EXHIBIT 14
COFFIN BUTTE LANDFILL EXPANSION ODOR DISPERSION MODELING STUDY

Coffin Butte Landfill Expansion
Odor Dispersion Modeling Study

Coffin Butte Landfill
28972 Coffin Butte Road
Corvallis, OR 97330

SCS ENGINEERS

Project No. 24224358.00 | October 22, 2024

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1.0 INTRODUCTION

The Coffin Butte Landfill (CBLF) is proposing to expand the waste disposal area of the landfill by using an existing property just south of Coffin Butte Road. The goal of this study was to conduct an odor dispersion modeling analysis that compares the existing and proposed operating scenarios for potential nuisance odor impacts. Since odor is a subjective human response, odor dispersion modeling was used to provide an objective approach towards understanding how on-site emissions of odor potentially impact off-site locations.

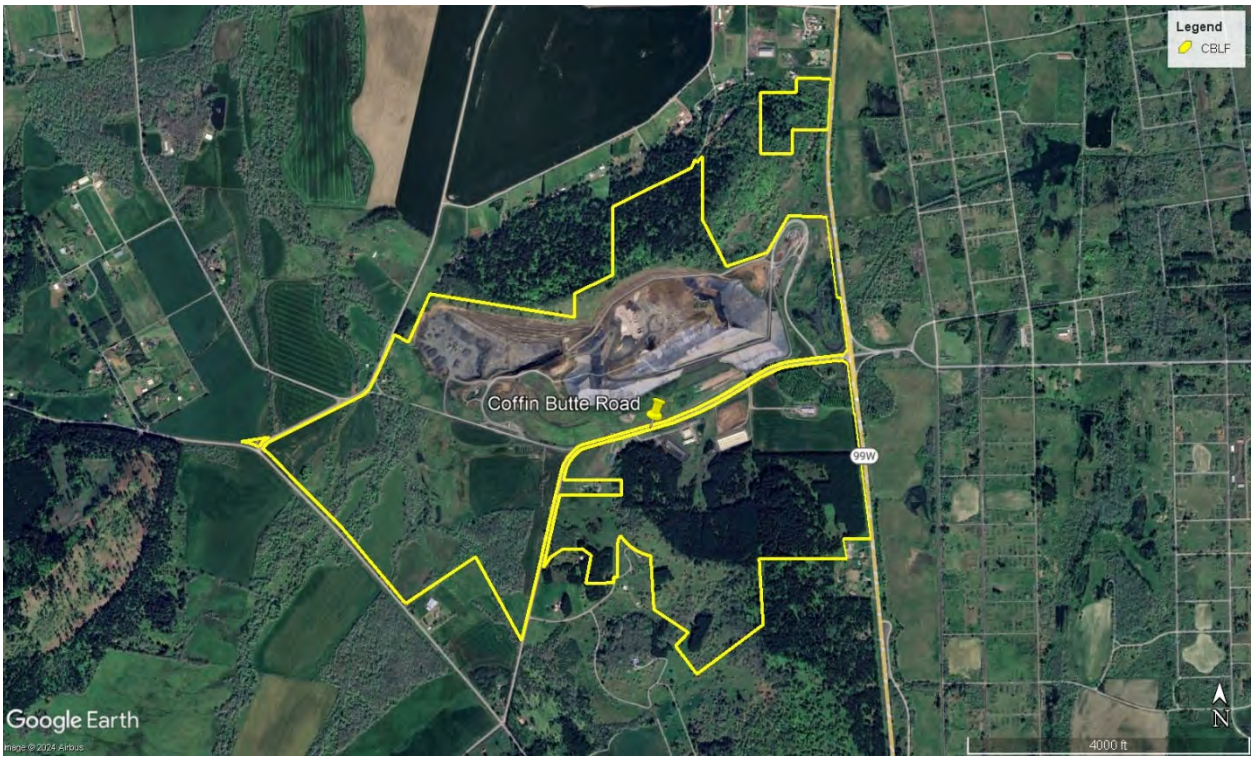
Following this Introduction, Section 2 provides a description of the facility. Section 3 describes the methodology used in this study while Section 4 summarizes the results. Section 5 then presents the conclusions. Finally, the appendices provide supporting documentation.

2.0 FACILITY DESCRIPTION

2.1 LOCATION

The CBLF is located at 28972 Coffin Butte Road in Corvallis, Oregon (Benton County). The facility is located just west of Highway 99W, approximately nine miles north of downtown Corvallis. Coffin Butte Road runs through the facility. See Figure 1 for the CBLF property boundary [1].

Figure 1. Facility Location

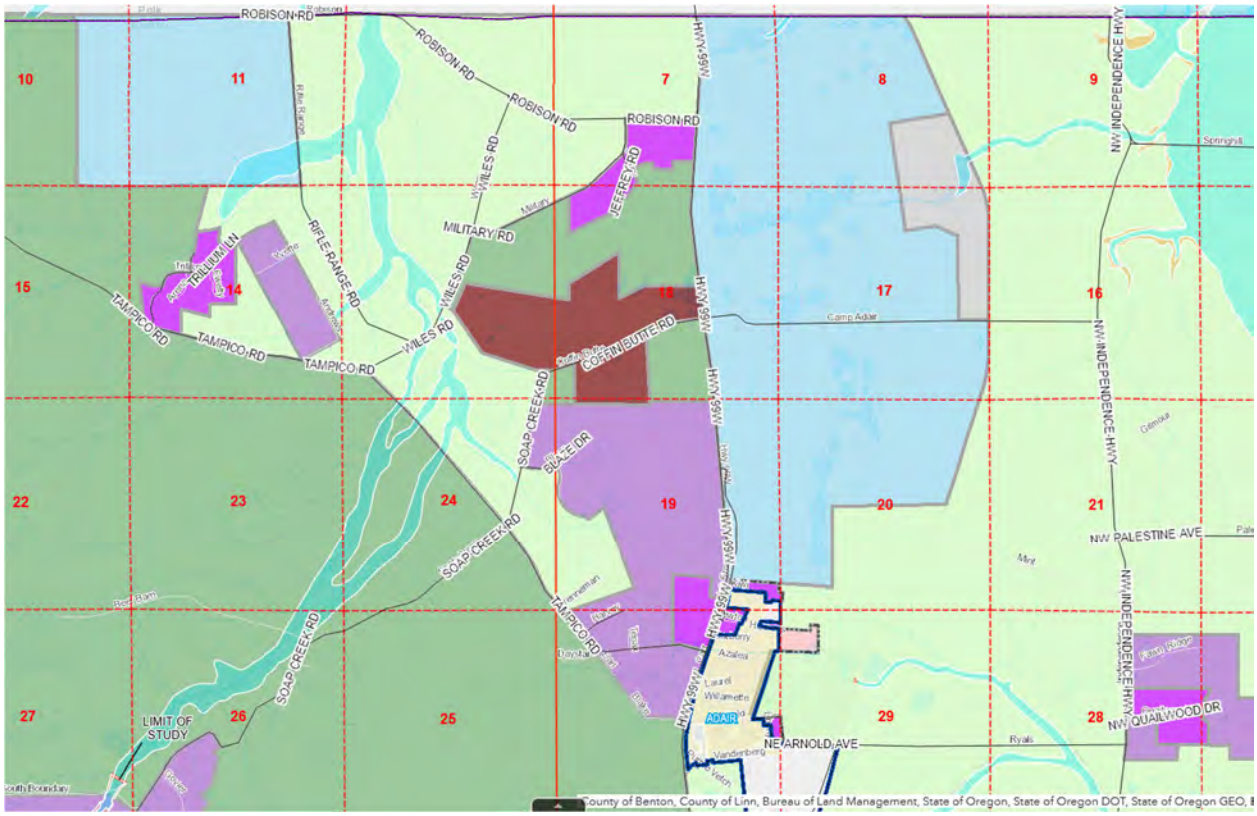


Note: Google Earth imagery from April 18, 2024.

2.2 LOCAL LAND USE / ZONING

Local land usage impacts air dispersion as surface characteristics differ for rural and urban conditions. Local land use near the CBLF is rural based upon the zoning map in Figure 2 [2].

Figure 2. Local Zoning Map



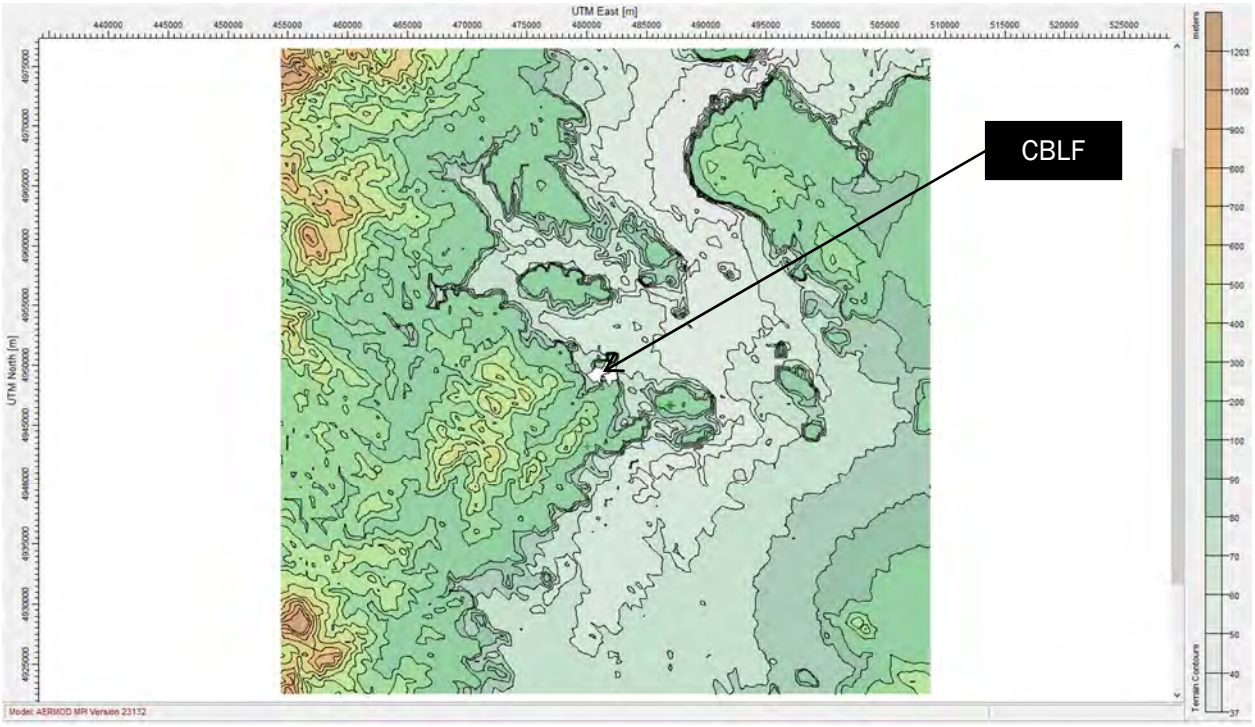
Zoning Color Code Legend:

- Exclusive farm use (light green);
- Forest conservation (green);
- Landfill (brown);
- Open space (light blue);
- Rural residential – 5 (magenta); and
- Rural residential – 10 (light magenta).

2.3 TERRAIN / TOPOGRAPHY

Local terrain also impacts air dispersion as winds can be channeled when flowing through canyons and valleys. In this case, the CBLF is located along the western edge of the Willamette Valley. See Figure 3 for the elevation contours surrounding the landfill [4].

Figure 3. Elevation Contour Map



2.4 CLIMATE AND METEOROLOGY

Local air quality is also impacted by the regional climate and meteorology as weather conditions control the transport and diffusion of emitted pollutants downwind from the release point into the surrounding area. Climate deals with long-term weather patterns while meteorology deals with short-term daily and hourly weather conditions. Nuisance odors are more likely to occur under poor meteorological conditions (e.g., low wind speed and stable wind conditions) that are common in the late night and early morning hours.

CBLF operates one weather station at the landfill. Nearby weather data is also collected by the National Oceanic and Atmospheric Administration (NOAA) / National Weather Service (NWS) at Corvallis Municipal Airport (KCVO) and Salem-McNary Field (KSLE). Table 1 provides information about these weather stations while Figure 4 displays their locations.

Table 1. Nearby Weather Monitoring Stations

Weather Data	On-site Weather Station	Corvallis Municipal Airport (KCVO)	Salem-McNary Field (KSLE)
Source	CBLF	NOAA	NOAA
USAF ID	---	726945	726940
WBAN ID	---	24202	24232
Frequency	30 minutes	1 hour	1 minute
Minimum wind speed (mph)	1	3.4	1
Wind direction resolution (deg)	1	10	1
Coordinates (Latitude, Longitude)	44.696, -123.234	44.5, -123.283	44.905, -123.001
Elevation (ft)	295	250	208
Distance from CBLF (miles)	0	13.9	18.5

A wind rose is used to display wind speed and wind direction (i.e., the direction from which the wind is blowing) data graphically for a designated historical time period (e.g., three years, seasonal, hour of the day). Figures 5 through 7 display wind roses for the CBLF, KCVO, and KSLE stations based upon the same three year time period (8/1/2021 to 8/1/2024). As shown in these figures, long term wind patterns vary depending upon the location measured. Therefore, wind conditions measured at the CBLF may not be representative of wind conditions at a reported odor complaint location due to valley terrain. See Appendix A for additional wind roses which compare the CBLF and KCVO wind roses based upon season and time of day.

Figure 4. Nearby Weather Monitoring Stations

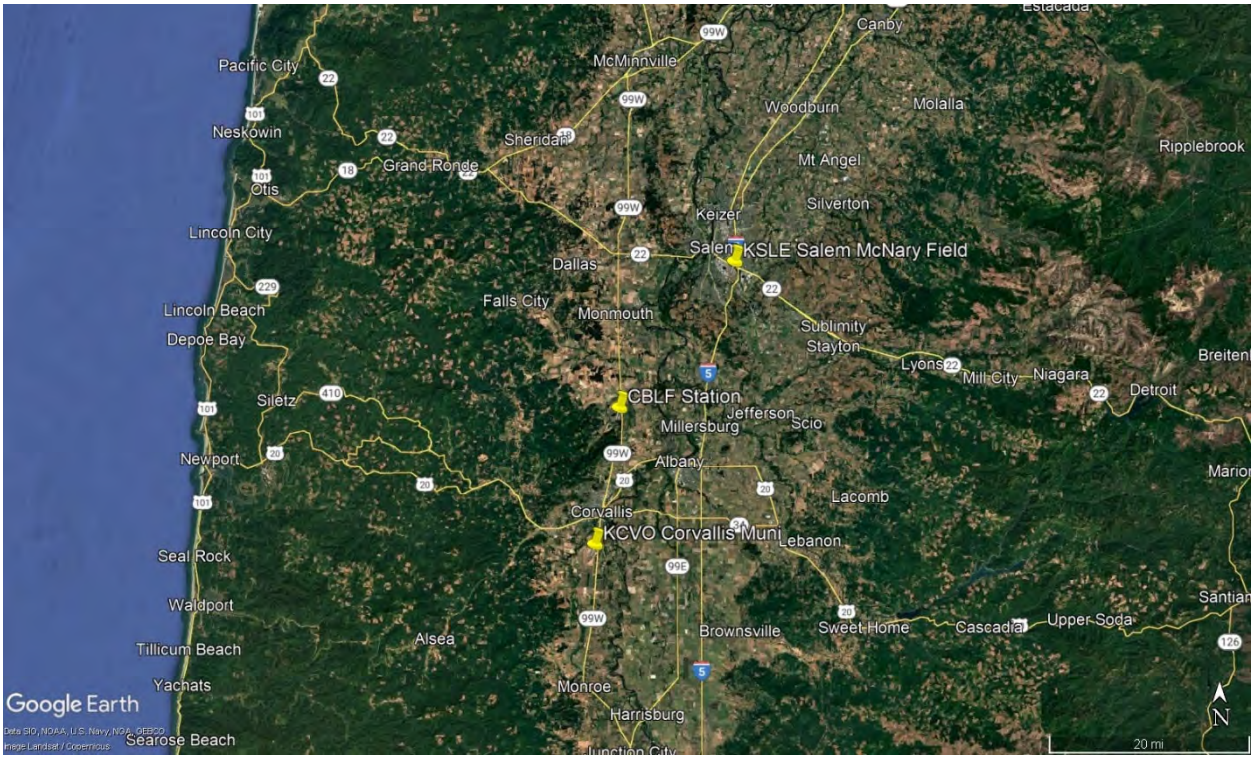


Figure 5. CBLF On-Site 3-Year Windrose

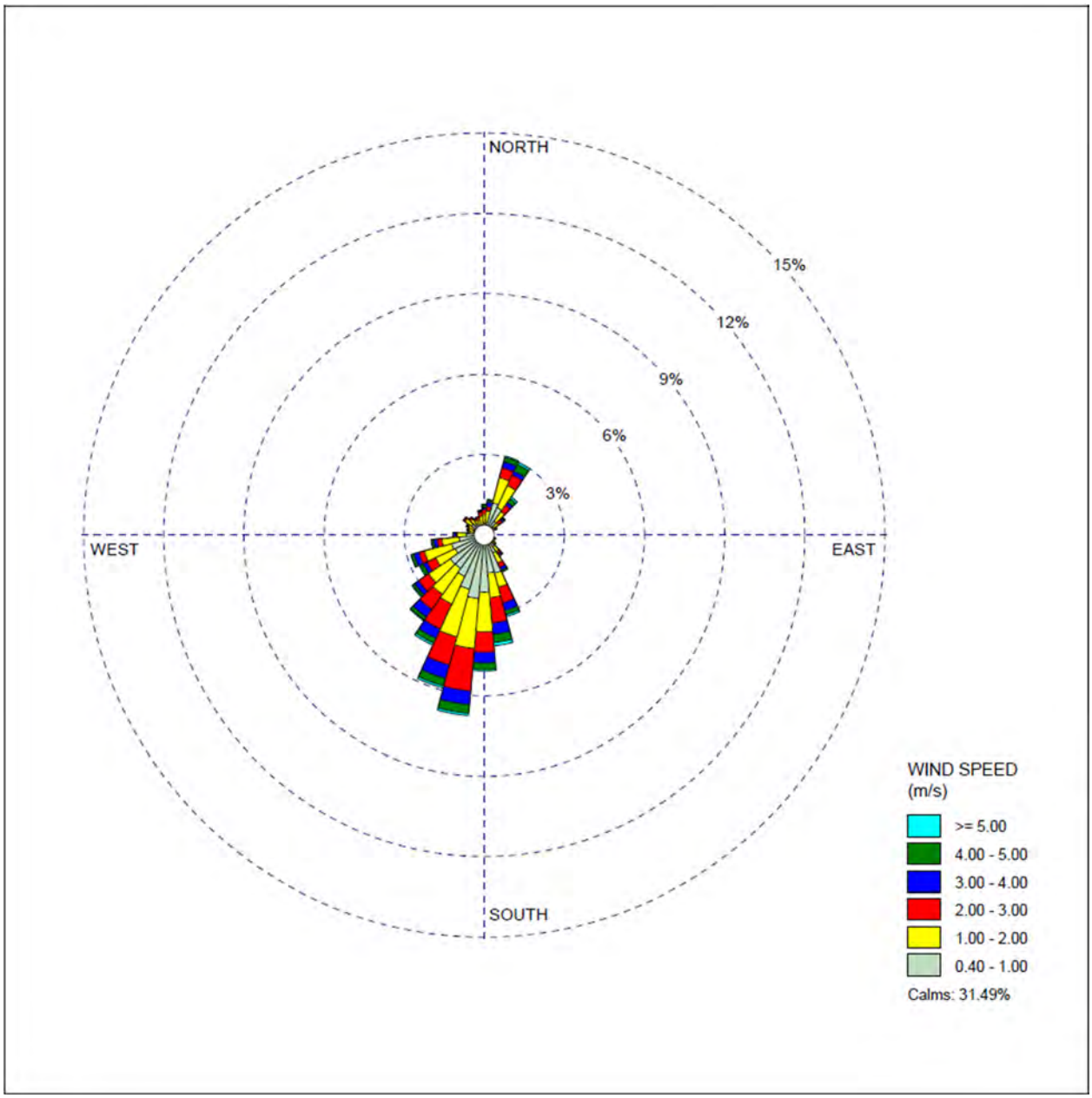


Figure 6. Corvallis Municipal Airport (KCVO) 3-Year Windrose

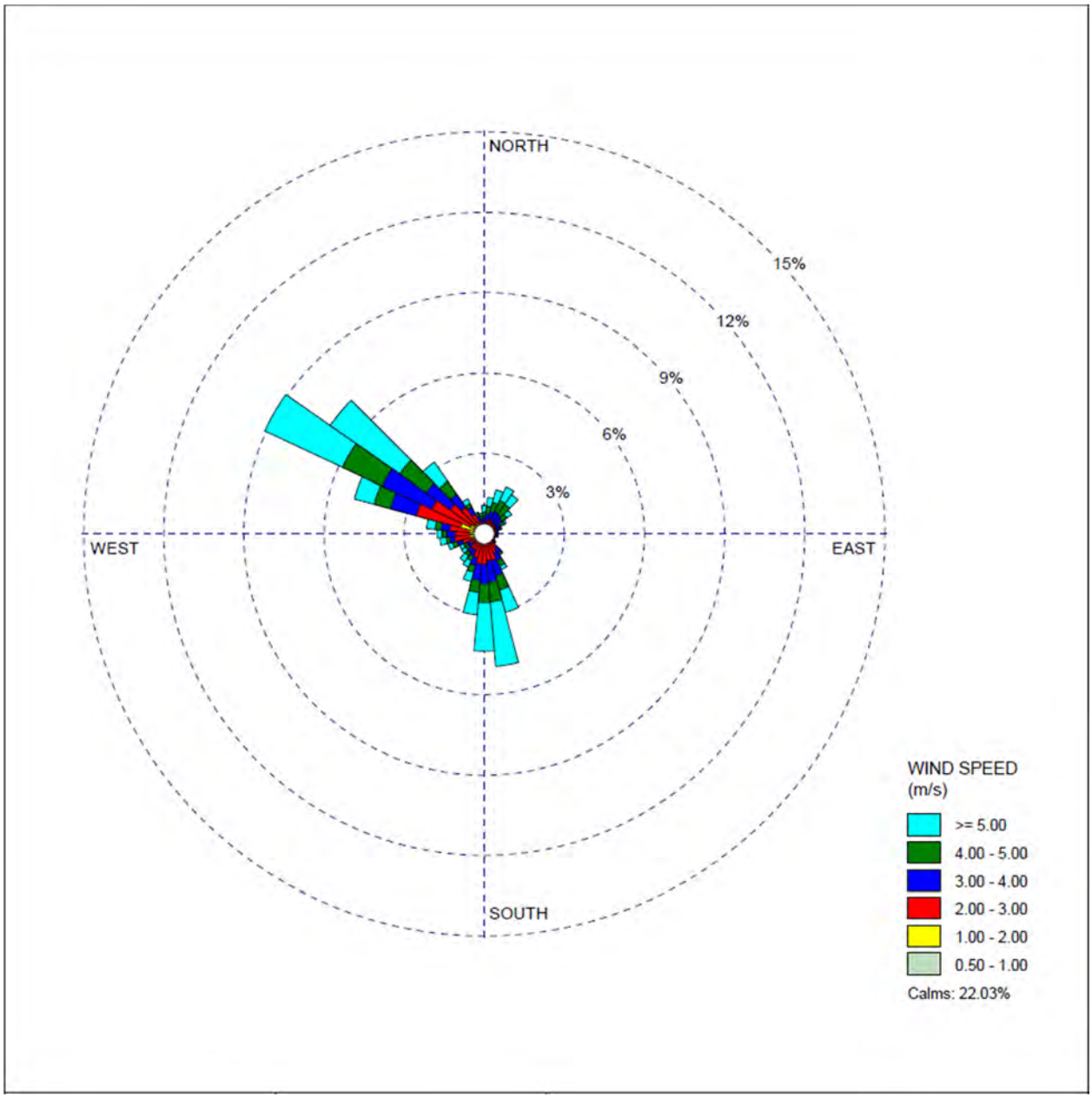
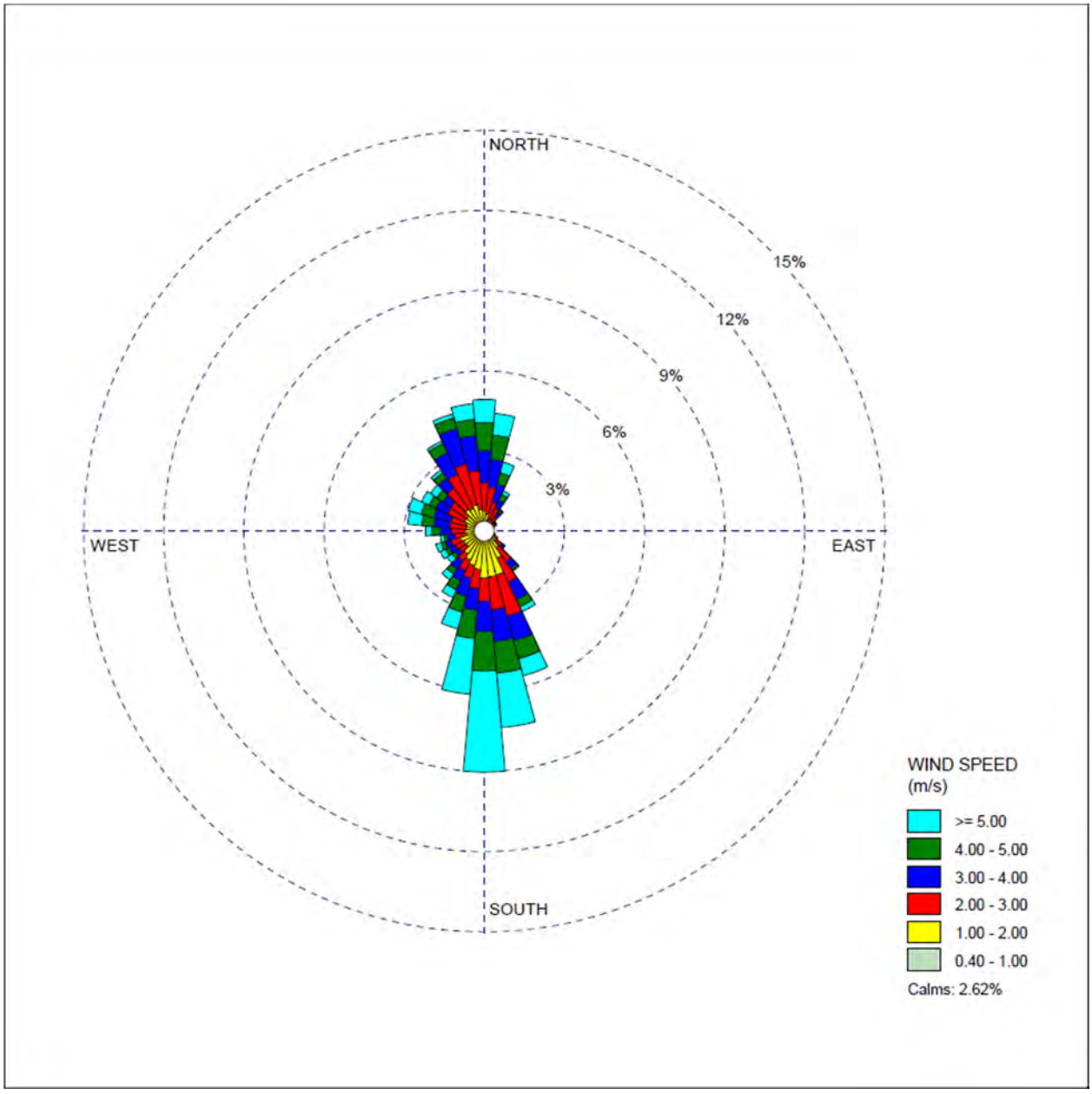


Figure 7. Salem-McNary Field (KSLE) 3-Year Windrose



2.5 POTENTIAL ODOR ACTIVITIES

CBLF accepts commercial and public solid waste. The waste is placed in layers at the working face, compacted by heavy equipment, and then covered daily. Once an area of the CBLF has reached capacity, it is eventually capped with final cover to minimize infiltration of precipitation and release of gases not captured by the landfill gas collection and control system (GCCS). Odor is potentially emitted from sources such as:

- working face;
- leachate (i.e., water that has passed through the landfill's layers);
- landfill gas (LFG) which is a natural byproduct of decomposing organic material; and
- flares which burn any excess LFG collected by the CBLF.

2.6 ODOR MONITORING AND CONTROL MEASURES

CBLF has developed and implemented a site-specific odor management plan that includes:

- application of daily cover;
- operating a LFG collection and control system;
- conducting surface emissions monitoring (SEM);
- monitoring local weather conditions (temperature, wind direction, etc.);
- conducting routine odor patrol inspections;
- responding to odor complaints received from the public and/or the Oregon Department of Environmental Quality (ODEQ);
- taking action when odors are detected/reported;
- observing the area of concern for smell and conditions;
- inspecting landfill operations for any unusual activities or conditions;
- identifying possible sources of odor; and
- confirming implementation of applicable odor minimization measures.

2.7 ODOR COMPLAINT HISTORY

SCS reviewed available data from recent odor complaints (January 2020 through August 8, 2024) to identify any specific patterns. Of the 70 odor complaints with exact dates reported, over half occurred during the winter season (see Table 2). Of the 50 complaints with the time of day reported, the peak complaint time was 8:00 am (see Figure 8). See Figure 9 and Figure 10 for odor complaint locations that provided an address or an intersection.

Table 2. Odor Complaints by Season

Season	Time Period	Complaints (%)
Winter	December 1 to February 29	55.7%
Spring	March 1 to May 31	21.4%
Summer	June 1 to August 31	14.3%
Fall	September 1 to November 30	8.6%

Figure 8. Odor Complaints by Time of Day

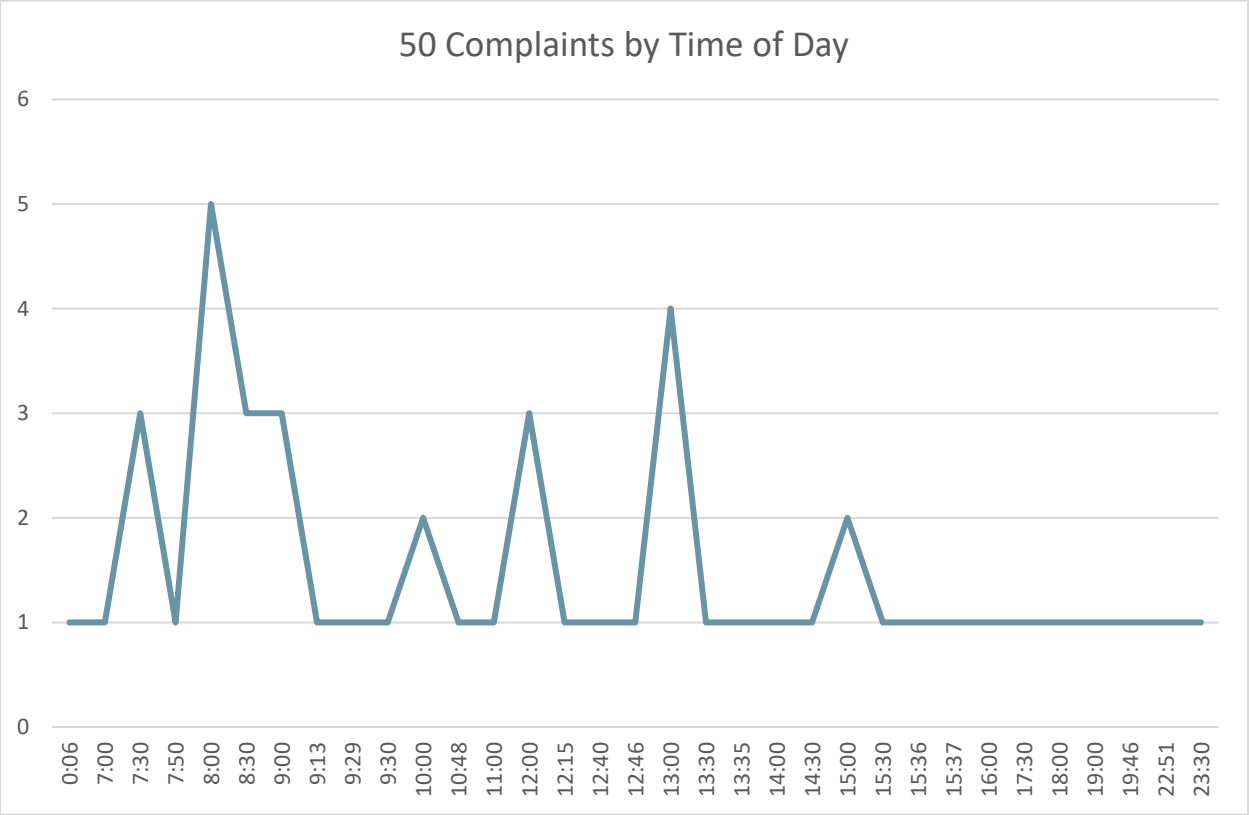


Figure 9. Odor Complaint Locations (View 1 of 2)

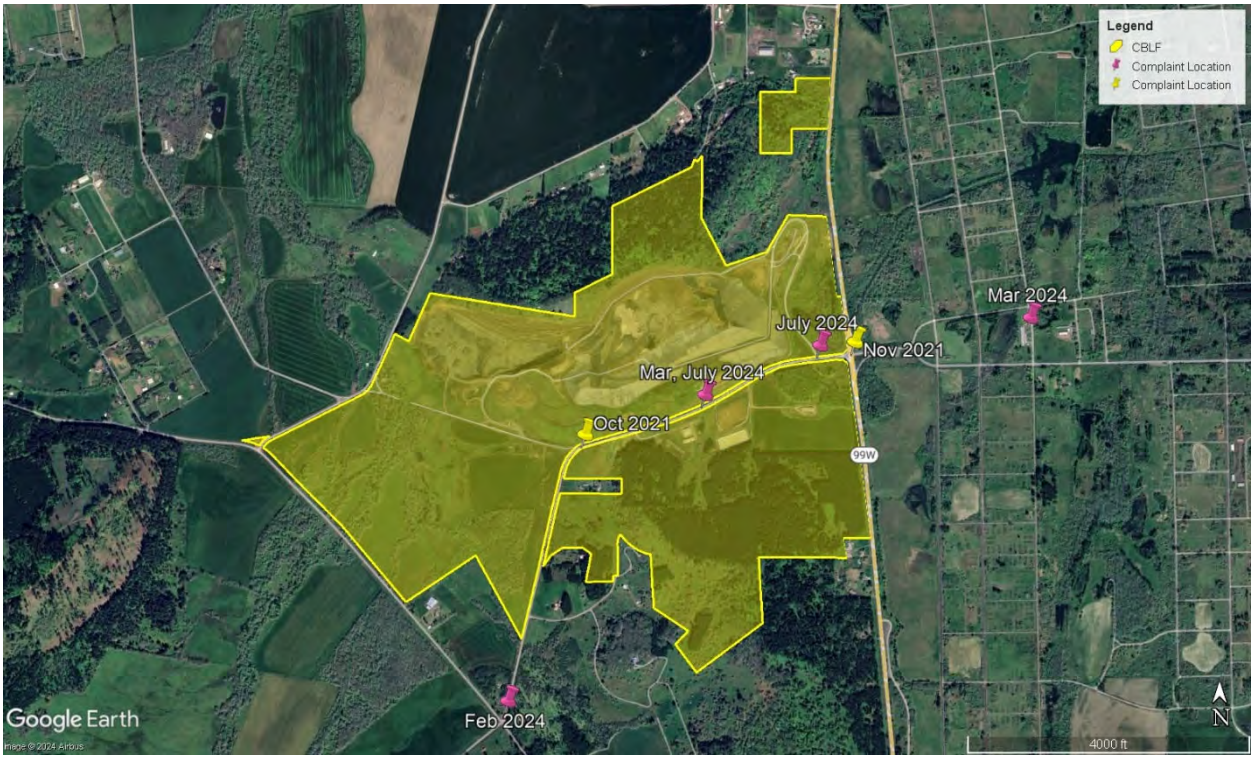
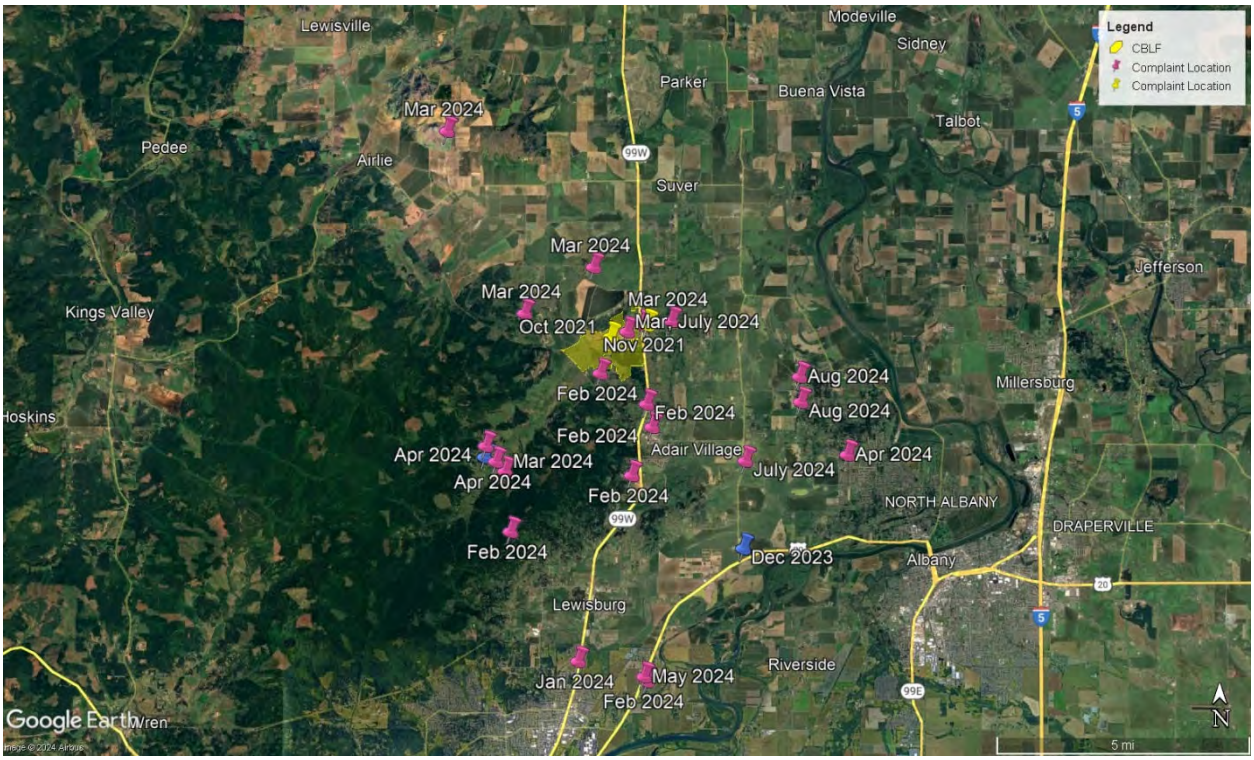


Figure 10. Odor Complaint Locations (View 2 of 2)



2.8 PROPOSED PROJECT

CBLF is requesting approval of a conditional use permit (CUP) application to expand the area on which landfill activities will be conducted to the south side of Coffin Butte Road (the "Development Site"). In addition to using the Development Site for the landfill, the proposed changes include an 1,800-square-foot employee building and parking on land to the west of the landfill, access road modifications on lands to the north, and the relocation of leachate ponds, leachate loadout, leachate sump, an outbound scale, portions of the perimeter landfill road, the shop/maintenance area, cut activities for landfill, and leachate ponds to support the landfill onto the property to the east (collectively, the "Project") [3]. Figure 11 displays the location of the expansion area in relation to existing operations.

Figure 11. Proposed Expansion Area (Taxlot 104180001107)

3.0 METHODOLOGY

Since odor is a subjective human response, odor dispersion modeling provides an objective approach towards understanding how on-site emissions of odor potentially impact off-site locations. The following summarizes the methodology used in this study.

3.1 MODEL SELECTION

The American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) (EPA Version 23132 (May 12, 2023) incorporated into the Lakes Environmental AERMOD View 12.0 software suite) [5] was used to model representative emissions of odor from the landfill. AERMOD was selected for this study since:

- AERMOD is preferred/recommended by the EPA for near-field dispersion of emissions for distances less than 50 kilometers in both simple and complex terrain.
- AERMOD is acceptable to the ODEQ for dispersion modeling studies [6].
- AERMOD has undergone numerous validation studies.
- AERMOD is in the public domain and is readily available.
- AERMOD can model multiple sources and multiple receptors.
- AERMOD can use representative meteorological data to simulate atmospheric conditions that affect the transport and dispersion of air pollution from sources.
- AERMOD can use local terrain data to model receptors in complex terrain.
- AERMOD can be used to model impacts of odor causing pollutants.

Input data for AERMOD included the following which are described below:

- source parameters (locations, dimensions, emission rates, etc.);
- receptor locations;
- meteorological data;
- terrain data; and
- model options.

See below for details regarding the AERMOD model input.

3.2 SOURCE PARAMETERS

Source parameters were used to model the release of odor from two virtual sources (one representing existing operations and one representing proposed operations). Each source was modeled as a 100-meter by 100-meter area source with the same odor emission rate so that individual odor impacts could be compared. The odor emission rate for each source was estimated as odor concentration times odor volumetric flow rate using representative data since field measurements were not collected for this study.

Odor concentration is defined as the dilution of an odor sample with odor-free air, at which point only 50% of an odor panel (or population) will detect or recognize the odor (e.g., per ASTM 679-04 – Standard Practice for Determination of Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits). This point is expressed in units of “dilutions-to-threshold” or “D/T”. By definition, odor threshold is equal to 1 D/T (i.e., volume of odorous air after dilution divided by volume before dilution equals one). Typically, odors become a nuisance at or above 7 D/T [8,9]. For

this study, 500 D/T was used to represent odor concentrations from the working face, covered areas, and leachate based upon prior field studies conducted by SCS Engineers at other landfills.

Odor volumetric flow rate (m^3/s) was estimated as vertical velocity (m/s) times the source's surface area (m^2). For this study, 1.0×10^{-4} m/s was used to represent the vertical velocity of odor emitted from the working face, covered areas, and leachate based upon prior field studies and odor studies conducted by SCS Engineers at other landfills.

Table 3 summarizes the source parameters modeled while Figure 12 displays the modeled source locations.

Table 3. Source Parameters Modeled

Parameter	Virtual Source #1 (Existing Operations)	Virtual Source #2 (Proposed Operations)
UTM X, Y Coordinates (m)	481500, 4949700	481745, 4949095
Elevation (m)	133.98	101.6 and 133.98
Release Height (m)	0	0
Length of X Side (m)	100	100
Length of Y Side (m)	100	100
Odor Concentration (D/T)	500	500
Vertical Velocity (m/s)	0.0001	0.0001
Odor Emission Rate per Area (D/T)*(m/s)	0.05	0.05
Odor Emission Rate (D/T)*(m^3/s)	500	500
Rotation Angle (deg)	0	0
Initial Vertical Dimension (m)	(none)	(none)

Figure 12. Modeled Area Source Locations

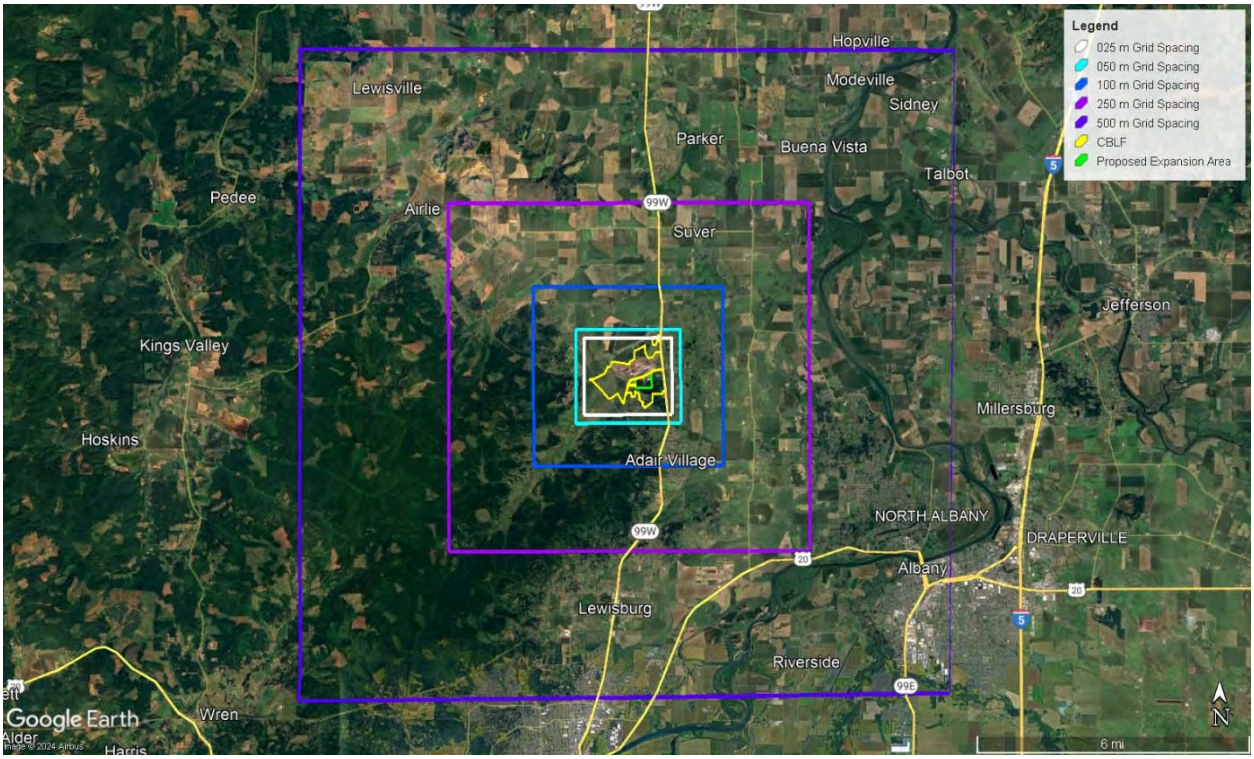
3.3 BUILDING DOWNWASH

Building downwash occurs when wind flowing over/around buildings impacts the dispersion of pollution from nearby stacks (point sources). Building downwash was not included since point sources were not modeled in the analysis.

3.4 RECEPTORS

AERMOD was used to generate nested 25-meter, 50-meter, 100-meter, 250-meter, and 500-meter spaced receptor grids over the landfill and surrounding area. Additional receptors were placed along the landfill's property boundary at 10-meter intervals. Receptor flag pole heights were set to zero meters (ground level). On-site receptors within the landfill's property boundary were removed from the analysis. See Figure 13 for the layout of the nested grids.

Figure 13. Nested Receptor Grid



3.5 METEOROLOGICAL DATA

Selection of an appropriate meteorological station for dispersion modeling purposes is based upon many factors such as the source's meteorological conditions (e.g., prevailing winds, mixing heights, etc.), terrain, surrounding land use and surface characteristics, and proximity. As seen in Section 2.4, wind conditions vary depending upon location within the valley. Therefore, three meteorological datasets were used in the analysis:

- KCVO surface data and Salem upper air data (2018 through 2023) processed by AERMET.
- KSLE surface data and Salem upper air data (2018 through 2023) processed by AERMET.
- Screening surface and upper air data generated for a range of weather conditions spanning all wind directions using AERMOD's Makemet utility.

3.6 TERRAIN DATA

Local terrain data was first downloaded from the United States Geological Survey (USGS) 1/3 arc-second National Elevation Dataset (NED). Elevations were then processed and imported into AERMOD for the sources and receptors modeled.

3.7 MODEL OPTIONS

AERMOD was used to predict maximum, off-site, 1-hour odor concentrations for each virtual source using the rural dispersion mode and elevated terrain. Table 4 summarizes the modeling scenarios analyzed. As indicated in Table 4, Source #2 (proposed operations) was modeled at two different elevations to represent future options (one at the current undeveloped elevation and one at the same elevation as the current working face).

Table 4. Modeling Scenarios

Scenario No.	Meteorological Data	Virtual Source #1 (Existing Operations) Modeled Elevation (m)	Virtual Source #2 (Proposed Operations) Modeled Elevation (m)
1	KCVO	133.98	101.6
2	KSLE	133.98	101.6
3	Makemet	133.98	101.6
4	KCVO	133.98	133.98
5	KSLE	133.98	133.98
6	Makemet	133.98	133.98

3.8 NUISANCE ODOR THRESHOLD

Oregon state laws prohibit businesses from emitting odors which cause a nuisance. These nuisance laws are implemented by the ODEQ which has developed a strategy for responding to odor complaints reported through an online tool. The strategy emphasizes early odor detection, voluntary cooperation and the rapid resolution of nuisance conditions related to odors [7]. Since the ODEQ's nuisance odor strategy does not include a D/T value for nuisance odor, this study used 7 D/T as the threshold for nuisance odor [8, 9].

4.0 RESULTS

Table 5 summarizes the peak, off-site, 1-hour odor concentrations for each modeling scenario. See Figure 14 for the peak, off-site impact locations. See Figure 15 through Figure 22 for the odor concentration contours from modeling scenario #3 which had the highest off-site impacts (note, reported odor complaint locations from Figure 10 are displayed in these figures for reference).

Table 5. Peak 1-Hour Off-site Odor Concentrations

Scenario No.	Meteorological Data	Virtual Source #1 (Existing Operations) Peak Off-Site Odor Concentration (D/T)	Virtual Source #2 (Proposed Operations) Peak Off-Site Odor Concentration (D/T)	Nuisance Odor Threshold (D/T)	Nuisance Odor Threshold Exceeded?
1	KCVO	0.42	0.64	7	No
2	KSLE	0.92	1.52	7	No
3	Makemet	1.21	2.04	7	No
4	KCVO	0.42	0.64	7	No
5	KSLE	0.92	1.52	7	No
6	Makemet	1.21	1.34	7	No

Figure 14. Peak 1-Hour Off-site Odor Impact Locations

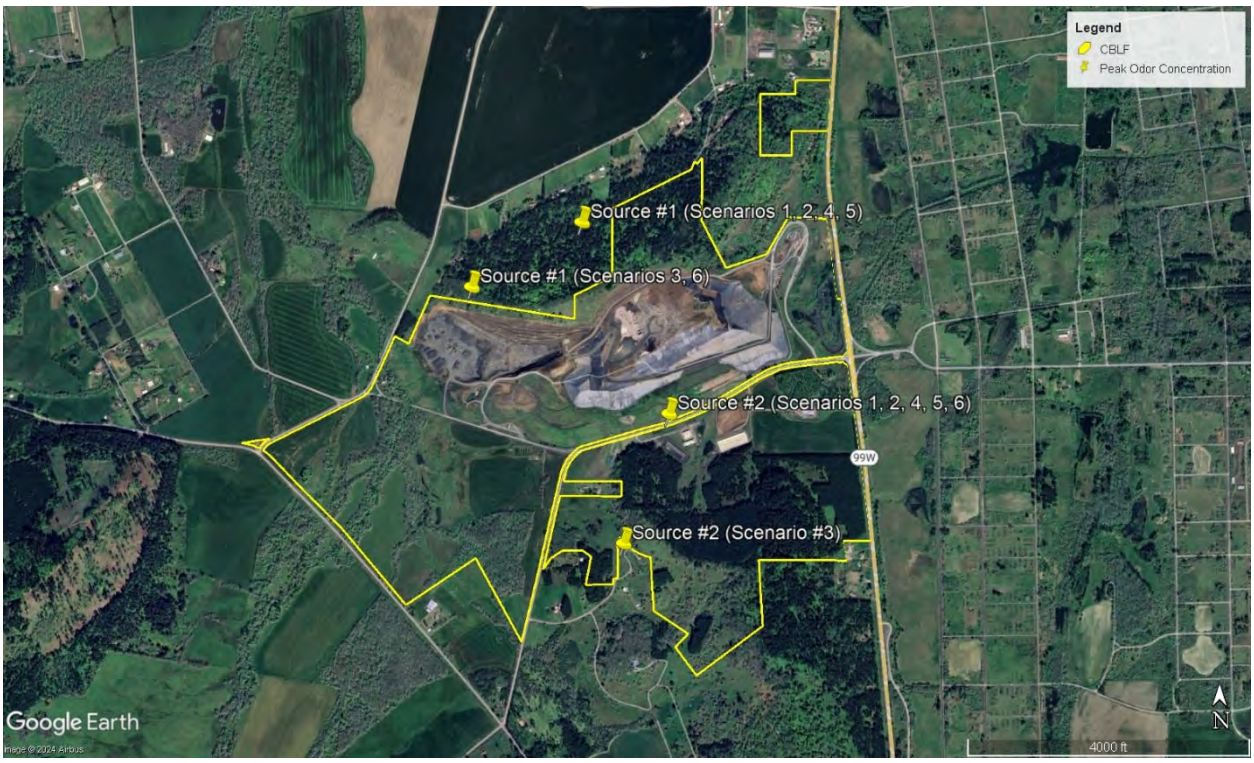


Figure 15. Source #1 Odor Concentration D/T Contours (Scenario #3, View 1 of 4)

Figure 16. Source #1 Odor Concentration D/T Contours (Scenario #3, View 2 of 4)

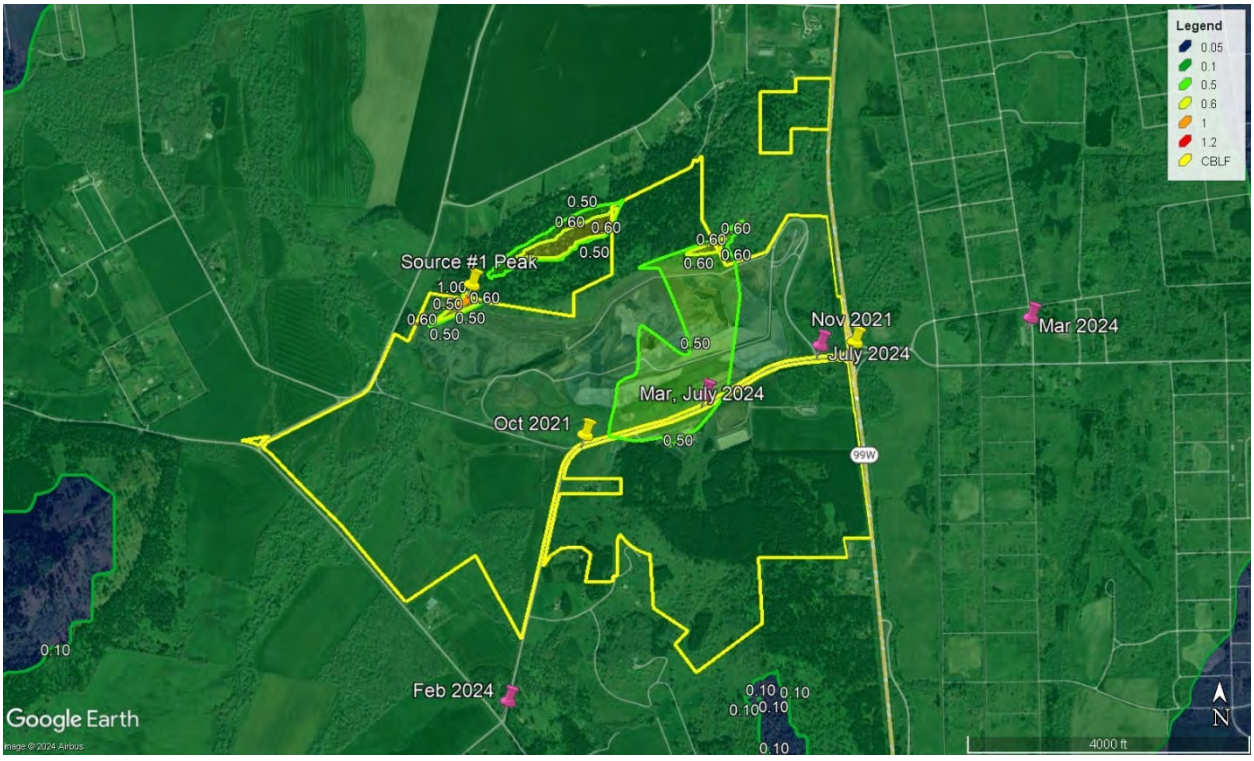


Figure 17. Source #1 Odor Concentration D/T Contours (Scenario #3, View 3 of 4)

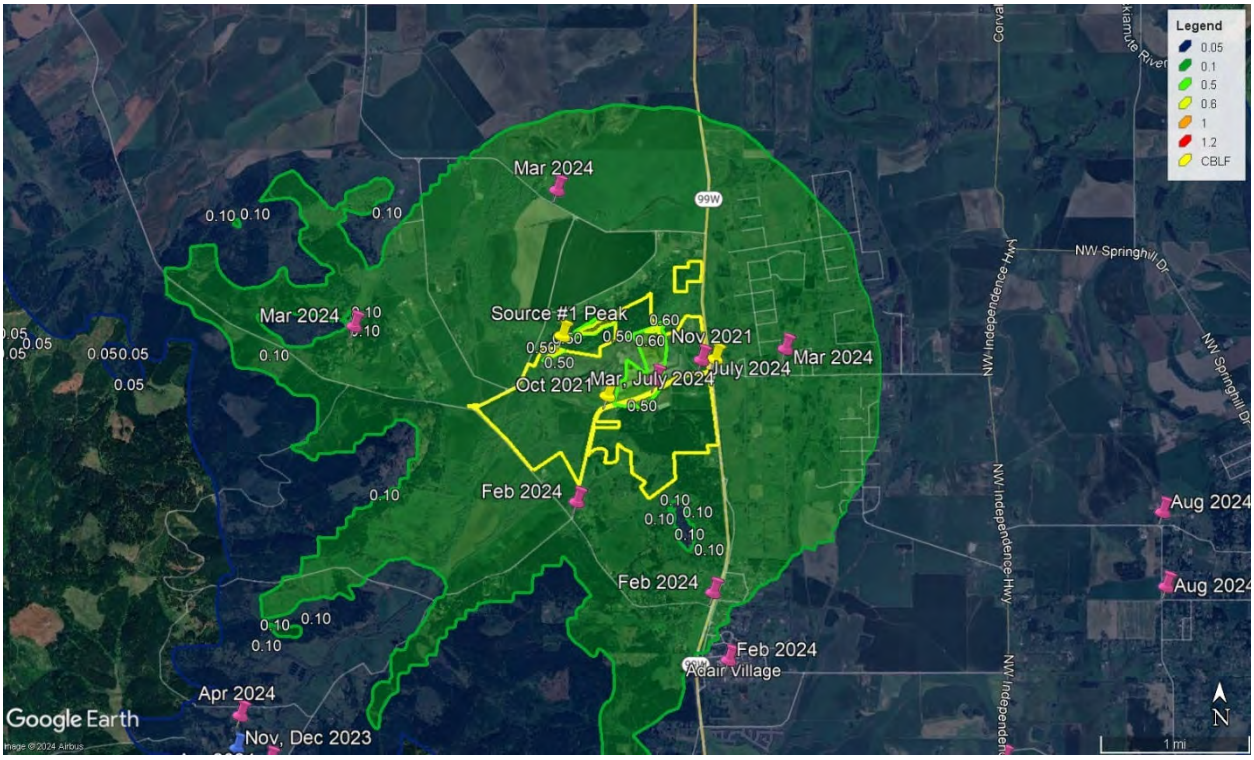


Figure 18. Source #1 Odor Concentration D/T Contours (Scenario #3, View 4 of 4)

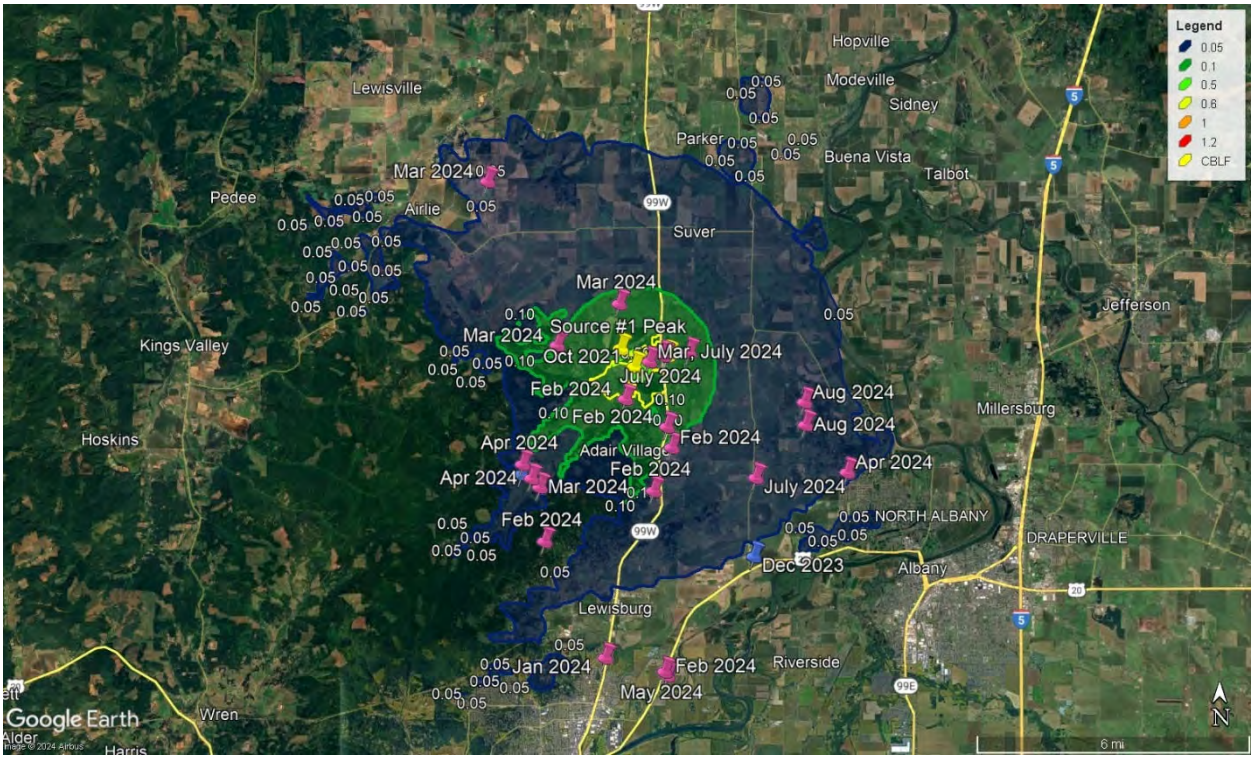


Figure 19. Source #2 Odor Concentration D/T Contours (Scenario #3, View 1 of 4)

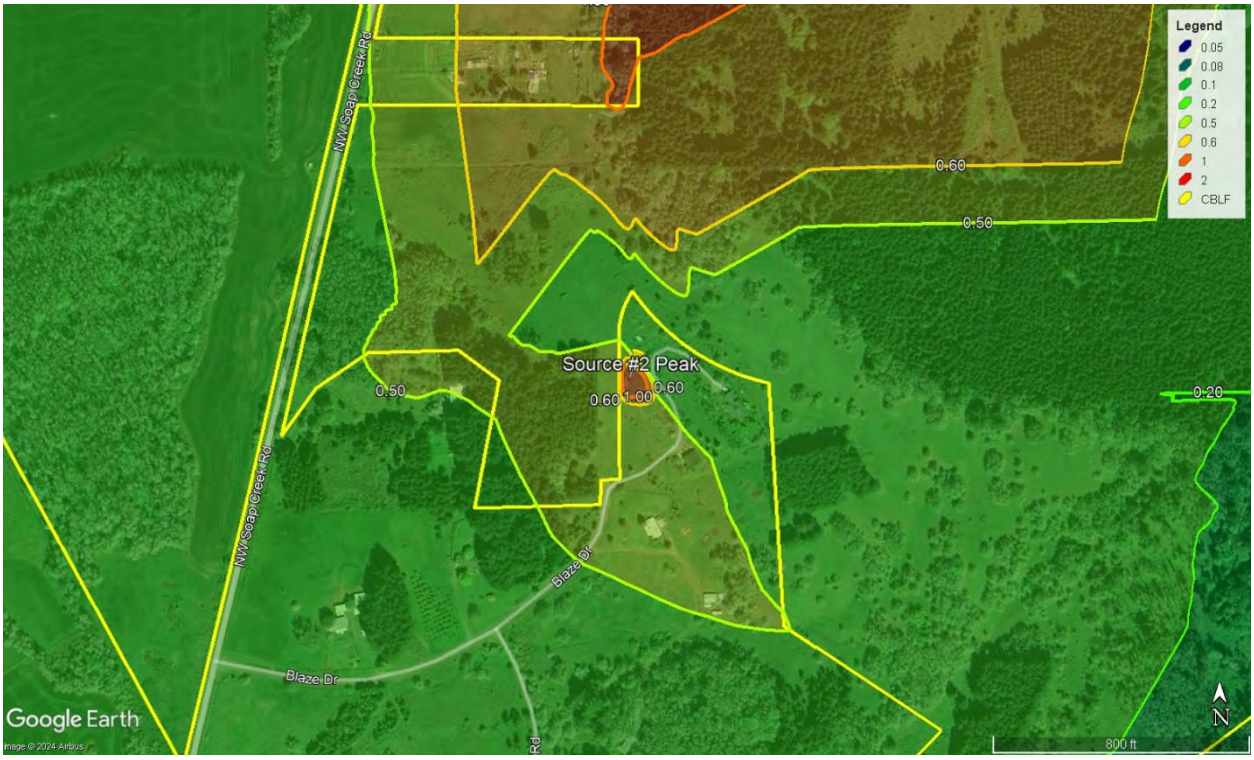


Figure 20. Source #2 Odor Concentration D/T Contours (Scenario #3, View 2 of 4)

Figure 21. Source #2 Odor Concentration D/T Contours (Scenario #3, View 3 of 4)

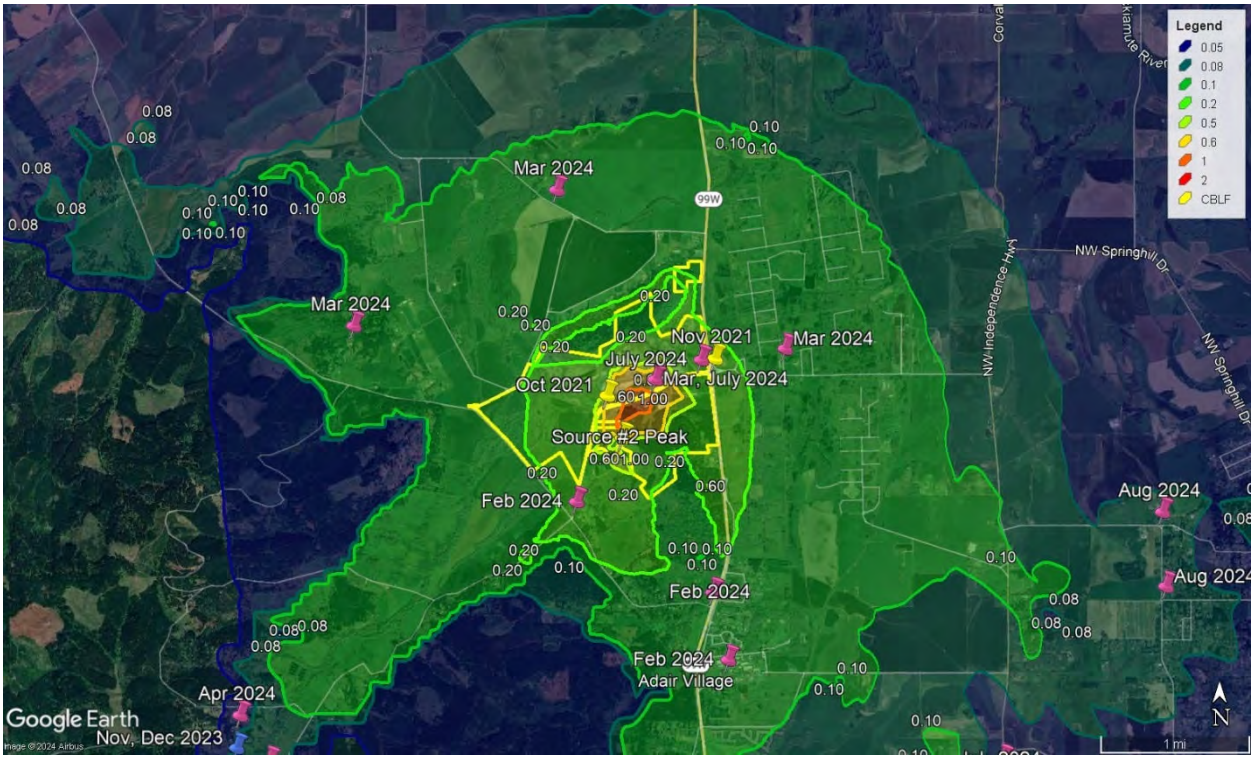
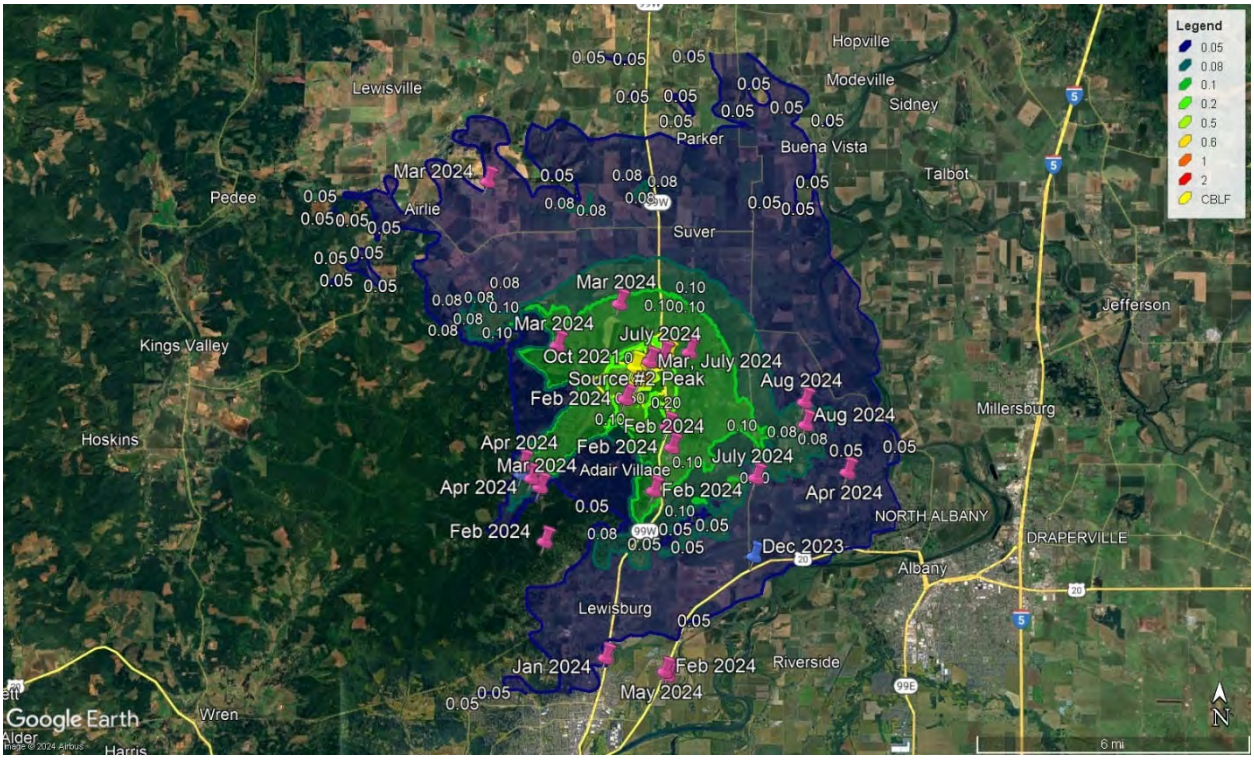


Figure 22. Source #2 Odor Concentration D/T Contours (Scenario #3, View 4 of 4)



5.0 CONCLUSIONS

The analysis modeled six different scenarios in order to predict the peak, off-site, 1-hour odor concentrations from existing and proposed operations for comparison to a numeric threshold of significance for nuisance odors (7 D/T). The following conclusions are presented based upon the results of this study:

- Peak, off-site, 1-hour odor concentrations were below 7 D/T (the numeric threshold of significance for nuisance odors) for all scenarios modeled.
- For existing operations (Source #1), the modeled peak, off-site, 1-hour odor concentration was north of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.42 to 1.21 D/T. Impacts above 1 D/T (the point at which only 50% of the population is expected to smell any odor) extended only a small distance off-site. None of the complaint locations from Figure 10 were within the 1 D/T contour.
- For proposed operations (Source #2), the modeled peak, off-site, 1-hour odor concentration was either along Coffin Butte Road or south of the landfill (in two different locations depending upon the meteorological data used) and ranged from 0.64 to 2.04 D/T. Impacts above 1 D/T (the point at which only 50% of the population is expected to smell any odor) were either along Coffin Butte Road or extended only a small distance off-site. Only one complaint location from Figure 10 was within the 1 D/T contour.
- Moving operations to the proposed expansion area will move the predicted peak, off-site 1-hour impact location, but impacts would remain well below the 7 D/T threshold.
- While off-site odors can occur as a result of the current and future landfill operations, these potential impacts are less than significant and expected to be short lived (i.e., only occur under weather conditions with poor atmospheric dispersion).

6.0 REFEFENCES

1. Benton County, “Taxlots”, https://gis.co.benton.or.us/gisdata/Assessment/.

2. Benton County, “Benton County Zoning Map Online”, https://cd.bentoncountyor.gov/maps/.

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4. United States Geological Survey, “National Elevation Dataset (NED)”, https://www.usgs.gov/publications/national-elevation-dataset.

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7. Oregon Department of Environmental Quality, “Nuisance Odor Strategy”, https://www.oregon.gov/deq/aq/pages/nuisance-odor.aspx.

8. San Diego State University and California Integrated Waste Management Board, “Contractor’s Report to the Board – Comprehensive Compost Odor Response Project”, March 2007, https://www2.calrecycle.ca.gov/Publications/Download/841.

9. McGinley, P.E., Charles M., “Enforceable Permit Odor Limits”, St. Croix Sensory, Inc., https://www.fivesenses.com/, 2000.

10. Hanson, J., Yesiller, N., et al, “Compaction Characteristics of Municipal Waste”, http://gwri.calpoly.edu/media/Research_Papers/Compaction_Characteristics_of_Municipal_Solid_Waste.pdf, 2010.

Appendix A

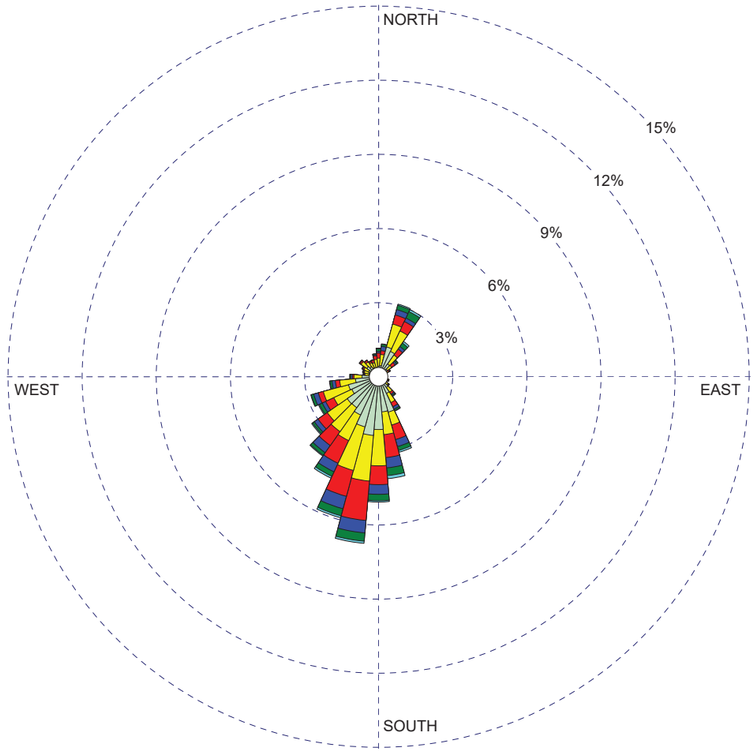
CBLF and KCVO Windrose Comparison

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR WINDROSE (8/1/2021 TO 8/1/2024)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **31.49%**	TOTAL COUNT: **52532**	
	AVG. WIND SPEED: **1.11 m/s**		PROJECT NO.:

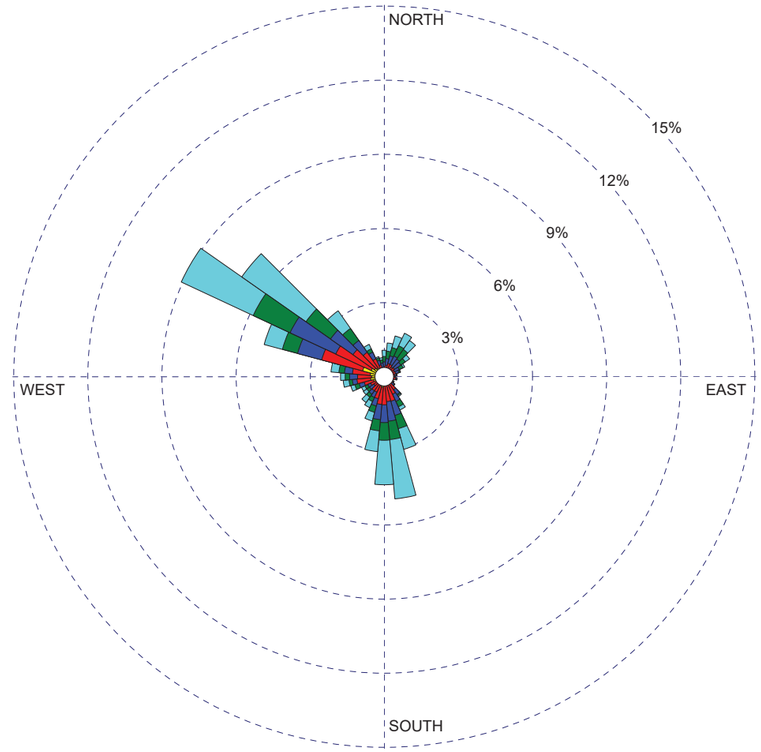
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR WINDROSE (8/1/2021 TO 8/1/2024)

DISPLAY:

Wind Speed
Direction (blowing from)



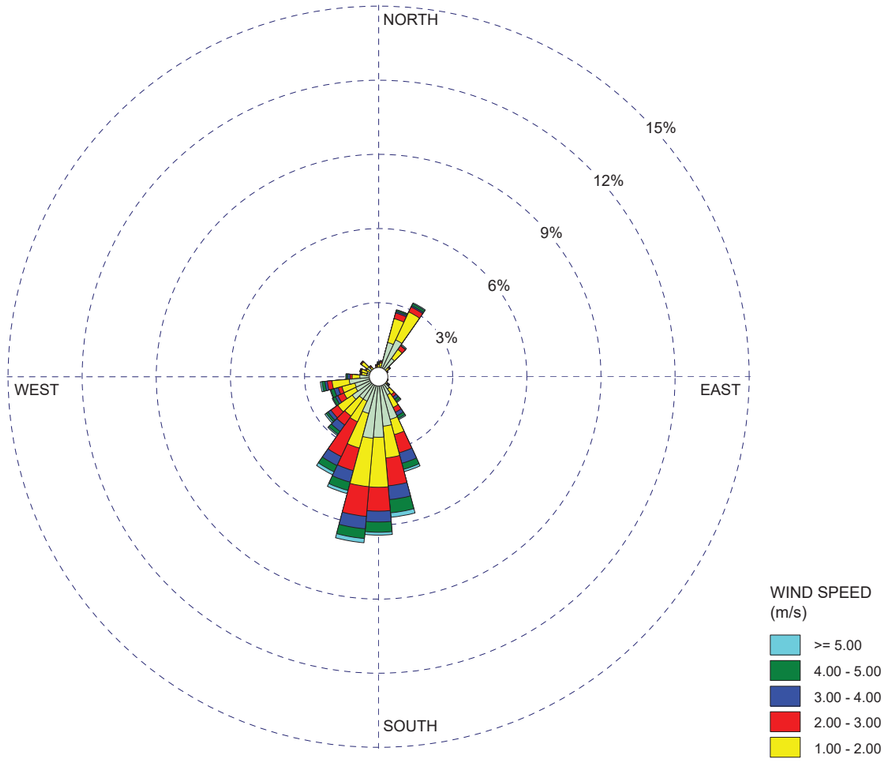
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 00:00** **End Date: 7/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **22.03%**	TOTAL COUNT: **24841 hrs.**	
	AVG. WIND SPEED: **3.07 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR WINTER WINDROSE (8/1/2021 TO 8/1/2024, DEC-FEB)

DISPLAY:
Wind Speed
Direction (blowing from)



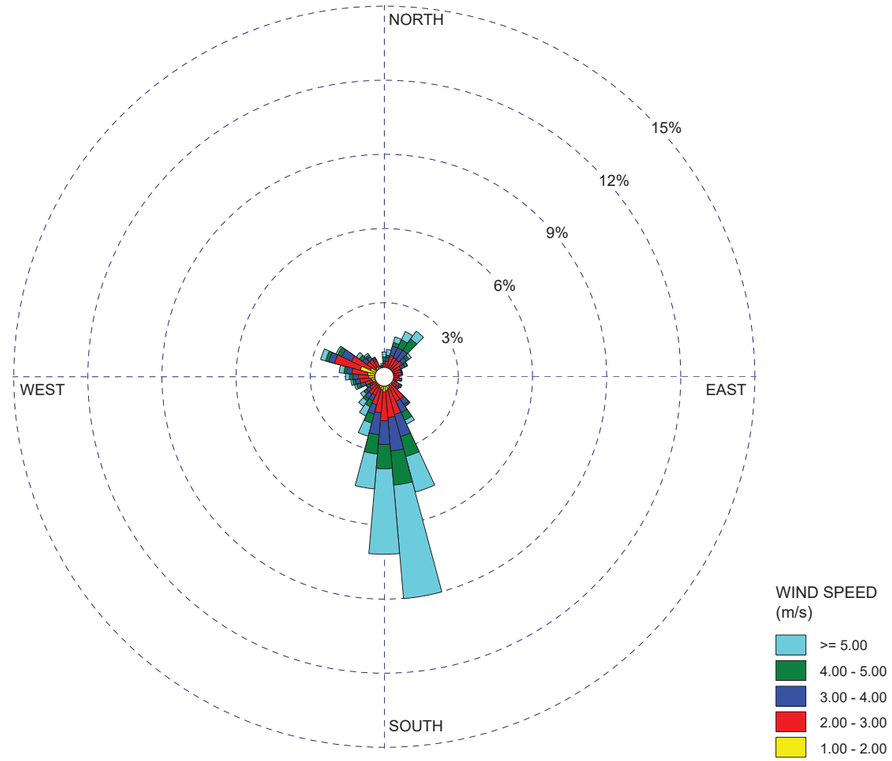
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **34.24%**	TOTAL COUNT: **13002**	
	AVG. WIND SPEED: **1.07 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR WINTER WINDROSE (8/1/2021 TO 8/1/2024, DEC-FEB)

DISPLAY:
Wind Speed
Direction (blowing from)



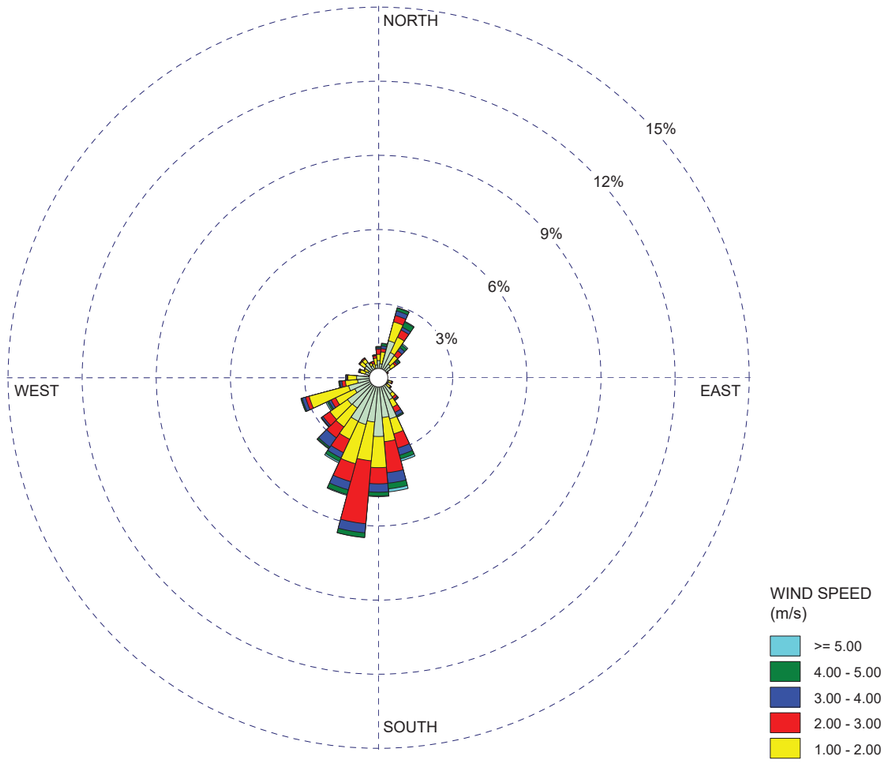
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 12/1/2021 - 00:00** **End Date: 2/29/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **28.47%**	TOTAL COUNT: **6235 hrs.**	
	AVG. WIND SPEED: **2.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR FALL WINDROSE (8/1/2021 TO 8/1/2024, SEP-NOV)

DISPLAY:
Wind Speed
Direction (blowing from)



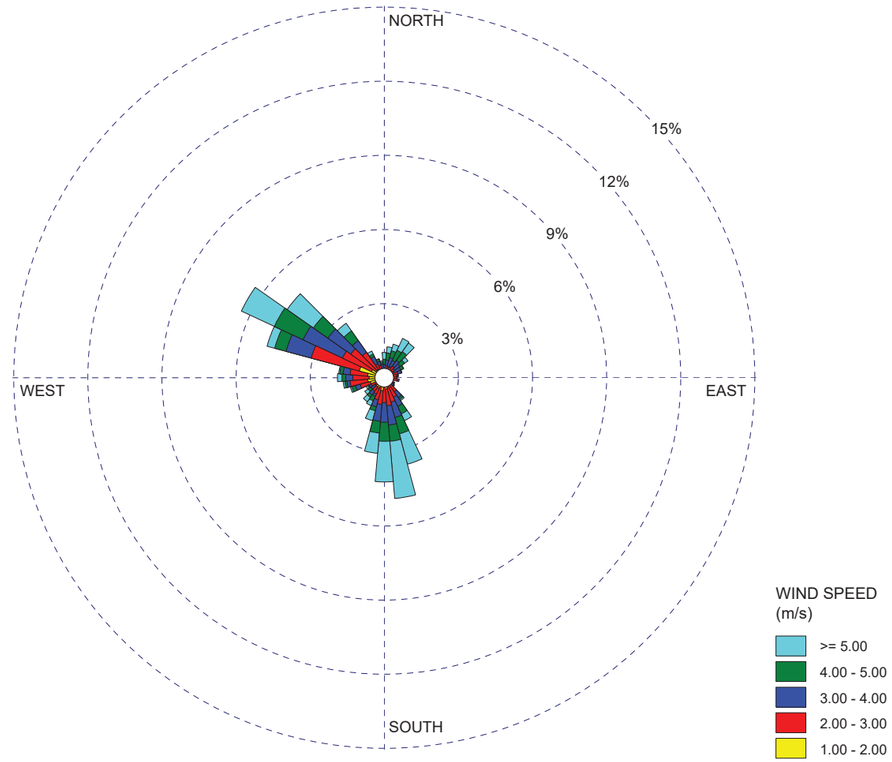
COMMENTS:		COMPANY NAME:	
Onsite (30 minute data)		**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS:	TOTAL COUNT:	
	33.70%	**13108**	
	AVG. WIND SPEED:		PROJECT NO.:
	0.98 m/s		

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR FALL WINDROSE (8/1/2021 TO 8/1/2024, SEP-NOV)

DISPLAY:
Wind Speed
Direction (blowing from)



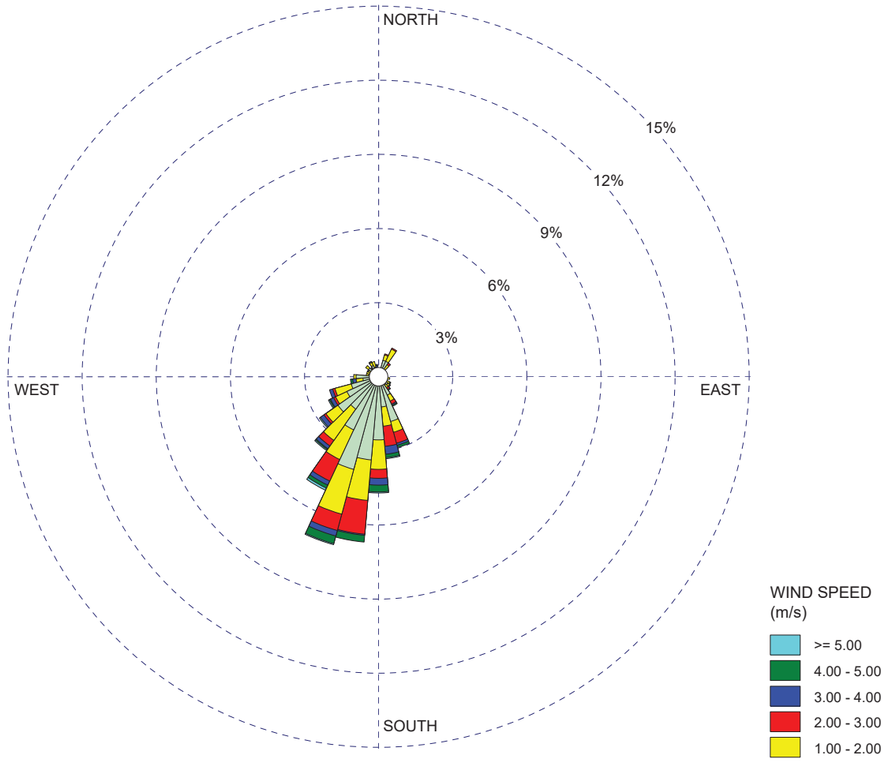
COMMENTS:	DATA PERIOD:	COMPANY NAME:	
NOAA hourly data (10-degree wind directions)	**Start Date: 9/1/2021 - 00:00** **End Date: 11/30/2023 - 23:59**	**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS:	TOTAL COUNT:	
	28.25%	**6184 hrs.**	
	AVG. WIND SPEED:		PROJECT NO.:
	2.59 m/s		

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 01 WINDROSE (8/1/2021 TO 8/1/2024, 0000-0100)

DISPLAY:
Wind Speed
Direction (blowing from)



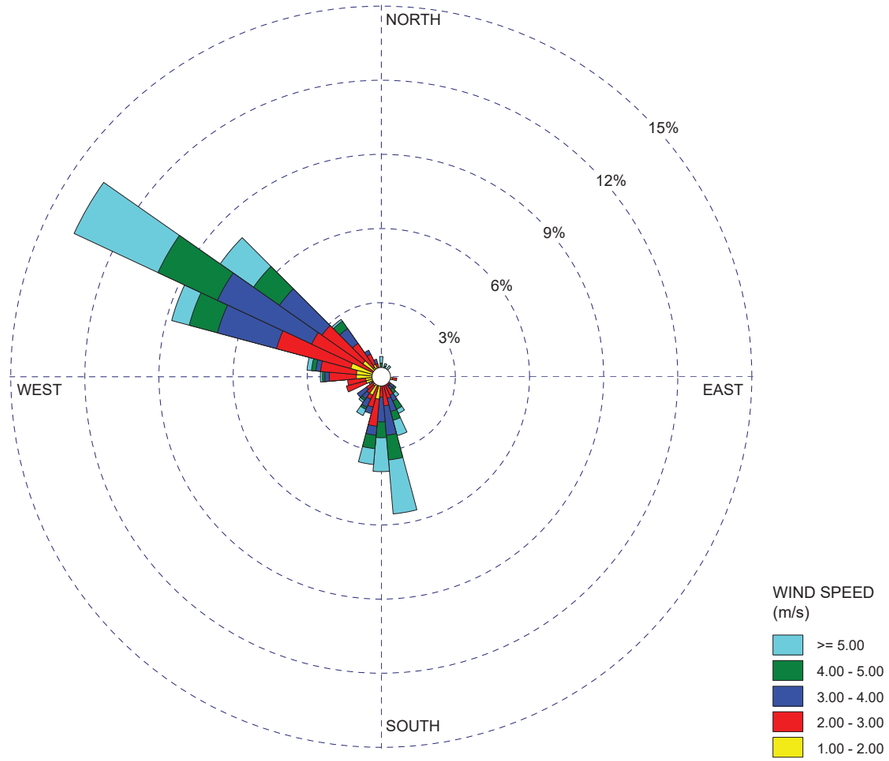
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **44.57%**	TOTAL COUNT: **2192**	
	AVG. WIND SPEED: **0.71 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 01 WINDROSE (8/1/2021 TO 8/1/2024, 0000-0100)

DISPLAY:
Wind Speed
Direction (blowing from)



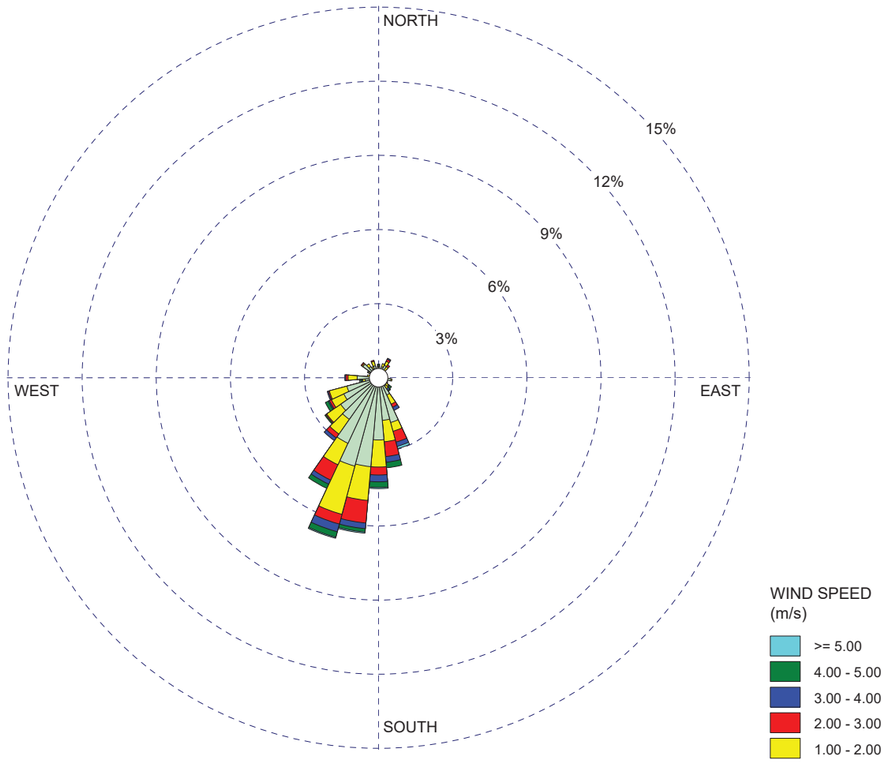
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 01:00** **End Date: 7/31/2024 - 01:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **24.27%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **2.70 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 02 WINDROSE (8/1/2021 TO 8/1/2024, 0100-0200)

DISPLAY:
Wind Speed
Direction (blowing from)



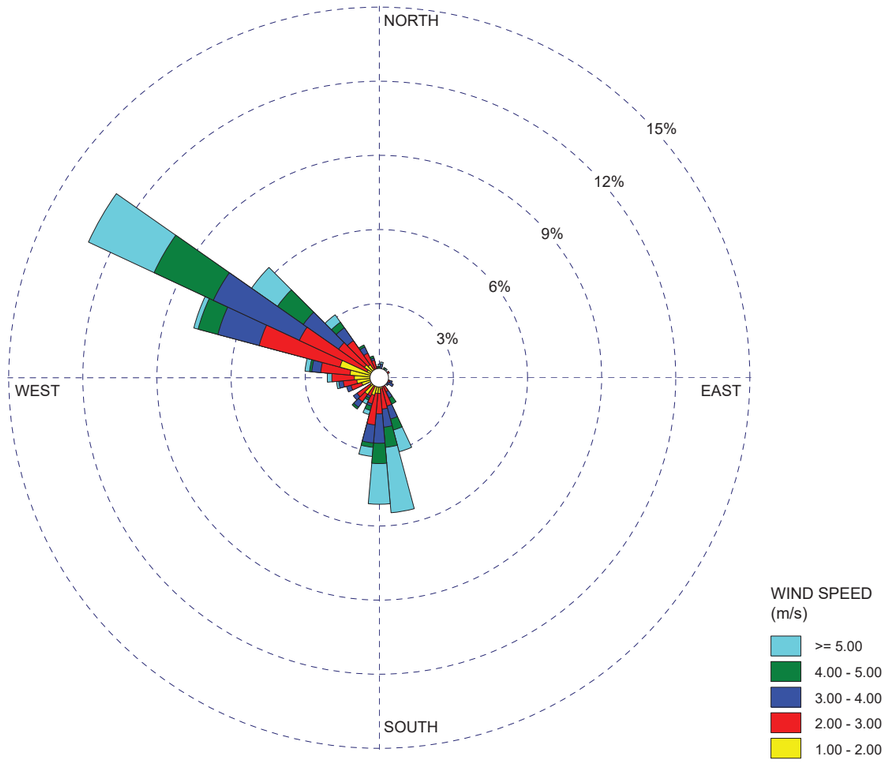
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **45.87%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **0.65 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 02 WINDROSE (8/1/2021 TO 8/1/2024, 0100-0200)

DISPLAY:
Wind Speed
Direction (blowing from)



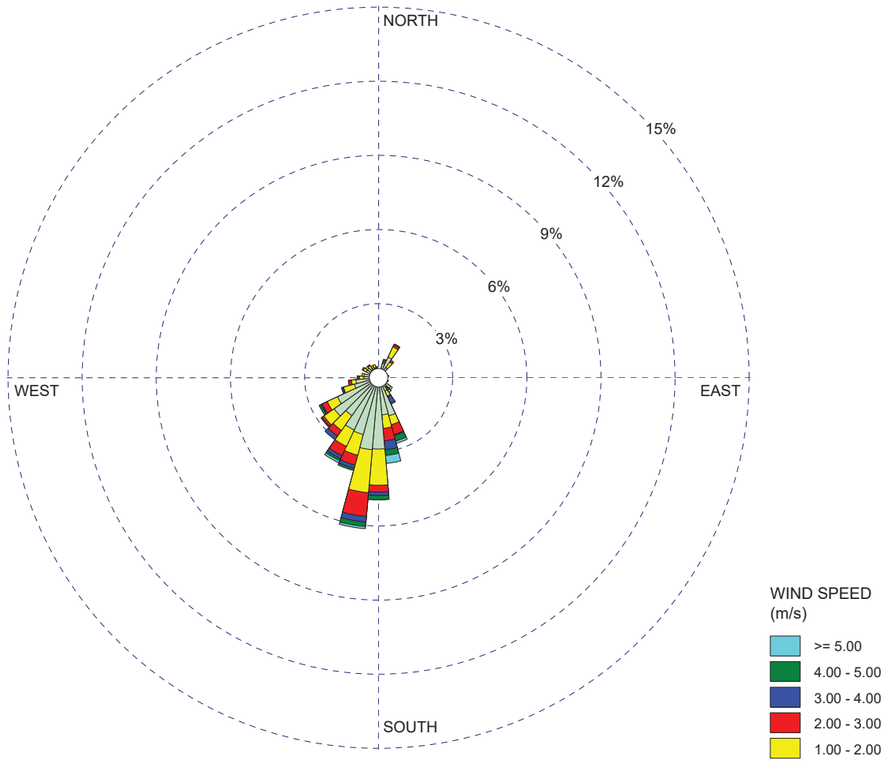
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 02:00** **End Date: 7/31/2024 - 02:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **27.10%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **2.52 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 03 WINDROSE (8/1/2021 TO 8/1/2024, 0200-0300)

DISPLAY:
Wind Speed
Direction (blowing from)



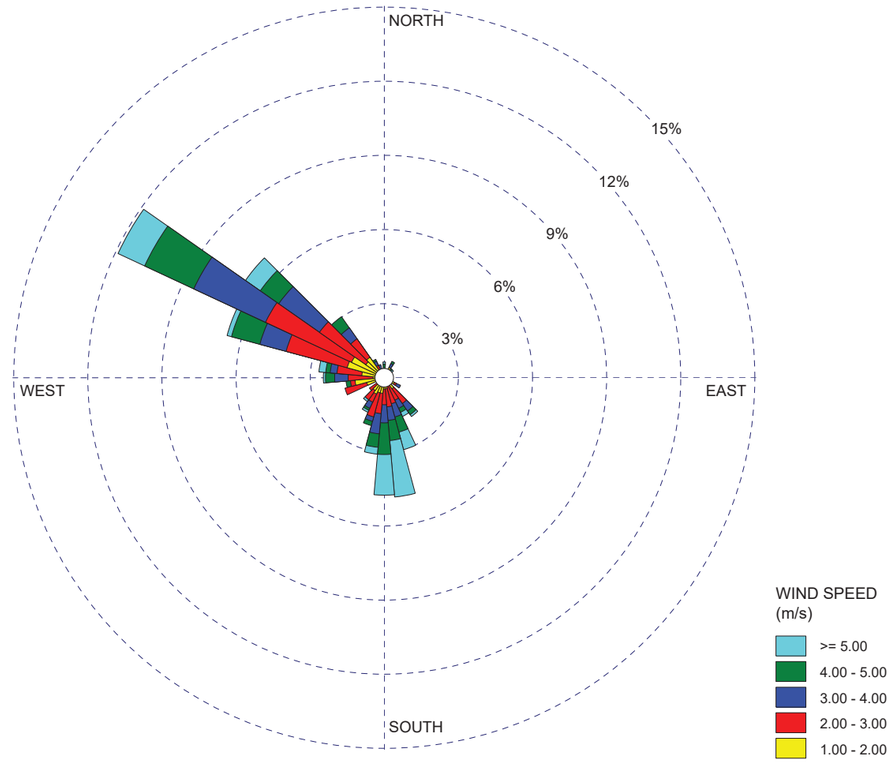
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **50.39%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 03 WINDROSE (8/1/2021 TO 8/1/2024, 0200-0300)

DISPLAY:
Wind Speed
Direction (blowing from)



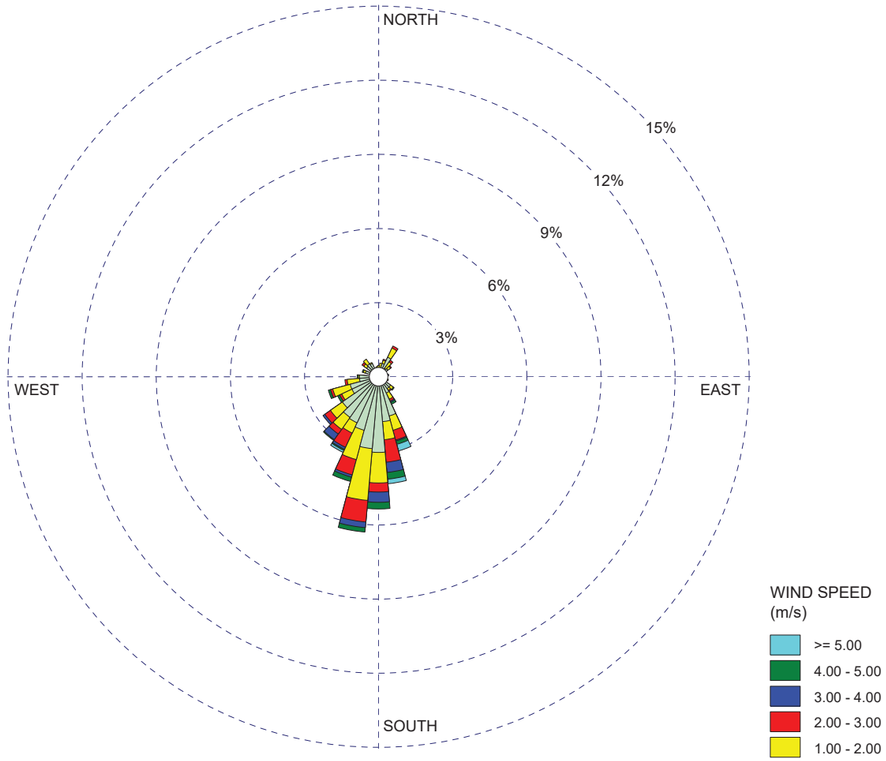
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 03:00** **End Date: 7/31/2024 - 03:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **29.29%**	TOTAL COUNT: **1075 hrs.**	
	AVG. WIND SPEED: **2.36 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 04 WINDROSE (8/1/2021 TO 8/1/2024, 0300-0400)

DISPLAY:
Wind Speed
Direction (blowing from)



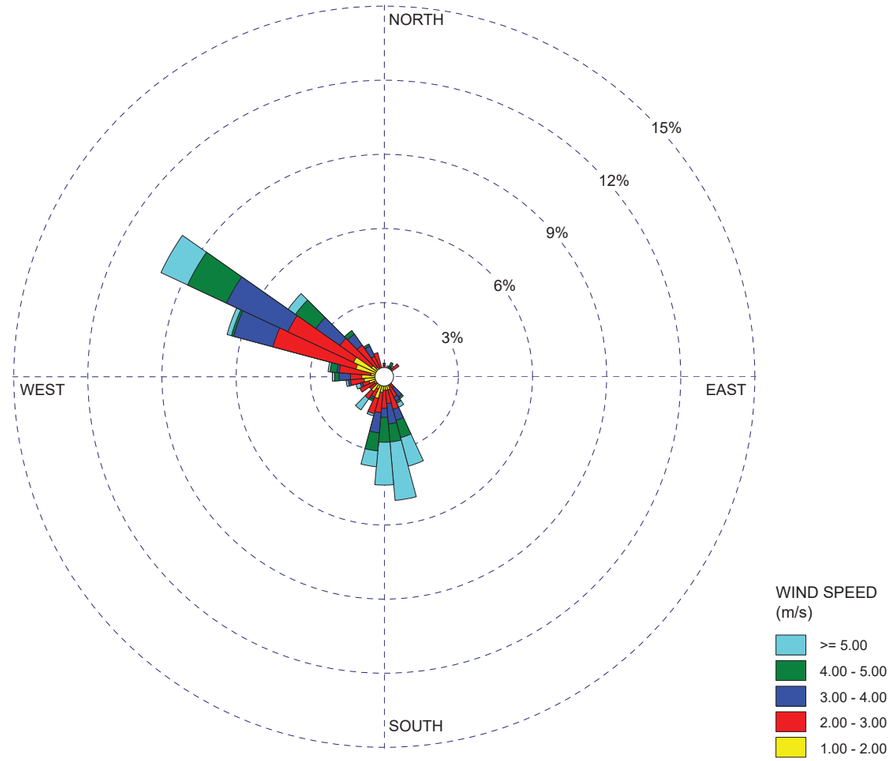
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **47.53%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 04 WINDROSE (8/1/2021 TO 8/1/2024, 0300-0400)

DISPLAY:
Wind Speed
Direction (blowing from)



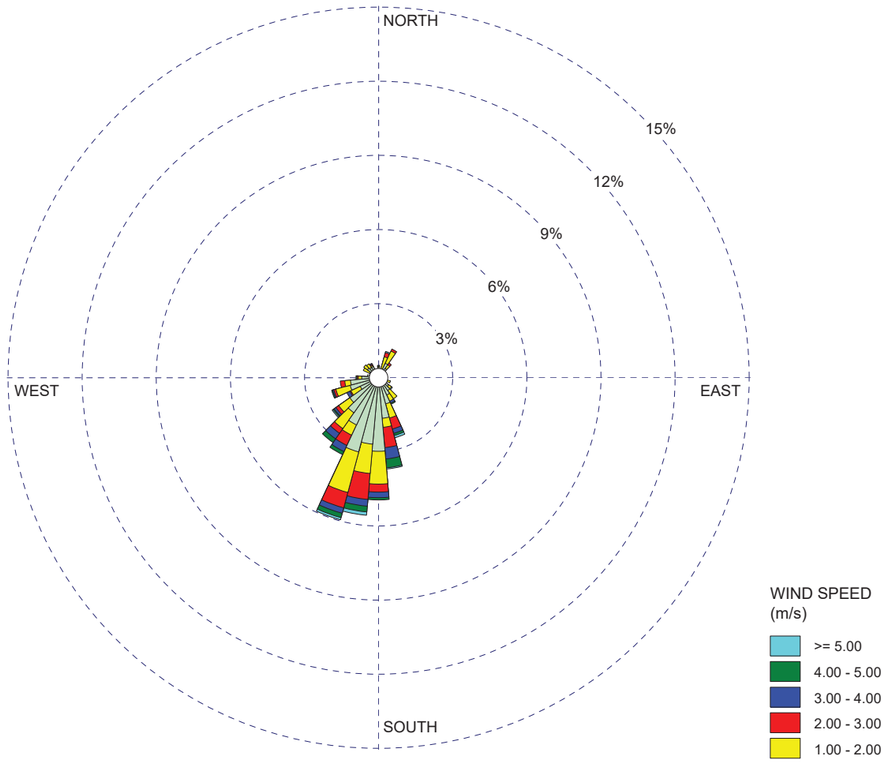
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 04:00** **End Date: 7/31/2024 - 04:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **33.94%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **2.18 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 05 WINDROSE (8/1/2021 TO 8/1/2024, 0400-0500)

DISPLAY:
Wind Speed
Direction (blowing from)



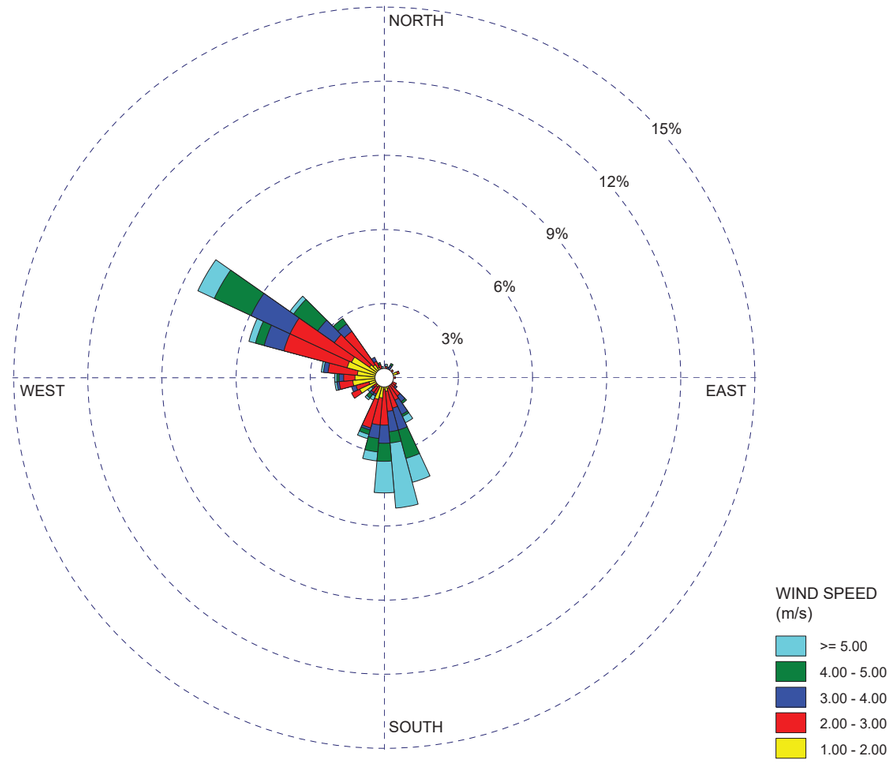
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **49.66%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 05 WINDROSE (8/1/2021 TO 8/1/2024, 0400-0500)

DISPLAY:
Wind Speed
Direction (blowing from)



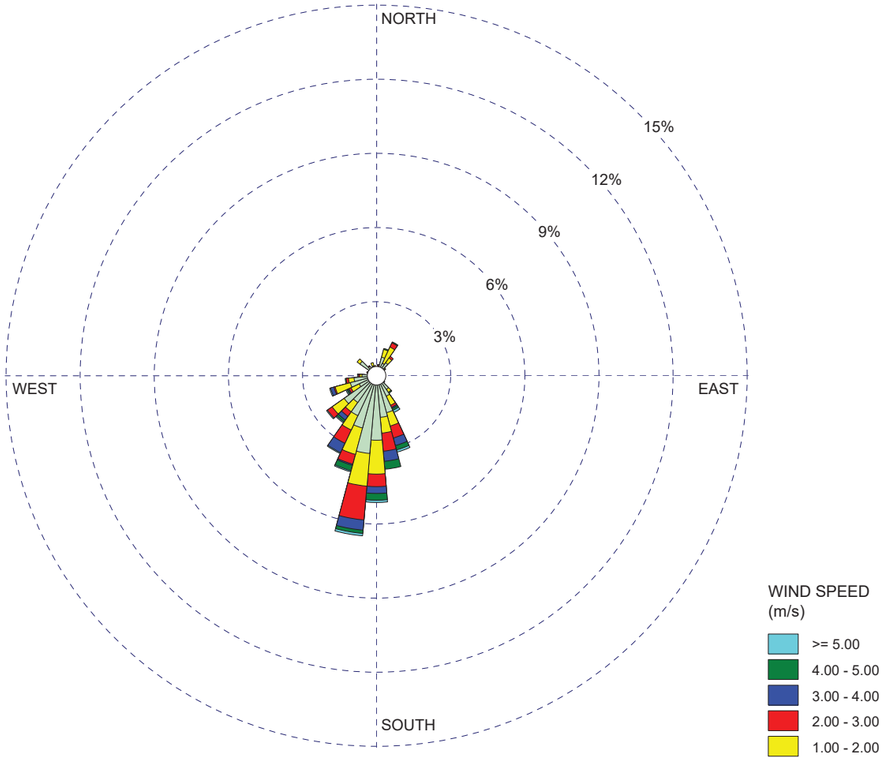
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 05:00** **End Date: 7/31/2024 - 05:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **32.85%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **2.15 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 06 WINDROSE (8/1/2021 TO 8/1/2024, 0500-0600)

DISPLAY:
Wind Speed
Direction (blowing from)



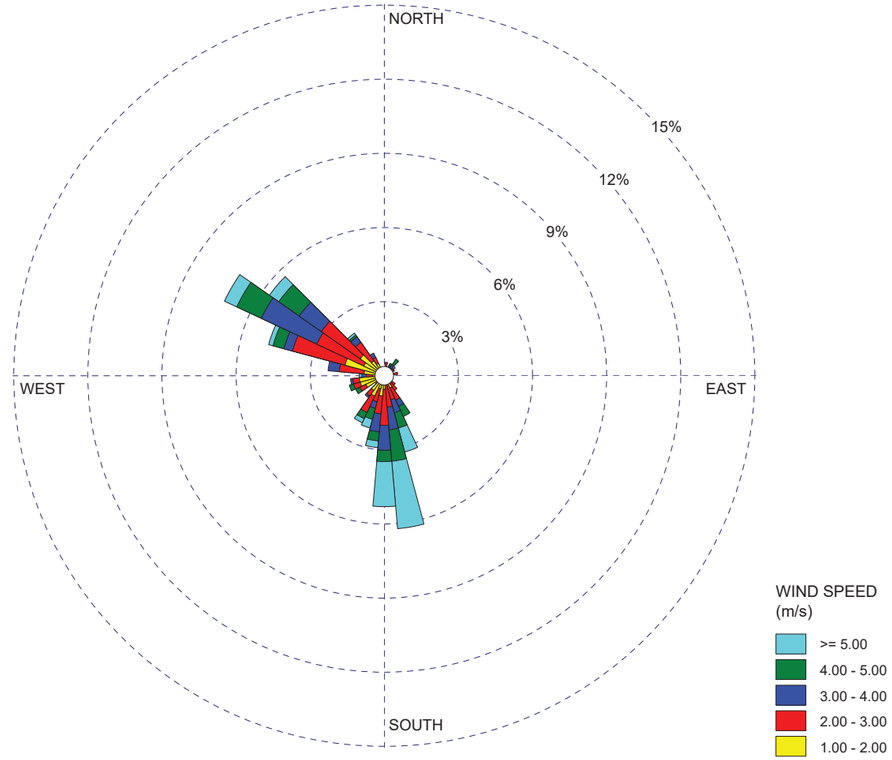
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **50.55%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **0.66 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 06 WINDROSE (8/1/2021 TO 8/1/2024, 0500-0600)

DISPLAY:
Wind Speed
Direction (blowing from)



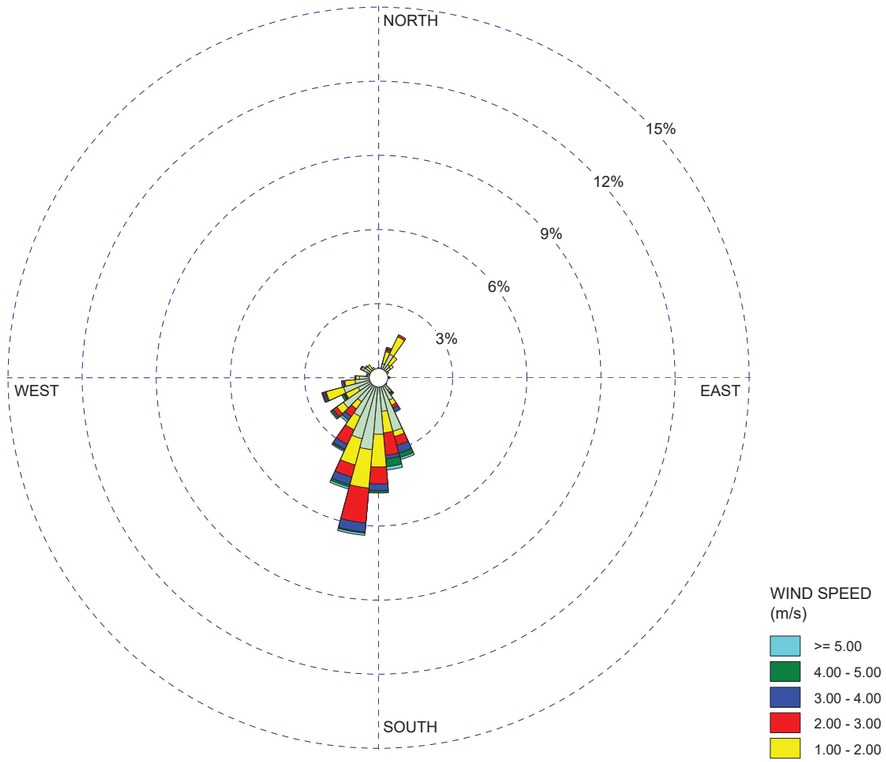
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 06:00** **End Date: 7/31/2024 - 06:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **37.41%**	TOTAL COUNT: **1073 hrs.**	
	AVG. WIND SPEED: **2.03 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 07 WINDROSE (8/1/2021 TO 8/1/2024, 0600-0700)

DISPLAY:
Wind Speed
Direction (blowing from)



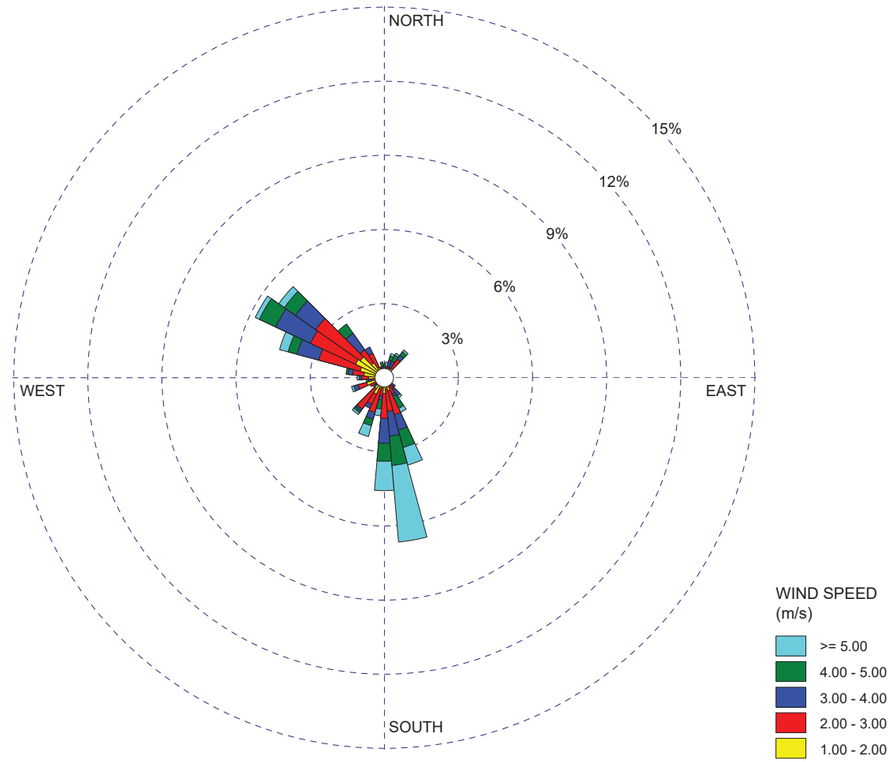
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **48.13%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.68 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 07 WINDROSE (8/1/2021 TO 8/1/2024, 0600-0700)

DISPLAY:
Wind Speed
Direction (blowing from)



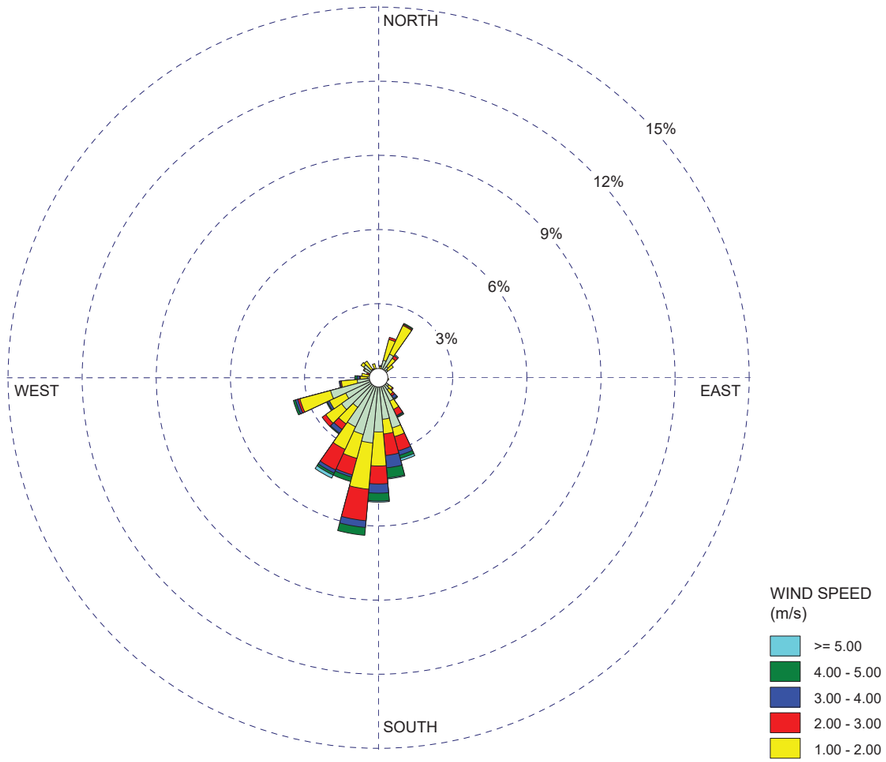
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 07:00** **End Date: 7/31/2024 - 07:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **39.69%**	TOTAL COUNT: **1069 hrs.**	
	AVG. WIND SPEED: **1.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 08 WINDROSE (8/1/2021 TO 8/1/2024, 0700-0800)

DISPLAY:
Wind Speed
Direction (blowing from)



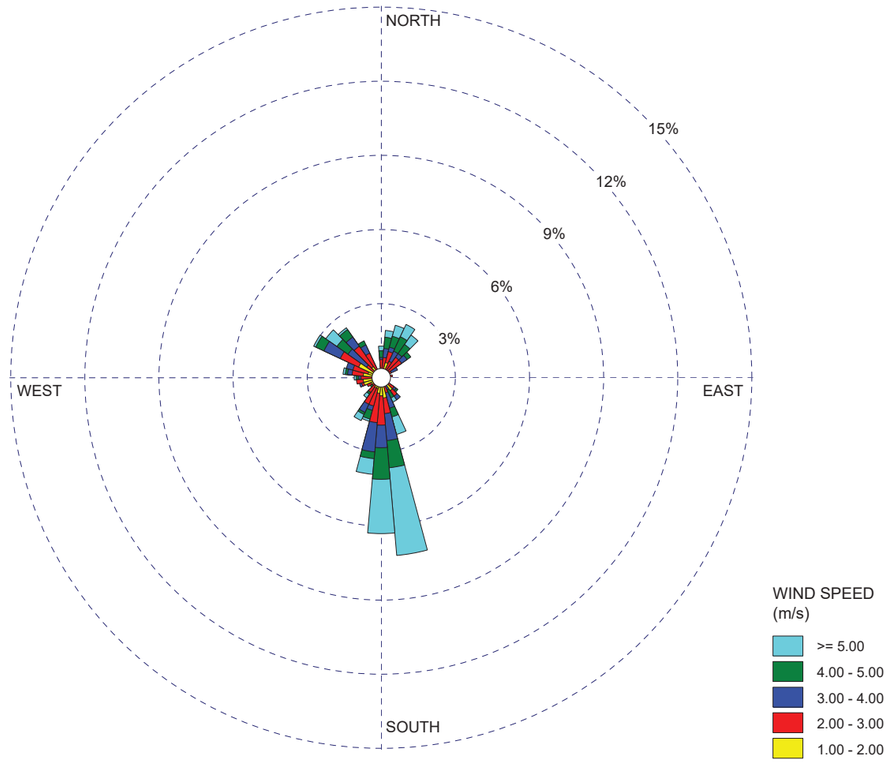
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **41.11%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **0.79 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 08 WINDROSE (8/1/2021 TO 8/1/2024, 0700-0800)

DISPLAY:
Wind Speed
Direction (blowing from)



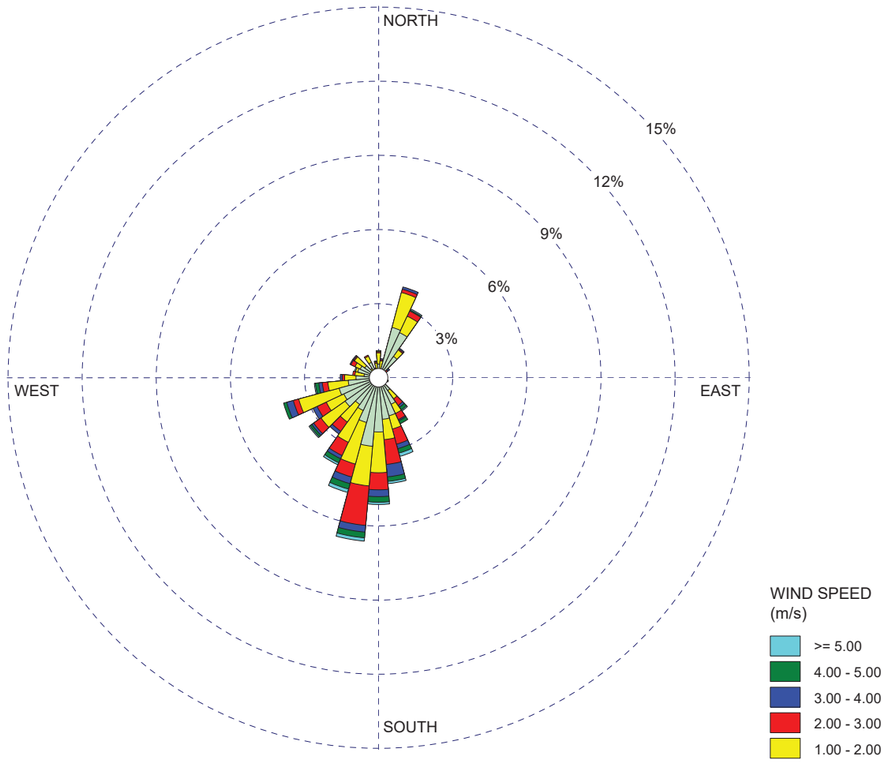
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 08:00** **End Date: 7/31/2024 - 08:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **35.58%**	TOTAL COUNT: **1034 hrs.**	
	AVG. WIND SPEED: **2.24 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 09 WINDROSE (8/1/2021 TO 8/1/2024, 0800-0900)

DISPLAY:
Wind Speed
Direction (blowing from)



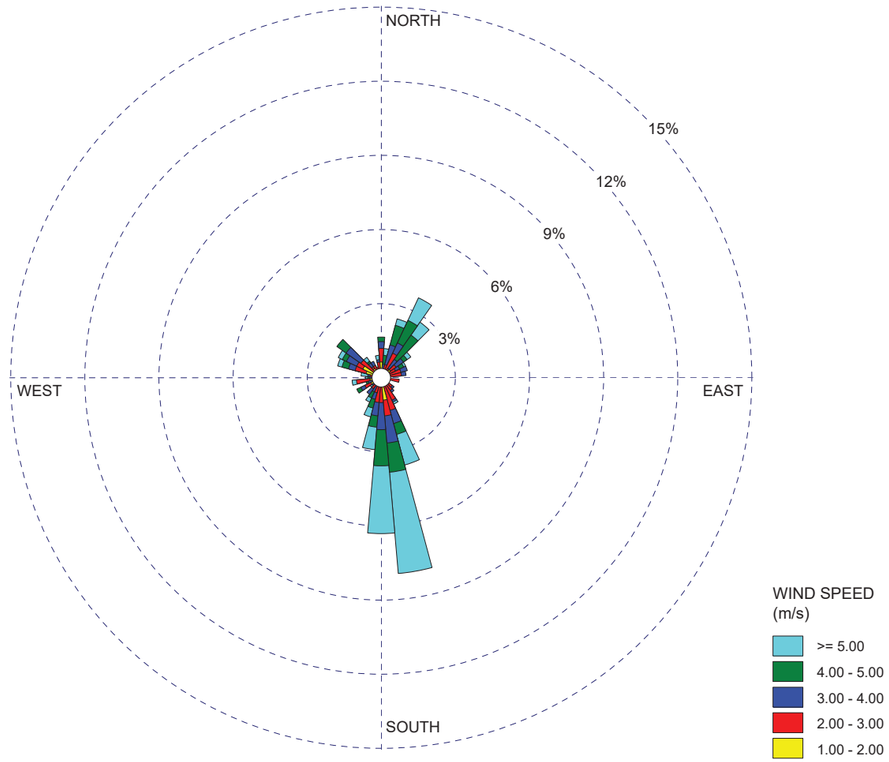
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.85%**	TOTAL COUNT: **2187**	
	AVG. WIND SPEED: **0.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 09 WINDROSE (8/1/2021 TO 8/1/2024, 0800-0900)

DISPLAY:
Wind Speed
Direction (blowing from)



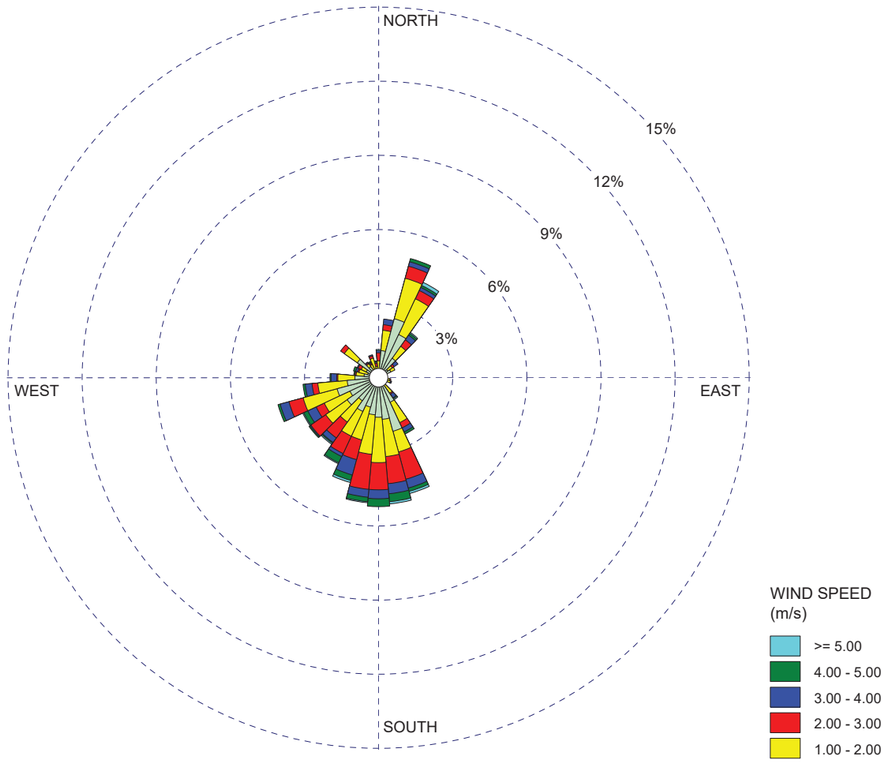
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 09:00** **End Date: 7/31/2024 - 09:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.84%**	TOTAL COUNT: **983 hrs.**	
	AVG. WIND SPEED: **2.55 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 10 WINDROSE (8/1/2021 TO 8/1/2024, 0900-1000)

DISPLAY:
Wind Speed
Direction (blowing from)



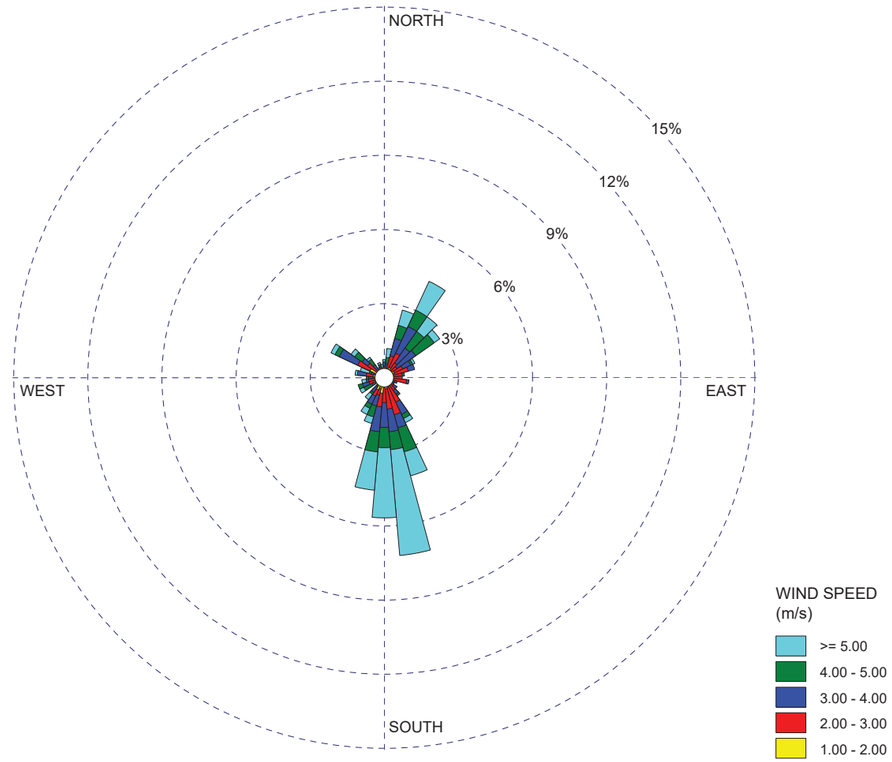
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.34%**	TOTAL COUNT: **2186**	
	AVG. WIND SPEED: **1.23 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 10 WINDROSE (8/1/2021 TO 8/1/2024, 0900-1000)

DISPLAY:
Wind Speed
Direction (blowing from)



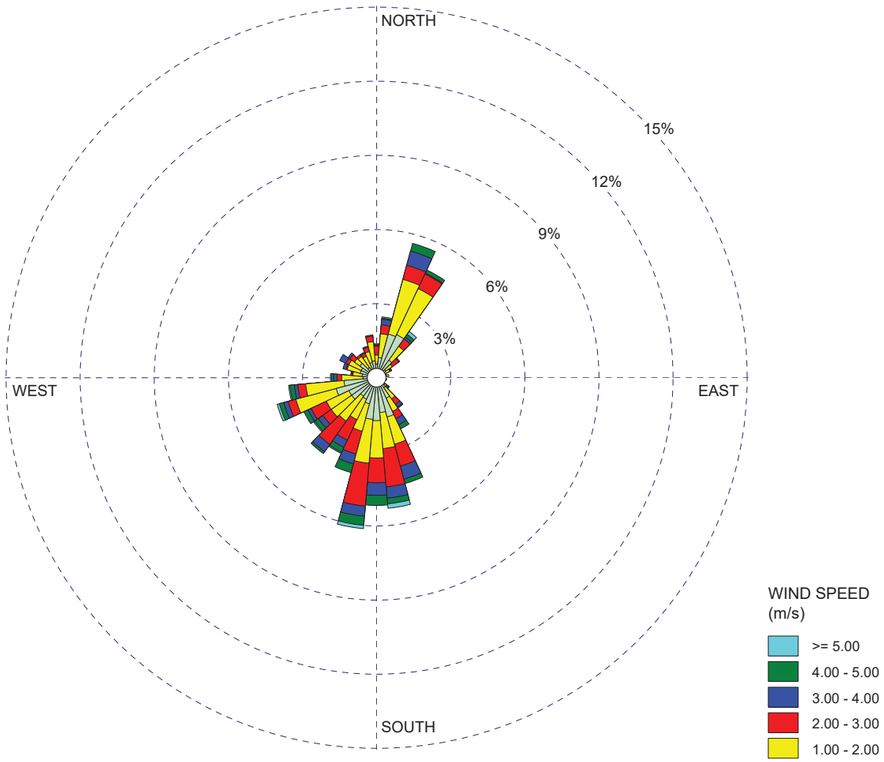
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 10:00** **End Date: 7/31/2024 - 10:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **23.91%**	TOTAL COUNT: **960 hrs.**	
	AVG. WIND SPEED: **2.88 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 11 WINDROSE (8/1/2021 TO 8/1/2024, 1000-1100)

DISPLAY:
Wind Speed
Direction (blowing from)



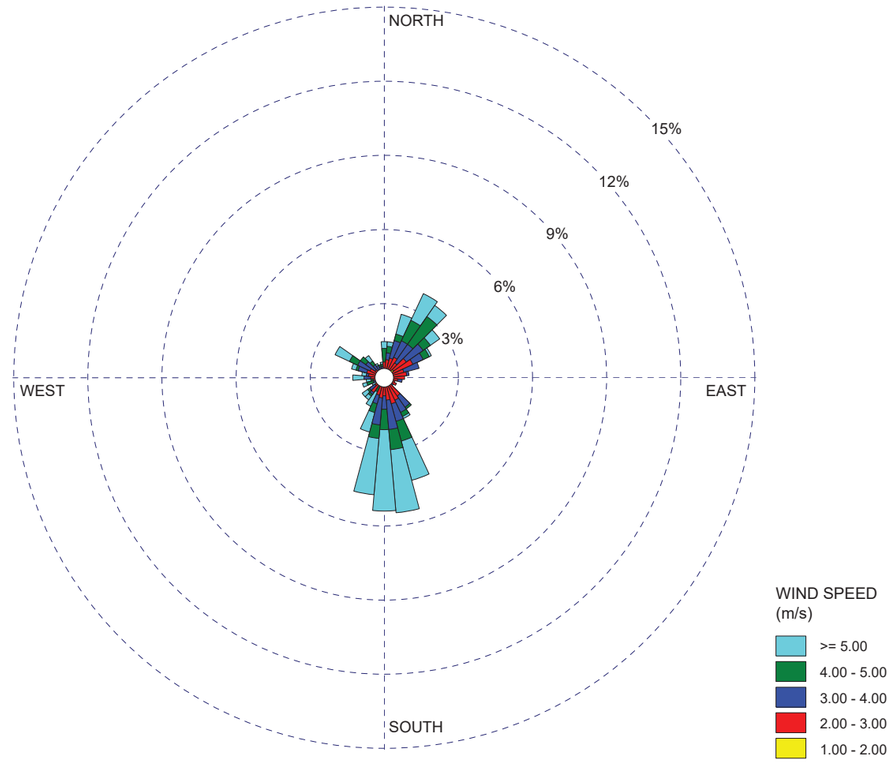
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **16.12%**	TOTAL COUNT: **2185**	
	AVG. WIND SPEED: **1.39 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 11 WINDROSE (8/1/2021 TO 8/1/2024, 1000-1100)

DISPLAY:
Wind Speed
Direction (blowing from)



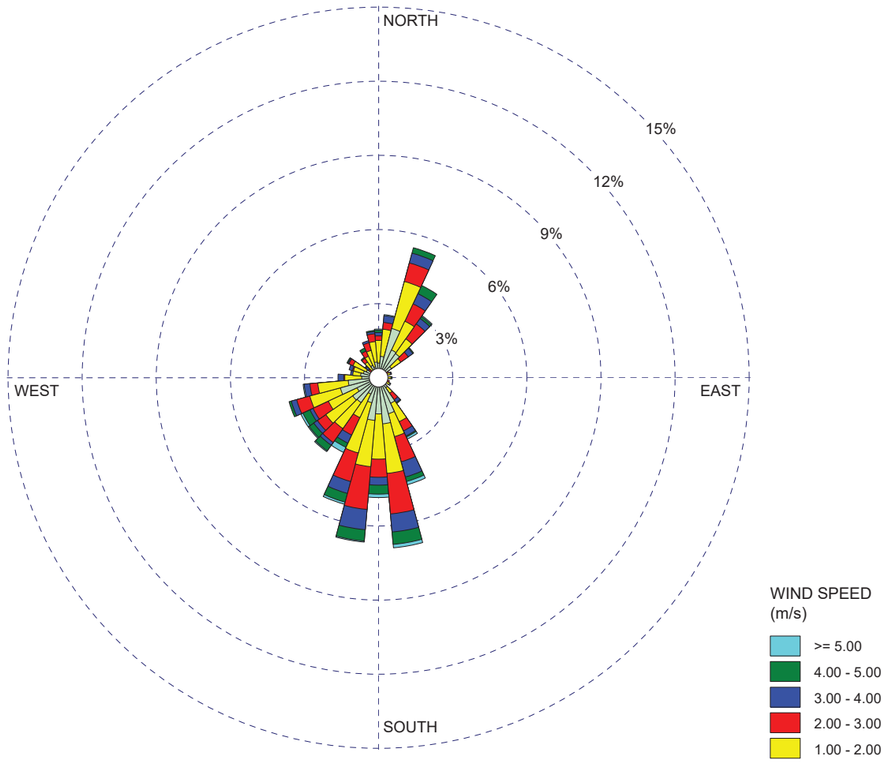
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 11:00** **End Date: 7/31/2024 - 11:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.62%**	TOTAL COUNT: **941 hrs.**	
	AVG. WIND SPEED: **3.08 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 12 WINDROSE (8/1/2021 TO 8/1/2024, 1100-1200)

DISPLAY:
Wind Speed
Direction (blowing from)



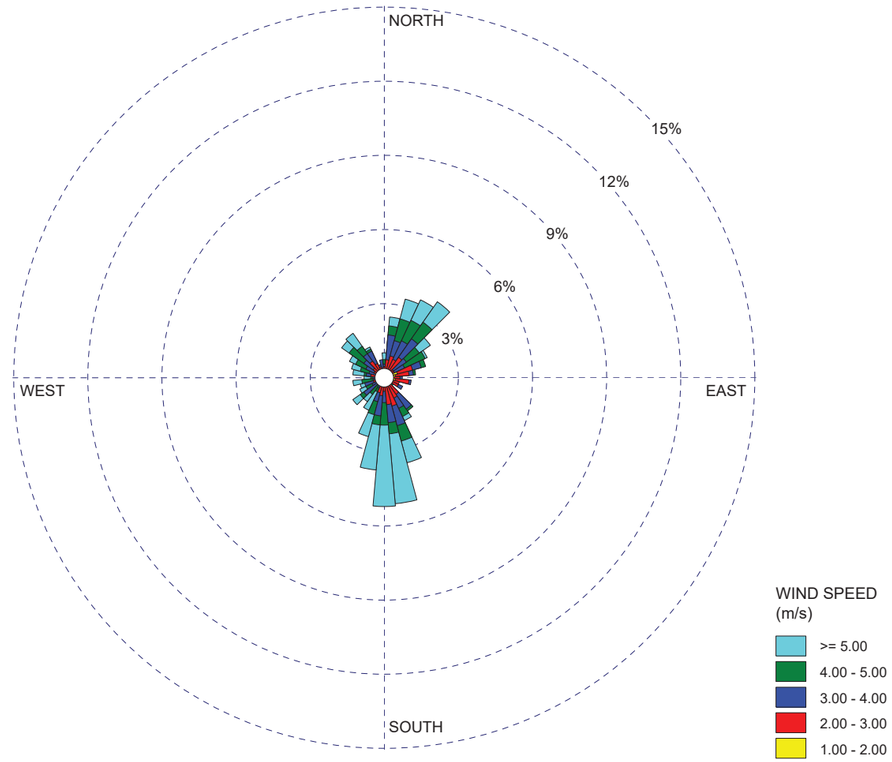
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.83%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.54 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 12 WINDROSE (8/1/2021 TO 8/1/2024, 1100-1200)

DISPLAY:
Wind Speed
Direction (blowing from)



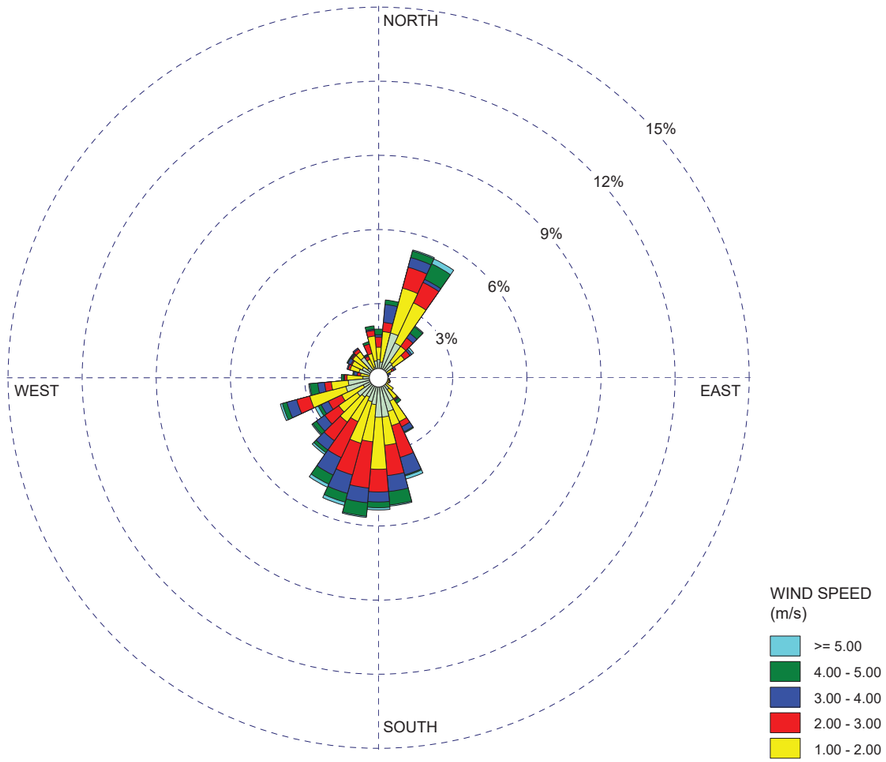
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 12:00** **End Date: 7/31/2024 - 12:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **16.97%**	TOTAL COUNT: **932 hrs.**	
	AVG. WIND SPEED: **3.37 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 13 WINDROSE (8/1/2021 TO 8/1/2024, 1200-1300)

DISPLAY:
Wind Speed
Direction (blowing from)



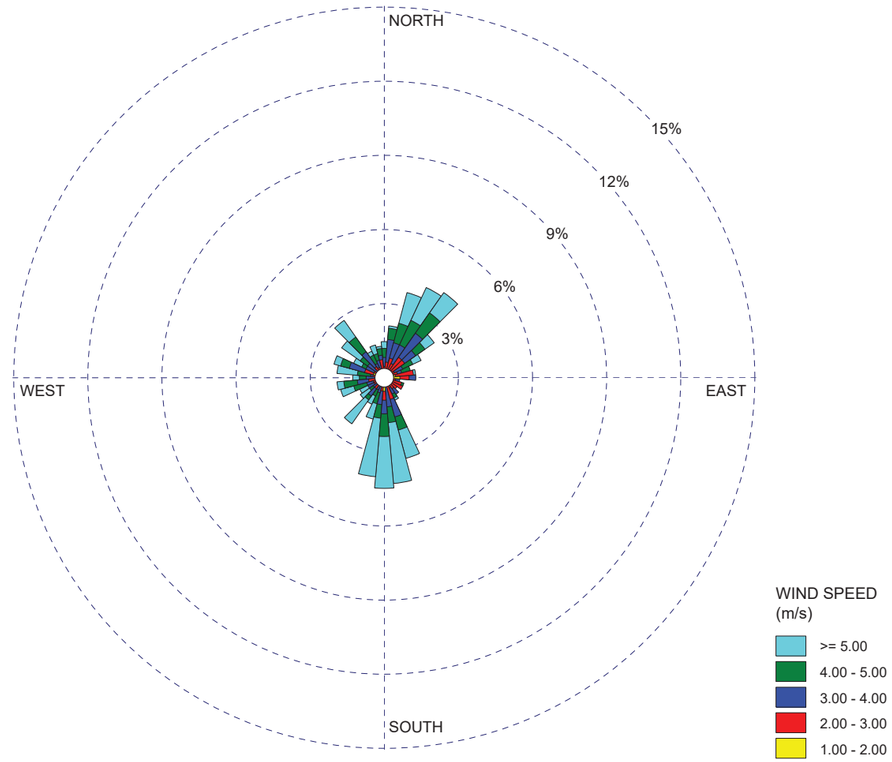
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.60%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 13 WINDROSE (8/1/2021 TO 8/1/2024, 1200-1300)

DISPLAY:
Wind Speed
Direction (blowing from)



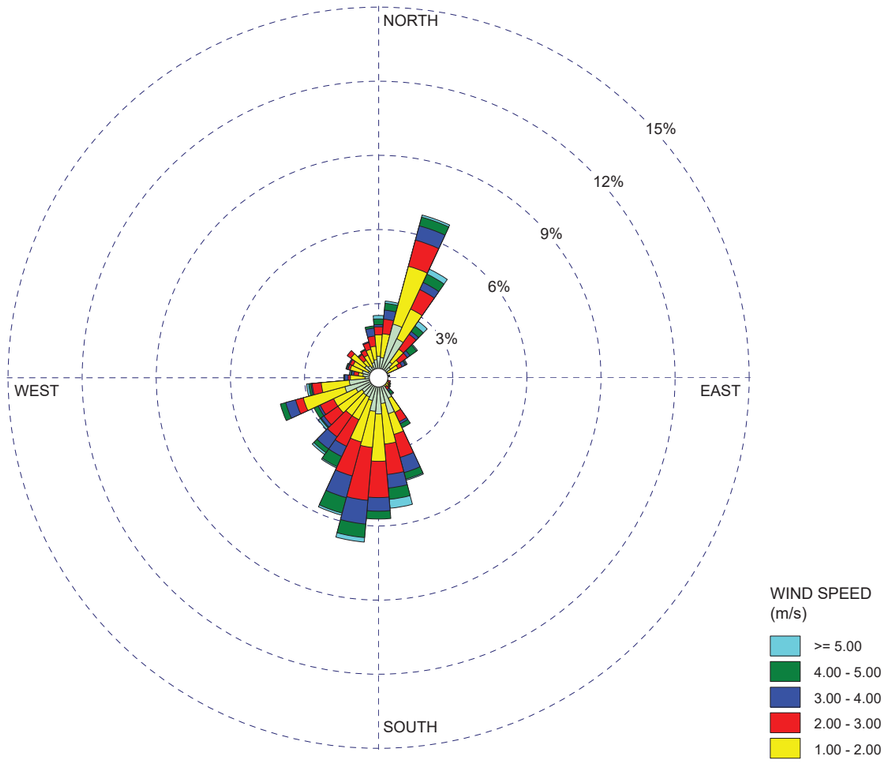
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 13:00** **End Date: 7/31/2024 - 13:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **15.05%**	TOTAL COUNT: **939 hrs.**	
	AVG. WIND SPEED: **3.54 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 14 WINDROSE (8/1/2021 TO 8/1/2024, 1300-1400)

DISPLAY:
Wind Speed
Direction (blowing from)



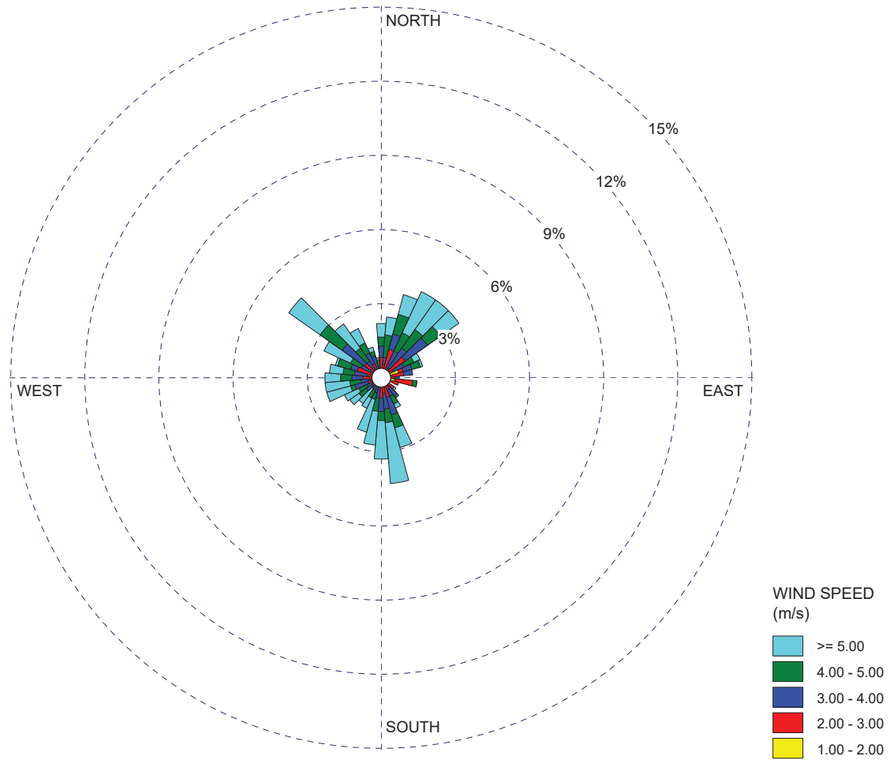
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **9.27%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **1.72 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 14 WINDROSE (8/1/2021 TO 8/1/2024, 1300-1400)

DISPLAY:
Wind Speed
Direction (blowing from)



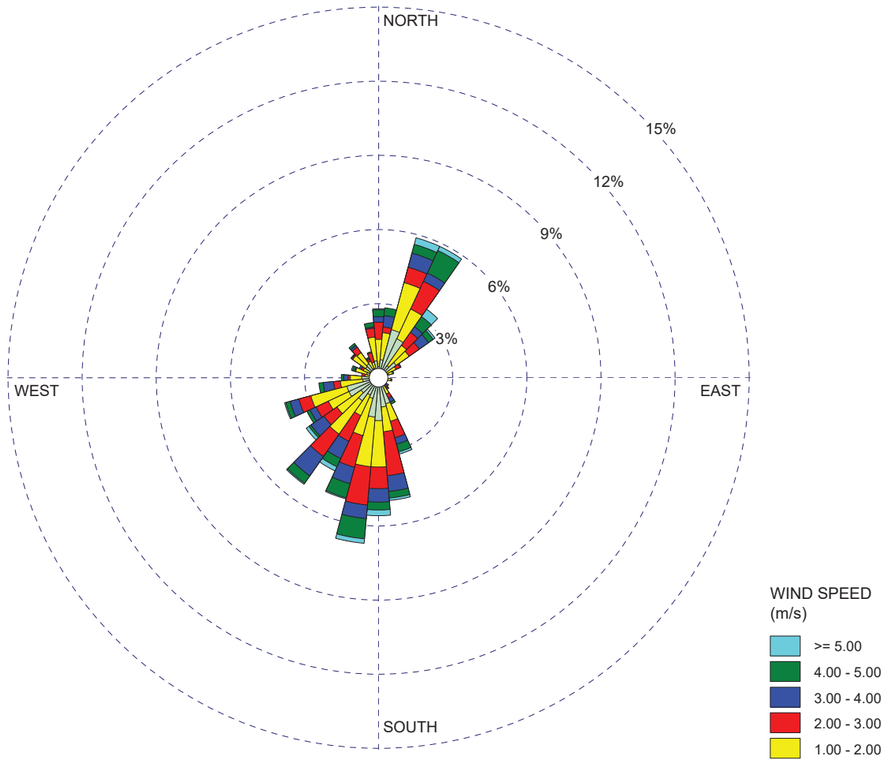
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 14:00** **End Date: 7/31/2024 - 14:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.95%**	TOTAL COUNT: **975 hrs.**	
	AVG. WIND SPEED: **3.80 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 15 WINDROSE (8/1/2021 TO 8/1/2024, 1400-1500)

DISPLAY:
Wind Speed
Direction (blowing from)



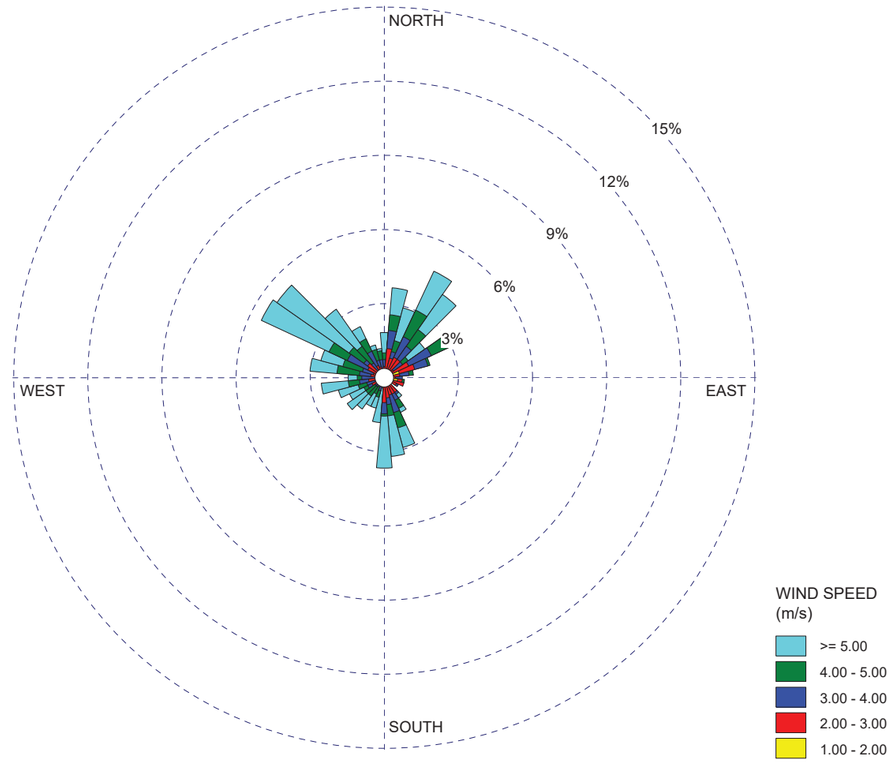
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.38%**	TOTAL COUNT: **2189**	
	AVG. WIND SPEED: **1.75 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 15 WINDROSE (8/1/2021 TO 8/1/2024, 1400-1500)

DISPLAY:
Wind Speed
Direction (blowing from)



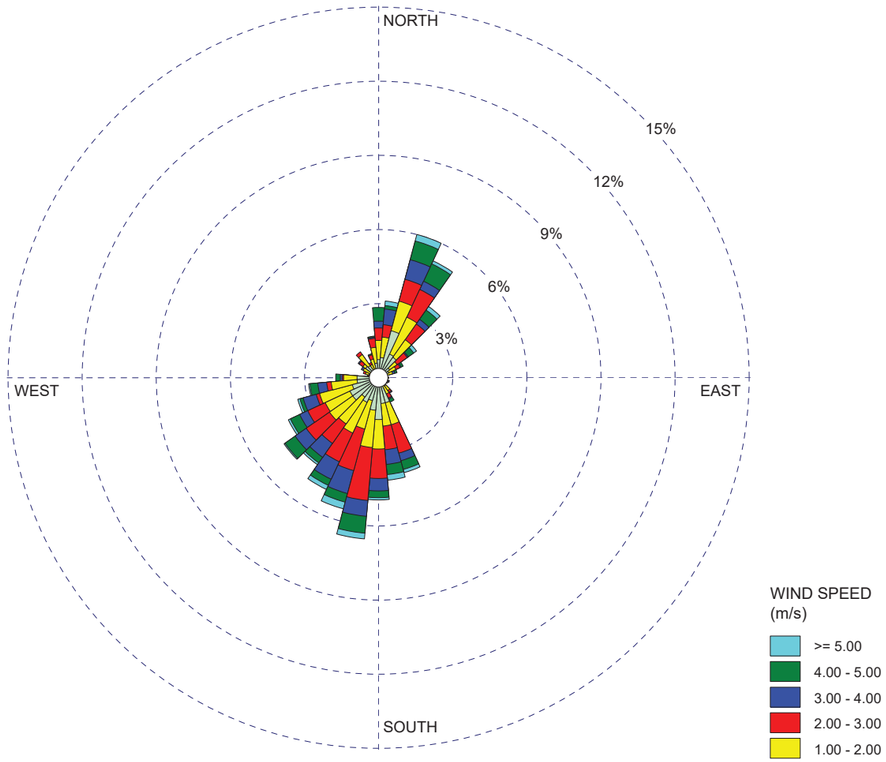
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 15:00** **End Date: 7/31/2024 - 15:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **10.49%**	TOTAL COUNT: **1001 hrs.**	
	AVG. WIND SPEED: **4.02 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 16 WINDROSE (8/1/2021 TO 8/1/2024, 1500-1600)

DISPLAY:
Wind Speed
Direction (blowing from)



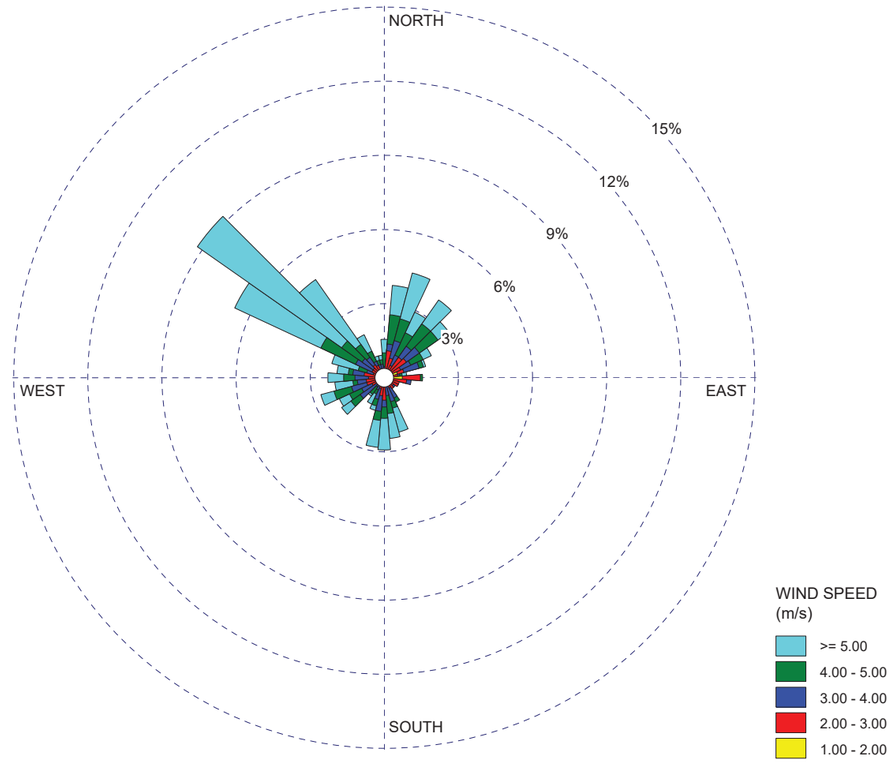
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **13.21%**	TOTAL COUNT: **2188**	
	AVG. WIND SPEED: **1.77 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 16 WINDROSE (8/1/2021 TO 8/1/2024, 1500-1600)

DISPLAY:
Wind Speed
Direction (blowing from)



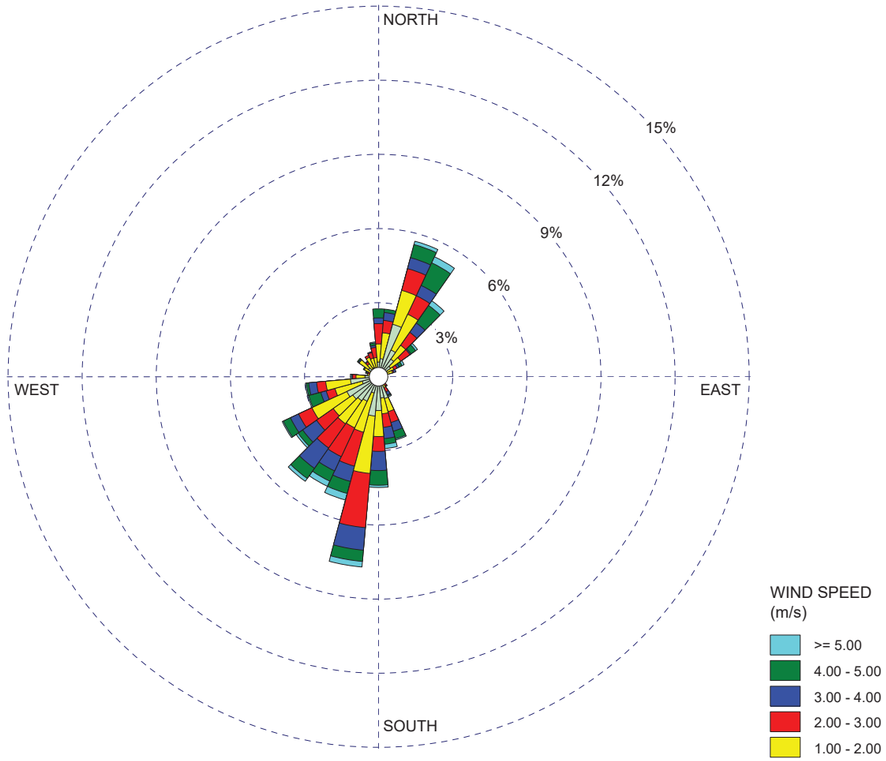
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 16:00** **End Date: 7/31/2024 - 16:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **10.31%**	TOTAL COUNT: **1034 hrs.**	
	AVG. WIND SPEED: **4.11 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 17 WINDROSE (8/1/2021 TO 8/1/2024, 1600-1700)

DISPLAY:
Wind Speed
Direction (blowing from)



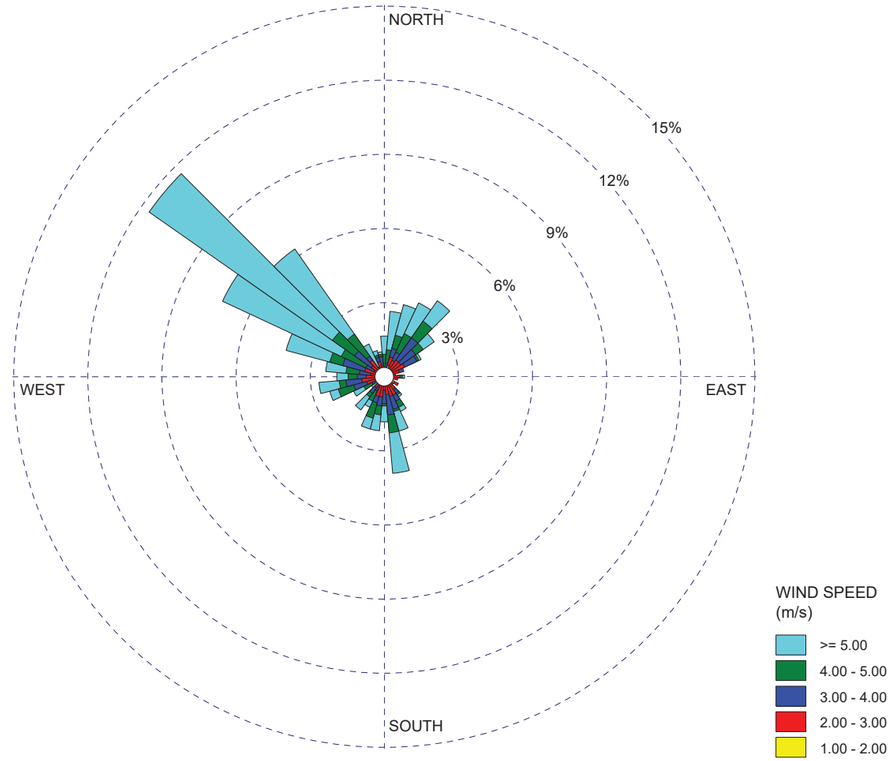
COMMENTS:		COMPANY NAME:	
Onsite (30 minute data)		**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **17.49%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.68 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 17 WINDROSE (8/1/2021 TO 8/1/2024, 1600-1700)

DISPLAY:
Wind Speed
Direction (blowing from)



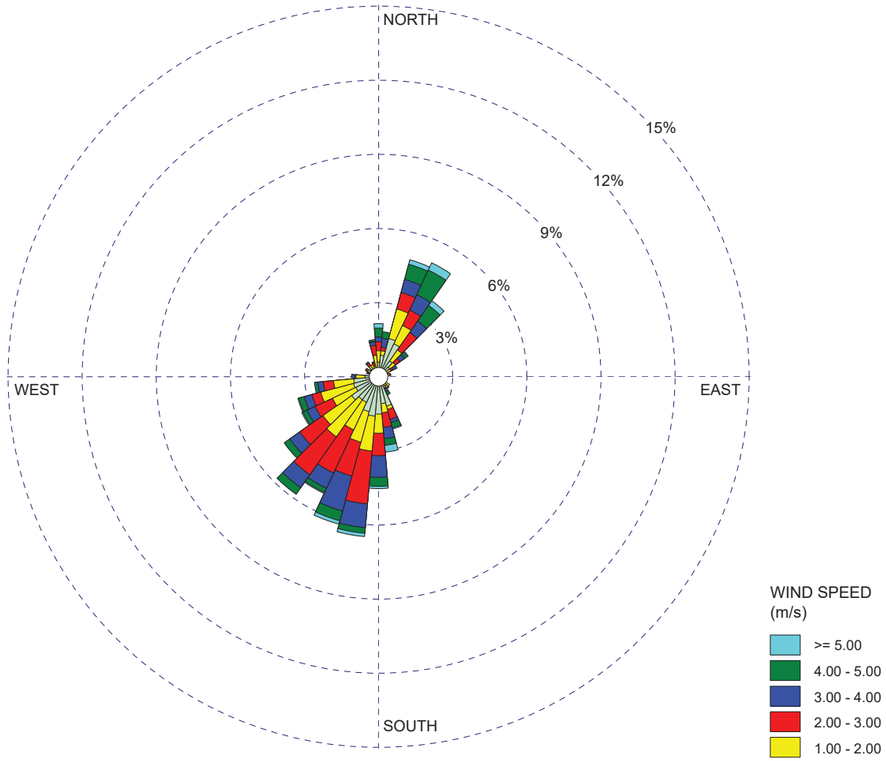
COMMENTS:	DATA PERIOD:	COMPANY NAME:	
NOAA hourly data (10-degree wind directions)	**Start Date: 8/1/2021 - 17:00** **End Date: 7/31/2024 - 17:00**	**SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **11.95%**	TOTAL COUNT: **1056 hrs.**	
	AVG. WIND SPEED: **4.20 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 18 WINDROSE (8/1/2021 TO 8/1/2024, 1700-1800)

DISPLAY:
Wind Speed
Direction (blowing from)



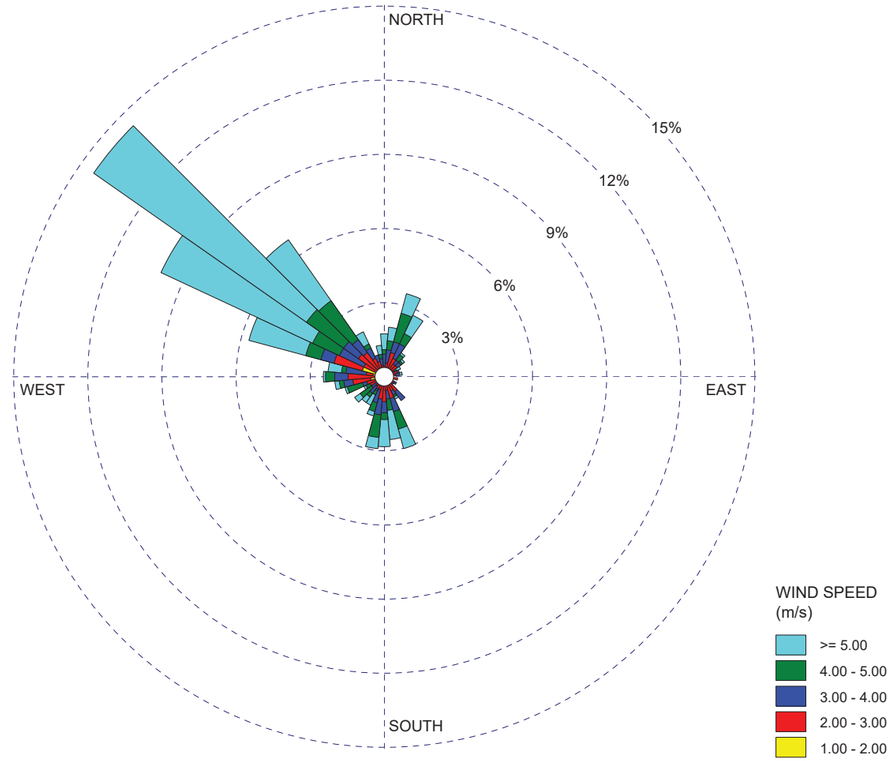
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **22.15%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.55 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 18 WINDROSE (8/1/2021 TO 8/1/2024, 1700-1800)

DISPLAY:
Wind Speed
Direction (blowing from)



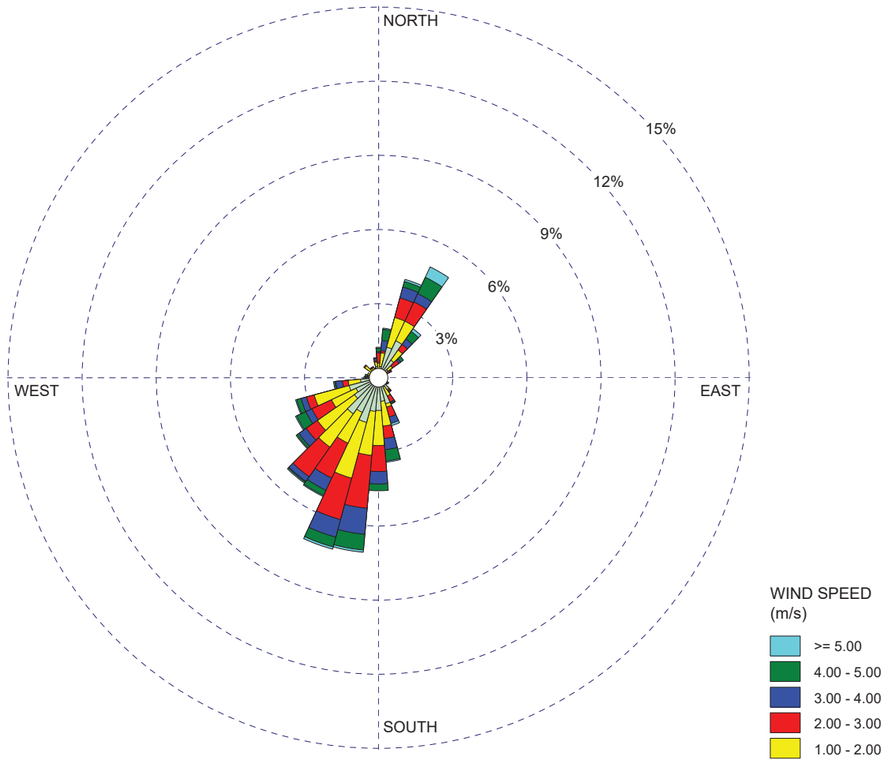
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 18:00** **End Date: 7/31/2024 - 18:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.23%**	TOTAL COUNT: **1075 hrs.**	
	AVG. WIND SPEED: **4.02 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 19 WINDROSE (8/1/2021 TO 8/1/2024, 1800-1900)

DISPLAY:
Wind Speed
Direction (blowing from)



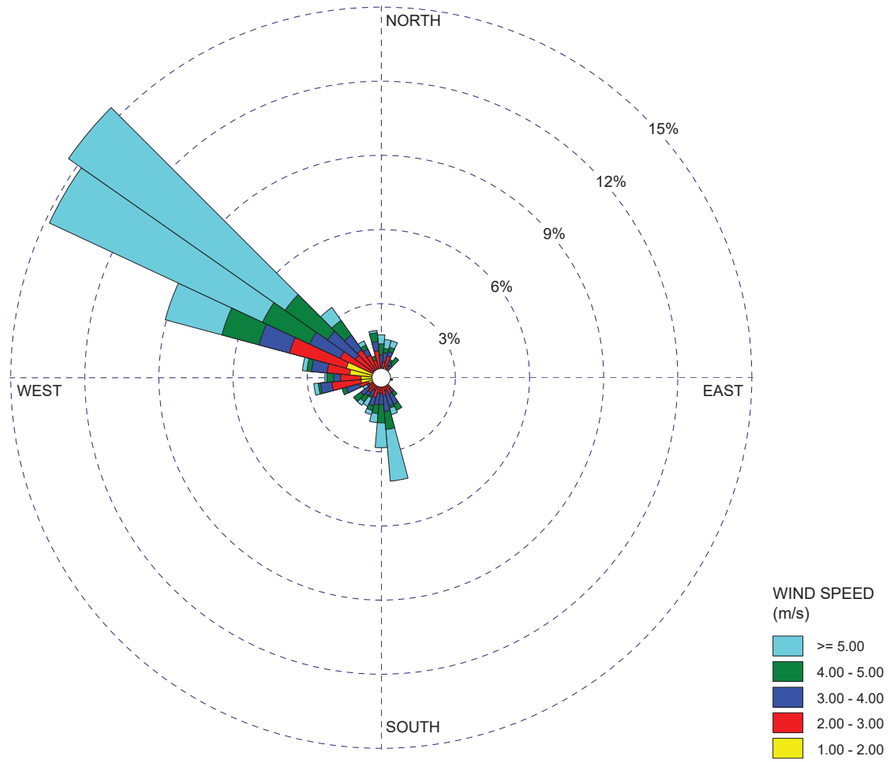
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **26.67%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.37 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 19 WINDROSE (8/1/2021 TO 8/1/2024, 1800-1900)

DISPLAY:
Wind Speed
Direction (blowing from)



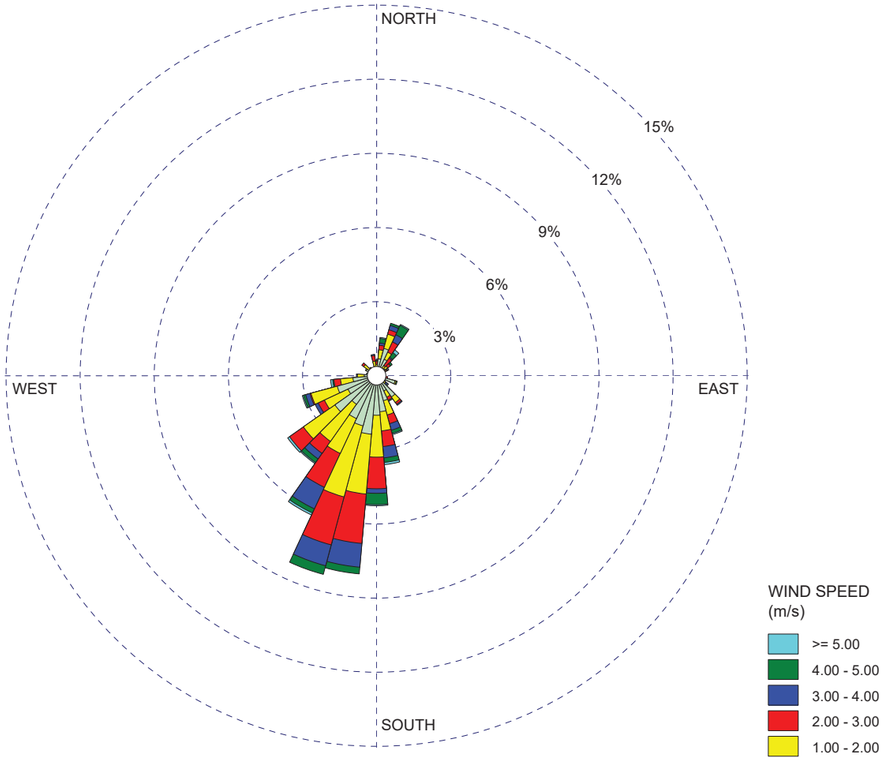
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 19:00** **End Date: 7/31/2024 - 19:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **12.50%**	TOTAL COUNT: **1070 hrs.**	
	AVG. WIND SPEED: **3.83 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 20 WINDROSE (8/1/2021 TO 8/1/2024, 1900-2000)

DISPLAY:
Wind Speed
Direction (blowing from)



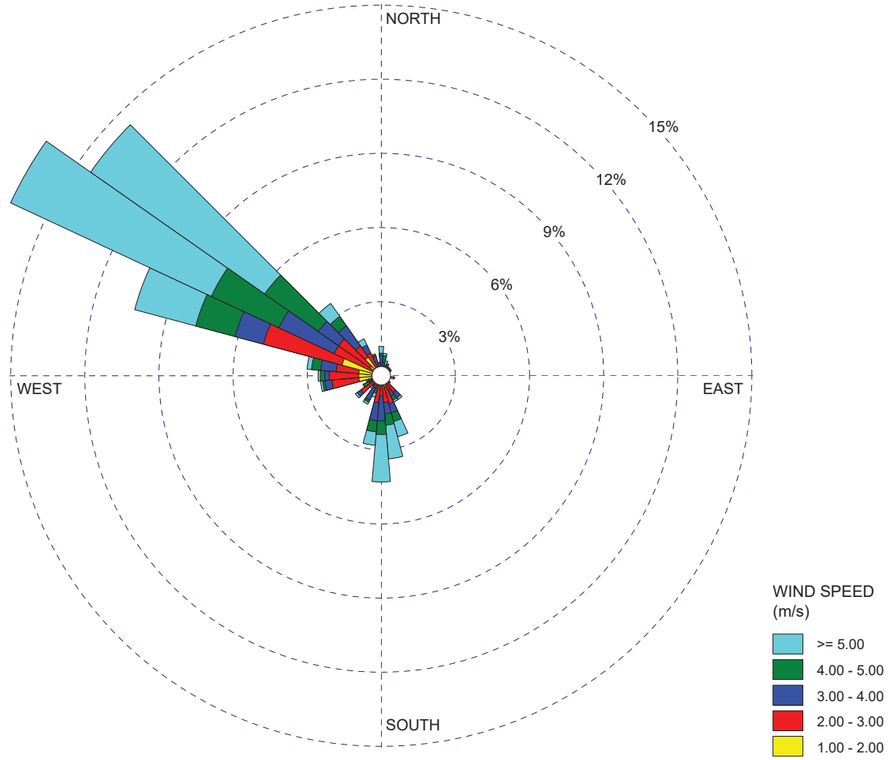
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **30.32%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **1.15 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 20 WINDROSE (8/1/2021 TO 8/1/2024, 1900-2000)

DISPLAY:
Wind Speed
Direction (blowing from)



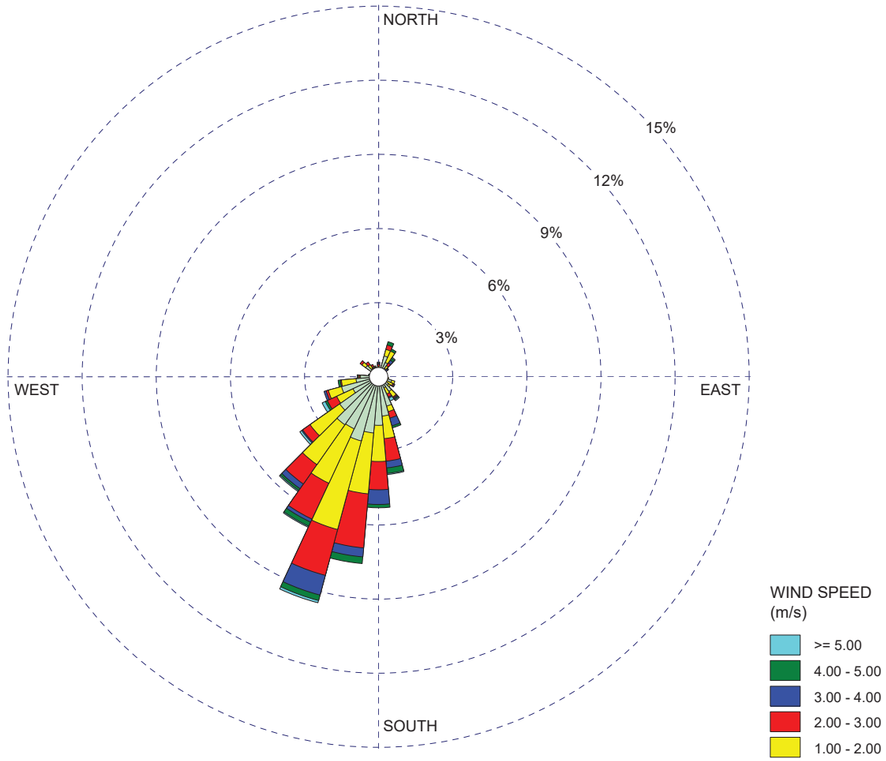
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 20:00** **End Date: 7/31/2024 - 20:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **14.23%**	TOTAL COUNT: **1067 hrs.**	
	AVG. WIND SPEED: **3.63 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 21 WINDROSE (8/1/2021 TO 8/1/2024, 2000-2100)

DISPLAY:
Wind Speed
Direction (blowing from)



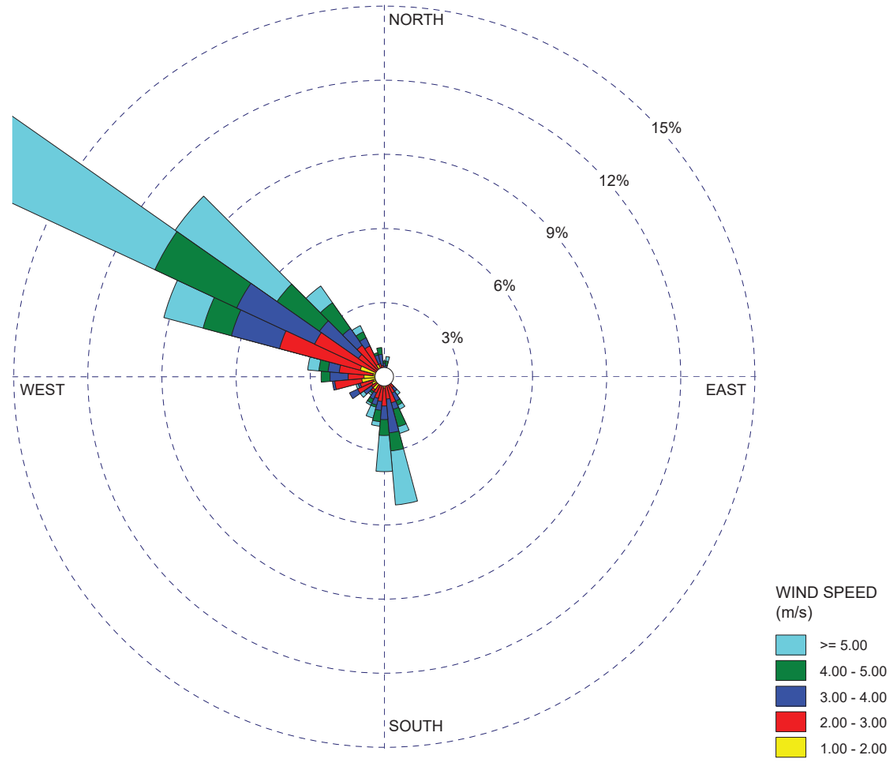
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **33.24%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.99 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 21 WINDROSE (8/1/2021 TO 8/1/2024, 2000-2100)

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 21:00** **End Date: 7/31/2024 - 21:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **14.60%**	TOTAL COUNT: **1074 hrs.**	
	AVG. WIND SPEED: **3.49 m/s**		PROJECT NO.:

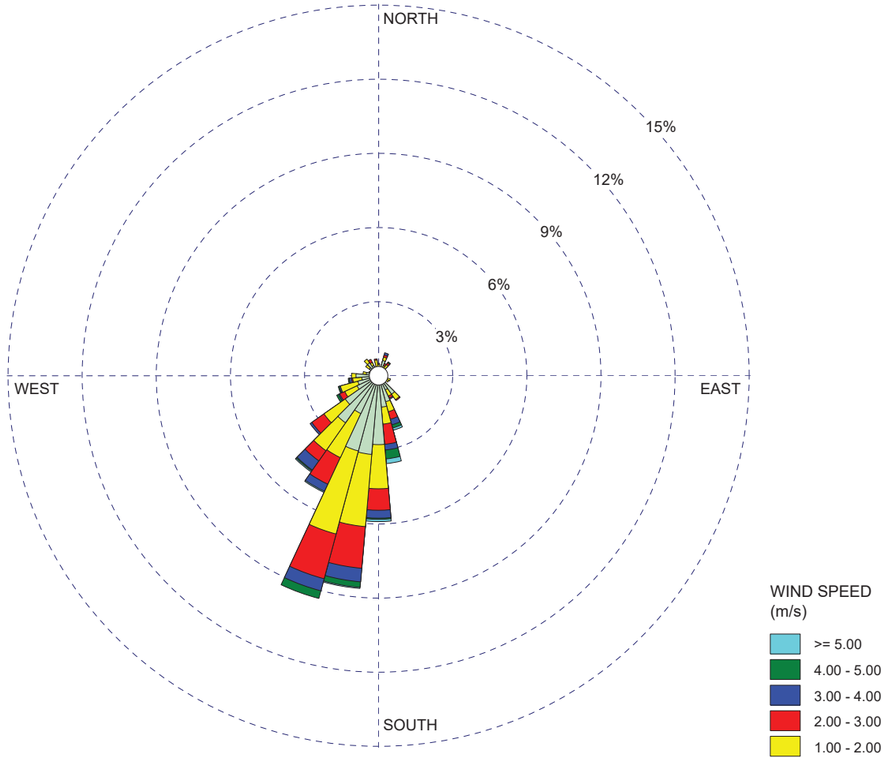
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 22 WINDROSE (8/1/2021 TO 8/1/2024, 2100-2200)

DISPLAY:

Wind Speed
Direction (blowing from)



COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **38.54%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.88 m/s**		PROJECT NO.:

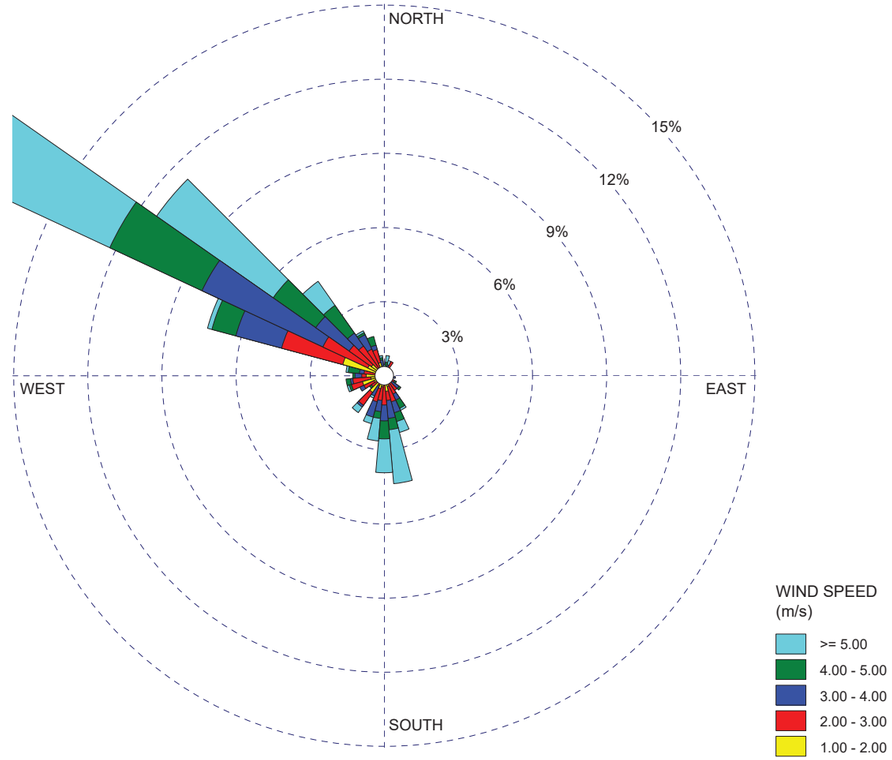
WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 22 WINDROSE (8/1/2021 TO 8/1/2024, 2100-2200)

DISPLAY:

Wind Speed
Direction (blowing from)



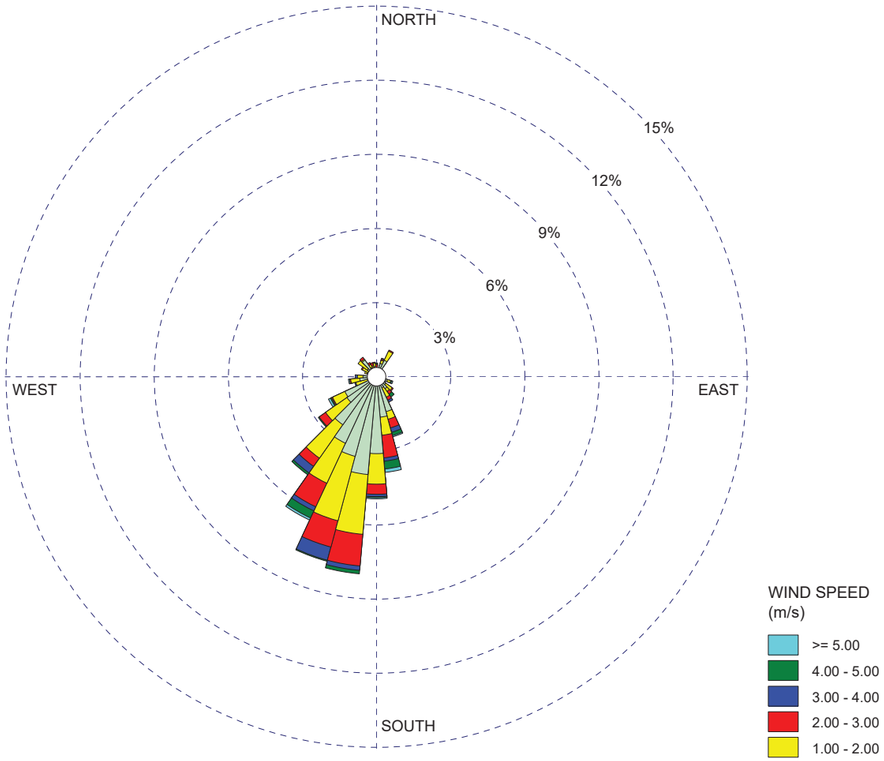
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 22:00** **End Date: 7/31/2024 - 22:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **17.15%**	TOTAL COUNT: **1071 hrs.**	
	AVG. WIND SPEED: **3.32 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 23 WINDROSE (8/1/2021 TO 8/1/2024, 2200-2300)

DISPLAY:
Wind Speed
Direction (blowing from)



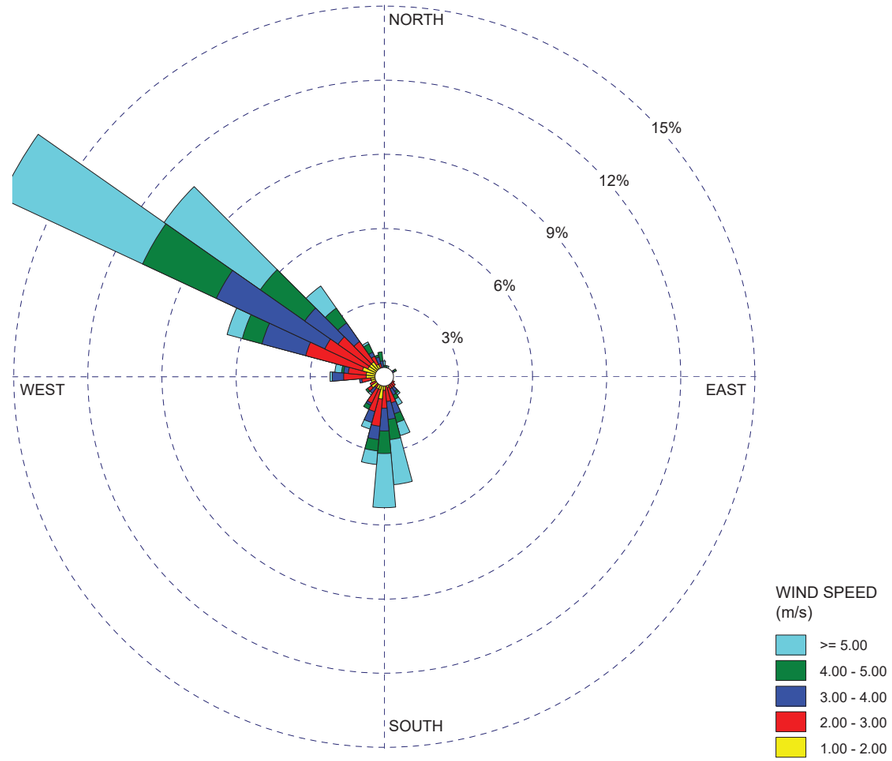
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **40.09%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.79 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 23 WINDROSE (8/1/2021 TO 8/1/2024, 2200-2300)

DISPLAY:
Wind Speed
Direction (blowing from)



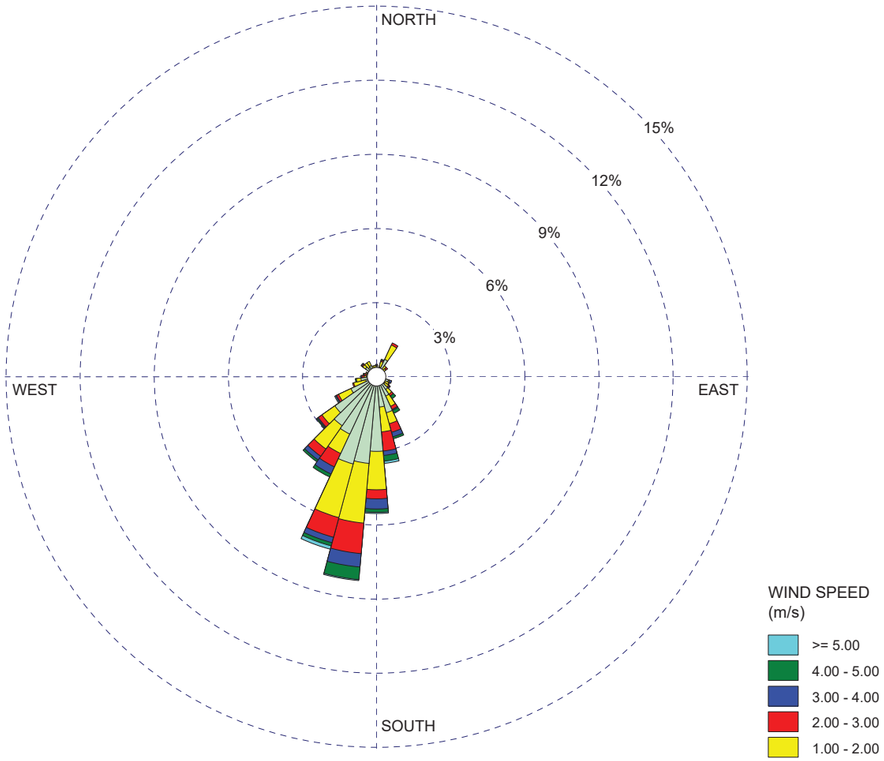
COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 23:00** **End Date: 7/31/2024 - 23:00**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **21.08%**	TOTAL COUNT: **1068 hrs.**	
	AVG. WIND SPEED: **3.06 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

COFFIN BUTTE LANDFILL
3-YEAR HOUR 24 WINDROSE (8/1/2021 TO 8/1/2024, 2300-2400)

DISPLAY:
Wind Speed
Direction (blowing from)



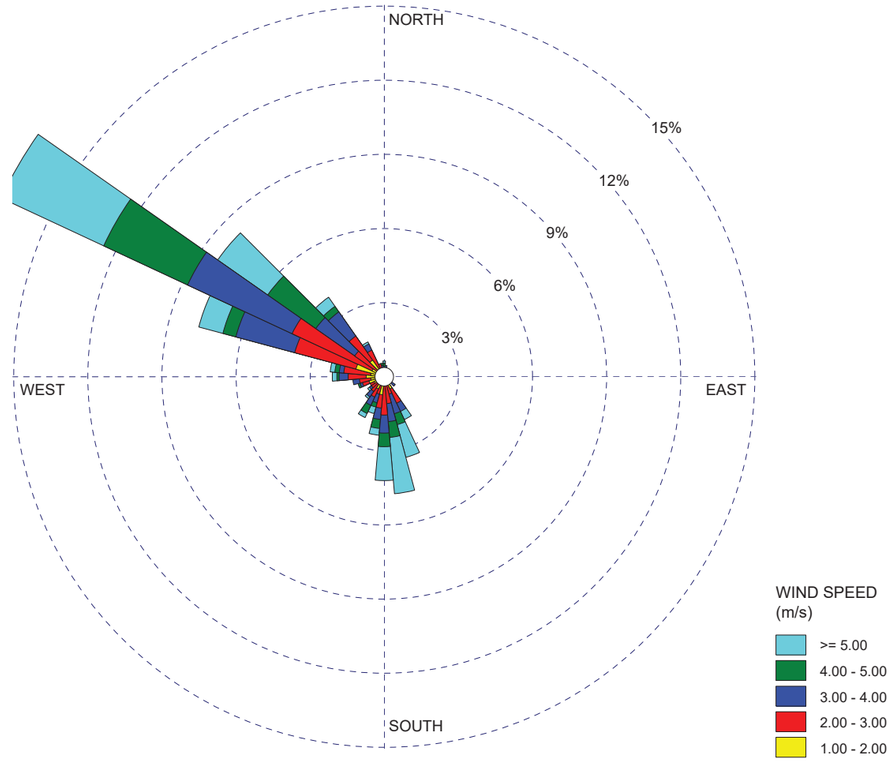
COMMENTS: Onsite (30 minute data)		COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **42.83%**	TOTAL COUNT: **2190**	
	AVG. WIND SPEED: **0.76 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software

WIND ROSE PLOT:

CORVALLIS MUNICIPAL AIRPORT (KCVO)
3-YEAR HOUR 24 WINDROSE (8/1/2021 TO 8/1/2024, 2300-2400)

DISPLAY:
Wind Speed
Direction (blowing from)



COMMENTS: NOAA hourly data (10-degree wind directions)	DATA PERIOD: **Start Date: 8/1/2021 - 00:00** **End Date: 7/31/2024 - 23:59**	COMPANY NAME: **SCS ENGINEERS**	
		MODELER:	
	CALM WINDS: **23.72%**	TOTAL COUNT: **1058 hrs.**	
	AVG. WIND SPEED: **2.86 m/s**		PROJECT NO.:

WRPLOT View - Lakes Environmental Software