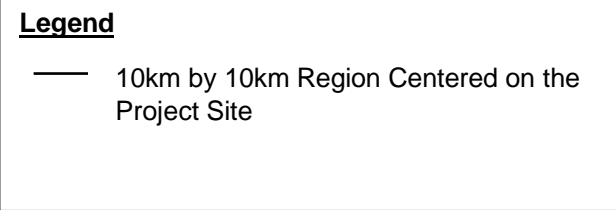
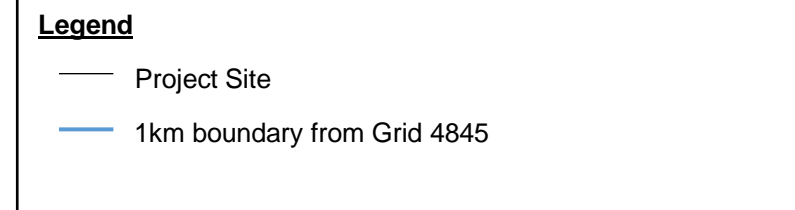
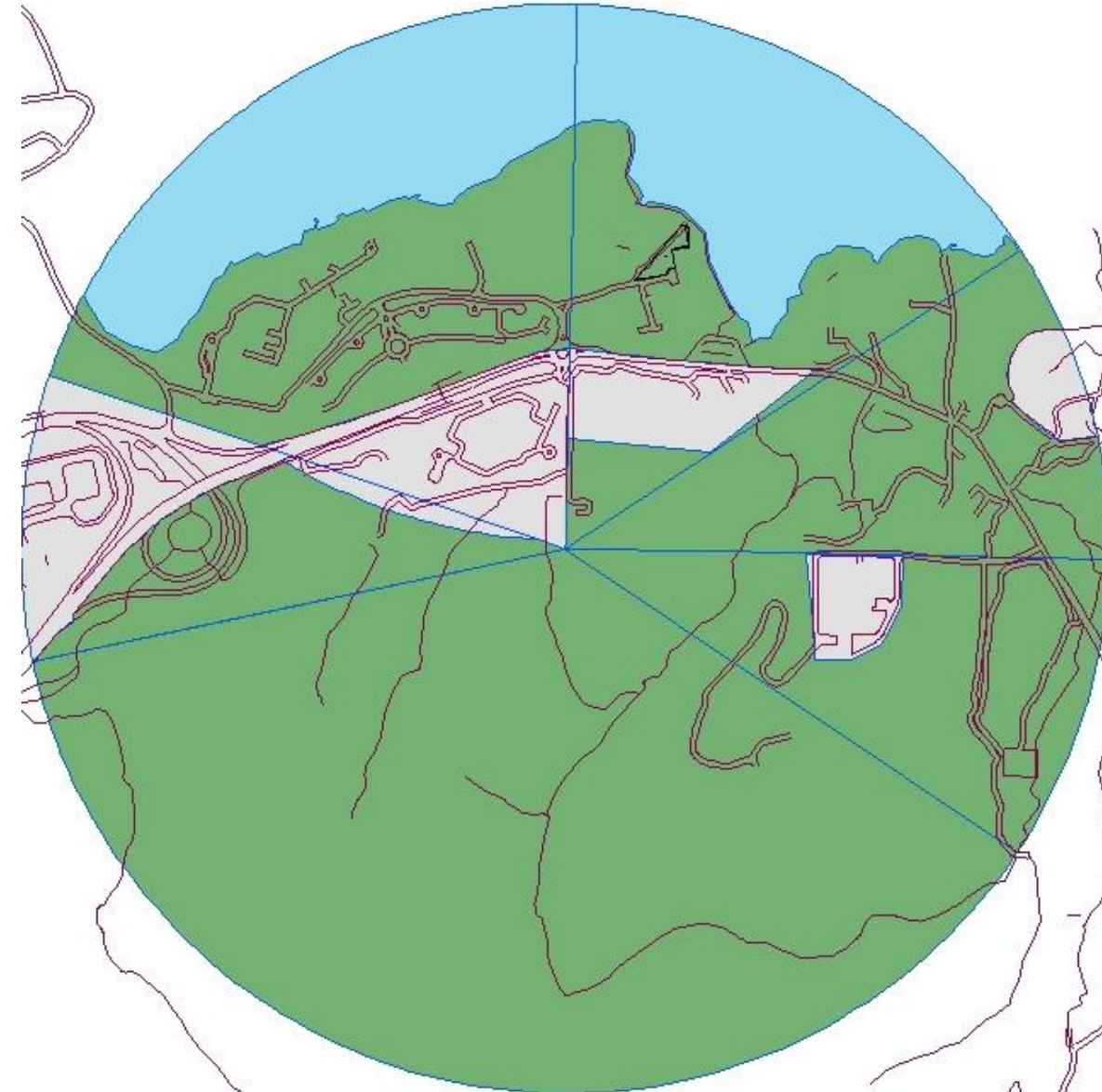


10km by 10km Region Centered on the Project Site

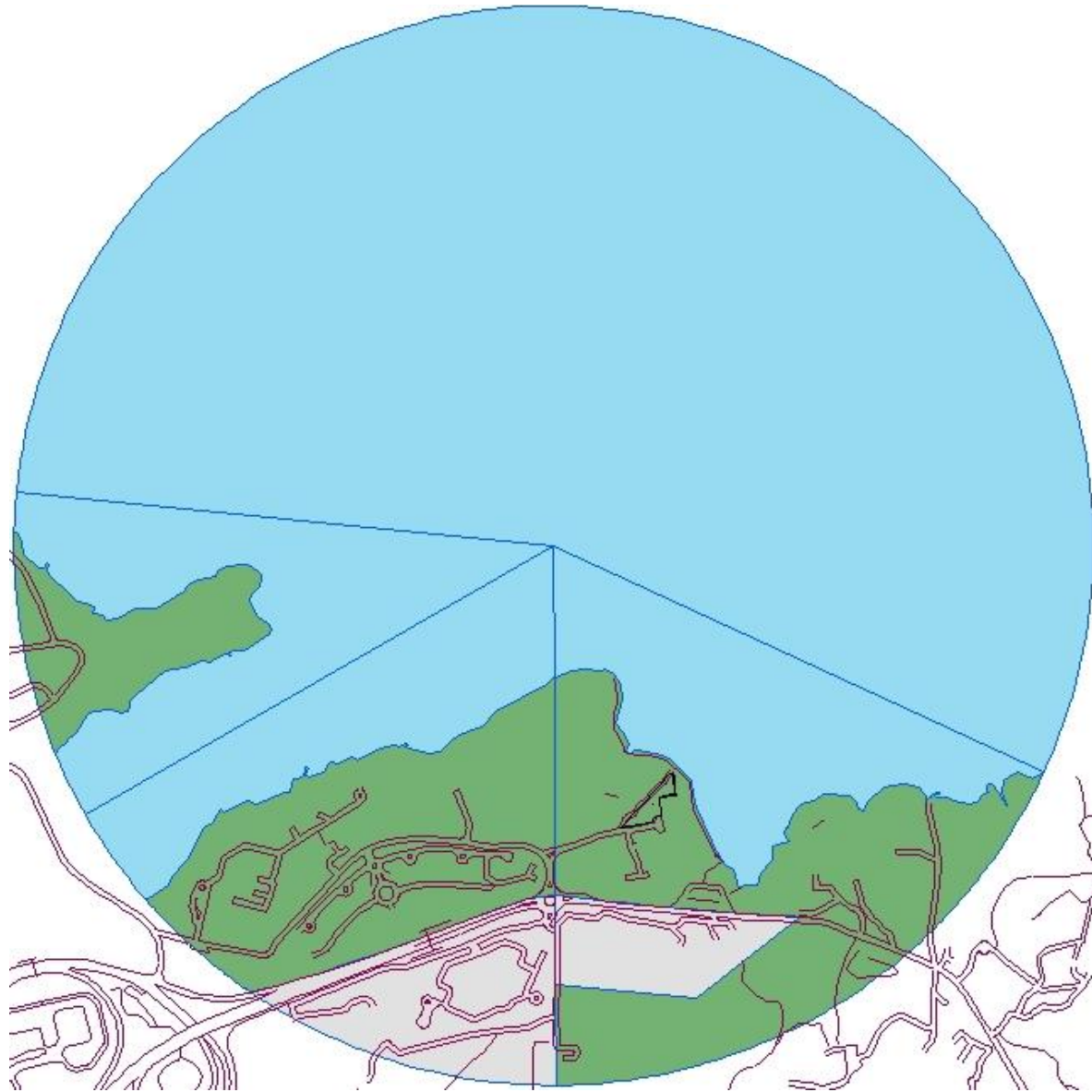


1km Boundary from Grid 4845



Note: Grey area is classified as urban area. Blue area is classified as water area. Green area is classified as grassland area.

1km Boundary from Grid 4846



Note: Grey area is classified as urban area. Blue area is classified as water area. Green area is classified as grassland area.

### Appendix 3.3 Determination of Surface Characteristics Parameters for AERMET

#### Summary of Surface Characteristics for the Study Area

##### Grid 4845

Sector (degrees in Clockwise)	Land type	Area (m <sup>2</sup> )	Distance	Weighting (Area Fraction/Distance)	Weighting Sum	Albedo	Bowen Ratio	Surface Roughness	Remarks								
0-57	Grassland 1	27111	156.38	0.0003580	0.001897	0.154639	0.322628	0.012348	Urban development, Grassland and Water from north to northeast								
	Urban	58056	332.69	0.0003604													
	Grassland 2	158482	575.75	0.0005685													
	Water	240552	814.04	0.0006103													
57-92	Grassland	277420	632.93	0.0014581	0.001540			0.154639	0.322628	0.062338	Urban development and Grassland from northeast to east						
	Urban	23187	941.05	0.0000820													
92-125	Grassland	256651	671.70	0.0013369	0.001527					0.154639	0.322628	0.076770	Urban development and Grassland from east to southeast				
	Urban	29147	537.57	0.0001897													
125-258	Grassland	1170229	-	-	-							0.154639	0.322628	0.053333	Grassland from southeast to west		
258-289	Grassland	142296	546.02	0.0009760	0.001566									0.154639	0.322628	0.160879	Urban development and Grassland in west
	Urban	124731	792.04	0.0005898													
289-0	Urban	104249	260.35	0.0006323	0.001869	0.154639	0.322628									0.028653	Urban development, Grassland and Water from west to north
	Grassland	276109	576.13	0.0007567													
	Water	252957	831.96	0.0004801													

##### Grid 4846

Sector (degrees in Clockwise)	Land type	Area (m <sup>2</sup> )	Distance	Weighting (Area Fraction/Distance)	Weighting Sum	Albedo	Bowen Ratio	Surface Roughness	Remarks						
115-180	Water	210311	484.80	0.0007650	0.001618	0.154639	0.322628	0.003497	Urban development, Grassland and Water from southeast to south						
	Grassland	298542	732.44	0.0007187											
	Urban	58252	763.92	0.0001345											
180-240	Water	166456	498.90	0.0006334	0.001592			0.154639	0.322628	0.007058	Urban development, Grassland and Water from south to southwest				
	Grassland	242840	658.86	0.0006997											
	Urban	117496	862.50	0.0002586											
240-276	Water	226907	597.56	0.0012253	0.001554					0.154639	0.322628	0.000377	Grassland and Water from southwest to west		
	Grassland	82985	815.81	0.0003282											
276-115	Water	1737349	-	-	-							0.154639	0.322628	0.000100	Water from west to southeast

Note:

1. Reference to AERMOD Implementation Guide, the determination of the Bowen ratio should be based on a simple unweighted geometric mean (i.e., no direction or distance dependency) for a representative domain, with a default domain defined by a 10km by 10km region centered on the measurement site.
2. Reference to AERMOD Implementation Guide, the determination of the albedo should be based on a simple unweighted arithmetic mean (i.e., no direction or distance dependency) for the same representative domain as defined for Bowen ratio, with a default domain defined by a 10km by 10km region centered on the measurement site.
3. Surface roughness length is based on an inverse distance weighted geometric mean for a default upwind distance of 1 kilometer relative to the grid.
4. Land use within 10km by 10km region centered on the measurement site included 46.91% urban (46910745 m<sup>2</sup>), 44.68% water (44677177 m<sup>2</sup>), and 8.41% Grassland (8412078 m<sup>2</sup>).
5. For the parameters including albedo, Bowen Ratio and surface roughness, the default value for "Winter" is excluded from calculating the representative values.