

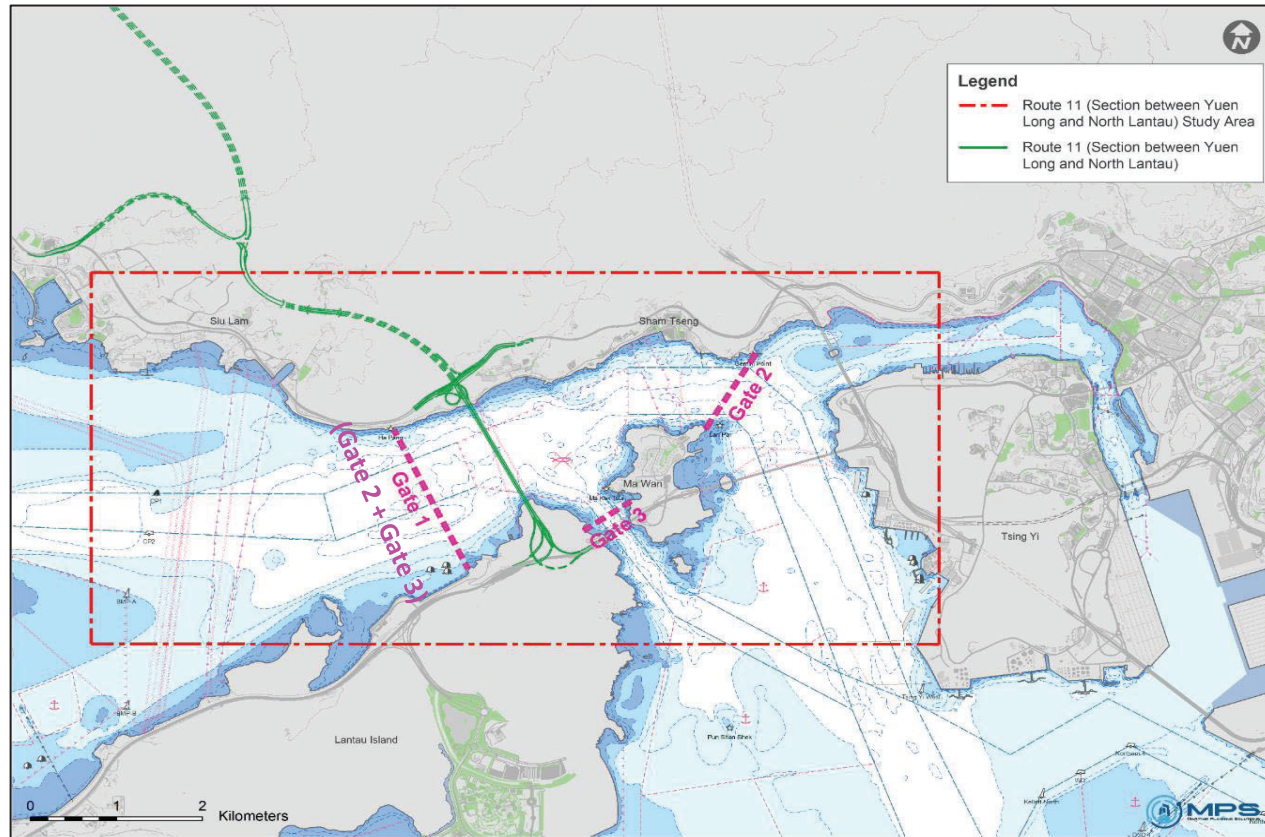
**Annex I**

Marine Emission Rate for Tsing Lung Tau Fairway in Year 2048

Oceangoing Vessels\_Gate 2

**Marine Traffic Information**

Assessment Year 2048  
 Assessed Vessel Type Oceangoing Vessels  
 Gate 2



**Marine Traffic Information from Marine Traffic Consultants**

Location <sup>[1]</sup>	Monthly Vessel Count in Dec <sup>[2]</sup>	Travelling Speed (knots) <sup>[3]</sup>	Length of Sailing Route (m) <sup>[4]</sup>
Gate 2	1,683	12	2,400

**Notes:**

- [1] According to the provided radar route data from Marine Traffic Consultant, there is no OGV passing by Gate 3. Emission of OGV at Gate 3 therefore is not calculated.
- [2] Monthly Vessel Count is advised by Marine Traffic Consultant and accepted by Marine Department.
- [3] Average speed of 12 knot is provided by Marine Traffic Consultant and assumed to be constant throughout the channel (i.e. Gate 1 to Gate 2).
- [4] Possible maximum length of sailing route is estimated for conservative assessment.

**Marine Emission Inventory****Total Emission Rate**

Group <sup>[1]</sup>	Vessel Type	Emission Rate per Trip (g/s) <sup>[2]</sup>			Annual No. of Vessel Arrivals in Year 2019 <sup>[3]</sup>	Composite Emission Rate per Trip (g/s) <sup>[4]</sup>		
		NO <sub>x</sub>	RSP	FSP		NO <sub>x</sub>	RSP	FSP
1	Cruise/Ferry	1.669	0.075	0.072	829	2.263	0.083	0.078
	Fully Cellular Container Vessel	2.309	0.083	0.078	15212			
	Semi-container Vessel	0.321	0.009	0.008	109			
2	Conventional Cargo Vessel	0.340	0.015	0.015	-	0.340	0.015	0.015
3	Dry Bulk Carrier	1.135	0.034	0.032	-	1.135	0.034	0.032
4	Chemical Carrier/Tanker	0.608	0.031	0.030	600	0.748	0.034	0.033
	Gas Carrier/Tanker	0.505	0.029	0.028	382			
	Oil Tanker	0.938	0.038	0.037	930			

**Engine/Boiler in Operation**

Engine/Boiler	On (1) or Off (0) <sup>[2]</sup>
ME	1
AE	1
AB	1

**Notes:**

[1] The vessel type is grouped according to the modelling parameter (i.e. stack height, exit temperature, exit velocity etc). Vessel types with the identical modelling parameters will be grouped.

[2] Main engine, auxiliary engine and auxiliary boiler are assumed in operation during maneuvering for conservative assessment with reference to Table 3-25 of Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012). The emission rate per trip considers the emission from the engine/boiler in operation as indicated in the table "Engine/Boiler in Operation", and the calculation is documented in the "Technical Notes on Marine Emission for So Kwun Wat and Tsing Lung Tau Areas" submitted to EPD.

[3] Marine Traffic Consultant has provided the total number of OGVs but without breakdown into different vessel types. Hence, reference has been made to Marine Department's Vessels Arrivals by Ship Type and Ocean/River ([https://www.mardep.gov.hk/en/fact/pdf/portstat\\_2\\_y\\_a2.pdf](https://www.mardep.gov.hk/en/fact/pdf/portstat_2_y_a2.pdf)). Due to the pandemic situation, there was a significant change in marine traffic from Year 2020 to Year 2022. In view of this, the monthly profile of Year 2019 is considered the most appropriate and therefore adopted and assumed the same for future years.

[4] The emission rate per trip is calculated based on the following equation. Breakdown is provided and documented in "Technical Notes on Marine Emission for So Kwun Wat and Tsing Lung Tau Areas" submitted to EPD and emission rates are evenly apportioned into point sources in the model as shown in subsequent pages of this Appendix.

*Engine/Boiler Emission Rate per Trip = (i)Time-in-mode x (ii)Engine Load Factors x (iii) Low Load Multiplier (when applicable) x (iv) Engine Power x (v) Emission Factor, where*

(i) Time-in-mode is calculated from the average speed and possible maximum length of sailing route within assessment area provided by Marine Traffic Consultant.

(ii) Engine Load Factors are made reference to Table 3-18, Table 3-21 and Table 3-24 of Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012).

(iii) Low Load Multiplier is made reference to Table 3-30 of Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012).

(iv) The average engine/boiler powers are made reference to Table 3-15, Table 3-16, Table 3-20, Table 3-21 and Table 3-23 of the Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012).

(v) The emission factor is made reference to Study on Marine Vessels Emission Inventory Final Report (HKUST, February 2012) Table 3-27, Table 3-28 and Table 3-30. International Maritime Organization's Tier II NO<sub>x</sub> control is applied, which assumed the average age of vessels is 37 years old in Year 2048 for conservative assessment. Under the Air Pollution Control (Fuel for Vessels) Regulation, all vessels assumed to use MGO due to requirement to fuel switch to compliant fuel (sulphur content <=0.5%) within Hong Kong waters.

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip							
				(m)	(m)						(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)						(g/s)							
2	1	G2_O1_001	POINT	823111	824057.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_002	POINT	823065.1	824035.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_003	POINT	823019.2	824014.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_004	POINT	822973.2	823992.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_005	POINT	822927.3	823971.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_006	POINT	822881.3	823950	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_007	POINT	822835.4	823928.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_008	POINT	822789.5	823907.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_009	POINT	822743.5	823885.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_010	POINT	822697.6	823864.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_011	POINT	822651.6	823842.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_012	POINT	822605.7	823821.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_013	POINT	822559.7	823799.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_014	POINT	822513.8	823778.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_015	POINT	822467.9	823757.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_016	POINT	822421.9	823735.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_017	POINT	822376	823714.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_018	POINT	822330	823692.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_019	POINT	822284.1	823671.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_020	POINT	822238.1	823649.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_021	POINT	822192.2	823628.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_022	POINT	822146.3	823607	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_023	POINT	822100.3	823585.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_024	POINT	822054.4	823564.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_025	POINT	822008.4	823542.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_026	POINT	821962.5	823521.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_027	POINT	821916.5	823499.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_028	POINT	821870.6	823478.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_029	POINT	821824.3	823457.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_030	POINT	821776.3	823442.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_031	POINT	821728.3	823427.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_032	POINT	821680.3	823411.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_033	POINT	821632.3	823396.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_034	POINT	821584.3	823381	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_035	POINT	821536.3	823365.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_036	POINT	821488.3	823350.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_037	POINT	821440.3	823334.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_038	POINT	821392.3	823319.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_039	POINT	821344.3	823304.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_040	POINT	821296.3	823288.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_041	POINT	821248.3	823273.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_042	POINT	821200.3	823258	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_043	POINT	821152.3	823242.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_044	POINT	821104.3	823227.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip							
				(m)	(m)						(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)						(g/s)							
2	1	G2_O1_045	POINT	823109.7	824265.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_046	POINT	823062.1	824248.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_047	POINT	823014.6	824231.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_048	POINT	822967	824215	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_049	POINT	822919.4	824198.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_050	POINT	822871.9	824181.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_051	POINT	822824.3	824164.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_052	POINT	822776.8	824147.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_053	POINT	822729.2	824130.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_054	POINT	822681.6	824113.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_055	POINT	822634.1	824096.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_056	POINT	822586.5	824080	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_057	POINT	822539	824063.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_058	POINT	822491.4	824046.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_059	POINT	822443.8	824029.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_060	POINT	822396.3	824012.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_061	POINT	822348.7	823995.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_062	POINT	822301.2	823978.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_063	POINT	822253.6	823961.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_064	POINT	822206	823945	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_065	POINT	822158.5	823928.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_066	POINT	822110.9	823911.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_067	POINT	822063.3	823894.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_068	POINT	822015.8	823877.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_069	POINT	821968.2	823860.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_070	POINT	821920.7	823843.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_071	POINT	821873.1	823827	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_072	POINT	821825.5	823810.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_073	POINT	821777.8	823793.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_074	POINT	821728.9	823782.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_075	POINT	821680	823770.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_076	POINT	821631	823759.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_077	POINT	821582.1	823747.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_078	POINT	821533.2	823736.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_079	POINT	821484.2	823725	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_080	POINT	821435.3	823713.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_081	POINT	821386.4	823702.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_082	POINT	821337.4	823690.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_083	POINT	821288.5	823679.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_084	POINT	821239.5	823667.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_085	POINT	821190.6	823656.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_086	POINT	821141.7	823644.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_087	POINT	823100	823820.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					
2	1	G2_O1_088	POINT	823056.1	823794.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04					

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	1	G2_O1_089	POINT	823012.1	823768.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_090	POINT	822968.1	823742.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_091	POINT	822924.1	823717.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_092	POINT	822880.2	823691.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_093	POINT	822836.2	823665.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_094	POINT	822792.2	823639.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_095	POINT	822748.2	823614.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_096	POINT	822704.2	823588.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_097	POINT	822660.3	823562.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_098	POINT	822616.3	823536.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_099	POINT	822572.3	823511	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_100	POINT	822528.3	823485.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_101	POINT	822484.4	823459.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_102	POINT	822440.4	823433.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_103	POINT	822396.4	823407.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_104	POINT	822352.4	823382.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_105	POINT	822308.5	823356.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_106	POINT	822264.5	823330.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_107	POINT	822220.2	823305.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_108	POINT	822174.9	823282.4	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_109	POINT	822129.7	823259.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_110	POINT	822084.4	823236.3	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_111	POINT	822039.2	823213.2	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_112	POINT	821993.9	823190.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_113	POINT	821948.7	823167.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_114	POINT	821903.4	823144	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_115	POINT	821858.2	823120.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_116	POINT	821812.3	823099.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_117	POINT	821764.8	823082.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_118	POINT	821717.2	823065.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_119	POINT	821669.7	823048.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_120	POINT	821622.2	823031.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_121	POINT	821574.6	823014.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_122	POINT	821527.1	822997.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_123	POINT	821479.6	822980.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_124	POINT	821432	822963.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_125	POINT	821383.2	822952.5	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_126	POINT	821333.8	822943.6	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_127	POINT	821284.4	822934.7	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_128	POINT	821235	822925.8	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_129	POINT	821185.6	822916.9	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	1	G2_O1_130	POINT	821136.2	822908.1	0	34.2	537	24.6	1.9	1.74E-02	6.35E-04	5.96E-04
2	2	G2_O2_001	POINT	823111	824057.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	2	G2_O2_002	POINT	823065.1	824035.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_003	POINT	823019.2	824014.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_004	POINT	822973.2	823992.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_005	POINT	822927.3	823971.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_006	POINT	822881.3	823950	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_007	POINT	822835.4	823928.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_008	POINT	822789.5	823907.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_009	POINT	822743.5	823885.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_010	POINT	822697.6	823864.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_011	POINT	822651.6	823842.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_012	POINT	822605.7	823821.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_013	POINT	822559.7	823799.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_014	POINT	822513.8	823778.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_015	POINT	822467.9	823757.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_016	POINT	822421.9	823735.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_017	POINT	822376	823714.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_018	POINT	822330	823692.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_019	POINT	822284.1	823671.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_020	POINT	822238.1	823649.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_021	POINT	822192.2	823628.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_022	POINT	822146.3	823607	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_023	POINT	822100.3	823585.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_024	POINT	822054.4	823564.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_025	POINT	822008.4	823542.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_026	POINT	821962.5	823521.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_027	POINT	821916.5	823499.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_028	POINT	821870.6	823478.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_029	POINT	821824.3	823457.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_030	POINT	821776.3	823442.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_031	POINT	821728.3	823427.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_032	POINT	821680.3	823411.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_033	POINT	821632.3	823396.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_034	POINT	821584.3	823381	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_035	POINT	821536.3	823365.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_036	POINT	821488.3	823350.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_037	POINT	821440.3	823334.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_038	POINT	821392.3	823319.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_039	POINT	821344.3	823304.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_040	POINT	821296.3	823288.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_041	POINT	821248.3	823273.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_042	POINT	821200.3	823258	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_043	POINT	821152.3	823242.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_044	POINT	821104.3	823227.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_045	POINT	823109.7	824265.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	2	G2_O2_046	POINT	823062.1	824248.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_047	POINT	823014.6	824231.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_048	POINT	822967	824215	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_049	POINT	822919.4	824198.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_050	POINT	822871.9	824181.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_051	POINT	822824.3	824164.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_052	POINT	822776.8	824147.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_053	POINT	822729.2	824130.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_054	POINT	822681.6	824113.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_055	POINT	822634.1	824096.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_056	POINT	822586.5	824080	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_057	POINT	822539	824063.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_058	POINT	822491.4	824046.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_059	POINT	822443.8	824029.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_060	POINT	822396.3	824012.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_061	POINT	822348.7	823995.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_062	POINT	822301.2	823978.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_063	POINT	822253.6	823961.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_064	POINT	822206	823945	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_065	POINT	822158.5	823928.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_066	POINT	822110.9	823911.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_067	POINT	822063.3	823894.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_068	POINT	822015.8	823877.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_069	POINT	821968.2	823860.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_070	POINT	821920.7	823843.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_071	POINT	821873.1	823827	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_072	POINT	821825.5	823810.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_073	POINT	821777.8	823793.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_074	POINT	821728.9	823782.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_075	POINT	821680	823770.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_076	POINT	821631	823759.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_077	POINT	821582.1	823747.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_078	POINT	821533.2	823736.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_079	POINT	821484.2	823725	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_080	POINT	821435.3	823713.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_081	POINT	821386.4	823702.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_082	POINT	821337.4	823690.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_083	POINT	821288.5	823679.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_084	POINT	821239.5	823667.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_085	POINT	821190.6	823656.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_086	POINT	821141.7	823644.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_087	POINT	823100	823820.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_088	POINT	823056.1	823794.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04
2	2	G2_O2_089	POINT	823012.1	823768.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04



## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip							
				(m)	(m)						(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)						(g/s)							
2	2	G2_O2_090	POINT	822968.1	823742.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_091	POINT	822924.1	823717.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_092	POINT	822880.2	823691.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_093	POINT	822836.2	823665.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_094	POINT	822792.2	823639.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_095	POINT	822748.2	823614.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_096	POINT	822704.2	823588.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_097	POINT	822660.3	823562.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_098	POINT	822616.3	823536.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_099	POINT	822572.3	823511	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_100	POINT	822528.3	823485.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_101	POINT	822484.4	823459.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_102	POINT	822440.4	823433.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_103	POINT	822396.4	823407.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_104	POINT	822352.4	823382.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_105	POINT	822308.5	823356.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_106	POINT	822264.5	823330.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_107	POINT	822220.2	823305.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_108	POINT	822174.9	823282.4	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_109	POINT	822129.7	823259.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_110	POINT	822084.4	823236.3	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_111	POINT	822039.2	823213.2	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_112	POINT	821993.9	823190.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_113	POINT	821948.7	823167.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_114	POINT	821903.4	823144	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_115	POINT	821858.2	823120.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_116	POINT	821812.3	823099.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_117	POINT	821764.8	823082.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_118	POINT	821717.2	823065.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_119	POINT	821669.7	823048.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_120	POINT	821622.2	823031.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_121	POINT	821574.6	823014.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_122	POINT	821527.1	822997.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_123	POINT	821479.6	822980.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_124	POINT	821432	822963.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_125	POINT	821383.2	822952.5	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_126	POINT	821333.8	822943.6	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_127	POINT	821284.4	822934.7	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_128	POINT	821235	822925.8	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_129	POINT	821185.6	822916.9	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	2	G2_O2_130	POINT	821136.2	822908.1	0	11	555	25	0.8	2.61E-03	1.17E-04	1.12E-04					
2	3	G2_O3_001	POINT	823111	824057.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04					
2	3	G2_O3_002	POINT	823065.1	824035.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04					

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	3	G2_O3_003	POINT	823019.2	824014.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_004	POINT	822973.2	823992.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_005	POINT	822927.3	823971.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_006	POINT	822881.3	823950	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_007	POINT	822835.4	823928.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_008	POINT	822789.5	823907.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_009	POINT	822743.5	823885.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_010	POINT	822697.6	823864.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_011	POINT	822651.6	823842.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_012	POINT	822605.7	823821.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_013	POINT	822559.7	823799.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_014	POINT	822513.8	823778.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_015	POINT	822467.9	823757.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_016	POINT	822421.9	823735.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_017	POINT	822376	823714.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_018	POINT	822330	823692.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_019	POINT	822284.1	823671.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_020	POINT	822238.1	823649.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_021	POINT	822192.2	823628.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_022	POINT	822146.3	823607	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_023	POINT	822100.3	823585.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_024	POINT	822054.4	823564.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_025	POINT	822008.4	823542.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_026	POINT	821962.5	823521.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_027	POINT	821916.5	823499.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_028	POINT	821870.6	823478.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_029	POINT	821824.3	823457.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_030	POINT	821776.3	823442.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_031	POINT	821728.3	823427.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_032	POINT	821680.3	823411.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_033	POINT	821632.3	823396.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_034	POINT	821584.3	823381	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_035	POINT	821536.3	823365.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_036	POINT	821488.3	823350.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_037	POINT	821440.3	823334.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_038	POINT	821392.3	823319.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_039	POINT	821344.3	823304.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_040	POINT	821296.3	823288.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_041	POINT	821248.3	823273.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_042	POINT	821200.3	823258	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_043	POINT	821152.3	823242.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_044	POINT	821104.3	823227.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_045	POINT	823109.7	824265.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_046	POINT	823062.1	824248.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	3	G2_O3_047	POINT	823014.6	824231.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_048	POINT	822967	824215	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_049	POINT	822919.4	824198.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_050	POINT	822871.9	824181.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_051	POINT	822824.3	824164.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_052	POINT	822776.8	824147.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_053	POINT	822729.2	824130.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_054	POINT	822681.6	824113.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_055	POINT	822634.1	824096.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_056	POINT	822586.5	824080	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_057	POINT	822539	824063.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_058	POINT	822491.4	824046.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_059	POINT	822443.8	824029.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_060	POINT	822396.3	824012.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_061	POINT	822348.7	823995.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_062	POINT	822301.2	823978.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_063	POINT	822253.6	823961.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_064	POINT	822206	823945	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_065	POINT	822158.5	823928.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_066	POINT	822110.9	823911.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_067	POINT	822063.3	823894.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_068	POINT	822015.8	823877.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_069	POINT	821968.2	823860.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_070	POINT	821920.7	823843.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_071	POINT	821873.1	823827	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_072	POINT	821825.5	823810.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_073	POINT	821777.8	823793.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_074	POINT	821728.9	823782.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_075	POINT	821680	823770.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_076	POINT	821631	823759.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_077	POINT	821582.1	823747.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_078	POINT	821533.2	823736.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_079	POINT	821484.2	823725	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_080	POINT	821435.3	823713.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_081	POINT	821386.4	823702.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_082	POINT	821337.4	823690.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_083	POINT	821288.5	823679.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_084	POINT	821239.5	823667.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_085	POINT	821190.6	823656.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_086	POINT	821141.7	823644.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_087	POINT	823100	823820.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_088	POINT	823056.1	823794.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_089	POINT	823012.1	823768.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_090	POINT	822968.1	823742.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)						(mpd)	(m)	(K)
				(g/s)	(g/s)	(g/s)							
2	3	G2_O3_091	POINT	822924.1	823717.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_092	POINT	822880.2	823691.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_093	POINT	822836.2	823665.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_094	POINT	822792.2	823639.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_095	POINT	822748.2	823614.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_096	POINT	822704.2	823588.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_097	POINT	822660.3	823562.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_098	POINT	822616.3	823536.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_099	POINT	822572.3	823511	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_100	POINT	822528.3	823485.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_101	POINT	822484.4	823459.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_102	POINT	822440.4	823433.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_103	POINT	822396.4	823407.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_104	POINT	822352.4	823382.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_105	POINT	822308.5	823356.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_106	POINT	822264.5	823330.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_107	POINT	822220.2	823305.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_108	POINT	822174.9	823282.4	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_109	POINT	822129.7	823259.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_110	POINT	822084.4	823236.3	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_111	POINT	822039.2	823213.2	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_112	POINT	821993.9	823190.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_113	POINT	821948.7	823167.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_114	POINT	821903.4	823144	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_115	POINT	821858.2	823120.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_116	POINT	821812.3	823099.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_117	POINT	821764.8	823082.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_118	POINT	821717.2	823065.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_119	POINT	821669.7	823048.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_120	POINT	821622.2	823031.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_121	POINT	821574.6	823014.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_122	POINT	821527.1	822997.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_123	POINT	821479.6	822980.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_124	POINT	821432	822963.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_125	POINT	821383.2	822952.5	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_126	POINT	821333.8	822943.6	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_127	POINT	821284.4	822934.7	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_128	POINT	821235	822925.8	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_129	POINT	821185.6	822916.9	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	3	G2_O3_130	POINT	821136.2	822908.1	0	8	555	25	0.8	8.73E-03	2.63E-04	2.45E-04
2	4	G2_O4_001	POINT	823111	824057.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_002	POINT	823065.1	824035.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_003	POINT	823019.2	824014.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip		
				(m)	(m)	(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)	(g/s)							
2	4	G2_O4_004	POINT	822973.2	823992.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_005	POINT	822927.3	823971.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_006	POINT	822881.3	823950	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_007	POINT	822835.4	823928.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_008	POINT	822789.5	823907.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_009	POINT	822743.5	823885.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_010	POINT	822697.6	823864.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_011	POINT	822651.6	823842.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_012	POINT	822605.7	823821.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_013	POINT	822559.7	823799.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_014	POINT	822513.8	823778.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_015	POINT	822467.9	823757.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_016	POINT	822421.9	823735.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_017	POINT	822376	823714.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_018	POINT	822330	823692.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_019	POINT	822284.1	823671.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_020	POINT	822238.1	823649.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_021	POINT	822192.2	823628.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_022	POINT	822146.3	823607	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_023	POINT	822100.3	823585.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_024	POINT	822054.4	823564.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_025	POINT	822008.4	823542.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_026	POINT	821962.5	823521.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_027	POINT	821916.5	823499.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_028	POINT	821870.6	823478.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_029	POINT	821824.3	823457.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_030	POINT	821776.3	823442.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_031	POINT	821728.3	823427.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_032	POINT	821680.3	823411.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_033	POINT	821632.3	823396.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_034	POINT	821584.3	823381	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_035	POINT	821536.3	823365.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_036	POINT	821488.3	823350.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_037	POINT	821440.3	823334.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_038	POINT	821392.3	823319.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_039	POINT	821344.3	823304.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_040	POINT	821296.3	823288.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_041	POINT	821248.3	823273.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_042	POINT	821200.3	823258	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_043	POINT	821152.3	823242.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_044	POINT	821104.3	823227.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_045	POINT	823109.7	824265.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_046	POINT	823062.1	824248.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04
2	4	G2_O4_047	POINT	823014.6	824231.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04

Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height <sup>[1]</sup>	Exit Temperature <sup>[1]</sup>	Exit velocity <sup>[1]</sup>	Internal diameter <sup>[1]</sup>	Emission Rate per Trip				
				(m)	(m)		(mpd)	(m)	(K)		(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)		(g/s)								
2	4	G2_O4_048	POINT	822967	824215	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_049	POINT	822919.4	824198.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_050	POINT	822871.9	824181.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_051	POINT	822824.3	824164.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_052	POINT	822776.8	824147.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_053	POINT	822729.2	824130.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_054	POINT	822681.6	824113.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_055	POINT	822634.1	824096.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_056	POINT	822586.5	824080	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_057	POINT	822539	824063.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_058	POINT	822491.4	824046.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_059	POINT	822443.8	824029.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_060	POINT	822396.3	824012.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_061	POINT	822348.7	823995.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_062	POINT	822301.2	823978.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_063	POINT	822253.6	823961.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_064	POINT	822206	823945	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_065	POINT	822158.5	823928.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_066	POINT	822110.9	823911.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_067	POINT	822063.3	823894.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_068	POINT	822015.8	823877.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_069	POINT	821968.2	823860.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_070	POINT	821920.7	823843.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_071	POINT	821873.1	823827	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_072	POINT	821825.5	823810.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_073	POINT	821777.8	823793.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_074	POINT	821728.9	823782.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_075	POINT	821680	823770.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_076	POINT	821631	823759.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_077	POINT	821582.1	823747.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_078	POINT	821533.2	823736.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_079	POINT	821484.2	823725	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_080	POINT	821435.3	823713.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_081	POINT	821386.4	823702.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_082	POINT	821337.4	823690.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_083	POINT	821288.5	823679.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_084	POINT	821239.5	823667.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_085	POINT	821190.6	823656.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_086	POINT	821141.7	823644.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_087	POINT	823100	823820.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_088	POINT	823056.1	823794.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_089	POINT	823012.1	823768.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_090	POINT	822968.1	823742.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		
2	4	G2_O4_091	POINT	822924.1	823717.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04		

## Modelling Parameters

Gate	Group	Source ID	Type	X	Y	Base Elevation	Release Height [1]	Exit Temperature [1]	Exit velocity [1]	Internal diameter [1]	Emission Rate per Trip							
				(m)	(m)						(mpd)	(m)	(K)	(m/s)	(m)	NOx	RSP	FSP
				(g/s)	(g/s)						(g/s)							
2	4	G2_O4_092	POINT	822880.2	823691.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_093	POINT	822836.2	823665.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_094	POINT	822792.2	823639.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_095	POINT	822748.2	823614.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_096	POINT	822704.2	823588.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_097	POINT	822660.3	823562.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_098	POINT	822616.3	823536.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_099	POINT	822572.3	823511	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_100	POINT	822528.3	823485.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_101	POINT	822484.4	823459.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_102	POINT	822440.4	823433.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_103	POINT	822396.4	823407.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_104	POINT	822352.4	823382.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_105	POINT	822308.5	823356.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_106	POINT	822264.5	823330.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_107	POINT	822220.2	823305.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_108	POINT	822174.9	823282.4	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_109	POINT	822129.7	823259.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_110	POINT	822084.4	823236.3	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_111	POINT	822039.2	823213.2	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_112	POINT	821993.9	823190.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_113	POINT	821948.7	823167.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_114	POINT	821903.4	823144	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_115	POINT	821858.2	823120.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_116	POINT	821812.3	823099.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_117	POINT	821764.8	823082.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_118	POINT	821717.2	823065.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_119	POINT	821669.7	823048.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_120	POINT	821622.2	823031.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_121	POINT	821574.6	823014.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_122	POINT	821527.1	822997.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_123	POINT	821479.6	822980.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_124	POINT	821432	822963.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_125	POINT	821383.2	822952.5	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_126	POINT	821333.8	822943.6	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_127	POINT	821284.4	822934.7	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_128	POINT	821235	822925.8	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_129	POINT	821185.6	822916.9	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					
2	4	G2_O4_130	POINT	821136.2	822908.1	0	20	555	25	0.8	5.76E-03	2.64E-04	2.52E-04					

## Notes:

[1] Modelling parameters are referred to "Generating an Hour-By-Hour Model-Ready Marine Emission Inventory, RWDI Air Inc. and Environment Canada, US EPA 17th International Emission Inventory Conference, 2-5 June 2008, Portland, Oregon", approved EIA of Tuen Mun South Extension (AERIAR-236/2022), and approved EIA of Lei Yue Mun Waterfront Enhancement Project (AERIAR-219/2018).

**Calculation of Multiplying Factor for Total Vessel Count****Monthly Vessel Count for Year 2048**

Marine Gate	Monthly Vessel Count in Dec <sup>[1]</sup>
Gate 2	1,683

**Notes:**

[1] The marine traffic data for December is provided by Marine Traffic Consultant.

**Monthly Multiplying Factor derived from Marine Traffic in Year 2019**

Month	Total No. of Arrivals by OGVs <sup>[1]</sup>	Monthly Multiplying Factor
Jan-19	2,255	0.95
Feb-19	1,650	0.69
Mar-19	2,132	0.90
Apr-19	2,128	0.90
May-19	2,091	0.88
Jun-19	2,093	0.88
Jul-19	2,140	0.90
Aug-19	2,118	0.89
Sep-19	2,138	0.90
Oct-19	2,108	0.89
Nov-19	2,159	0.91
<b>Dec-19</b>	<b>2,376</b>	<b>1.00</b>

**Notes:**

[1] Since no monthly profile is available from Marine Traffic Consultant, the annual vessel count is calculated based on monthly profile in "Monthly Vessel Arrivals by Ocean/River and Cargo/Passenger Vessels" published by Marine Department ([https://www.mardep.gov.hk/en/fact/pdf/portstat\\_2\\_m\\_a1.pdf](https://www.mardep.gov.hk/en/fact/pdf/portstat_2_m_a1.pdf)). Due to the pandemic situation, there was a significant change in marine traffic from Year 2020 to Year 2022. In view of this, the monthly profile of Year 2019 is considered the most appropriate and therefore adopted and assumed the same for future years.

**Hourly Multiplying Factor derived from Marine Traffic in December 2048**

Hour		Gate 2	
Start	End	No. of Marine Vessels <sup>[1]</sup>	Hourly Multiplying Factor
0	1	77	4.6%
1	2	53	3.1%
2	3	41	2.4%
3	4	33	2.0%
4	5	48	2.9%
5	6	56	3.3%
6	7	77	4.6%
7	8	79	4.7%
8	9	89	5.3%
9	10	104	6.2%
10	11	100	5.9%
11	12	107	6.4%
12	13	75	4.5%
13	14	70	4.2%
14	15	48	2.9%
15	16	81	4.8%
16	17	67	4.0%
17	18	83	4.9%
18	19	60	3.6%
19	20	68	4.0%
20	21	68	4.0%
21	22	62	3.7%
22	23	63	3.7%
23	24	74	4.4%

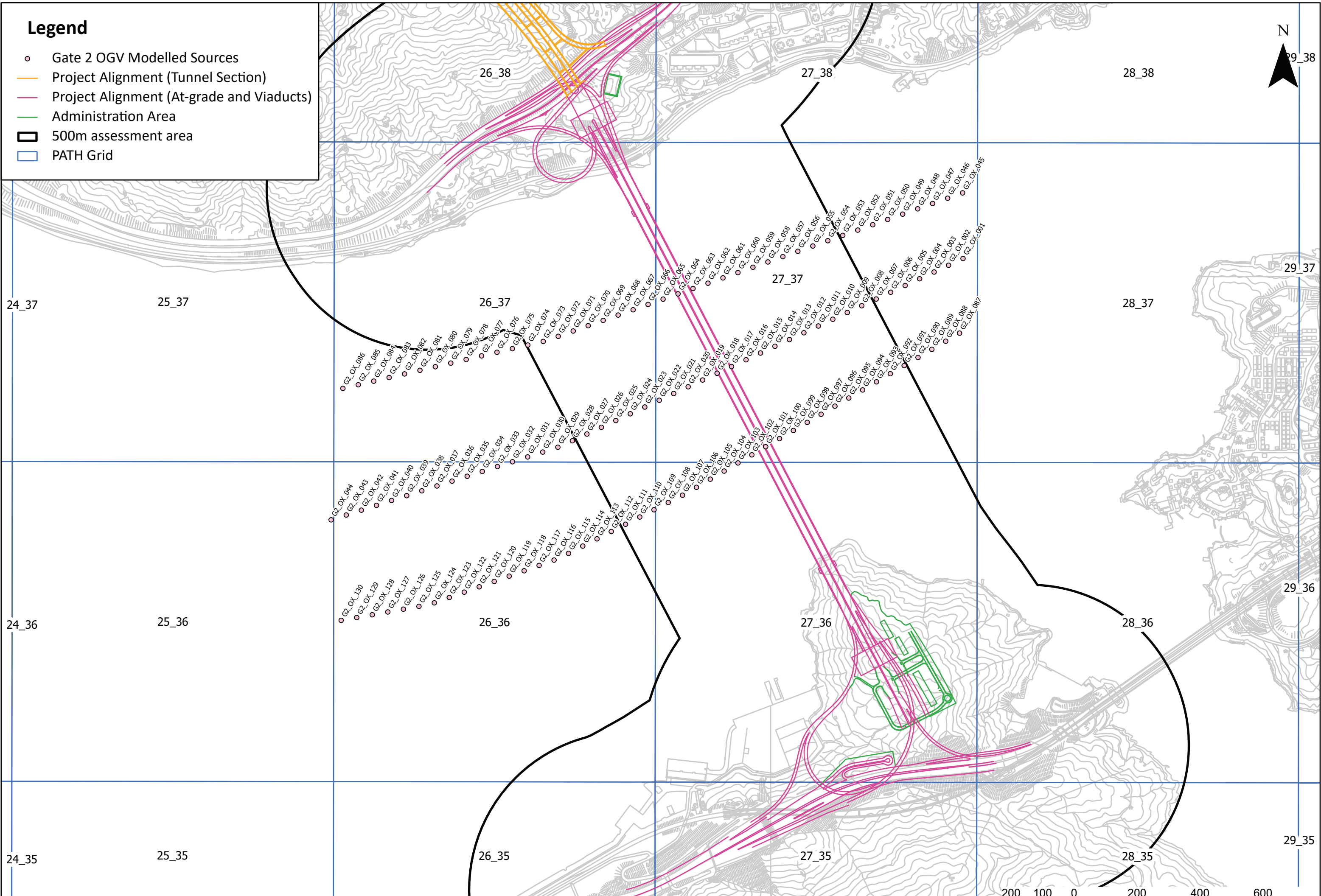
**Notes:**

[1] The number of hourly marine vessels for Dec 2048 is provided by Marine Traffic Consultant. It contains the total number of marine vessels for the 31 days in December in Year 2048 for each hour. For example, from Hour 0 to Hour 1 (i.e. first hour of 1 Dec + first hour of 2 Dec, .... 1st hour of 31 Dec), there are total 77 marine vessels for the first hour during the whole December.



# Legend

- Gate 2 OGV Modelled Sources
- Project Alignment (Tunnel Section)
- Project Alignment (At-grade and Viaducts)
- Administration Area
- ▭ 500m assessment area
- ▭ PATH Grid



**Notes:**  
The modelled sources is based on the radar/AIS data provided by Marine Department.

