W B E A

Wood Buffalo Environmental Association

Ambient Air Monitoring Station Site Documentation

Conklin

LAST UPDATED: MARCH 28, 2024

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Tables and Figures

General Site Information

Revision Date: March 28, 2024

Station

Station ID	AMS 21
Station name	Conklin
Date station established	April 01, 2016

Location

Station street address	Father Mercredis Trail
Legal land description	15-31-076-07 W4
Latitude	55.632330
Longitude	-111.078877
UTM East	495034
UTM North	6165163
Elevation	559.9
Nearest community	Conklin
Community population	185
Census Year	2016

Owner/Operator/Approval Holder

Operating Agency	Wood Buffalo Environmental Association
Name of Approval Holder	NA
Approval number	NA
Contact Name	Wood Buffalo Environmental Association
Address	Unit 3 – 805 Memorial Drive, Fort McMurray, AB
Phone number	780-799-4420
Email address	info@wbea.org

Site Description

Land use by sector	0 – 90 degrees	Forest and Residential
	91 – 180 degrees	Forest and Residential
	181 – 270 degrees	Forest and Residential
	271 – 360 degrees	Forest and Residential
Site elevation (above sea level)	562	
Angle of elevation to nearby buildings	Greatest angle	0 degree
	Building direction	South – CRDAC office
Airflow restrictions	North	Trees
	East	None
	South	None
	West	Conklin Rec center, about 2 km west

Sample manifold	Type	All glass
	Inlet height above roof	1 meter
Wind Sensors	Type	Cup and vane
	Height above ground	10 m
	Distance from station	Attached to north site of the station

Site Influences

Localized Sources (within 20 metres of station)

Type	Distance (m)	Description
Wetlands	20	Peat bog / Marshes – Variety of reeds and grasses.
Admin building	20	Conklin Resource Development Advisory Committee Office
Shipping Container	20	SEA-CAN
Free-Standing Structure	20	Gazebo – made of wood.
Watercraft	20	Speed Boat

Roadway Influences

Type	Traffic Volume	Distance (m)	Description
Gravel	Medium	50	Father Mercredis Trail – Access Road
Paved	Medium	200	Northland Drive

Major Point Sources

Facility Name	Source Type	Distance from site (km)	Compass direction from site
Meg Energy	Oil and Gas	25	NE
Cenovus Energy	Oil and Gas	14	SE

Station Equipment

Equipment Owner: WBEA

Analytical Equipment

Parameter	Make	Model	Serial Number	Date Instrument Installed	WBEA Data Start Date
Continuous					
SO_2	Thermo Environmental	43i	1428701363	2016	April, 2016
TRS	Thermo Environmental	43i-LTE	1236656116	2016	April, 2016
TRS	CD Nova	CDN-101	NA	2016	
$NO/NO_x/NO_2$	Thermo Environmental	42i	1501663731	2016	April, 2016
$THC/CH_4/NMHC$	Thermo Environmental	55i	1193585649	2023	April, 2016
O_3	Thermo Environmental	49i	1501663734	2016	April, 2016
$PM_{2.5}$	Teledyne/API	T640	326	2022	April, 2016
Time-Integrated					
$PM_{2.5}$	Thermo Environmental	2000i	2000iW208842002	2020	-
$PM_{2.5}$	Thermo Environmental	2000i	2000iW208822002	2020	-
PM_{10}	Thermo Environmental	2000i	2000iW208812022	2020	-
PM_{10}	Thermo Environmental	2000i	2000iW208832002	2020	-
VOC	Tisch Environmental	TE-123	1019	2020	-
PAH	Tisch Environmental	TE-PUF	1001100	2020	-
Dustfall	Advantage Manufacturing	-	-	2022	-

Meteorolgical Equipment

Parameter	Make	Model	Serial Number	WMO Site Class	Date Sensor Installed	WBEA Data Start Date
AT/RH	Vaisala	HMP155	S3550333	3	2016	April, 2016
WD	Met One	010C-1	P22886	2	2020	April, 2016
WS	Met One	020C-1	J4337	2	2016	April, 2016

Support Equipment

Name	Description	Make	Model	Serial Number
Datalogger	Datalogger	Campbell Scientific	CR3000	9628
Gas Dilution Calibrator	Dynamic dilution calibrator	Teledyne/API	T700	3810
Zero air generator	Zero Air Generator	Teledyne/API	T701H	691
Shelter / Building	Air monitoring portable	ITB	10x20 trailer	ITB-14-16423
HVAC	Heating and air conditioning system. Wall mount unit	BARD	1 ton	NA
Tower	10 Tower	Aluma	T-135	AT-215036-AA-5-3
Deck	Wooden Deck	NA	10x20	NA

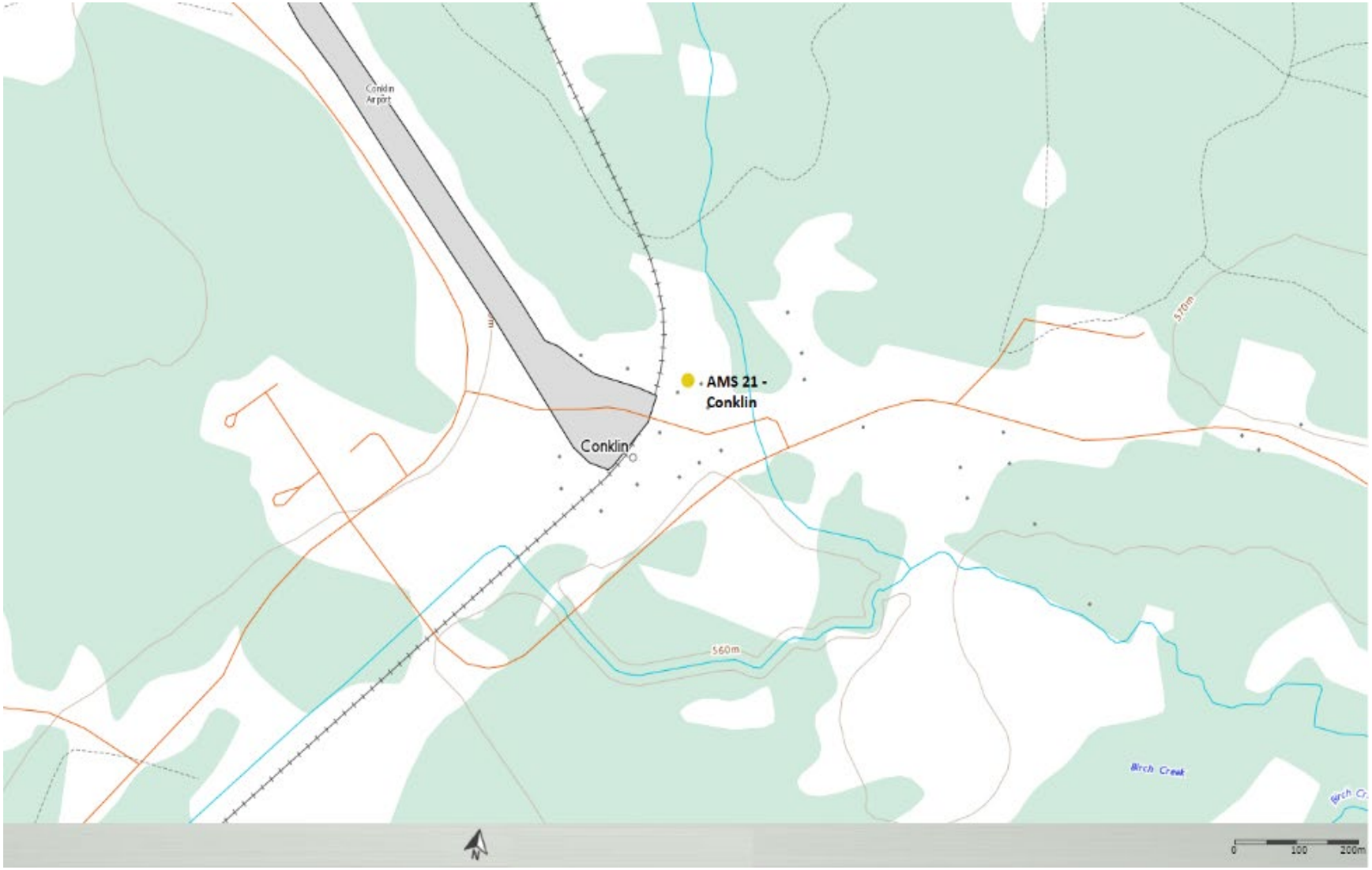

Figure 1 – Area Topographic map showing AMS 21

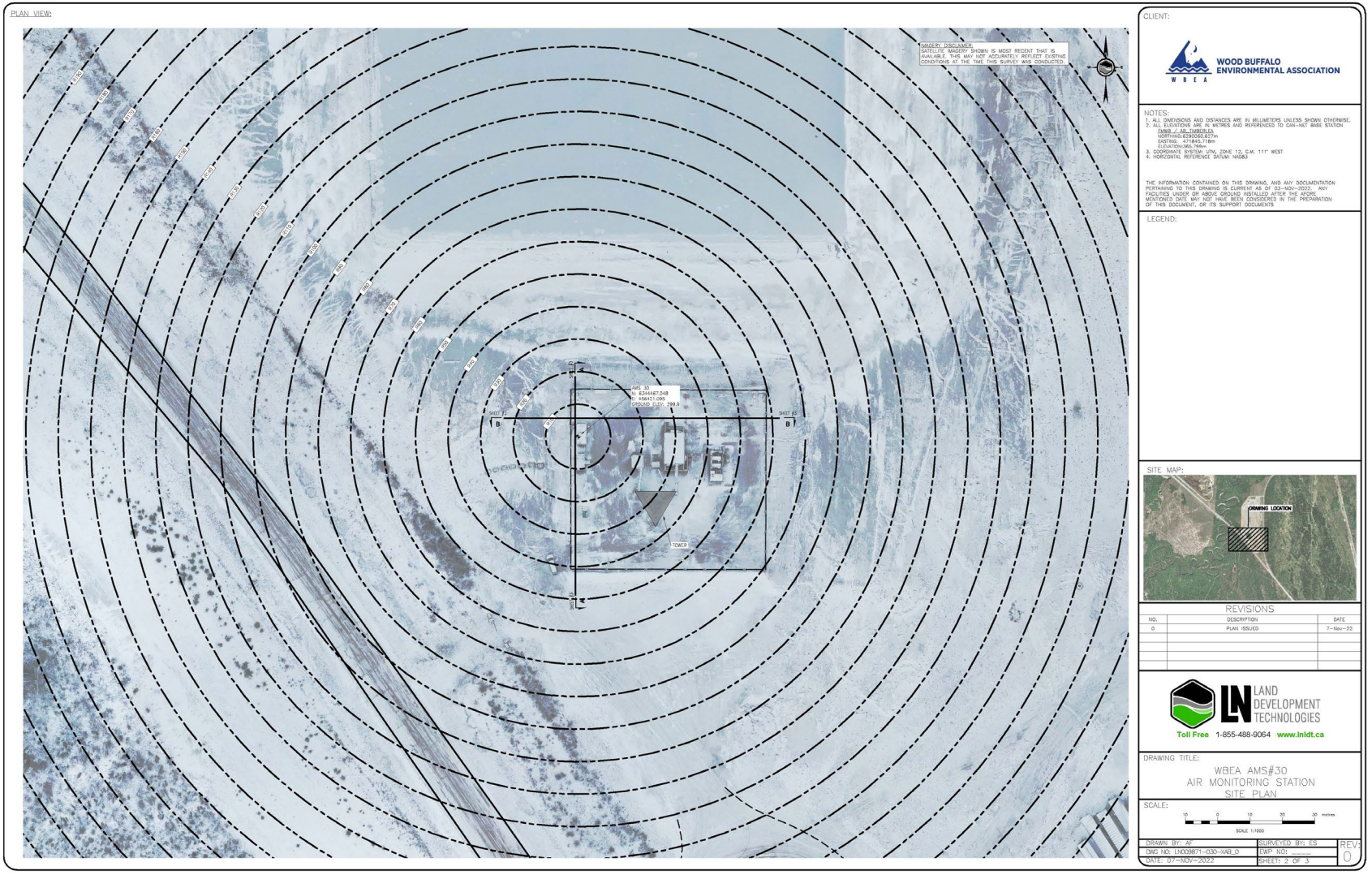

Figure 2 – Plan view sketch for AMS 21 site

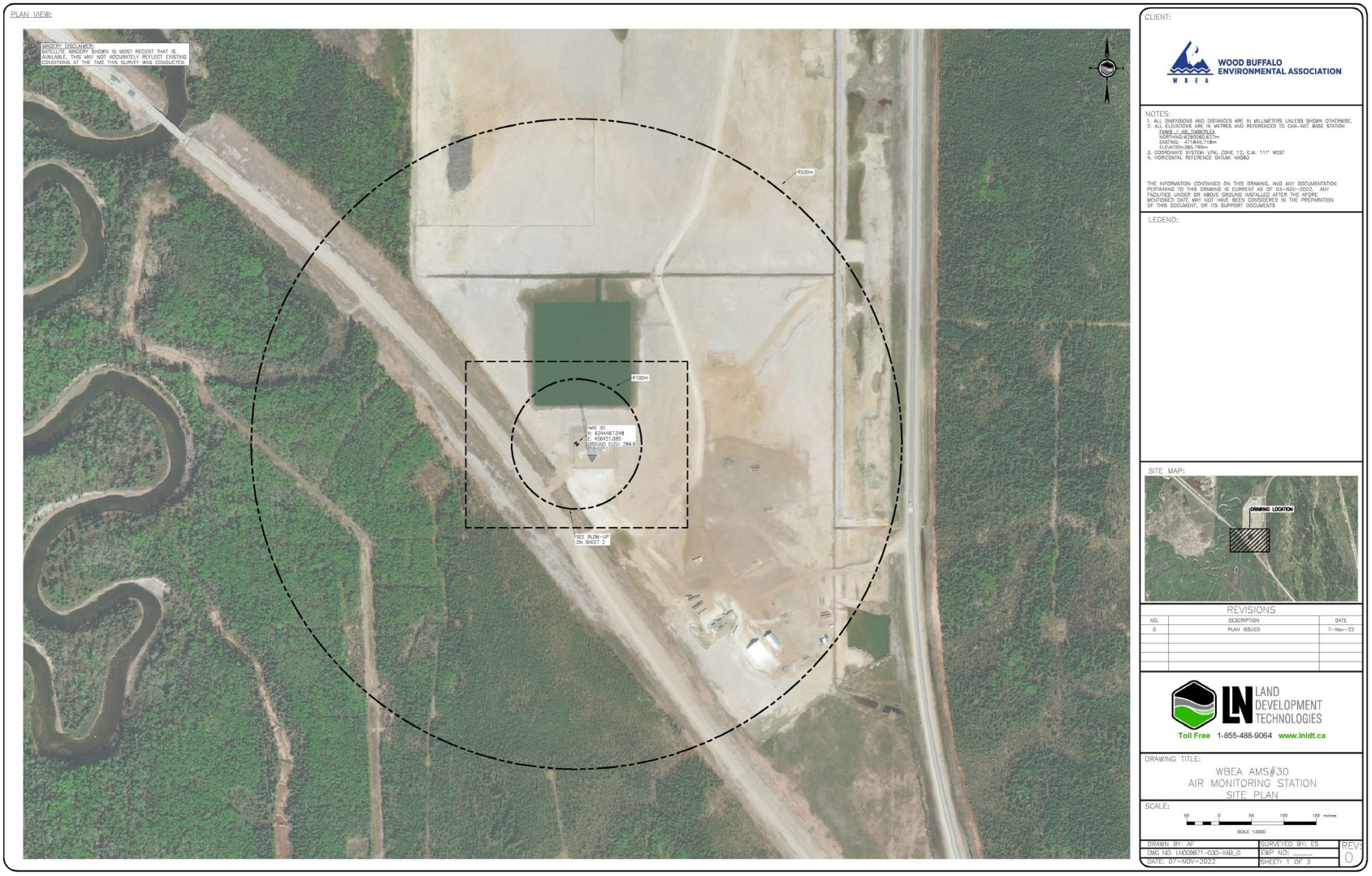

Figure 3 – Aerial photo showing AMS 21

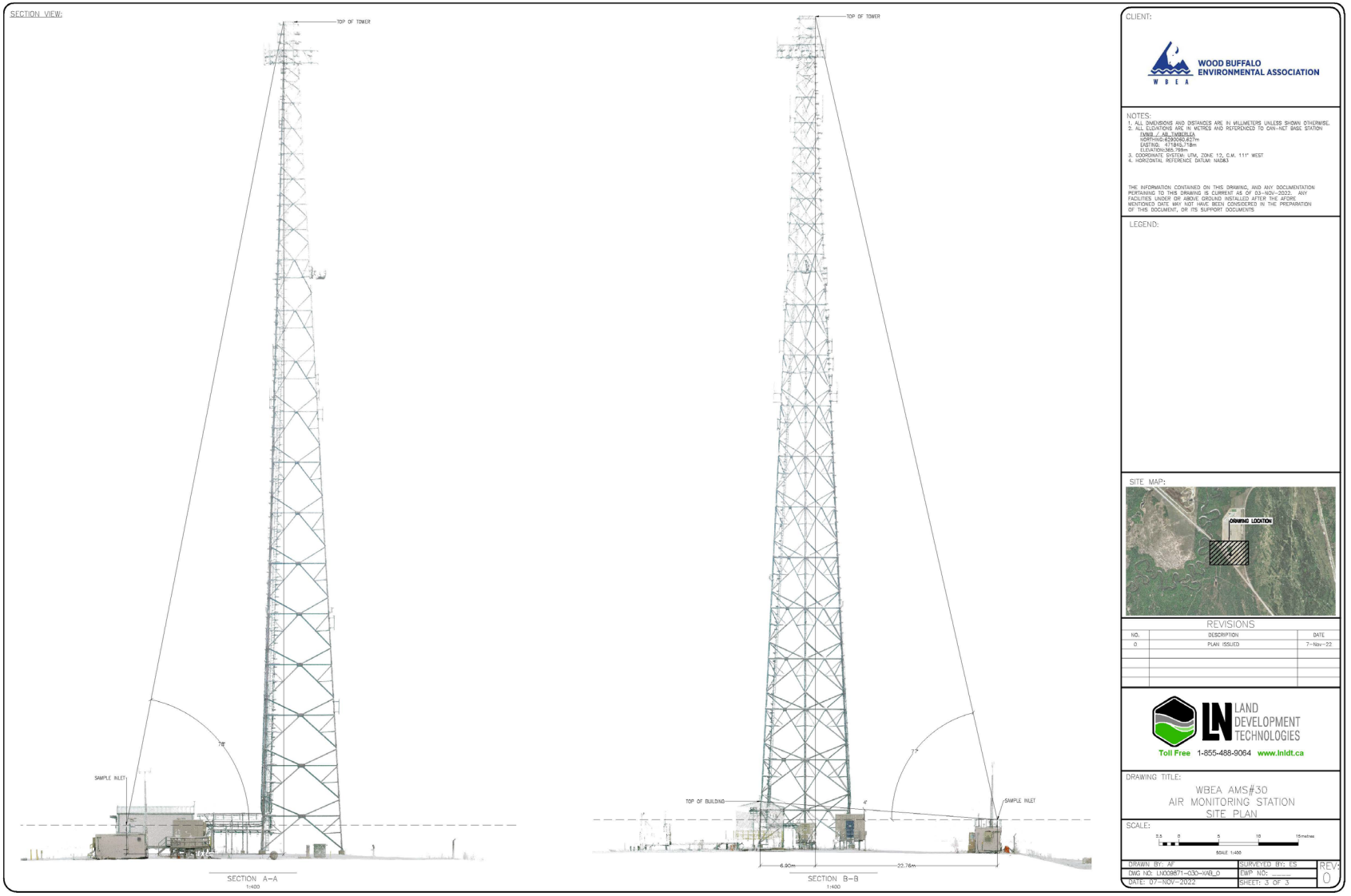

Figure 4 – Cross Section Elevation Drawing of AMS 21

Site photos

The following photos show the environment surrounding the monitoring station.

Figure 5 – Environment Looking North

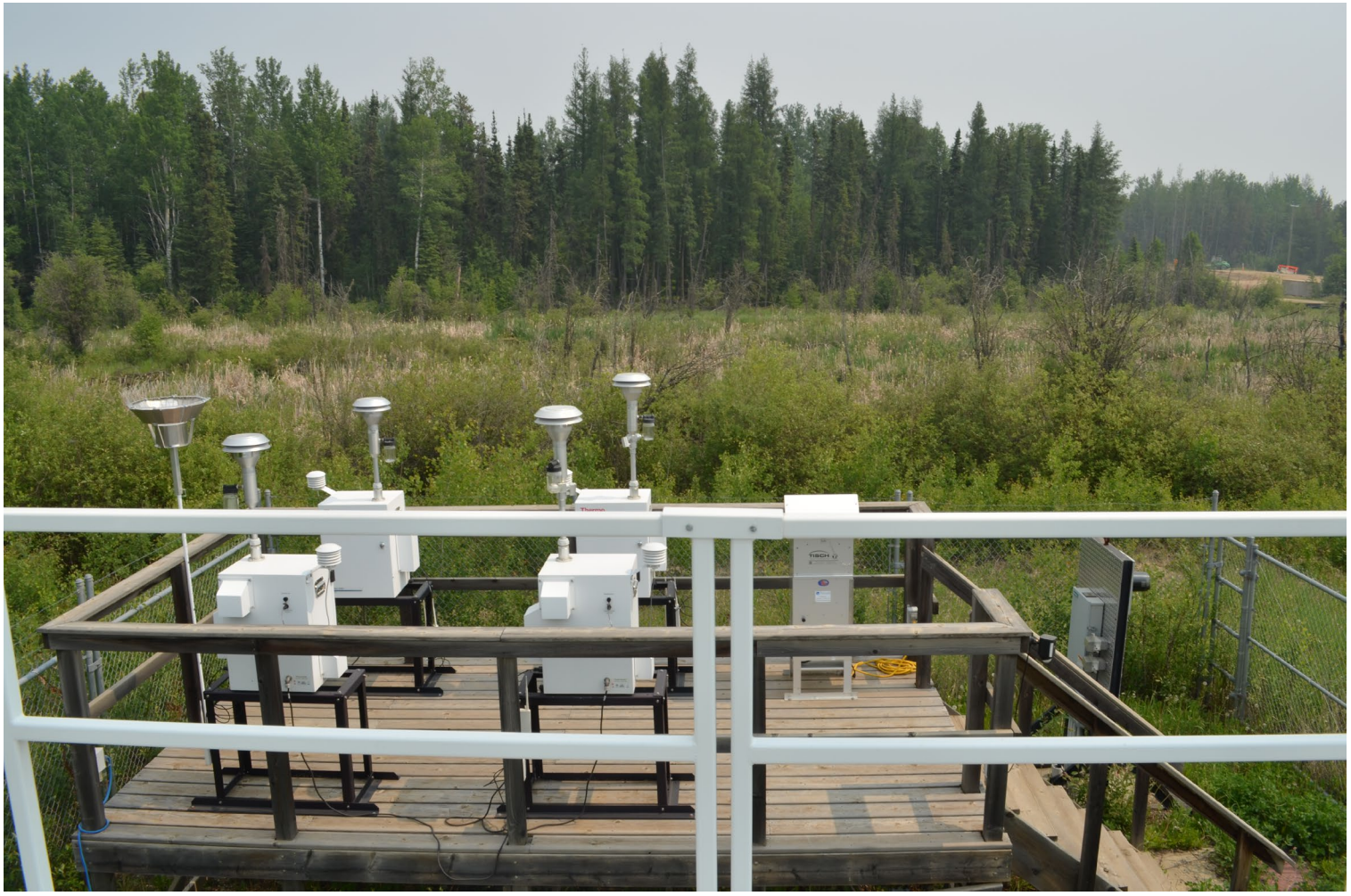

Figure 6 – Environment Looking East

Figure 7 – Environment looking South

Figure 8 – Environment Looking West

Figure 9 – Meteorological Tower

Station Photos

The following photos show the monitoring station and instrumentation.

Figure 10 – Photo showing the inlet and sample manifold.

Figure 11 – Curb shot of the monitoring station.

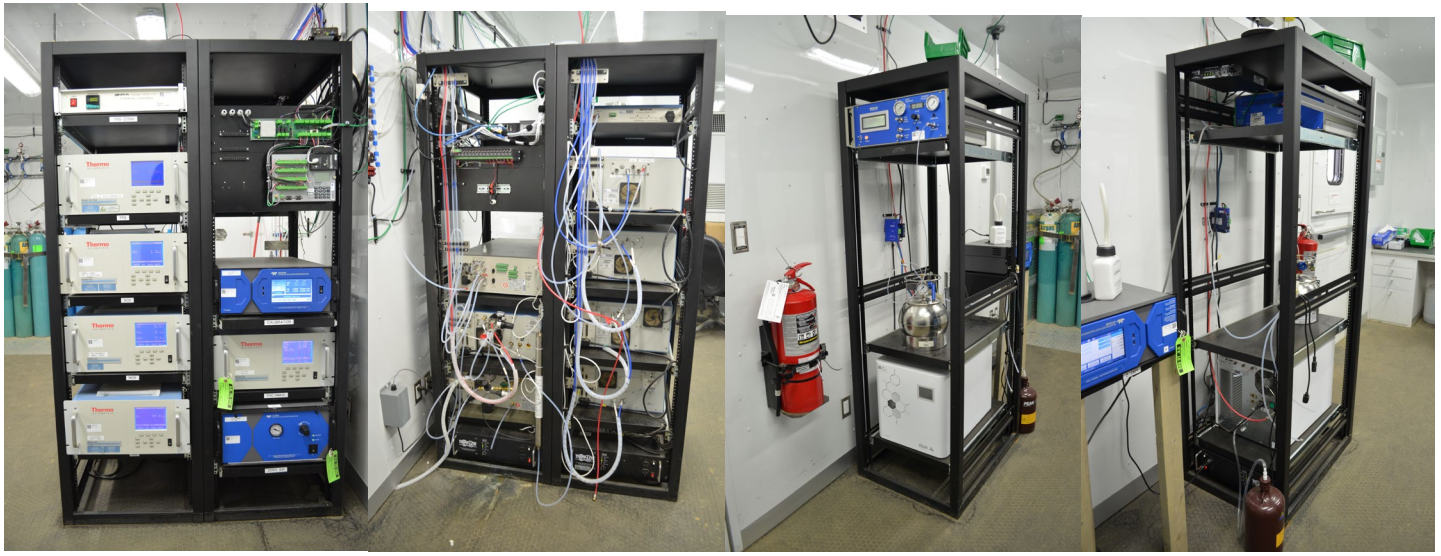

Figure 12 –Photo of front and back of instrument rack

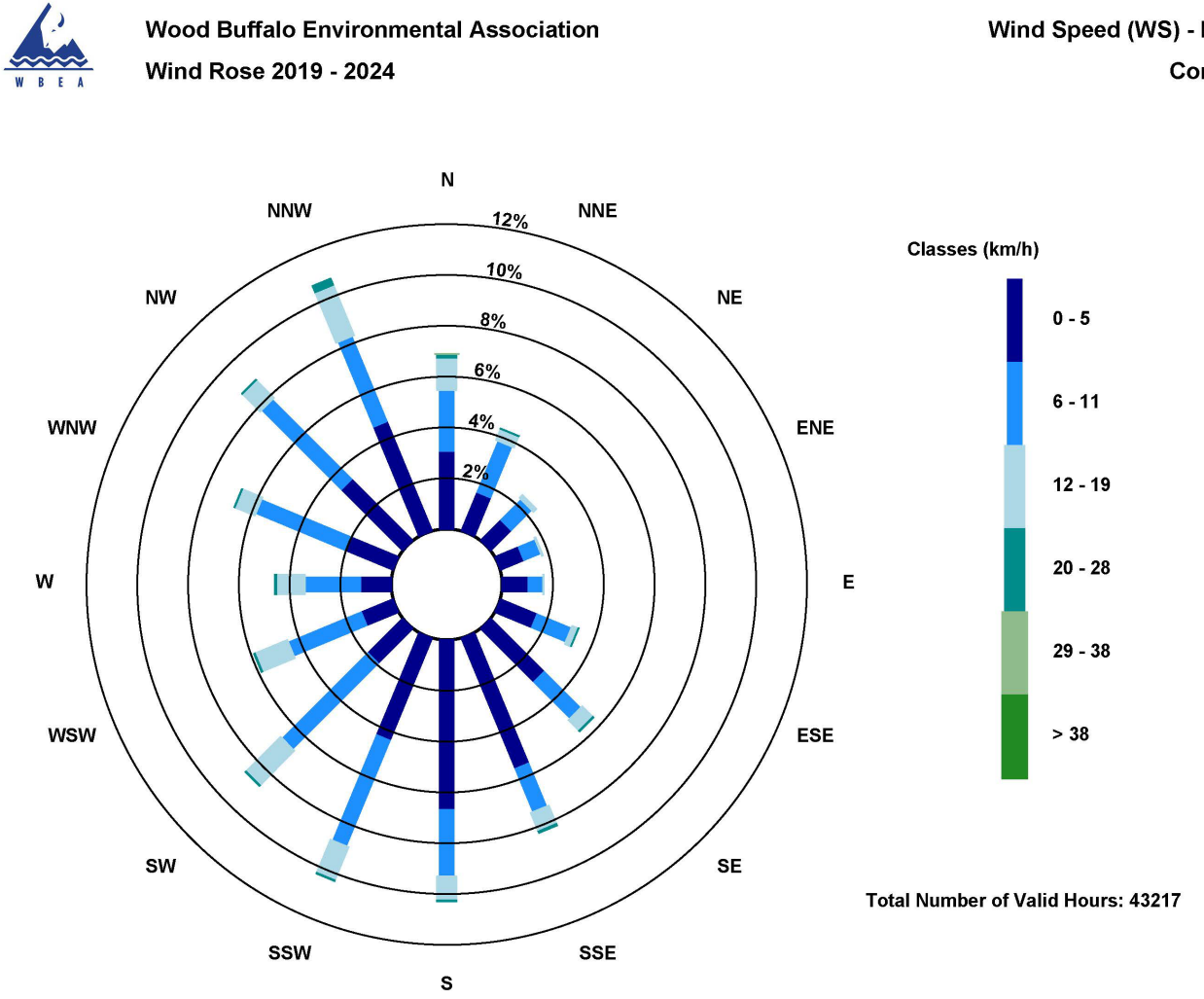

Figure 13 – Windrose (Five Year)