unless the primary boiler is not operational. Both boilers fire primarily on natural gas; however, the Title V permit (condition 23.g) authorizes limited operation on diesel as a backup fuel during curtailment periods and up to 48 hours per calendar year for operator training and testing.

Because the secondary boiler operates only if the primary boiler is not operational, emissions from the secondary boiler will not be included in the risk assessment. For the purposes of estimating cumulative risk from the facility, emissions from the boiler when firing on diesel will be included in the Level 3 risk assessment. The emission rates shown in Tables 3-1 and 3-2 correct cell reference errors identified in the DEQ-approved emission inventory that incorrectly looked up the annual natural gas fuel usage instead of annual diesel usage to calculate annual emissions.

The primary boiler stack will be represented in the model with model ID BOILER. The proposed model exhaust parameters for the natural gas-fired boiler are presented in Table 3-4.

3.7 Miscellaneous TAC Fugitive Emissions (TEU-MISC)

Miscellaneous facility-wide fugitive emissions (TEU-MISC) occur from the use of various TAC-containing products at the facility. These emissions occur inside enclosed buildings and are released to atmosphere through specific known locations at the facility, such as wall vents. As a result, the facility-wide miscellaneous TAC fugitive emissions will be represented in the model by ten discrete volume sources (model IDs TCE1_1, TCE1_2, TCE4, TCE16, and TCE15_1-5) which represent ten exhaust vents from building 1; 16 discrete volume sources (model IDs BLD2_1 through BLD2_16), which represent 16 exhaust vents from building 2; and three line volume sources (model IDs TCE13_V, TCE19_V, and TCE20_V), which represent fugitive emissions from rooftop piping.

The proposed model exhaust parameters for the miscellaneous fugitive emissions are presented in Table 3-4. Fugitive TCE emissions from buildings 2 and 11 will be allocated to each applicable model source (model IDs TCE1_1, TCE1_2, TCE4, TCE16, TCE15_1-5, TCE13_V, TCE19_V, and TCE20_V). Table 3-5 presents the proposed model source allocation for the facility-wide fugitive emissions.

4 AIR DISPERSION MODELING METHODOLOGY

The following subsections detail the proposed air dispersion model configuration for the facility. This proposed air dispersion model configuration will be used in support of the Level 3 risk assessment.

4.1 Model Selection

MFA proposes to execute the facility dispersion modeling using the models shown in Table 4-1. Lakes Environmental, a third-party overlay software, will be used to set up and execute the AERMOD dispersion model.

Table 4-1. Proposed Model Selection

Model	Model Version
AERMOD	21112
AERMET	21112
AERMAP	18081
AERSURFACE	20060
AERMINUTE	15272
BPIP	04274

4.2 Meteorological Data

In preparation for air dispersion modeling, MFA developed the meteorological and terrain data files shown in Table 4-2 below.

Table 4-2. Proposed Meteorological and Terrain Data

Dataset	Station ID
Site-Specific	On-site meteorological station located on northwest corner of property boundary
Surface	Station ID 24232 for Salem, OR (National Oceanic and Atmospheric Administration)
Upper Air	Station ID 24232 for Salem, OR (National Oceanic and Atmospheric Administration/ Earth System Research Laboratory Radiosonde Database)
Terrain	USGS National Elevation Dataset (1/3-arc seconds with horizontal resolution of 10 [meters])

4.2.1 Site-Specific Meteorological Data

ENTEK owns and operates a meteorological tower, located at the northwest corner of the facility. The tower was sited in late 2016 and began collecting data in January 2017. Hourly averaged meteorological data, including wind speed, wind direction, temperature (2-meter and 10-meter), precipitation, relative humidity, and barometric pressure, are collected at the tower. MFA understands that ENTEK provided a meteorological dataset that had been monitored at the tower in April 2019 for the DEQ's review and approval. The April 24, 2019 email from the DEQ to ENTEK approving use of this meteorological data for dispersion modeling is provided in the Appendix to this report.

MFA proposes to use the approved site-specific meteorological data (approved meteorological dataset) for dispersion modeling. Section 8.4.2 "Recommendations and Requirements" of 40 CFR Appendix W to Part 51 (Appendix W) states: "The use of ... at least one year of site-specific ... meteorological data are required."

Acknowledging guidance from Appendix W, MFA proposes to use the one-year period of January 1, 2018 through December 31, 2018 from the approved meteorological dataset.

4.2.2 Surface Meteorological Data

Surface meteorological data were used to supplement solar radiation and substitute for any missing on-site data. The surface meteorological data were collected from the Salem McNary Airport monitoring station (McNary met station) (ID 24232) located in Salem, Oregon. Hourly data for wind speed, wind direction, precipitation, solar radiation, relative humidity, barometric pressure, and temperature for the modeling period (January 1, 2018, through December 31, 2018) were collected and used to substitute for missing or unmonitored variables from the on-site data. The McNary met station data were determined the most representative, publicly available surface meteorological data because of the station's relatively close proximity to the facility.

4.2.3 Upper-Air Data

Upper-air meteorological data for Salem, Oregon (station ID 24232) were obtained in the Forecast Systems Laboratory format, from the National Oceanic and Atmospheric Administration Earth System Research Laboratory Radiosonde Database. Upper-air meteorological data were extracted for the modeling period (January 1, 2018, through December 31, 2018).

4.2.4 Data Processing—AERMET

MFA processed the meteorological data using AERMET to produce one year of model-ready meteorological data for use in the AERMOD model. The land-use surface characteristics were processed using AERSURFACE.

As outlined in the DEQ's April 2020 "Recommended Procedures for Air Quality Dispersion Modeling", Section 2.3, Table 2, "Adjusted surface friction velocity (u*) can be used if no turbulence parameters will be passed to AERMOD." Appendix W specifies turbulence parameters as standard deviation of horizontal wind direction (sigma-theta) and vertical wind direction. Sigma-theta was not passed to AERMOD, and the adjustment to the surface frictional velocity option (i.e., ADJ_U*) was selected as part of the AERMET processing.

An analysis of the missing hours for the on-site meteorological dataset produced by AERMET was performed by running AERMOD for each calendar quarter and obtaining the number of missing hours from the model output file. To be considered complete and valid, each calendar quarter must have less than 10 percent missing hours. As shown in Table 4-3, all four quarters meet this criterion.

A wind rose for the complete meteorological dataset is presented in Figure 4-1, which indicates a trimodal wind distribution with winds blowing from the south, southwest, and north. This is generally consistent with the north-south orientation of the Willamette Valley, and the proximity of the Cascade Mountain range to the east.

4.3 Land Use

AERSURFACE was used to generate seasonal values for albedo, Bowen ratio, and surface roughness heights required as part of the AERMET processing. State of Oregon National Land Cover Dataset, 2016 (NLCD16) land cover class definitions, along with concurrent percent impervious surface and percent tree canopy data, were downloaded from the U.S. Geological Survey (USGS) and processed using AERSURFACE in order to generate the surface characteristics necessary to run AERMET. The NLCD16 data were processed in AERSURFACE using the settings described in Table 4-4.

Because surface meteorological data were processed from both the site-specific station and the McNary met station, AERSURFACE requires that soil moisture be included for both locations. Soil moisture conditions were determined following the methodology set forth in Section 3.2.8 of the U.S. Environmental Protection Agency (EPA) AERSURFACE User's Guide dated February 2020 (AERSURFACE User's Guide).

> [surface moisture] should be entered as either WET, DRY or AVERAGE, where, in general, WET is defined as precipitation amounts equal to or greater than the 70th percentile of the 30-year climatological records; DRY is equal to or less than the 30th percentile; and AVERAGE is between the 30th and 70th percentiles."

Annual precipitation data for the Lacomb, Oregon (ID: 354606) met station were retrieved from the Western Regional Climate Center for the proposed modeling period to assess soil moisture conditions for the site-specific meteorological data. The Lacomb met station was chosen because of its proximity to the modeling domain—approximately 7 miles northeast of the facility. As shown in Table 4-5, the total precipitation collected during the modeling period at the Lacomb station was 42.64 inches, which is less than the 30th percentile annual precipitation of 47.35 inches. As a result of this analysis, AERSURFACE was executed assuming dry soil moisture conditions for the site-specific meteorological data.

Annual precipitation data for the Salem, Oregon (ID: 354606) COOP met station were retrieved from the Western Regional Climate Center to assess soil moisture conditions for the surface McNary met data. As shown in Table 4-5, the total precipitation collected during the modeling period at the Salem COOP station was 31.06 inches, which is less than the 30th percentile annual precipitation of 33.69 inches. As a result of this analysis, AERSURFACE was executed assuming dry soil moisture conditions for the surface meteorological data.

MFA proposes to execute the air dispersion model using rural dispersion coefficients. To make this determination, MFA followed the land-use procedure, as recommended by EPA's "Guideline on Air Quality Models," found in Section 7.2.1.1(b) of Appendix W, to conclude that less than 50 percent of the land use in the modeling domain is represented by the urban land-use type.

4.4 Proposed Model Emission Rates

MFA proposes to execute the dispersion model using unit emission rates for all TEUs for annual (chronic cancer and noncancer) assessments. The maximum modeled unit concentration in micrograms per cubic meter (ug/m^3) at each modeled receptor for the annual averaging period will be considered a modeled "dispersion factor" in units of ug/m^3 per g/s. When this dispersion factor is multiplied by the g/s TAC emission rate for the modeled TEU, the result is the modeled concentration of the TAC. Therefore, a single unit emission rate model result can be used to calculate the modeled concentration for each TAC. The dispersion factors, in combination with TAC emission rates for each TEU in g/s and the RBCs in ug/m^3 set forth under OAR 340-245-8010 Table 2, will be used to conduct the chronic cancer and noncancer Level 3 risk assessments.

For the 24-hour (acute) assessment, MFA developed risk equivalent emission rates for each TEU. The proposed risk equivalent emission rates were calculated by dividing the individual TAC emission rate for each TEU by their respective acute RBC. The resulting value for each TAC was then summed together to create a total risk equivalent emission rate for the TEU. This process was repeated for each TEU at the facility. The risk equivalent emission rates will be modeled for the 24-hour averaging period to assess the cumulative acute risk from the facility. The proposed risk equivalent emission rates are provided in Table 3-3.

4.5 Emissions Source Locations

The location of each TEU to be included in the dispersion model is shown in Figure 4-2. For volume sources that are located on or adjacent to buildings, initial horizontal dimension (YSINIT) and initial vertical dimension (ZSINIT) will be calculated using the EPA method specified in the "User's Guide for the Industrial Source Complex (ISC3) Dispersion Models—Volume II—Description of Model Algorithms" (1995). EPA-454/B-95-003a. Release heights will be set to half the building height.

4.6 Building Downwash

The current version of BPIP, shown in Table 4-1, will be used.

The proposed locations for structures that are projected to influence downwash are presented in Figure 4-3. All stacks at the facility meet good engineering practice design parameters. Table 4-6 presents a summary of the proposed building heights to be included in the air dispersion model.

4.7 Receptor Locations and Terrain

Dispersion factors and cumulative acute risk will be determined for each modeling receptor identified outside the facility property boundary. MFA proposes to place modeling receptors at potential exposure locations in the surrounding area up to 10 kilometers away from the center of the facility. Figure 4-4 presents the proposed receptor spacing and locations for the modeling domain. Figure 4-5 presents the proposed receptor locations in the area immediately surrounding the facility.

Receptors will be defined in the dispersion model according to the spacing identified in Table 4-7. The facility property boundary is bordered on all sides by public rights-of-way – rail tracks to the north, and public roads to the east, south and west. As a result, MFA proposes to utilize an "exposure assessment boundary" that will be placed on opposite side of the public rights-of-way adjacent to the property boundary. This method will ensure that acute risk will be adequately assessed in the areas closest to the facility. The 25-m receptor grid will extend out at least 200 m past the exposure assessment boundary in all directions.

Table 4-7. Proposed Receptor Spacing

Receptor Spacing	Receptor Distance
25 m	Along exposure assessment boundary and out to at least 200 m
50 m	200 m to 1,000 m
100 m	1,000 to 2,000 m
200 m	2,000 to 5,000 m
500 m	5,000 to 10,000 m

MFA identified multiple locations considered to be "sensitive areas" (e.g., schools) within approximately 1 kilometer of the facility property boundary, as shown in Table 4-7. Each identified

sensitive area will be accounted for in the air dispersion model by a discrete receptor location centered on the sensitive area.

Table 4-8. Identification of Sensitive Exposure Locations

UTM Coordinates (m)		Sensitive Area
Easting	Northing	
50,6832.91	4,933318.21	Samaritan Lebanon Health Center—Pediatrics
50,6817.00	4,933,005.00	Pioneer School
50,6417.98	4,932,587.67	Cascade Performing Arts Center (acute only)
50,7244.00	4,932,409.00	Lebanon Public Library (acute only)
50,6721.00	4,933199.00	Oregon Veterans' Home
50,7220.22	4,932968.07	Samaritan Urgent Care Walk-in
50,7021.73	4,932317.58	Meadowlark Senior Living
50,6999.16	4,932095.21	Boys and Girls Club of the Greater Santiam
50,6258.90	4,931704.27	Green Acres Elementary School

NOTE:
UTM = universal transverse mercator.

Terrain elevations for model receptors, source base elevations, and base elevations of downwash structures will be taken from the USGS National Elevation Dataset data at a resolution of 1/3 arc-seconds (a horizontal resolution of roughly 10 m) and processed using the current version of AERMAP, shown in Table 4-1.

4.8 Land-Use Zoning Classification Data for Determining Exposure Types

In anticipation of dispersion modeling, the Department of Land Conservation and Development's statewide zoning data were reviewed to determine land-use classifications for areas in the modeling domain. The Oregon statewide zoning classifications provide the basis for the initial categorization of exposure classifications (i.e., residential, nonresidential worker, nonresidential child, or acute).

The zoning data were further evaluated against local data such as the Linn County zoning and school-location information. MFA also reviewed aerial imagery, using Esri ArcGIS and Google Earth software to determine whether the existing zoning information reflects actual land use and the corresponding exposure type categorization.

The zoning data and internal MFA review process indicate that multiple proposed receptor locations fall within roadway and/or rail right-of-way interstitial spaces, which are identified in blue in Figures 4-4 and 4-5. These locations are proposed for dispersion modeling in order to maintain a uniform receptor grid. MFA does not propose to conduct risk evaluations for any receptor locations in roadways or rail rights-of-way. In the crosswalk-of-receptors, which will be provided to the DEQ in spreadsheet format because of the number of receptor locations, these locations are labeled as "Risk

Not Assessed," even though they will be modeled. MFA has reviewed receptor locations near the facility where it is expected that the maximally exposed receptors will be located. If there are receptors farther from the proposed facility that are located in roadways or rail rights-of-way that have been unknowingly identified as an exposure location by the automated zoning evaluation process, and these locations have an impact on the risk assessment evaluation, these will be excluded from evaluation in the risk assessment report.

Figure 4-6 presents the existing land-use zoning identified for the modeling domain, and Figure 4-7 is provided for the area immediately surrounding the proposed facility. Figures 4-8 and 4-9 present the corresponding exposure location categorization for the modeling domain and the immediate area surrounding the proposed facility, respectively. For additional clarification, Table 4-9 shows all proposed receptor locations where the determined land-use and exposure location classifications differ from the statewide zoning information.

5 CLOSING

MFA looks forward to working with the DEQ throughout the CAO process. If there are any questions or comments regarding this modeling protocol, please contact Andrew Rogers at (503) 407-6406 or at arogers@maulfoster.com.

LIMITATIONS

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TABLES

Table 3-1
Proposed Annual Emission Rates
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	RBC? (Yes/No)	Annual Emission Estimates																																	
			Carbon Bed Stack		Warehouse Stack		Boiler		Coating line Horizontal Release		Building 2, Vent 1		Building 2, Vent 2		Building 2, Vent 3		Building 2, Vent 4		Building 2, Vent 5		Building 2, Vent 6		Building 2, Vent 7		Building 2, Vent 8		Building 2, Vent 9		Building 2, Vent 10		Building 2, Vent 11		Building 2, Vent 12		Building 2, Vent 13	
			(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]
Model ID	--	--	C_STK		WHST		BOILER		COATLINE		BLD2_1		BLD2_2		BLD2_3		BLD2_4		BLD2_5		BLD2_6		BLD2_7		BLD2_8		BLD2_9		BLD2_10		BLD2_11		BLD2_12		BLD2_13	
Acetaldehyde	75-07-0	Yes	--	--	--	--	72.9	1.0E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	Yes	344	5.0E-03	--	--	--	--	--	--	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04
Acrolein	107-02-8	Yes	--	--	--	--	72.9	1.0E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	Yes	--	--	--	--	0.92	1.3E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butyl alcohol	71-36-3	No	--	--	--	--	--	--	--	--	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06
t-Butyl acetate	540-88-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	45.0	6.5E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Epoxybutane	106-88-7	Yes	440	6.3E-03	47.0	6.8E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	106-99-0	Yes	--	--	--	--	3.08	4.4E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	110-82-7	Yes	73.0	1.0E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylene glycol	111-46-6	No	1.63	2.3E-05	--	--	--	--	--	--	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06
1,1-Difluoroethane	75-37-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	Yes	51.0	7.3E-04	--	--	0.042	6.0E-07	--	--	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06
Ethylene glycol monobutyl ether	111-76-2	Yes	--	--	--	--	--	--	--	--	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06
Formaldehyde	50-00-0	Yes	--	--	--	--	72.9	1.0E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	110-54-3	Yes	--	--	--	--	0.73	1.0E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	Yes	--	--	--	--	7.4E-03	1.1E-07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	218-01-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	53-70-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	FLUORIDES	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	193-39-5	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropyl alcohol	67-63-0	Yes	8,594	0.12	--	--	--	--	4,357	0.063	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07
Methanol	67-56-1	Yes	310	4.5E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	91-57-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	57-97-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Methylcholanthrene	56-49-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	Yes	--	--	--	--	--	--	--	--	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06
Naphthalene	91-20-3	Yes	--	--	--	--	1.10	1.6E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	3268-87-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propylene	115-07-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	--	--	--	--	--	--	--	--	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05
1,1,1-Trichloroethane	71-55-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	Yes	133	1.9E-03	--	--	0.92	1.3E-05	--	--	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	87,600	1.26	9,350	0.13	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	526-73-8	Yes	--	--	--	--	--	--	--	--	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05
Xylenes (mixed isomers)	1330-20-7	Yes	102	1.5E-03	--	--	0.33	4.8E-06	--	--	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06
Antimony	7440-36-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	Yes	--	--	--	--	0.33	4.8E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	7440-39-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	7440-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	Yes	--	--	--	--	0.31	4.5E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	7440-47-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI	18540299p	Yes	--	--	--	--	0.021	3.0E-07	--	--	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08
Cobalt	7440-48-4	Yes	--	--	--	--	--	--	--	--	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09
Copper	7440-50-8	Yes	--	--	--	--	0.85	1.2E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	Yes	--	--	--	--	1.73	2.5E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	Yes	--	--	--	--	0.64	9.3E-06	--	--	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06
Mercury	7439-97-6	Yes	--	--	--	--	0.42	6.0E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440020in	Yes	--	--	--	--	0.81	1.2E-05	--	--	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08
Selenium	7782-49-2	Yes	--	--	--	--	0.46	6.6E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus and Compounds	7723-14-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	7664-41-7	Yes	--	--	--	--	166	2.4E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrochloric acid	7647-01-0	Yes	--	--	--	--	38.8	5.6E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	Yes	--	--	--	--	9.26	1.3E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TAC Emissions Estimate			**97,694**	**1.41**	**9,397**	**0.14**	**446**	**6.4E-03**	**4,357**	**0.063**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**

NOTES:
g/s = grams per second.
lb/yr = pounds per year.
RBC = risk-based concentration.
TAC = toxic air contaminant.

(a) Emission rate (g/s) = (annual emissions estimate [lb/yr]) x (453.592 g/lb) x (yr/8,760 hrs) x (hr/3,600 s)

REFERENCES:
[1] Emissions estimate based on TAC emissions inventory.

Table 3-1
Proposed Annual Emission Rates (Cont.)
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	RBC? (Yes/No)	Annual Emission Estimates																																					
			Building 2, Vent 14		Building 2, Vent 15		Building 2, Vent 16		Zone 4 & 5: Stack		Zones 11 and 12A: Stack		Zone 1: Fugitive				Zone 6-9: Fugitive		Zone 16 & 18: Fugitive		Zone 15												Zone 13: Fugitive		Zone 19: Fugitive		Zone 20: Fugitive		Facility Total	
			(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr) [1]	(g/s) [a]	(lb/yr)	(g/s)
Model ID	--	--	BLD2_14		BLD2_15		BLD2_16		STK_Z45		STK_Z11		TCE1_1		TCE1_2		TCE4		TCE16		TCE15_1		TCE15_2		TCE15_3		TCE15_4		TCE15_5		TCE13_V		TCE19_V		TCE20_V		--	
Acetaldehyde	75-07-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	1.0E-03
Acetone	67-64-1	Yes	29.7	4.3E-04	29.7	4.3E-04	29.7	4.3E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	820	0.012
Acrolein	107-02-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	1.0E-03
Benzene	71-43-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.92	1.3E-05
n-Butyl alcohol	71-36-3	No	0.10	1.5E-06	0.10	1.5E-06	0.10	1.5E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.67	2.4E-05
t-Butyl acetate	540-88-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	45.0	6.5E-04
1,2-Epoxybutane	106-88-7	Yes	--	--	--	--	--	--	1.30	1.9E-05	0.76	1.1E-05	0.013	1.9E-07	0.013	1.9E-07	0.19	2.8E-06	4.8E-04	6.9E-09	0.19	2.8E-06	0.19	2.8E-06	0.19	2.8E-06	0.19	2.8E-06	0.19	2.8E-06	4.8E-05	6.9E-10	0.12	1.7E-06	0.069	1.0E-06	491	7.1E-03
Molybdenum trioxide	1313-27-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
1,3-Butadiene	106-99-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.08	4.4E-05
Cyclohexane	110-82-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73.0	1.0E-03
Diethylene glycol	111-46-6	No	0.29	4.1E-06	0.29	4.1E-06	0.29	4.1E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.19	8.9E-05
1,1-Difluoroethane	75-37-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Ethylbenzene	100-41-4	Yes	0.15	2.1E-06	0.15	2.1E-06	0.15	2.1E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53.4	7.7E-04
Ethylene glycol monobutyl ether	111-76-2	Yes	0.20	2.9E-06	0.20	2.9E-06	0.20	2.9E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.26	4.7E-05
Formaldehyde	50-00-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	1.0E-03
Hexane	110-54-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.73	1.0E-05
Acenaphthene	83-32-9	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Acenaphthylene	208-96-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Anthracene	120-12-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(a)anthracene	56-55-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(a)pyrene	50-32-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.4E-03	1.1E-07
Benzo(b)fluoranthene	205-99-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(g,h,i)perylene	191-24-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(k)fluoranthene	207-08-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Chrysene	218-01-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Dibenzo(a,h)anthracene	53-70-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluoranthene	206-44-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluorene	86-73-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluoride	FLUORIDES	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Indeno(1,2,3-c,d)pyrene	193-39-5	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Isopropyl alcohol	67-63-0	Yes	0.034	4.9E-07	0.034	4.9E-07	0.034	4.9E-07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12,952	0.19
Methanol	67-56-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	4.5E-03
2-Methylnaphthalene	91-57-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Phenanthrene	85-01-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Pyrene	129-00-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
7,12-Dimethylbenz(a)anthracene	57-97-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
3-Methylcholanthrene	56-49-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	Yes	0.30	4.3E-06	0.30	4.3E-06	0.30	4.3E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.80	6.9E-05
Naphthalene	91-20-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.10	1.6E-05
OCDD	3268-87-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Propylene	115-07-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	2.06	3.0E-05	2.06	3.0E-05	2.06	3.0E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.0	4.7E-04
1,1,1-Trichloroethane	71-55-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Toluene	108-88-3	Yes	1.95	2.8E-05	1.95	2.8E-05	1.95	2.8E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	165	2.4E-03
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	--	--	--	--	--	--	258	3.7E-03	152	2.2E-03	2.66	3.8E-05	2.66	3.8E-05	38.4	5.5E-04	0.096	1.4E-06	38.7	5.6E-04	38.7	5.6E-04	38.7	5.6E-04	38.7	5.6E-04	38.7	5.6E-04	9.6E-03	1.4E-07	23.3	3.4E-04	13.8	2.0E-04	97,635	1.40
1,2,3-Trimethylbenzene	526-73-8	Yes	6.44	9.3E-05	6.44	9.3E-05	6.44	9.3E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	103	1.5E-03
Xylenes (mixed isomers)	1330-20-7	Yes	0.49	7.1E-06	0.49	7.1E-06	0.49	7.1E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	1.6E-03
Antimony	7440-36-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Arsenic	7440-38-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.33	4.8E-06
Barium	7440-39-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Beryllium	7440-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Cadmium	7440-43-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31	4.5E-06
Chromium (Total)	7440-47-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Chromium VI	18540299p	Yes	3.8E-03	5.4E-08	3.8E-03	5.4E-08	3.8E-03	5.4E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.081	1.2E-06
Cobalt	7440-48-4	Yes	1.7E-04	2.4E-09	1.7E-04	2.4E-09	1.7E-04	2.4E-09	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7E-03	3.9E-08
Copper	7440-50-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.85	1.2E-05
Lead	7439-92-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.73	2.5E-05
Manganese	7439-96-5	Yes	0.12	1.8E-06	0.12	1.8E-06	0.12	1.8E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.61	3.8E-05
Mercury	7439-97-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.42	6.0E-06
Nickel	7440020in	Yes	3.8E-03	5.5E-08	3.8E-03	5.5E-08	3.8E-03	5.5E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.87	1.3E-05
Selenium	7782-49-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.46	6.6E-06
Phosphorus and Compounds	7723-14-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Vanadium	7440-62-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Zinc	7440-66-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Ammonia	7664-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	166	2.4E-03
Hydrochloric acid	7647-01-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38.8	5.6E-04
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.26	1.3E-04
Total TAC Emissions Estimate			**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**41.9**	**6.0E-04**	**259**	**3.7E-03**	**153**	**2.2E-03**	**2.67**	**3.8E-05**	**2.67**	**3.8E-05**	**38.6**	**5.6E-04**	**0.097**	**1.4E-06**	**38.9**	**5.6E-04**	**38.9**	**5.6E-04**	**38.9**	**5.6E-04**	**38.9**	**5.6E-04**	**38.9**	**5.6E-04**	**9.7E-03**	**1.4E-07**	**23.4**	**3.4E-04**	**13.9**	**2.0E-04**	**113,252**	**1.63**

NOTES:

g/s = grams per second.

lb/yr = pounds per year.

RBC = risk-based concentration.

TAC = toxic air contaminant.

(a) Emission rate (g/s) = (annual emissions estimate [lb/yr]) x (453.592 g/lb) x (yr/t

REFERENCES:

[1] Emissions estimate based on TAC emissions inventory.

Table 3-2
Proposed Daily Emission Rates
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	RBC? (Yes/No)	Daily Emission Estimates																															
			Carbon Bed Stack		Warehouse Stack		Boiler		Coating line Horizontal Release		Building 2, Vent 1		Building 2, Vent 2		Building 2, Vent 3		Building 2, Vent 4		Building 2, Vent 5		Building 2, Vent 6		Building 2, Vent 7		Building 2, Vent 8		Building 2, Vent 9		Building 2, Vent 10		Building 2, Vent 11		Building 2, Vent 12		Building 2, Vent 13	
			(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]
Model ID	--	--	C_STK		WHST		BOILER		COATLINE		BLD2_1		BLD2_2		BLD2_3		BLD2_4		BLD2_5		BLD2_6		BLD2_7		BLD2_8		BLD2_9		BLD2_10		BLD2_11		BLD2_12		BLD2_13	
Acetaldehyde	75-07-0	Yes	--	--	--	--	72.9	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	Yes	344	1.81	--	--	--	--	--	--	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16	29.7	0.16
Acrolein	107-02-8	Yes	--	--	--	--	72.9	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	Yes	--	--	--	--	0.92	4.8E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
n-Butyl alcohol	71-36-3	No	--	--	--	--	--	--	--	--	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04
t-Butyl acetate	540-88-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	45.0	0.24	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Epoxybutane	106-88-7	Yes	440	2.31	47.0	0.25	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Molybdenum trioxide	1313-27-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	106-99-0	Yes	--	--	--	--	3.08	0.016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	110-82-7	Yes	73.0	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Diethylene glycol	111-46-6	No	1.63	8.6E-03	--	--	--	--	--	--	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03
1,1-Difluoroethane	75-37-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	Yes	51.0	0.27	--	--	0.042	2.2E-04	--	--	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04
Ethylene glycol monobutyl ether	111-76-2	Yes	--	--	--	--	--	--	--	--	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03
Formaldehyde	50-00-0	Yes	--	--	--	--	72.9	0.38	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	110-54-3	Yes	--	--	--	--	0.73	3.8E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthene	83-32-9	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acenaphthylene	208-96-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Anthracene	120-12-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	Yes	--	--	--	--	7.4E-03	3.9E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	218-01-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	53-70-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluorene	86-73-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	FLUORIDES	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	193-39-5	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropyl alcohol	67-63-0	Yes	8,594	45.1	--	--	--	--	4,357	22.9	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04
Methanol	67-56-1	Yes	310	1.63	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Methylnaphthalene	91-57-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phenanthrene	85-01-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyrene	129-00-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
7,12-Dimethylbenz(a)anthracene	57-97-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3-Methylcholanthrene	56-49-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	Yes	--	--	--	--	--	--	--	--	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03
Naphthalene	91-20-3	Yes	--	--	--	--	1.10	5.8E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	3268-87-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propylene	115-07-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	--	--	--	--	--	--	--	--	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011	2.06	0.011
1,1,1-Trichloroethane	71-55-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	Yes	133	0.70	--	--	0.92	4.8E-03	--	--	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010	1.95	0.010
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	87,600	460	9,350	49.1	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	526-73-8	Yes	--	--	--	--	--	--	--	--	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034	6.44	0.034
Xylenes (mixed isomers)	1330-20-7	Yes	102	0.54	--	--	0.33	1.7E-03	--	--	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03
Antimony	7440-36-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	Yes	--	--	--	--	0.33	1.7E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Barium	7440-39-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	7440-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	Yes	--	--	--	--	0.31	1.6E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium (Total)	7440-47-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI	18540299p	Yes	--	--	--	--	0.021	1.1E-04	--	--	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05
Cobalt	7440-48-4	Yes	--	--	--	--	--	--	--	--	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07
Copper	7440-50-8	Yes	--	--	--	--	0.85	4.5E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	Yes	--	--	--	--	1.73	9.1E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	Yes	--	--	--	--	0.64	3.4E-03	--	--	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04
Mercury	7439-97-6	Yes	--	--	--	--	0.42	2.2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440020in	Yes	--	--	--	--	0.81	4.3E-03	--	--	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05
Selenium	7782-49-2	Yes	--	--	--	--	0.46	2.4E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Phosphorus and Compounds	7723-14-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Zinc	7440-66-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	7664-41-7	Yes	--	--	--	--	166	0.87	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrochloric acid	7647-01-0	Yes	--	--	--	--	38.8	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	Yes	--	--	--	--	9.26	0.049	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Total TAC Emissions Estimate			**97,694**	**513**	**9,397**	**49.3**	**446**	**2.34**	**4,357**	**22.9**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**

NOTES:
g/s = grams per second.
lb/day = pounds per day.
RBC = risk-based concentration.
TAC = toxic air contaminant.

(a) Emission rate (g/s) = (daily emissions estimate [lb/day]) x (453.592 g/lb) x (day/24 hrs) x (hr/3,600 s)

REFERENCES:
[1] Emissions estimate based on TAC emissions inventory.

Table 3-2
Proposed Daily Emission Rates (Cont.)
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	RBC? (Yes/No)	Daily Emission Estimates																																							
			Building 2, Vent 14		Building 2, Vent 15		Building 2, Vent 16		Zone 4 & 5: Stack		Zones 11 and 12A: Stack		Zone 1: Fugitive				Zone 6-Zone 9: Fugitive		Zone 16 & 18: Fugitive		Zone 15: Fugitives										Zone 13: Fugitive		Zone 19: Fugitive		Zone 20: Fugitive		Facility Total	
			(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day) [1]	(g/s) [a]	(lb/day)	(g/s)
Model ID	--	--	BLD2_14		BLD2_15		BLD2_16		STK_Z45		STK_Z11		TCE1_1		TCE1_2		TCE4		TCE16		TCE15_1		TCE15_2		TCE15_3		TCE15_4		TCE15_5		TCE13_V		TCE19_V		TCE20_V		--	--
Acetaldehyde	75-07-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	0.38
Acetone	67-64-1	Yes	29.7	0.16	29.7	0.16	29.7	0.16	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	820	4.30
Acrolein	107-02-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	0.38
Benzene	71-43-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.92	4.8E-03
n-Butyl alcohol	71-36-3	No	0.10	5.5E-04	0.10	5.5E-04	0.10	5.5E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.67	8.8E-03
t-Butyl acetate	540-88-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	45.0	0.24
1,2-Epoxybutane	106-88-7	Yes	--	--	--	--	--	--	1.30	6.8E-03	0.76	4.0E-03	0.013	7.0E-05	0.013	7.0E-05	0.19	1.0E-03	4.8E-04	2.5E-06	0.19	1.0E-03	0.19	1.0E-03	0.19	1.0E-03	0.19	1.0E-03	0.19	1.0E-03	4.8E-05	2.5E-07	0.12	6.2E-04	0.069	3.6E-04	491	2.58
Molybdenum trioxide	1313-27-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
1,3-Butadiene	106-99-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.08	0.016
Cyclohexane	110-82-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	73.0	0.38
Diethylene glycol	111-46-6	No	0.29	1.5E-03	0.29	1.5E-03	0.29	1.5E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	6.19	0.032
1,1-Difluoroethane	75-37-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Ethylbenzene	100-41-4	Yes	0.15	7.8E-04	0.15	7.8E-04	0.15	7.8E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	53.4	0.28
Ethylene glycol monobutyl ether	111-76-2	Yes	0.20	1.1E-03	0.20	1.1E-03	0.20	1.1E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	3.26	0.017
Formaldehyde	50-00-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	72.9	0.38
Hexane	110-54-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.73	3.8E-03
Acenaphthene	83-32-9	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Acenaphthylene	208-96-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Anthracene	120-12-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(a)anthracene	56-55-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(a)pyrene	50-32-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	7.4E-03	3.9E-05
Benzo(b)fluoranthene	205-99-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(g,h,i)perylene	191-24-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Benzo(k)fluoranthene	207-08-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Chrysene	218-01-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Dibenzo(a,h)anthracene	53-70-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluoranthene	206-44-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluorene	86-73-7	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Fluoride	FLUORIDES	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Indeno(1,2,3-c,d)pyrene	193-39-5	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Isopropyl alcohol	67-63-0	Yes	0.034	1.8E-04	0.034	1.8E-04	0.034	1.8E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	12.952	68.0
Methanol	67-56-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	310	1.63
2-Methylnaphthalene	91-57-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Phenanthrene	85-01-8	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Pyrene	129-00-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
7,12-Dimethylbenz(a)anthracene	57-97-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
3-Methylcholanthrene	56-49-5	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	Yes	0.30	1.6E-03	0.30	1.6E-03	0.30	1.6E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4.80	0.025
Naphthalene	91-20-3	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.10	5.8E-03
OCDD	3268-87-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Propylene	115-07-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	2.06	0.011	2.06	0.011	2.06	0.011	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	33.0	0.17
1,1,1-Trichloroethane	71-55-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Toluene	108-88-3	Yes	1.95	0.010	1.95	0.010	1.95	0.010	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	165	0.87
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	--	--	--	--	--	--	258	1.35	152	0.80	2.66	0.014	2.66	0.014	38.4	0.20	0.096	5.0E-04	38.7	0.20	38.7	0.20	38.7	0.20	38.7	0.20	38.7	0.20	9.6E-03	5.0E-05	23.3	0.12	13.8	0.072	97,635	513
1,2,3-Trimethylbenzene	526-73-8	Yes	6.44	0.034	6.44	0.034	6.44	0.034	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	103	0.54
Xylenes (mixed isomers)	1330-20-7	Yes	0.49	2.6E-03	0.49	2.6E-03	0.49	2.6E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	110	0.58
Antimony	7440-36-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Arsenic	7440-38-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.33	1.7E-03
Barium	7440-39-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Beryllium	7440-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Cadmium	7440-43-9	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.31	1.6E-03
Chromium (Total)	7440-47-3	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Chromium VI	18540299p	Yes	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.081	4.3E-04
Cobalt	7440-48-4	Yes	1.7E-04	8.9E-07	1.7E-04	8.9E-07	1.7E-04	8.9E-07	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.7E-03	1.4E-05
Copper	7440-50-8	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.85	4.5E-03
Lead	7439-92-1	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	1.73	9.1E-03
Manganese	7439-96-5	Yes	0.12	6.5E-04	0.12	6.5E-04	0.12	6.5E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	2.61	0.014
Mercury	7439-97-6	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.42	2.2E-03
Nickel	7440020in	Yes	3.8E-03	2.0E-05	3.8E-03	2.0E-05	3.8E-03	2.0E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.87	4.6E-03
Selenium	7782-49-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.46	2.4E-03
Phosphorus and Compounds	7723-14-0	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Vanadium	7440-62-2	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Zinc	7440-66-6	No	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	0
Ammonia	7664-41-7	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	166	0.87
Hydrochloric acid	7647-01-0	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	38.8	0.20
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	Yes	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9.26	0.049
Total TAC Emissions Estimate			**41.9**	**0.22**	**41.9**	**0.22**	**41.9**	**0.22**	**259**	**1.36**	**153**	**0.80**	**2.67**	**0.014**	**2.67**	**0.014**	**38.6**	**0.20**	**0.097**	**5.1E-04**	**38.9**	**0.20**	**38.9**	**0.20**	**38.9**	**0.20**	**38.9**	**0.20**	**38.9**	**0.20**	**9.7E-03**	**5.1E-05**	**23.4**	**0.12**	**13.9**	**0.073**	**113,252**	**595**

NOTES:
g/s = grams per second.
lb/day = pounds per day.
RBC = risk-based concentration.
TAC = toxic air contaminant.

(a) Emission rate (g/s) = (daily emissions estimate [lb/day]) x (453.592 g/lb) x (

REFERENCES:
[1] Emissions estimate based on TAC emissions inventory.

Table 3-3
Proposed Acute Risk Equivalent Emission Rates
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	Acute Risk-Based Concentration (Yes/No)	Acute Risk Based Concentration [1] (ug/m^3)	Acute Risk Equivalent Emission Rate [a] (g/s per ug/m^3)														
				Carbon Bed Stack	Warehouse Stack	Boiler	Coating line Horizontal Release	Building 2, Vent 1	Building 2, Vent 2	Building 2, Vent 3	Building 2, Vent 4	Building 2, Vent 5	Building 2, Vent 6	Building 2, Vent 7	Building 2, Vent 8	Building 2, Vent 9	Building 2, Vent 10	Building 2, Vent 11	Building 2, Vent 12
Model ID	--	--	--	C_STK	WHST	BOILER	COATLINE	BLD2_1	BLD2_2	BLD2_3	BLD2_4	BLD2_5	BLD2_6	BLD2_7	BLD2_8	BLD2_9	BLD2_10	BLD2_11	BLD2_12
Acetaldehyde	75-07-0	Yes	470	--	--	8.1E-04	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	Yes	62,000	2.9E-05	--	--	--	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06	2.5E-06
Acrolein	107-02-8	Yes	6.90	--	--	0.055	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	Yes	29.0	--	--	1.7E-04	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	5,000	4.7E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Epoxybutane	106-88-7	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	106-99-0	Yes	660	--	--	2.4E-05	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	110-82-7	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Difluoroethane	75-37-6	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	Yes	22,000	1.2E-05	--	9.9E-09	--	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08	3.5E-08
Ethylene glycol monobutyl ether	111-76-2	Yes	29,000	--	--	--	--	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08	3.7E-08
Formaldehyde	50-00-0	Yes	49.0	--	--	7.8E-03	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	110-54-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	Yes	2.0E-03	--	--	0.019	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	218-01-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	53-70-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	FLUORIDES	No	240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	193-39-5	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropyl alcohol	67-63-0	Yes	3,200	0.014	--	--	7.1E-03	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08	5.5E-08
Methanol	67-56-1	Yes	28,000	5.8E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	Yes	200	--	--	2.9E-05	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	3268-87-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propylene	115-07-1	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	41.0	--	--	--	--	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04	2.6E-04
1,1,1-Trichloroethane	71-55-6	Yes	11,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	Yes	7,500	9.3E-05	--	6.4E-07	--	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06	1.4E-06
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	2.10	219	23.4	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2,3-Trimethylbenzene	526-73-8	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes (mixed isomers)	1330-20-7	Yes	8,700	6.2E-05	--	2.0E-07	--	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07	3.0E-07
Antimony	7440-36-0	Yes	1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	Yes	0.20	--	--	8.7E-03	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	7440-41-7	Yes	0.020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	Yes	0.030	--	--	0.055	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI	18540299p	Yes	0.30	--	--	3.6E-04	--	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05	6.6E-05
Cobalt	7440-48-4	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	Yes	100.0	--	--	4.5E-05	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	Yes	0.15	--	--	0.060	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	Yes	0.30	--	--	0.011	--	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03	2.2E-03
Mercury	7439-97-6	Yes	0.60	--	--	3.6E-03	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440020in	Yes	0.20	--	--	0.021	--	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04	1.0E-04
Selenium	7782-49-2	Yes	2.00	--	--	1.2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	Yes	0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	7664-41-7	Yes	1,200	--	--	7.3E-04	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrochloric acid	7647-01-0	Yes	2,100	--	--	9.7E-05	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEU Risk Equivalent Emission Rate [b] (g/s per ug/m^3)				**219**	**23.4**	**0.25**	**7.1E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**

NOTES:

g/s = grams per second.

TAC = toxic air contaminant.

ug/m^3 = micrograms per cubic meter.

(a) TAC acute risk equivalent emission rate (g/s per ug/m^3) = (daily emissions estimate [g/s]) / (acute risk based concentration [ug/m3])

Daily emissions estimate (g/s) = (2)

(b) TEU Risk Equivalent Emission Rate (g/s per ug/m^3) = $\sum$ (TAC acute risk equivalent emission rates [g/s per ug/m^3])

REFERENCES:

[1] Oregon Administrative Rule 340-245-8010 Table 2.

[2] See Table 3-2, Proposed Daily Emission Rates.

[3] TAC does not have an acute based concentration listed in OAR 340-245-8010 Table 2.

Table 3-3
Proposed Acute Risk Equivalent Emission Rates (Cont.)
ENTEK International LLC — Lebanon, Oregon

Toxic Air Contaminant	CAS	Acute Risk-Based Concentration (Yes/No)	Acute Risk Based Concentration [1] (ug/m³)	Acute Risk Equivalent Emission Rate [a] (g/s per ug/m³)																		
				Building 2, Vent 13	Building 2, Vent 14	Building 2, Vent 15	Building 2, Vent 16	Zone 4, 5: Stack	Zones 11 and 12A: Stack	Zone 1: Fugitive		Zones 6-10: Fugitive	Zones 16, 18: Fugitive	Zone 15: Fugitives					Zone 13: Fugitive	Zone 19: Fugitive	Zone 20: Fugitive
Model ID	--	--	--	BLD2_13	BLD2_14	BLD2_15	BLD2_16	STK_Z45	STK_Z11	TCE1_1	TCE1_2	TCE4	TCE16	TCE15_1	TCE15_2	TCE15_3	TCE15_4	TCE15_5	TCE13_V	TCE19_V	TCE20_V
Acetaldehyde	75-07-0	Yes	470	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acetone	67-64-1	Yes	62,000	2.5E-06	2.5E-06	2.5E-06	2.5E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Acrolein	107-02-8	Yes	6.90	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzene	71-43-2	Yes	29.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2-Butanone (Methyl ethyl ketone)	78-93-3	Yes	5,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,2-Epoxybutane	106-88-7	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,3-Butadiene	106-99-0	Yes	660	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cyclohexane	110-82-7	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1-Difluoroethane	75-37-6	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylbenzene	100-41-4	Yes	22,000	3.5E-08	3.5E-08	3.5E-08	3.5E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ethylene glycol monobutyl ether	111-76-2	Yes	29,000	3.7E-08	3.7E-08	3.7E-08	3.7E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Formaldehyde	50-00-0	Yes	49.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hexane	110-54-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)anthracene	56-55-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(a)pyrene	50-32-8	Yes	2.0E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(b)fluoranthene	205-99-2	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(g,h,i)perylene	191-24-2	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Benzo(k)fluoranthene	207-08-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chrysene	218-01-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Dibenzo(a,h)anthracene	53-70-3	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoranthene	206-44-0	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Fluoride	FLUORIDES	No	240	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Indeno(1,2,3-c,d)pyrene	193-39-5	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Isopropyl alcohol	67-63-0	Yes	3,200	5.5E-08	5.5E-08	5.5E-08	5.5E-08	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methanol	67-56-1	Yes	28,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Methyl isobutyl ketone (MIBK, Hexone)	108-10-1	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Naphthalene	91-20-3	Yes	200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
OCDD	3268-87-9	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Propylene	115-07-1	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Tetrachloroethene (Perchloroethylene)	127-18-4	Yes	41.0	2.6E-04	2.6E-04	2.6E-04	2.6E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
1,1,1-Trichloroethane	71-55-6	Yes	11,000	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Toluene	108-88-3	Yes	7,500	1.4E-06	1.4E-06	1.4E-06	1.4E-06	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Trichloroethene (TCE, Trichloroethylene)	79-01-6	Yes	2.10	--	--	--	--	0.64	0.38	6.6E-03	6.6E-03	0.096	2.4E-04	0.097	0.097	0.097	0.097	0.097	2.4E-05	0.058	0.034
1,2,3-Trimethylbenzene	526-73-8	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Xylenes (mixed isomers)	1330-20-7	Yes	8,700	3.0E-07	3.0E-07	3.0E-07	3.0E-07	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Antimony	7440-36-0	Yes	1.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Arsenic	7440-38-2	Yes	0.20	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Beryllium	7440-41-7	Yes	0.020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cadmium	7440-43-9	Yes	0.030	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Chromium VI	18540299p	Yes	0.30	6.6E-05	6.6E-05	6.6E-05	6.6E-05	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Cobalt	7440-48-4	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Copper	7440-50-8	Yes	100.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Lead	7439-92-1	Yes	0.15	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Manganese	7439-96-5	Yes	0.30	2.2E-03	2.2E-03	2.2E-03	2.2E-03	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Mercury	7439-97-6	Yes	0.60	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Nickel	7440020in	Yes	0.20	1.0E-04	1.0E-04	1.0E-04	1.0E-04	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Selenium	7782-49-2	Yes	2.00	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Vanadium	7440-62-2	Yes	0.80	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Ammonia	7664-41-7	Yes	1,200	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Hydrochloric acid	7647-01-0	Yes	2,100	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Polycyclic aromatic hydrocarbons (PAHs)	PAHs	No	[3]	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
TEU Risk Equivalent Emission Rate [b] (g/s per ug/m³)				**2.6E-03**	**2.6E-03**	**2.6E-03**	**2.6E-03**	**0.64**	**0.38**	**6.6E-03**	**6.6E-03**	**0.096**	**2.4E-04**	**0.097**	**0.097**	**0.097**	**0.097**	**0.097**	**2.4E-05**	**0.058**	**0.034**

NOTES:

g/s = grams per second.

TAC = toxic air contaminant.

ug/m³ = micrograms per cubic meter.

(a) TAC acute risk equivalent emission rate (g/s per ug/m³) = (daily emissions estimate [g/s]) / (acute risk based conc

Daily emissions estimate (g/s) = (2)

(b) TEU Risk Equivalent Emission Rate (g/s per ug/m³) = ∑ (TAC acute risk equivalent emission rates [g/s per ug/m³])

REFERENCES:

[1] Oregon Administrative Rule 340-245-8010 Table 2.

[2] See Table 3-2, Proposed Daily Emission Rates.

[3] TAC does not have an acute based concentration listed in OAR 340-245-8010 Table 2.

Table 3-4
Proposed Model Source Parameters
ENTEK International LLC — Lebanon, Oregon

Point Sources

Model ID	Model Source Description	UTM Coordinates [1]		Stack Orientation	Base Elevation [2] (m)	Release Height [1] (m)	Stack Diameter [1] (m)	Exit Velocity [1] (m/s)	Exit Flowrate [a] (m^3/s)	Exit Temperature [1] (K)
		Easting	Northing							
C_STK	Carbon Bed Absorption Stack	506,251.4	4,932,898.1	Vertical	103.2	42.98	1.78	17.11	42.48	315.7
COATLINE	Coating line Horizontal Release	506,422.6	4,932,811.9	Horizontal	103.0	5.49	0.49	2.54	0.47	316.5
WHST	Warehouse Stack	506,004.0	4,932,962.9	Vertical	102.9	42.98	1.76	4.43	10.77	Ambient
STK_Z45	Zones 4-5 fugitive emissions	506,247.9	4,932,871.3	Vertical	103.4	11.89	0.97	6.44	4.72	Ambient
STK_Z11	Zones 11 and 12A fugitive emissions	506,266.5	4,932,894.4	Vertical	103.4	9.37	0.97	6.44	4.72	Ambient
BOILER	Boiler	506,232.0	4,932,854.1	Vertical	102.7	15.54	1.07	18.05	16.14	515.4

Discrete Volume Sources

Model ID	Model Source Description	UTM Coordinates [1]		On or Adjacent to a Building?	Base Elevation [2] (m)	Release Height [3] (m)	Length of Side (m)	Initial Lateral Dimension [b] (m)	Initial Vertical Dimension [c] (m)
		Easting	Northing						
TCE1_1	Zones 1 & 2: Fugitives	506,304.0	4,932,753.2	Yes	103.6	6.10	8.0	1.86	5.7
TCE1_2	Zones 1 & 2: Fugitives	506,300.0	4,932,753.2	Yes	103.7	6.10	8.0	1.86	5.7
TCE4	Zones 6-10: Fugitives	506,259.8	4,932,877.6	Yes	103.4	3.92	16.9	3.92	3.7
TCE16	Zones 16, 18: Fugitive	506,264.4	4,932,820.2	Yes	103.6	3.92	5.0	1.16	3.7
TCE15_1	Zones 14 & 15: Fugitives	506,284.5	4,932,756.1	Yes	103.8	6.10	2.0	0.47	5.7
TCE15_2	Zones 14 & 15: Fugitives	506,287.5	4,932,756.1	Yes	103.8	6.10	2.0	0.47	5.7
TCE15_3	Zones 14 & 15: Fugitives	506,290.5	4,932,756.1	Yes	103.8	6.10	2.0	0.47	5.7
TCE15_4	Zones 14 & 15: Fugitives	506,293.5	4,932,756.1	Yes	103.8	6.10	2.0	0.47	5.7
TCE15_5	Zones 14 & 15: Fugitives	506,296.5	4,932,756.1	Yes	103.8	6.10	2.0	0.47	5.7
BLD2_1	Fugitive Welding	506,257.7	4,932,699.9	Yes	103.6	3.05	0.30	0.07	2.8
BLD2_2	Fugitive Welding	506,257.7	4,932,693.1	Yes	103.6	3.05	0.30	0.07	2.8
BLD2_3	Fugitive Welding	506,257.7	4,932,687.9	Yes	103.6	3.05	0.30	0.07	2.8
BLD2_4	Fugitive Welding	506,257.7	4,932,680.1	Yes	103.5	3.05	0.30	0.07	2.8
BLD2_5	Fugitive Welding	506,257.7	4,932,672.4	Yes	103.5	3.05	0.30	0.07	2.8
BLD2_6	Fugitive Welding	506,257.7	4,932,666.8	Yes	103.5	3.05	0.30	0.07	2.8
BLD2_7	Fugitive Welding	506,302.9	4,932,644.3	Yes	103.5	4.08	0.30	0.07	3.8
BLD2_8	Fugitive Welding	506,296.7	4,932,644.3	Yes	103.5	4.08	0.30	0.07	3.8
BLD2_9	Fugitive Welding	506,286.0	4,932,644.3	Yes	103.4	4.08	0.30	0.07	3.8
BLD2_10	Fugitive Welding	506,274.9	4,932,644.3	Yes	103.5	4.08	0.30	0.07	3.8
BLD2_11	Fugitive Welding	506,264.5	4,932,644.3	Yes	103.5	4.08	0.30	0.07	3.8
BLD2_12	Fugitive Welding	506,240.6	4,932,644.3	Yes	103.2	4.08	0.30	0.07	3.8
BLD2_13	Fugitive Welding	506,233.2	4,932,644.3	Yes	103.2	4.08	0.30	0.07	3.8
BLD2_14	Fugitive Welding	506,213.3	4,932,644.3	Yes	103.0	4.08	0.30	0.07	3.8
BLD2_15	Fugitive Welding	506,198.3	4,932,644.3	Yes	103.1	4.08	0.30	0.07	3.8
BLD2_16	Fugitive Welding	506,185.2	4,932,644.3	Yes	103.0	4.08	0.30	0.07	3.8

Line Volume Sources

Model ID	Model Source Description	UTM Coordinates [1]		Configuration	On or Adjacent to a Building?	Release Height [3] (m)	Line Width (m)	Line Volume Height [5] (m)	No. of Volume Sources	Total Length (m)
		Easting	Northing							
TCE13_V	Zone 13: Fugitive	506,284.2	4,932,894.4	Adjacent	Yes	3.92	1.50	7.85	77.0	116
TCE20_V	Zone 20: Fugitive	506,270.0	4,932,855.0	Adjacent	Yes	3.92	1.00	7.85	77.0	77.5
TCE19_V	Zone 19: Fugitive	506,234.3	4,932,832.1	Adjacent	Yes	3.92	1.00	7.85	26.0	25.6

NOTES:

K = kelvin.

m = meter.

m/s = meters per second.

m^3/s = cubic meters per second.

UTM = Universal Transverse Mercator.

(a) Exit flowrate (m^3/s) = ($\pi/4$) x (stack diameter [m])^2 x (exit velocity [m/s])

(b) Initial lateral dimension (m) = (length of side [m] / (4.3) (4)

(c) Initial vertical dimension (m) = (building height [m] / (2.15) (4)

REFERENCES:

[1] Value based on information provided by ENTEK International LLC.

[2] Base elevation derived from the US Geological Survey National Elevation Dataset downloaded and processed in AERMET.

[3] See "Users Guide for the AMS/EPA Regulatory Model (AERMOD)," EPA-454/B-18-001 dated April 2018. Assumes release height for elevated volume source is half of the building height.

[4] See "User's Guide for the Industrial Source Complex (ISC3) Dispersion Models - Volume II – Description of Model Algorithms." (1995) EPA-454/B-95-003a.

[5] Line volume height is equal to the height of the building.

Table 3-5
Proposed Facility-Wide Fugitive VOC Emissions Allocation
ENTEK International LLC — Lebanon, Oregon

Product	Location Used	Model ID(s)	Allocation per Source	
3M Blue 72 Spray Adhesive	Facility-Wide	C_STK	1	(1)
Klean Strip Paint Thinner	Building 2	BLD2-1 - BLD2-16	0.063	(1)
Pelseal 2531 (Solution of Fluoroelastomer Liquid)	Facility-Wide	C_STK	1	(1)
R-1 And R-22 Ink	Facility-Wide	C_STK	1	(1)
Sunnyside Lacquer Thinner	Facility-Wide	C_STK	1	(1)
Acetone	Facility-Wide	C_STK	0.42	(2)
Acetone	Building 2	BLD2-1 - BLD2-16	0.036	(2)
Ace Premium Enamel Primer Gray	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Ace Premium Enamel Primer Red Oxide	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Ace Rust Stop Enamel Safety Colors, Safety Yellow	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Ace Rust Stop Indoor/Outdoor Enamel, Gloss Black	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Dual Superbond Paint + Primer Gloss White	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Dykem Transparent Stain Aerosol - Steel Blue And Steel Red	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Glass Cleaner	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Krylon Rust Tough Enamel (Aerosol) Gloss White	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Napa Brakleen Brake Parts Cleaner	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Napa Extended Life Concentrate Antifreeze & Coolant	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Rohper Lspr 6Pk Flat High Temp Black	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Rust Tough Rust Preventive Enamel (Aerosol) Chestnut Brown	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Rust Tough Rust Preventive Enamel (Aerosol) Equipment Orange	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Rust Tough Rust Preventive Enamel (Aerosol) Light Machinery Gray (Asa-61)	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Rust Tough Rust Preventive Enamel (Aerosol) Safety Yellow (Osha Yellow)	Building 2	BLD2-1 - BLD2-16	0.063	(3)
Strust +Sspr 6Pk Semigl Black	Building 2	BLD2-1 - BLD2-16	0.063	(3)

REFERENCES:

(1) Provided by ENTEK International LLC. Usage is within the permanent total enclosure that vents through the carbon stack.

(2) Provided by ENTEK International LLC. 42% of the usage is within the permanent total enclosure that vents through the carbon stack. The rest is split among the Building 2 fugitive sources.

(3) Information provided by ENTEK International LLC. Usage is within Building 2, and emissions are split among the 16 modeled release points.

Table 4-3
Assessment of Missing Meteorological Data
ENTEK International LLC — Lebanon, Oregon

Quarter [1]	Meteorological Data Assessment for Modeling Period (2018)		
	Total Hours [1]	Missing Hours [2]	Available Hours [a] (%)
Q1	2,160	0	100.0%
Q2	2,184	0	100.0%
Q3	2,208	0	100.0%
Q4	2,208	18	99.2%

NOTES:

(a) Available hours (%) = (1 - [{missing hours} / {total hours}]) x (100%)

REFERENCES:

[1] Meteorological data obtained from the facility's on-site meteorological station with substituted data from the Salem McNary Airport monitoring station in Salem, Oregon.

[2] The number of missing hours was determined by generating a Surface QA Excel file generated by AERMET Version 21112.

Table 4-4
AERSURFACE Settings
ENTEK International LLC — Lebanon, Oregon

Parameter	Meteorological Tower Location	
	Site-Specific	Surface (Salem McNary Airport)
Study radius for surface roughness	1.0 kilometer	1.0 kilometer
Are the surface data collected at an airport?	No	Yes
Should continuous snow cover be assumed?	No	No
Soil moisture content	Dry	Dry
Is this an arid region?	No	No
Number of sectors	12	12
Months assumed to constitute “winter”	December, January, and February	December, January, and February
Months assumed to constitute “spring”	March, April, and May	March, April, and May
Months assumed to constitute “summer”	June, July, and August	June, July, and August
Months assumed to constitute “autumn”	September, October, and November	September, October, and November
Period for land use calculations	Monthly	Monthly

Table 4-5
Soil Moisture Condition Assessment
ENTEK International LLC — Lebanon, Oregon

30-Year Climate Precipitation Data [1]		Rain Gauge Sites	
		Site-Specific	Surface
		Lacomb (ID: 354606)	Salem (ID: 357500)
Average Annual Precipitation	[2]	55.4	40.0
Lower: 30th Percentile Annual Precipitation	[3]	47.4	34.0
Upper: 70th Percentile Annual Precipitation	[4]	58.6	46.1
Total Measured Precipitation for the Proposed Modeling Period (2018)			
2018 Total Precipitation	[5]	42.6	31.0
Climatic Significance	[6]	Below 30th Percentile	Below 30th Percentile
Calendar Year Soil Moisture (in)	[7]	Dry	Dry

REFERENCES:

[1] Climatological data obtained from the Western Regional Climate Center for the Lacomb, OR (ID: 354606) and Salem, OR (ID: 357500) meteorological stations. Due to both on-site and surface files being used in AERMET, soil moisture conditions are required for both locations. Data represent the 30-year period between January 1989 and December 2018.

[2] Represents average annual precipitation during the 30-year climatological period.

[3] Represents upper limit of the 30th percentile annual precipitation during 30-year climatological period.

[4] Represents lower limit of the 70th percentile annual precipitation during 30-year climatological period.

[5] Represents proposed model period (January 1, 2018 - December 31, 2018).

[6] Climatic significance represents annual precipitation compared to 30-year climatological period.

[7] Surface moisture conditions correspond to DRY, AVERAGE or WET soil content determined by comparing annual precipitation to 30-year climatological period. This method is consistent with the methodology set forth in the current version of the EPA AERSURFACE User's Guide dated February 2020.

Table 4-6
Summary of Downwash Structure Heights
ENTEK International LLC — Lebanon, Oregon

Downwash Structure Model ID	Base Elevation [1]		Number of Building Tiers	Tier Height [2]		Diameter [2]	
	(ft)	(m)		(ft)	(m)	(ft)	(m)
BLD1-1	339.6	103.5	1	41.0	12.5	--	--
BLD1-2	338.2	103.1	1	35.3	10.8	--	--
BLD1-3	340.3	103.7	1	25.8	7.85	--	--
BLD1-4	339.8	103.6	1	40.3	12.29	--	--
BLD1-5	340.1	103.7	1	43.1	13.13	--	--
BLD1-6	336.2	102.5	1	44.8	13.7	--	--
BLD1-7	340.4	103.8	1	40.0	12.2	--	--
BLD1-8	339.1	103.4	1	40.0	12.2	--	--
BLD1-9	339.9	103.6	1	12.0	3.7	--	--
BLD2-1	339.7	103.5	1	20.0	6.1	--	--
BLD2_2	339.2	103.4	1	26.7	8.2	--	--
BLD4	340.5	103.8	1	21.0	6.4	--	--
BLD6	338.7	103.3	1	10.8	3.3	--	--
BLD9	336.6	102.6	1	34.0	10.4	--	--
BLD11-1	337.2	102.8	1	39.5	12.0	--	--
BLD11-1	337.2	102.8	2	61.7	18.8	--	--
BLD11-2	338.3	103.1	1	29.0	8.8	--	--
BLD11-2	338.3	103.1	2	61.7	18.80	--	--
BLD12	337.7	102.9	1	31.3	9.53	--	--
BLD17	337.6	102.9	1	12.0	3.66	--	--
CT1	340.4	103.8	1	15.0	4.57	--	--
CT2	338.5	103.2	1	15.0	4.57	--	--
CT3	339.1	103.4	1	15.0	4.57	--	--
CT4	338.7	103.3	1	15.0	4.57	--	--
CT5	339.0	103.3	1	15.0	4.57	--	--
CT6	340.5	103.8	1	15.0	4.57	--	--
CT7	338.1	103.1	1	15.0	4.57	--	--
CT8	338.0	103.0	1	15.0	4.57	--	--
BOIL	339.3	103.4	1	30.0	9.14	--	--
TRAIL	339.9	103.6	1	12.0	3.66	--	--
OFFICE	340.0	103.6	1	12.0	3.66	--	--
SILO1	337.7	102.9	1	70.0	21.3	12.0	3.66
SILO2	337.7	102.9	1	70.0	21.3	12.0	3.66
SILO3	337.6	102.9	1	70.0	21.3	12.0	3.66
SILO4	337.7	102.9	1	70.0	21.3	12.0	3.66
SILO5	337.6	102.9	1	70.0	21.3	12.0	3.66

REFERENCES:

[1] Base elevation derived from 1/3-arc second US Geological Survey National Elevation Data processed using AERMAP.

[2] Information provided by ENTEK International LLC.

Table 4-9
Summary of Revisions to Statewide Zoning
ENTEK International LLC — Lebanon, Oregon

UTM Coordinates (m)		Zoning Dataset Used for Exposure Classification	Exposure Type Classification	Reason for Exposure Type Classification Revision
Easting	Northing	Oregon Statewide		
506817.00	4933005.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506258.90	4931704.27	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506832.91	4933318.21	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506464.00	4932881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933006.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933056.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933081.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933206.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933256.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506464.00	4933281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4932881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933006.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933056.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933081.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933206.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933256.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506489.00	4933281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4932856.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4932881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933006.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933056.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933081.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933206.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933256.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506514.00	4933281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4932856.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4932881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4933006.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4933031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4933056.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506539.00	4933081.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506564.00	4932831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506564.00	4932856.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506564.00	4932881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506564.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506564.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506589.00	4932831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506589.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506589.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506614.00	4932806.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506614.00	4932831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506614.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506614.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506639.00	4932806.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506639.00	4932831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506639.00	4932931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506639.00	4932956.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506664.00	4932781.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506664.00	4932806.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506664.00	4932831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506664.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506664.00	4933056.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
507164.00	4933481.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507164.00	4933531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507214.00	4933431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507214.00	4933481.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507214.00	4933531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507264.00	4933431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507264.00	4933531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507314.00	4933431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.

Table 4-9
Summary of Revisions to Statewide Zoning (Cont.)
ENTEK International LLC — Lebanon, Oregon

UTM Coordinates (m)		Zoning Dataset Used for Exposure Classification	Exposure Type Classification	Reason for Exposure Type Classification Revision
Easting	Northing	Oregon Statewide		
507314.00	4933481.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507314.00	4933531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
506714.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506714.00	4932981.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506714.00	4932931.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506714.00	4932881.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506714.00	4932831.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506764.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506764.00	4932981.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506764.00	4932931.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506764.00	4932881.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506764.00	4932831.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506814.00	4933331.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506814.00	4933281.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506814.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506814.00	4932981.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506814.00	4932931.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506814.00	4932881.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506814.00	4932831.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506864.00	4933331.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506864.00	4933281.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506864.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506864.00	4932981.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506864.00	4932931.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506864.00	4932881.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506864.00	4932831.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506914.00	4933331.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506914.00	4933281.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of Good Sam Pediatric Care Center.
506914.00	4933031.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506914.00	4932981.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506914.00	4932931.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506914.00	4932881.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506914.00	4932831.00	Mixed-Use Com. & Res. Medium	Child	Revised to child exposure due to location of school.
506964.00	4932231.00	Public & semi-public Uses	Child	Revised to child exposure due to location of BG Club.
506964.00	4932181.00	Public & semi-public Uses	Child	Revised to child exposure due to location of BG Club.
506964.00	4932131.00	Public & semi-public Uses	Child	Revised to child exposure due to location of BG Club.
506964.00	4932081.00	Public & semi-public Uses	Child	Revised to child exposure due to location of BG Club.
507014.00	4932231.00	Public & semi-public Uses	Child	Revised to child exposure due to location of BG Club.
506264.00	4931731.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506264.00	4931681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506264.00	4931631.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506264.00	4931581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506214.00	4931731.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506214.00	4931681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506214.00	4931631.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506214.00	4931581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506164.00	4931731.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506164.00	4931681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506164.00	4931631.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506164.00	4931581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506114.00	4931731.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506114.00	4931681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506114.00	4931631.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506114.00	4931581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
505414.00	4932331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505414.00	4932281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505414.00	4932231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505414.00	4932181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505364.00	4932331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505364.00	4932281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505364.00	4932231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505364.00	4932181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505314.00	4932331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505314.00	4932281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505314.00	4932231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505314.00	4932181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505264.00	4932331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505264.00	4932281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505264.00	4932231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505264.00	4932181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505614.00	4932431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505564.00	4932431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505414.00	4932381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505364.00	4932381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505314.00	4932381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.

Table 4-9
Summary of Revisions to Statewide Zoning (Cont.)
ENTEK International LLC — Lebanon, Oregon

UTM Coordinates (m)		Zoning Dataset Used for Exposure Classification	Exposure Type Classification	Reason for Exposure Type Classification Revision
Easting	Northing	Oregon Statewide		
505264.00	4932381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507182.06	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507280.66	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507379.28	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507477.88	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507576.50	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507576.50	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507576.50	4934431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507675.13	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507675.13	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507773.72	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507773.72	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508069.56	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508168.16	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508168.16	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508168.16	4934431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508168.16	4934531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508266.78	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508266.78	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508266.78	4934431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508266.78	4934531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934631.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4934931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4935031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508365.38	4935131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934231.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934431.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934631.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934831.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4934931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4935031.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4935131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507664.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507664.00	4934032.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507764.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507864.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507964.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508064.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508164.00	4934131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508364.00	4933835.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4933835.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507069.56	4930781.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
507069.56	4930681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
507069.56	4930581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506970.94	4930781.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506970.94	4930681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506970.94	4930581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506872.34	4930781.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506872.34	4930681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506872.34	4930581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506773.72	4930781.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506773.72	4930681.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506773.72	4930581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
504998.72	4930881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504998.72	4930781.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504998.72	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504998.72	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504900.13	4930881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504900.13	4930781.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504900.13	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504900.13	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504801.50	4930881.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504801.50	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504801.50	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504702.88	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504702.88	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.

Table 4-9
Summary of Revisions to Statewide Zoning (Cont.)
ENTEK International LLC — Lebanon, Oregon

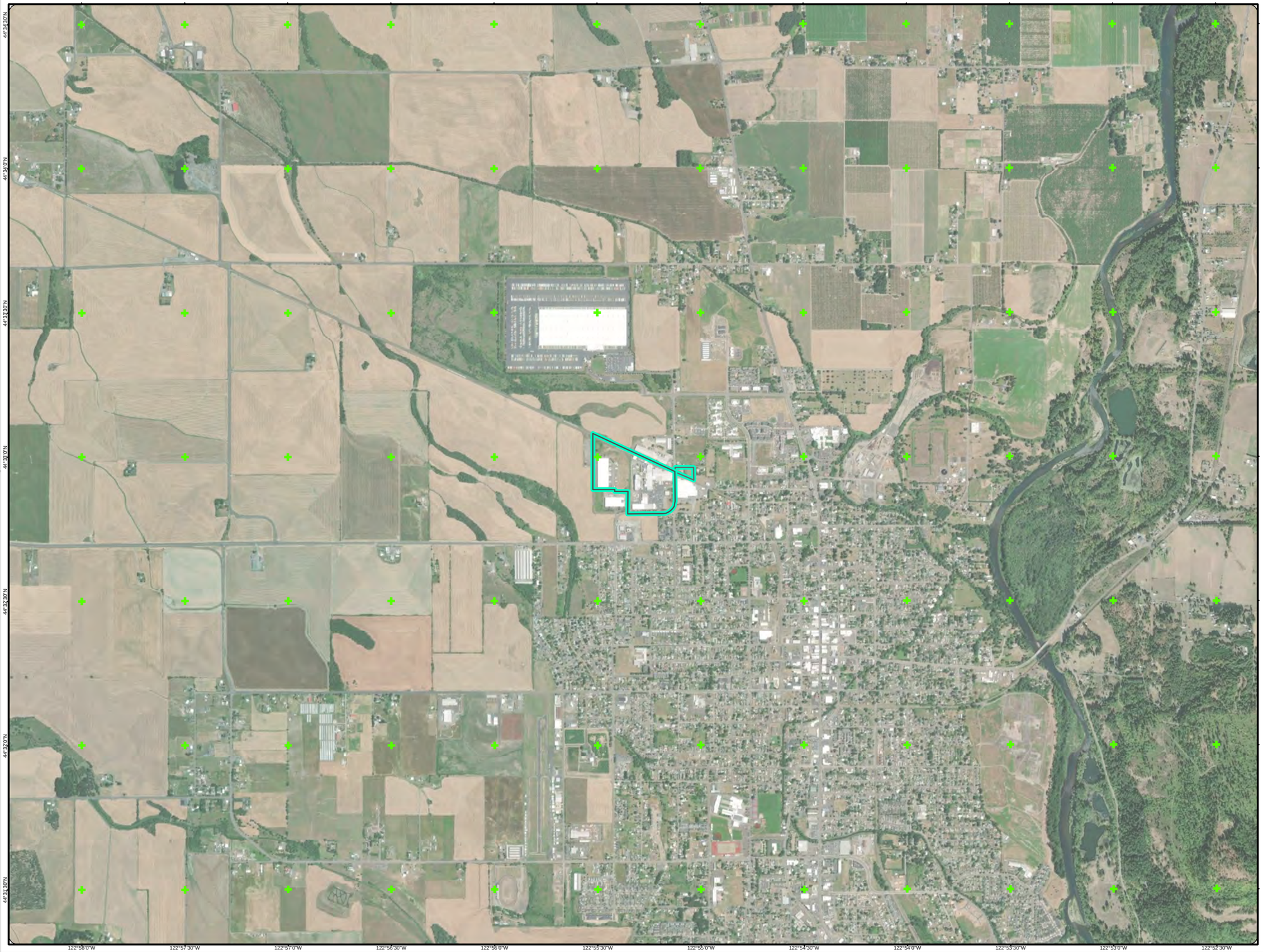
UTM Coordinates (m)		Zoning Dataset Used for Exposure Classification	Exposure Type Classification	Reason for Exposure Type Classification Revision
Easting	Northing	Oregon Statewide		
504604.28	4931381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504604.28	4931281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504604.28	4931181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504604.28	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504604.28	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504505.66	4930681.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504505.66	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504308.44	4931381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504308.44	4931281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504308.44	4931181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504308.44	4931081.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504012.63	4931381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504012.63	4931281.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4931381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504814.00	4932665.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4937331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4937531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4937731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503914.00	4937931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4937331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4937531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4937731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4937931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504112.69	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507092.94	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507291.63	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507490.31	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507490.31	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507490.31	4937331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507490.31	4937531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507689.00	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507689.00	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507689.00	4937331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507689.00	4937531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4937331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4937531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4937731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
507887.69	4937931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508086.38	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508086.38	4935731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508086.38	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4935331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4935731.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4935931.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4936131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4936331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508285.06	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508483.75	4935331.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508483.75	4935531.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508483.75	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508682.41	4937131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508664.00	4930362.50	Medium-density Res.	Child	Revised to child exposure due to location of school.
508664.00	4928375.50	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
509864.00	4932945.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
508464.00	4928581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
508265.31	4928581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
508066.63	4928581.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506874.53	4930181.00	Public & semi-public Uses	Child	Revised to child exposure due to location of school.
506079.78	4927981.00	Mixed Farm-Forest 80	Child	Revised to child exposure due to location of school.
506079.78	4927781.00	Mixed Farm-Forest 80	Child	Revised to child exposure due to location of school.
505086.38	4930181.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504887.69	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504689.00	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504490.31	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504291.63	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
504092.94	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503695.59	4930381.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4930779.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4930978.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.

Table 4-9
Summary of Revisions to Statewide Zoning (Cont.)
ENTEK International LLC — Lebanon, Oregon

UTM Coordinates (m)		Zoning Dataset Used for Exposure Classification	Exposure Type Classification	Reason for Exposure Type Classification Revision
Easting	Northing	Oregon Statewide		
503714.00	4931177.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4931375.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4937932.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503714.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503514.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503514.00	4930978.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503514.00	4931177.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503514.00	4931375.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503514.00	4937932.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503314.00	4930978.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503314.00	4931177.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503314.00	4931375.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503314.00	4937932.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
503114.00	4937137.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502914.00	4936740.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502914.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502714.00	4935945.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502714.00	4936740.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502714.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4933958.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4934157.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4934753.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4935548.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4935945.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502514.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4933958.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4934157.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4937336.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502314.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502114.00	4930581.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502114.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502114.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502114.00	4937336.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
502114.00	4938131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501914.00	4930779.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501914.00	4931375.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501914.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501914.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501914.00	4937336.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501714.00	4930779.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501714.00	4934157.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501714.00	4937336.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501514.00	4930779.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501514.00	4934157.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501314.00	4934753.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501314.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501314.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4934753.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4934952.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4935150.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4935349.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4937336.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
501114.00	4937932.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505287.44	4938631.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505287.44	4939131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505773.38	4939131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505773.38	4940131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505773.38	4940631.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
505773.38	4941131.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
512964.00	4928898.00	Mixed Farm-Forest 80	Child	Revised to child exposure due to location of school.
500414.00	4928067.00	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.
499914.00	4932926.50	Exclusive Farm Use 80	Residential	Revised to residential exposure based on aerial imagery.

FIGURES

Figure 2-1
Aerial Photograph of Facility
ENTEK International LLC
Lebanon, Oregon 97355



Legend
- UTM Grid Guideline
- Exposure Assessment Boundary

Key Map

0 250 500
Meters

Source:
Aerial photograph obtained from ArcGIS Online.

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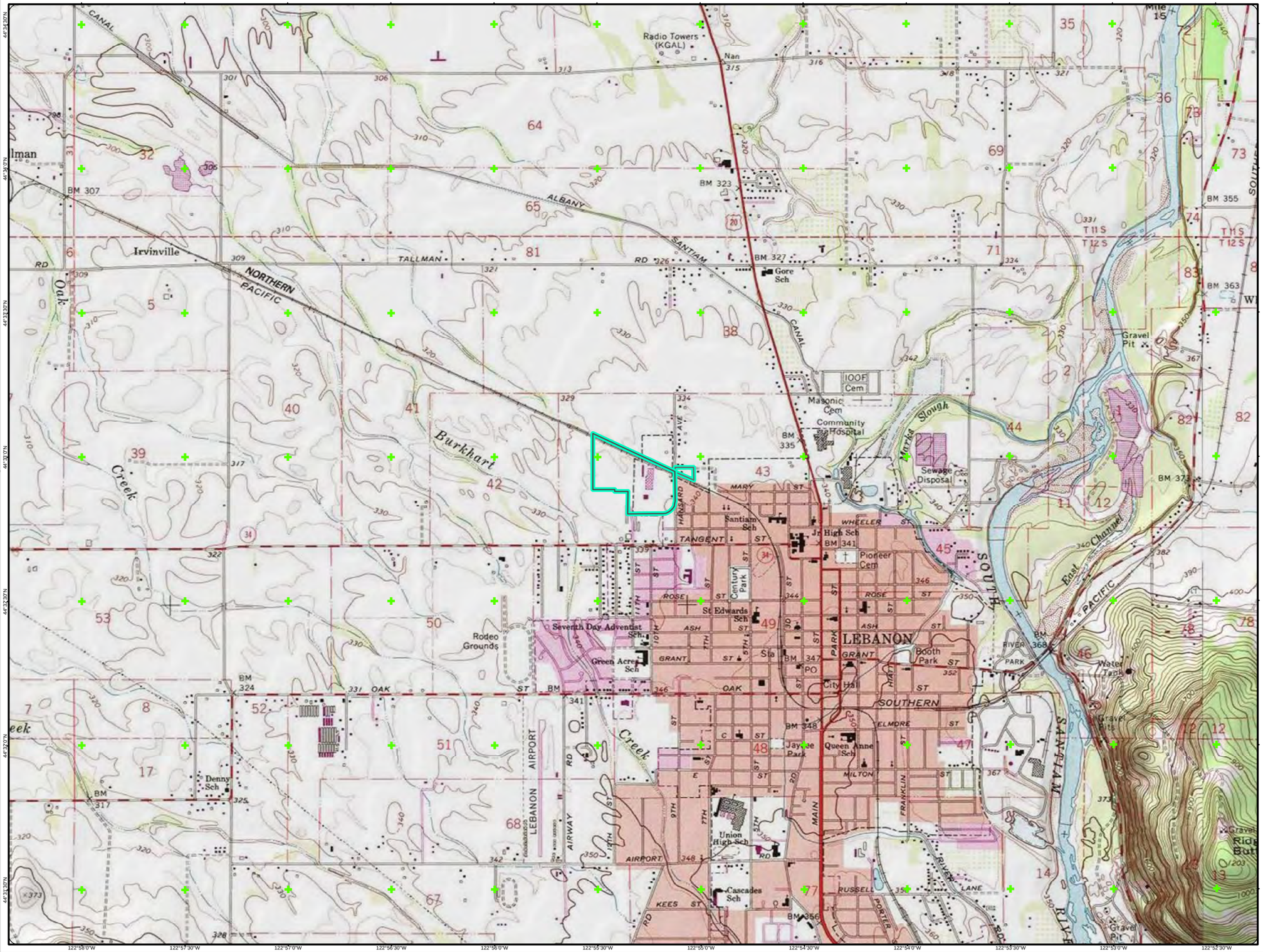

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Figure 2-2
Local Topography
ENTEK International LLC
Lebanon, Oregon 97355

Legend

- UTM Grid Guideline
- Exposure Assessment Boundary

Key Map

0 250 500
Meters

Source:
USGS Topographic basemap obtained from ArcGIS Online.

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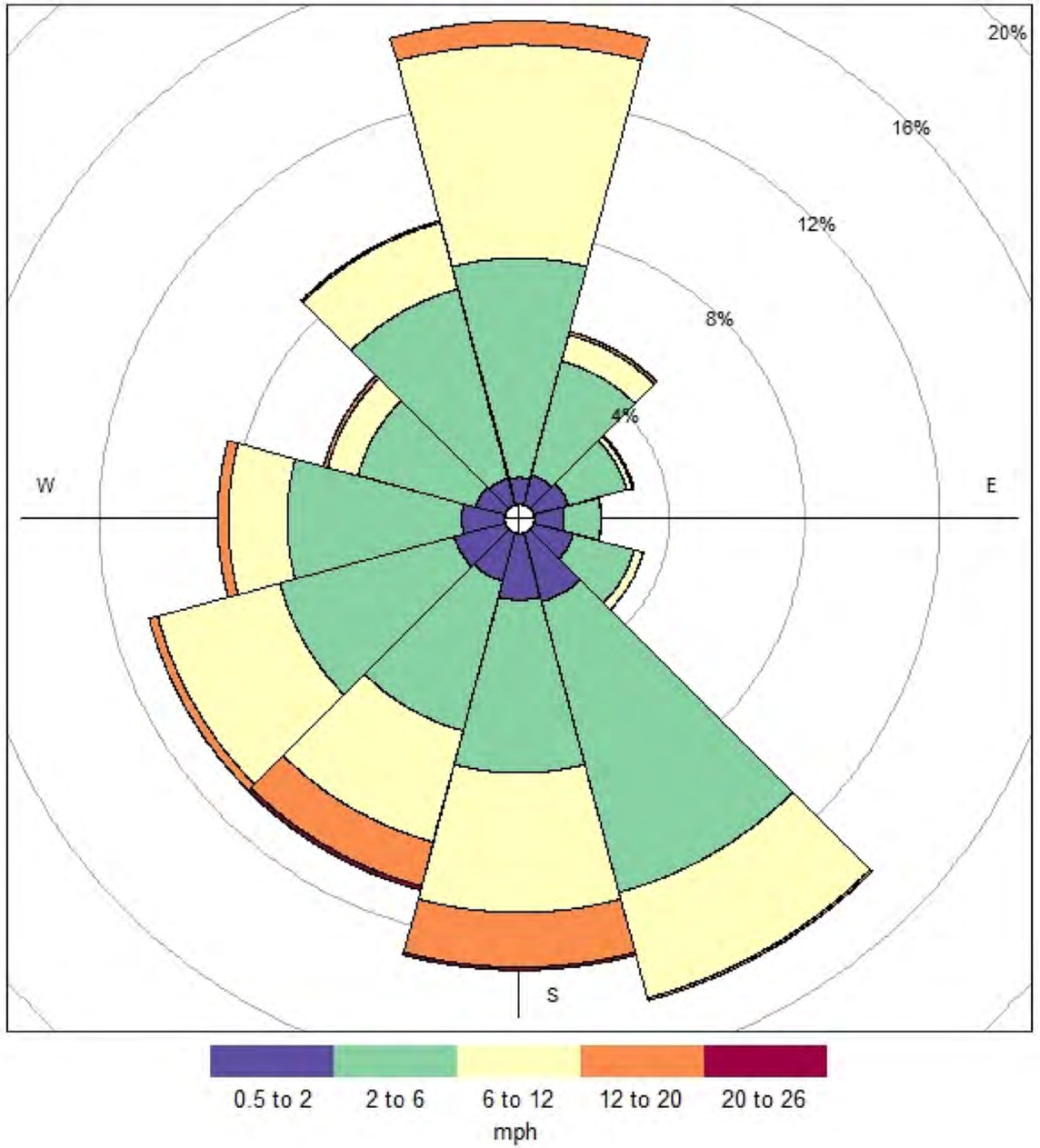
Figure 4-1
Wind Rose
ENTEK International LLC
Lebanon, Oregon 97355



Key Map

Notes:
Wind Direction = Blowing From

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Figure 4-2
Proposed Emission Source Locations
ENTEK International LLC
Lebanon, Oregon 97355

Legend

- UTM Grid Guideline
- Proposed Point Source
- Exposure Assessment Boundary
- Proposed Volume Source
- Proposed Line Source

0 0.025 0.05
Kilometers

Sources: Aerial photograph obtained from Bing via Esri ArcGIS Online.

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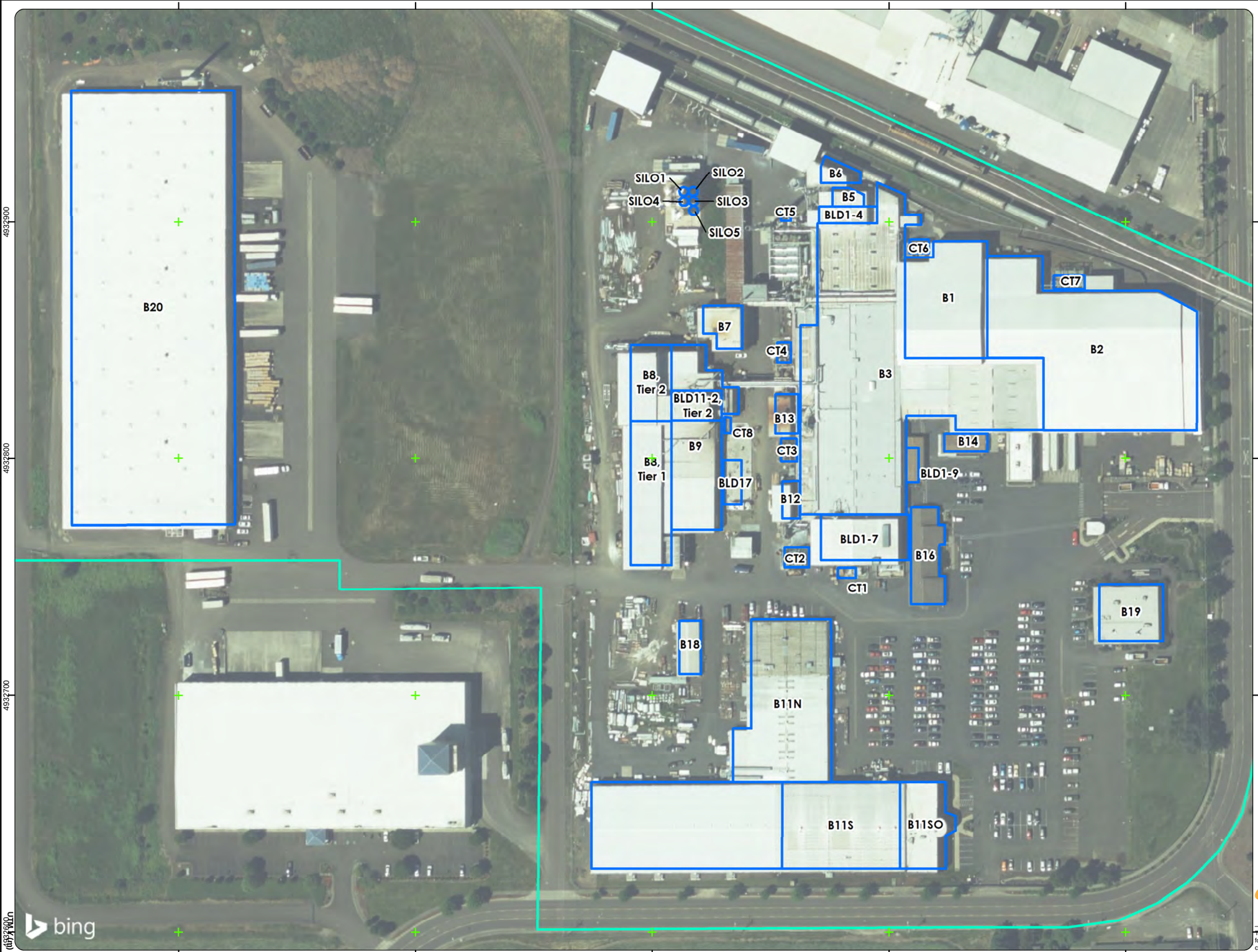

Figure 4-3
Proposed Downwash Structure Locations
ENTEK International LLC
Lebanon, Oregon 97355

Legend

- UTM Grid Guideline
- Exposure Assessment Boundary
- Proposed Downwash Structure

0 0.025 0.05
Kilometers

Sources: Aerial photograph obtained from Bing via Esri ArcGIS Online.

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UTM Y (m): 4932900, 4932800, 4932700, 4932600
UTM X (m): 506000, 506100, 506200, 506300, 506400

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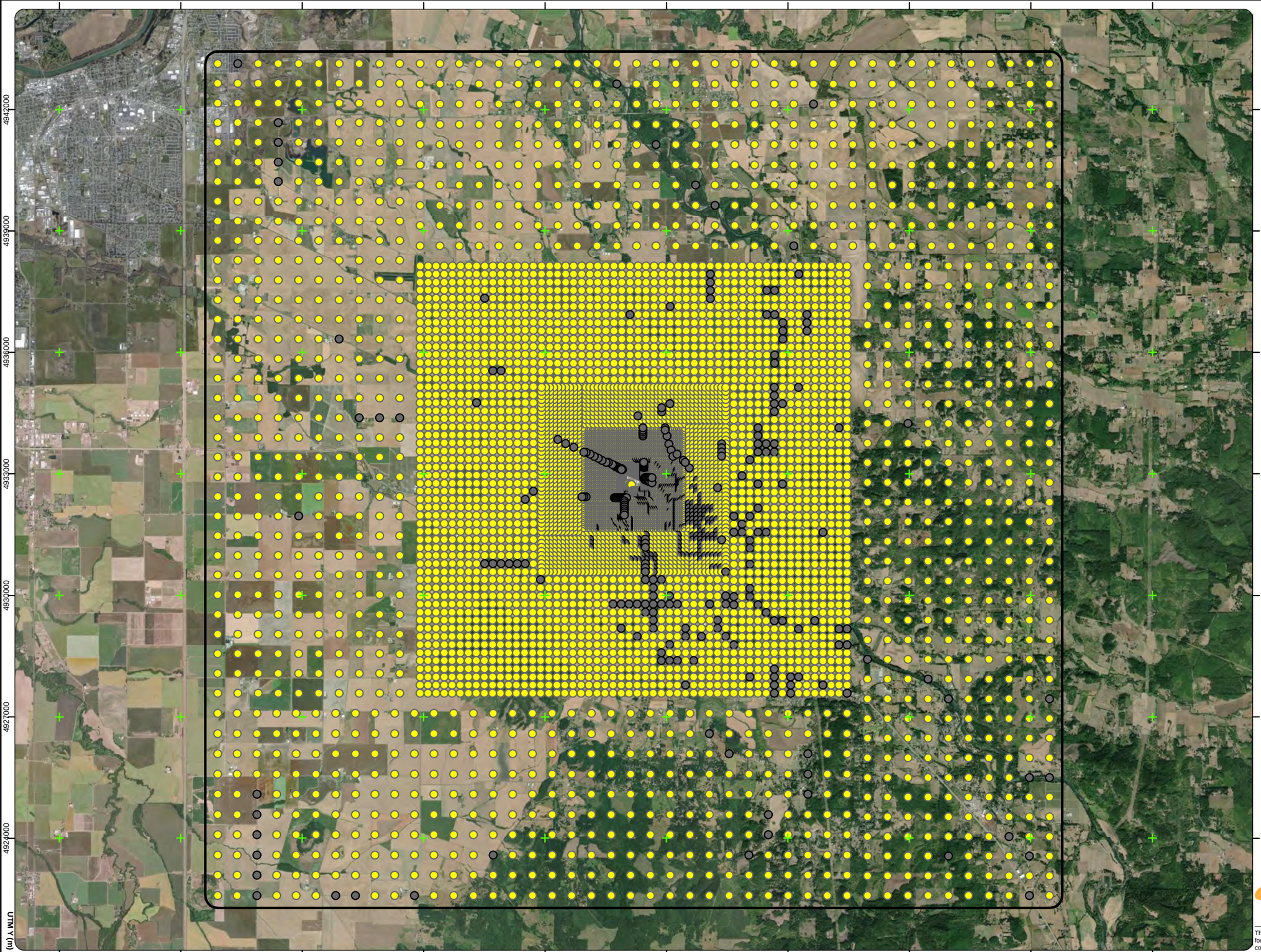
Figure 4-4
Proposed Receptor Locations
ENTEK International LLC
Lebanon, Oregon 97355



Legend

- UTM Grid Guideline
- Proposed Receptor
- Receptor in Right-of-Way - Risk Not Assessed
- Proposed Modeling Domain Extent

0 1 2
Kilometers

Sources: Aerial photograph obtained from Esri ArcGIS Online.

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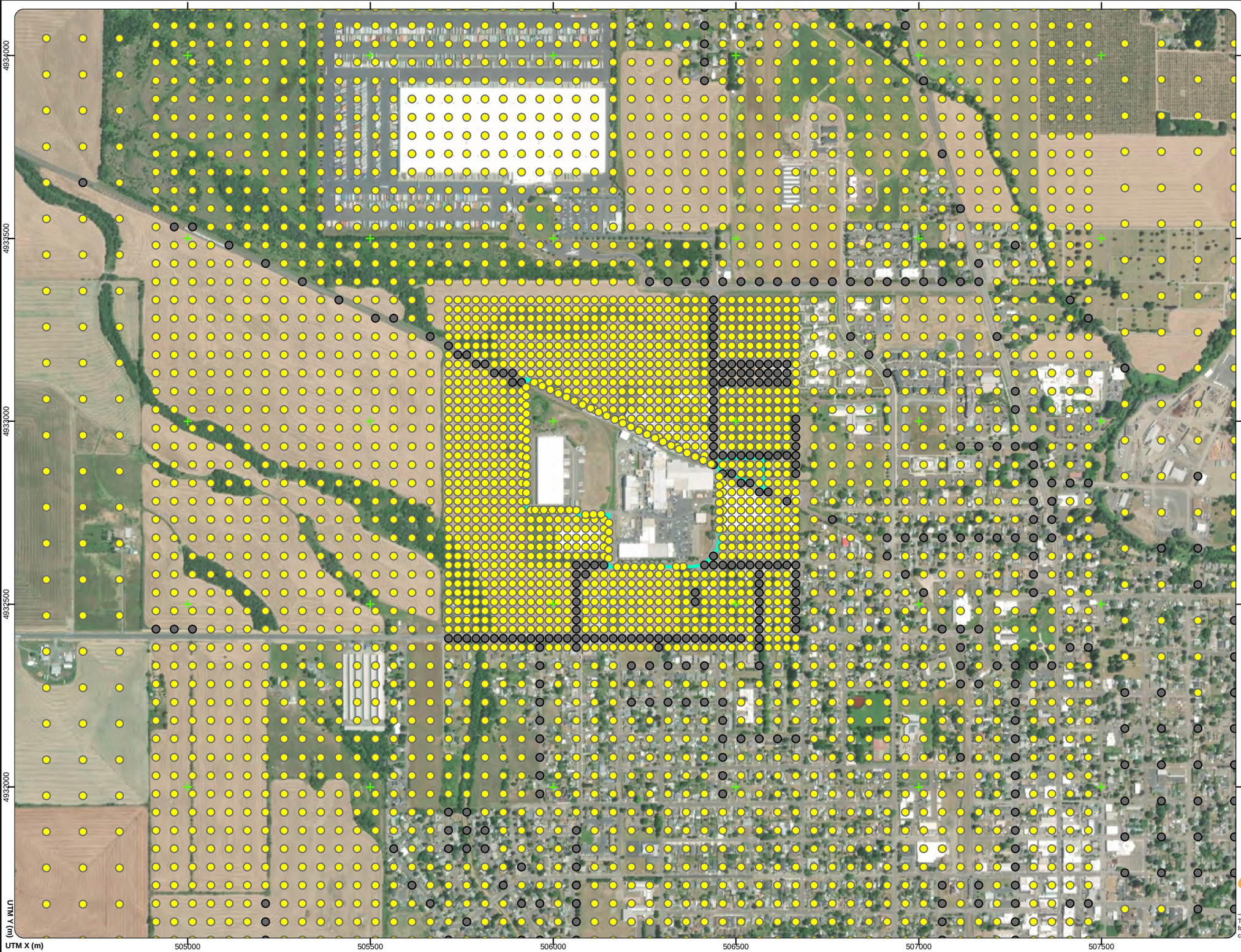
Figure 4-5
Proposed Receptor Locations in the Immediate Area

ENTEK International LLC
Lebanon, Oregon 97355



Legend

- UTM Grid Guideline
- Proposed Receptor
- Receptor in Right-of-Way - Risk Not Assessed
- Exposure Assessment Boundary

0 0.1 0.2
Kilometers

Sources: Aerial photograph obtained from Esri ArcGIS Online.

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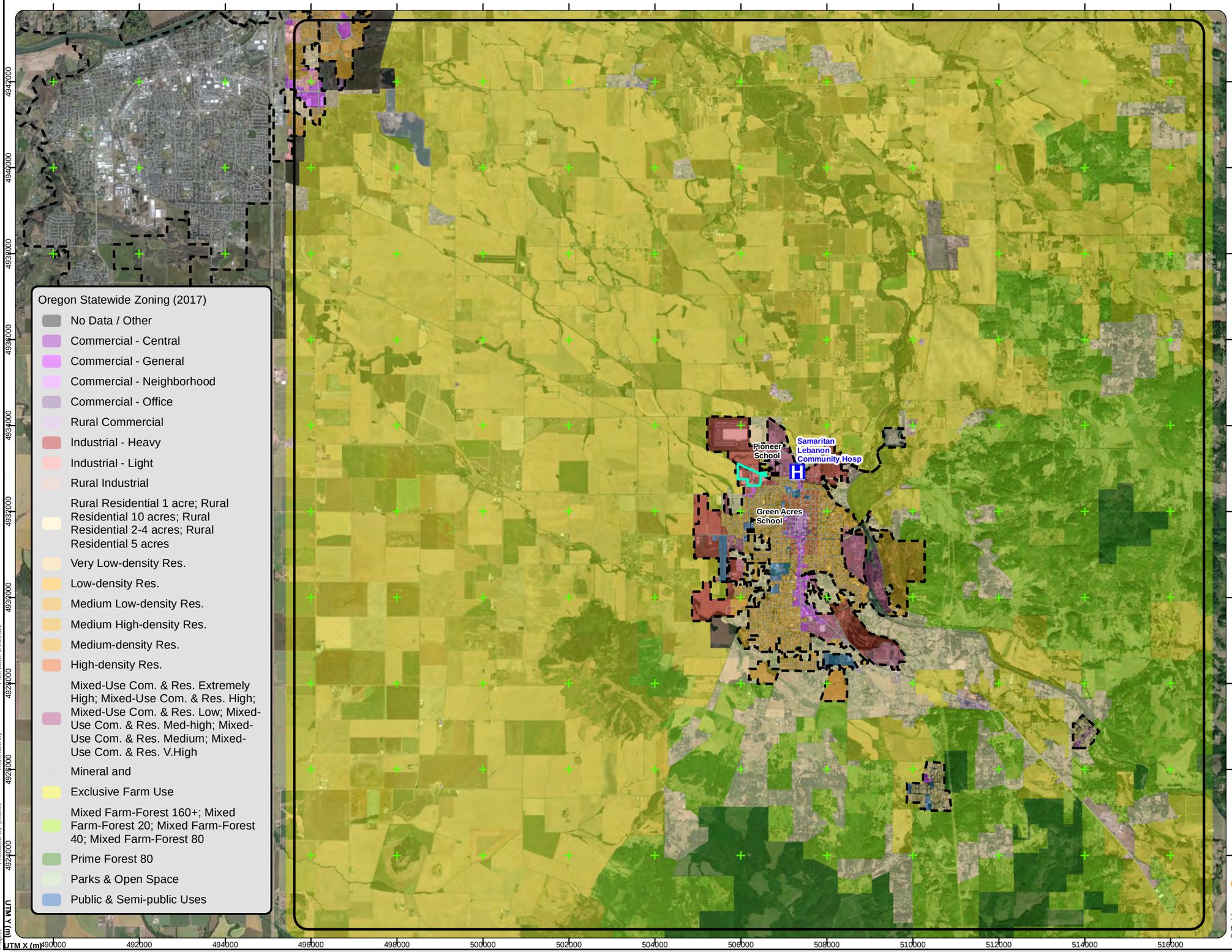
Figure 4-6
Existing Land-Use Zoning Classifications

ENTEK International LLC
Lebanon, Oregon 97355



Legend

- UTM Grid Guideline
- School Location (2015-16)
- Hospital Location (2014)
- Exposure Assessment Boundary
- Proposed Modeling Domain Extent
- City Limits (2019)

0 0.5 1
Miles

Sources: Aerial photograph obtained from Esri ArcGIS Online. Zoning obtained from the Oregon Dept. of Land Conservation and Development. Schools obtained from Oregon Dept. of Human Services & Oregon Health Authority. Hospitals obtained from Oregon Office of Health Policy & Research.

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Reviewed By:
Print Date: 1/14/2022

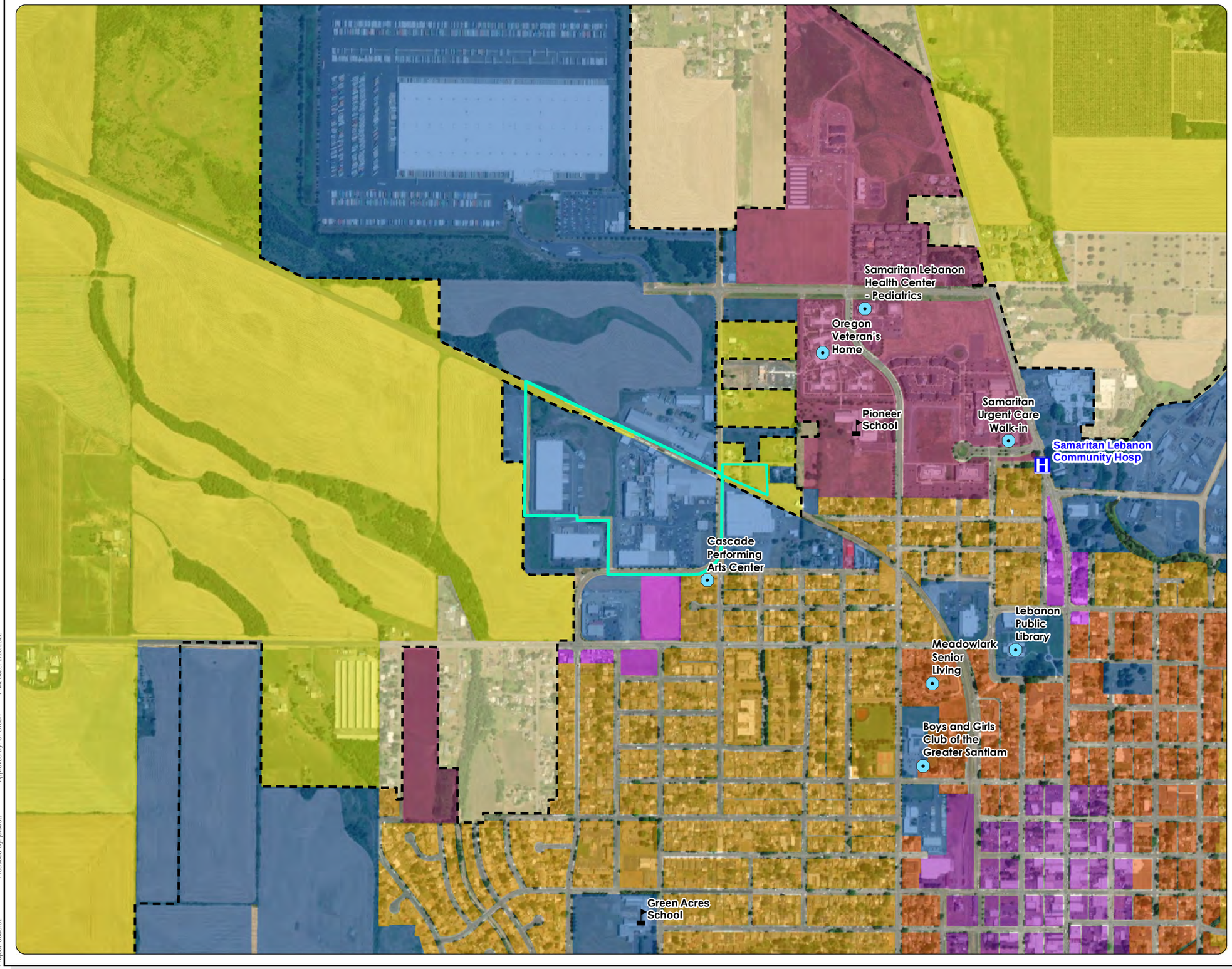

Figure 4-**7**
Existing Land Use Zoning Classifications **in the Immediate Area**

ENTEK International LLC
Lebanon, Oregon 97355

Legend

- School Location (2015-16)
- Hospital Location (2014)
- Additional Sesitive Receptor Location
- Exposure Assessment Boundary
- City Limits (2018)

Oregon Statewide Zoning (2017)

- Commercial - Central
- Commercial - General
- Industrial - Heavy
- Rural Residential 1 acre; Rural Residential 10 acres; Rural Residential 2-4 acres; Rural Residential 5 acres
- Low-density Res.
- Medium-density Res.
- High-density Res.
- Mixed-Use Com. & Res. Extremely High; Mixed-Use Com. & Res. High; Mixed-Use Com. & Res. Low; Mixed-Use Com. & Res. Med-high; Mixed-Use Com. & Res. Medium; Mixed-Use Com. & Res. V.High
- Exclusive Farm Use
- Public & Semi-public Uses

0 100 200
Meters

Sources: Aerial photograph obtained from Esri ArcGIS Online. Zoning obtained from the Oregon Dept. of Land Conservation and Development. Schools obtained from Oregon Dept. of Human Services & Oregon Health Authority. Hospitals obtained from Oregon Office of Health Policy & Research.

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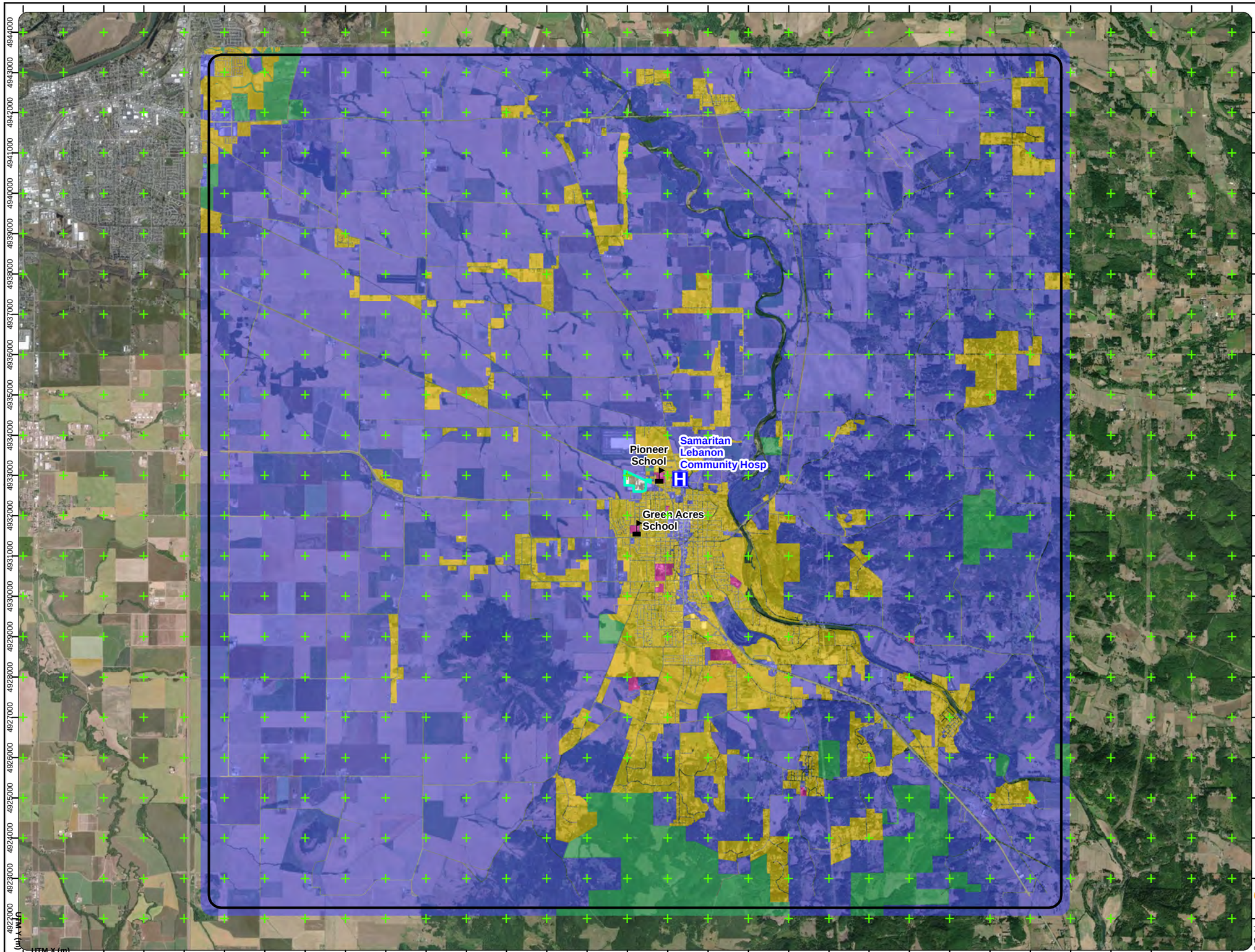
Figure 4-8
Proposed Land Use Classifications

ENTEK International LLC
Lebanon, Oregon 97355



Legend

- UTM Grid Guideline
- School Location (2015-16)
- Hospital Location (2014)
- Exposure Assessment Boundary
- Proposed Modeling Domain Extent

Proposed Land Use Classification

RBC Basis

- Residential
- Child
- Worker
- Acute-only

1. Existing land use classifications revised to reflect one of the four risk-based concentration categories presented in Oregon Administrative Rule 340-245-8040 Table 4.
2. Non-taxlot land use areas (e.g., interstate right-of-way) will not be assessed for cancer or noncancer risk.

0 0.5 1
Miles

Sources: Aerial photograph obtained from Esri ArcGIS Online.

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Figure 4-9
Proposed Land Use Classifications in the Immediate Area

ENTEK International LLC
Lebanon, Oregon 97355

Samaritan Lebanon Health Center - Pediatrics
Oregon Veteran's Home
Pioneer School
Samaritan Urgent Care Walk-in
Samaritan Lebanon Community Hosp
Cascade Performing Arts Center
Lebanon Public Library
Meadowlark Senior Living
Boys and Girls Club of the Greater Santiam
Green Acres School

Legend

- School Location (2015-16)
- Hospital Location (2014)
- Additional Sesitive Receptor Location
- Exposure Assessment Boundary
- Proposed Modeling Domain Extent
- City Limits (2019)

Proposed Land Use Classification

RBC Basis

- Residential
- Child
- Worker
- Acute-only

1. Existing land use classifications revised to reflect one of the four risk-based concentration categories presented in Oregon Administrative Rule 340-245-8040 Table 4.
2. Non-taxlot land use areas (e.g., interstate right-of-way) will not be assessed for cancer or noncancer risk.

0 0.1 0.2
Miles

Sources: Aerial photograph obtained from Esri ArcGIS Online.

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Project: 8006.61 Produced By: mjosef Reviewed By: C. Green Print Date: 2/11/2022

APPENDIX

MET DATA DEQ APPROVAL LETTER

Wright, Monica/PDX

From:	GISKA Jonathan <Jonathan.R.GISKA@state.or.us>
Sent:	Wednesday, April 24, 2019 3:28 PM
To:	Wright, Monica/PDX
Cc:	WHITE-FALLON Karen; ALLEN Philip; RHODES Thomas
Subject:	[EXTERNAL] ENTEK Met data

Monica,

Thank you for providing the met data for approval for ENTEK, and all of the follow-up to ensure DEQ had the relevant data we needed to finalize a response.

As far as the siting of the met station, the ENTEK Meteorological Tower appears to meet the guidelines and should be sufficient for Meteorological Monitoring. DEQ does note the following:

- The distance of the boxcars and the frequency in which they are near the met tower. The summary provided by Jacobs states that site is adjacent to a rail line with box cars that sometimes sit adjacent to the plant for several days. The box cars are as much as 17 feet tall and located at a distance as close as 75 feet. Jacobs believes that most of the stationary box cars are located at a distance much farther than this. Though they state most of the boxcars are typically located at a distance much greater than 75 feet away, the boxcars' height of 17 feet would require their distance to be 170 or more feet away from the meteorological tower based on EPA's Meteorological Monitoring Guidance for Regulatory Modeling Applications. It unclear as to the frequency with which the boxcars occupy positions closer than 170 feet away and those periods technically may not comply with the siting criteria guidance. The implication is that unknown periods of wind speed and wind direction data may have been impacted.

In regards to the compiled data set for modelling purposes DEQ finds the following:

- The summary of on-site meteorological data collected from 2017 to 2019 at a site near ENTEK, which was submitted to DEQ by Jacobs Engineering Group on 4/18/2019, has been reviewed. The summary description documents the completeness of valid meteorological variables including wind speed, wind direction, temperature (2 meters), temperature (10 meters), precipitation, relative humidity, and barometric pressure. Of these, the critical parameters for AERMET of windspeed, wind direction, and 2 meter temperature, show a completeness of 99% or greater by month over the full two-year period 2/1/2017 – 3/1/2019. This satisfies EPA criteria for completeness, and these data are approved for processing in AERMET and subsequent use in AERMOD for modeling concentrations from ENTEK facility emissions.

In summary, DEQ finds both the siting of the station and the data set to be approved for monitoring and modeling, respectively.

Please feel free to contact me if you have any questions or feedback.

J.R. Giska – 503.229.5178
Cleaner Air Oregon Program Engineer
Oregon Department of Environmental Quality