

Appendix 4.9 Fixed Noise Inventory

Summary of Fixed Plant Noise Source

Area	Existing / Planned / Proposed	Site ID	Description	Plant Inventory	Sound Power Level, dB(A)	No. of Plant	Design	Overall Sound Power Level, dB(A) [9]	Reference	Reference link	Remarks										
TKO132	Proposed	EFs	EFs	HVAC Block	AC filter	90	1	Plant Room	95	EF-1	<a href="https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f">https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f</a>	[4]									
				All cooling and ventilator auxiliary equipment (HVAC)	85	1	EF-2			<a href="https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f">https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f</a>											
				HVDC Converter Block 1	Converter Reactors	98	1			Plant Room	EF-3		<a href="https://www.northlandpower.com/en/resourcesGeneral/ProjectDocuments/Grand%20Bend/qb_noise_audit_hgc_substation_emissions.pdf">https://www.northlandpower.com/en/resourcesGeneral/ProjectDocuments/Grand%20Bend/qb_noise_audit_hgc_substation_emissions.pdf</a>								
					Converter transformer cooling (cooler fans)	90	1				EF-4		<a href="https://www.cedengineering.com/userfiles/Intro%20to%20Sound%20Level%20Data%20for%20Mech%20&amp;%20Elec%20Equip.pdf">https://www.cedengineering.com/userfiles/Intro%20to%20Sound%20Level%20Data%20for%20Mech%20&amp;%20Elec%20Equip.pdf</a>								
					Converter transformers (tank)	120	1				EF-5		<a href="https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f">https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f</a>								
					DC equipment	80	1				EF-6		<a href="https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f">https://www.sciencedirect.com/science/article/pii/S187770581102621X?ref=pdf_download&amp;fr=RR-2&amp;rr=8bca722c1f9c098f</a>								
					Shunt Reactor	88	1				EF-7		<a href="https://new.abb.com/docs/default-source/ewea-doc/proven-history-for-future-success118f4be2c1f463c09537ff0000433538.pdf?sfvrsn=2">https://new.abb.com/docs/default-source/ewea-doc/proven-history-for-future-success118f4be2c1f463c09537ff0000433538.pdf?sfvrsn=2</a>								
					Valve coolers fans	90	1				EF-8		<a href="https://www.cedengineering.com/userfiles/Intro%20to%20Sound%20Level%20Data%20for%20Mech%20&amp;%20Elec%20Equip.pdf">https://www.cedengineering.com/userfiles/Intro%20to%20Sound%20Level%20Data%20for%20Mech%20&amp;%20Elec%20Equip.pdf</a>								
				HVDC Converter Block 2	Converter Reactors	98	1			Plant Room	EF-3		Ditto								
					Converter transformer cooling (cooler fans)	90	1				EF-4		Ditto								
					Converter transformers (tank)	120	1				EF-5		Ditto								
					DC equipment	80	1				EF-6		Ditto								
					Shunt Reactor	88	1				EF-7		Ditto								
					Valve coolers fans	90	1				EF-8		Ditto								
				HVDC Converter Block 3	Converter Reactors	98	1			Plant Room	EF-3		Ditto								
					Converter transformer cooling (cooler fans)	90	1				EF-4		Ditto								
					Converter transformers (tank)	120	1				EF-5		Ditto								
					DC equipment	80	1				EF-6		Ditto								
					Shunt Reactor	88	1				EF-7		Ditto								
					Valve coolers fans	90	1				EF-8		Ditto								
				TKO132	Proposed	CWHF	CWHF			Reception Area	Dump truck		103	30	Enclosure	109	BS D9-39	-	[4]		
										Main Workshop Warehouse	Excavator		96	5			Concrete Building	EPD-08764		-	
											Crusher		115	1				EIA-076/2002-1		-	
											Sorting/ screening/ sieving plants		109	1				EIA-076/2002-2		-	
Ventilation fan	79	5	Vent-sys 017					-													
Berthing Area	Excavator	96	6					-	EPD-08764	-											
	Dump truck	103	10						BS D9-39	-											
	Crane	95	2						CNP 049	-											
	TKO132	Proposed	PFTF						PFTF	Reception and Handling Area	Dump truck	103	12	-			104	BS D9-39		-	[4]
										Excavator	96	3	EPD-08764					-			
				Berthing Area	Dump truck	103	12			Enclosure (Partial)	BS D9-39	-									
Excavator					96	5	CNP 281	-													
TKO132	Proposed	RTS	RTS	RTS Building	Wet Scrubber System - Pump	88	5	Concrete Building	99	Vent-sys 017	-	[4]									
					Wet Scrubber System - Fans	79	5			CNP 050	-										
					Compactor Unit	105	10			EPD-08764	-										
					Excavator	96	2			CNP 081	-										
					Backhoe Loader	112	2			EPD-01184	-										
					Skid Steer Loader	105	4			EPD-01184	-										
					Wheeled Load Shovel	105	3			CNP 049	-										
					Barging point 1	Gantry crane	95			1	-		CNP 049	-							
					Barging point 2	Gantry crane	95			1			CNP 049	-							
					Open Area at RTS	Container Handling Unit	90			2	-		CHU	-							
				TKO132	Proposed	CBP	CBP			Concrete Batching Factory	Batching Plant		108	1	Enclosure	96	CNP 101	-	[8]		
										Barging area	Crane		95	1			CNP 049	-			
				TKO132	Proposed	SPS	SPS			SPS	Sumersible pump		90	2	Concrete Building	88	DSD GS 3.3.1 (e)-1	-	[4]		
											Mechanical raked Screen		88	2			EIA-278/2022-3	-			
Fans for Deodourization system	79	2	Vent-sys 017					-													
Ventilation fan	79	4	Vent-sys 017					-													
Generator	108	1	CNP 101					-													

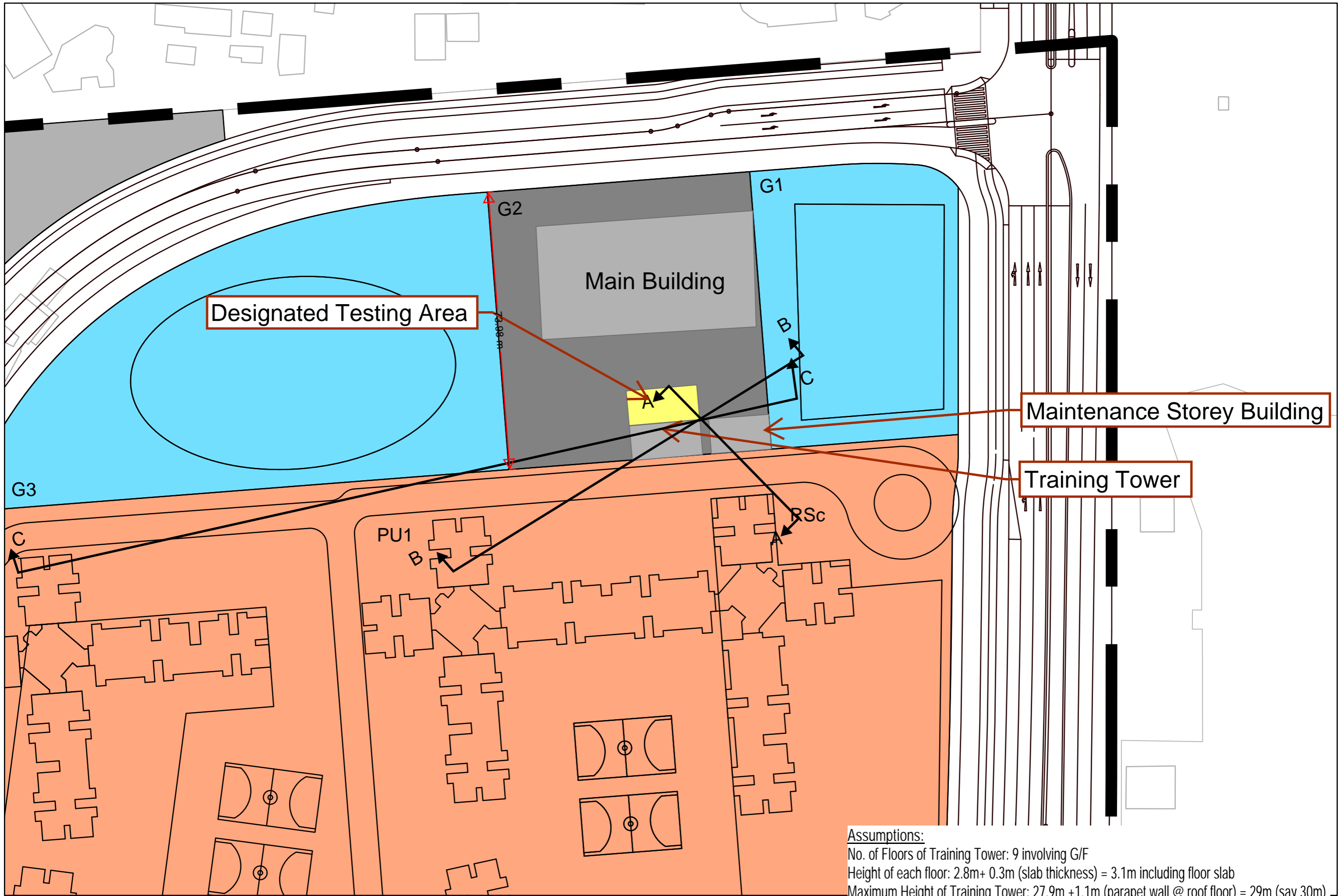
Appendix 4.9 Fixed Noise Inventory

Area	Existing / Planned / Proposed	Site ID	Description	Plant Inventory	Sound Power Level, dB(A)	No. of Plant	Design	Overall Sound Power Level, dB(A) [9]	Reference	Reference link	Remarks	
TKO137	Proposed	G2	Fire Station cum Ambulance Depot Equipment Testing	Cutter	112	1	Testing area located behind building	115	OtherPME 012	-	[1][5]	
				Saw	108	1			CNP 201	-		
				Pump Truck	109	1			CNP 047	-		
				Hydraulic Platform	95	1			OtherPME 001	-		
TKO137	Proposed	G3	Government Office Complex cum Sports Centre	Chiller	100	1	-	100	Vent-sys 001	-	[4]	
TKO137	Proposed	G3	Temporary Public Transport Facility (PTF) (during Years 2030 – 2034)	PTF	97	1	-	97	PTF	-	[7]	
TKO137	Proposed	G4	Government Office Complex cum Sports Centre	Chiller	100	1	-	100	Vent-sys 001	-	[4]	
TKO137	Proposed	PR1	Public Transport Interchange	Ventilation Fan	79	1	-	79	Vent-sys 017	-	[4]	
TKO137	Proposed	PR3	Public Transport Interchange	Ventilation Fan	79	1	-	79	Vent-sys 017	-	[4]	
TKO137	Proposed	O5	Temporary PTF (during Years 2033 – 2038)	PTF	97	1	-	97	PTF	-	[7]	
TKO137	Proposed	OU3	Green Filling Station	Tanker	92	1	-	92	EIA-220/2014-1	-	[4]	
TKO137	Proposed	OU4	Advance Sewage Pumping Station	Dry Well Pump	90	3	Enclosure	99	DSD GS 3.3.1 (e)-1	-	[4]	
				Coarse Screen	88	3				EIA-278/2022-2		-
				Fne Screen	88	3				EIA-278/2022-2		-
				Crit Trap	88	3				EIA-278/2022-2		-
TKO137	Proposed	OU4	Effluent Polishing Plant	Inlet Works Building	Dry Well Pump	90	3	Enclosure	112	DSD GS 3.3.1 (e)-1	-	[4]
					Coarse Screen	88	3			EIA-278/2022-2	-	
					Fine Screen	88	3			EIA-278/2022-2	-	
					Crit Trap	88	3			EIA-278/2022-2	-	
			Primary Treatment	Primary Sludge Pump	90	4	Enclosure	DSD GS 3.3.1 (e)-1		-		
			Biological Treatment	Internal Recycle Pump	85	4	Enclosure	EIA-245/2016-1		-		
			Blower Room	Aeration Blower	85	4	Enclosure	EIA-148/2008-1		-		
			Sludge Thickening Building	Sludge Feed Pump	90	2	Enclosure	DSD GS 3.3.1 (e)-1		-		
				Centrifuge	105	2		EIA-086/2002-1		-		
				Centrate Pump	90	2		DSD GS 3.3.1 (e)-1		-		
			Sludge Digester	Digester Feed Pump	90	3	Enclosure	DSD GS 3.3.1 (e)-1		-		
				Sludge Dewatering Building	Sludge Feed Pump	90	2	Enclosure		DSD GS 3.3.1 (e)-1	-	
					Centrifuge	105	2			EIA-086/2002-1	-	
				Centrate Pump	90	2		DSD GS 3.3.1 (e)-1		-		
CHP building	Combined Heat and Power Unit	93	1	Enclosure	EIA-259/2018-1	-						
Deodourisation Unit	DO Extraction Fan	79	6	Enclosure	Vent-sys 017	-						
TKO137	Planned	PR1	Potential Ventilation Buildings of TKLSE	Ventilation Fan	85	1	-	85	Vent-sys 019	-	[4]	
TKO137	Planned	PR2	Potential Ventilation Buildings of TKLSE	Ventilation Fan	85	1	-	85	Vent-sys 019	-	[4]	
TKO137	Planned	PR3	Potential Ventilation Buildings of TKLSE	Ventilation Fan	85	1	-	85	Vent-sys 019	-	[4]	
TKO137	Planned	PR5	Potential Ventilation Buildings of TKLSE	Ventilation Fan	85	1	-	85	Vent-sys 019	-	[4]	
TKO137	Existing	TKO IP	Tseung Kwan O InnoPark	Chiller	100	7	-	108	Vent-sys 001	-	[4]	
TKO137	Existing	SENTX	Infrastructure Area of SENT Landfill and its Extension	Landfill Gas Power Plant Room - Engine	95	2	-	116	SENTX EIA 001	-	[2]	
				Blower Room - Blower	108	5	-		SENTX EIA 002	-		
				Blower Room - Compressor	100	3	-		SENTX EIA 003	-		
				Air Compressor	100	2	-		SENTX EIA 004	-		
				Leachate Treatment Plant	75	1	-		SENTX EIA 005	-		
				Cooling Water System Area	101	1	-		SNG-CWS	-		
TKO137	Existing	SNG	Synthetic Natural Gas Plant	Landfill Gas Compression Area	102.5	1	-	105	SNG-LFG	-	[5]	
				Pipeline Area	90.5	1	-		SNG-PA	-		
				Desalination Plant	99	1	-		-	-		
TKO137	Existing	TKO DP	Desalination Plant	Desalination Plant	99	1	-	99	-	-	[6]	

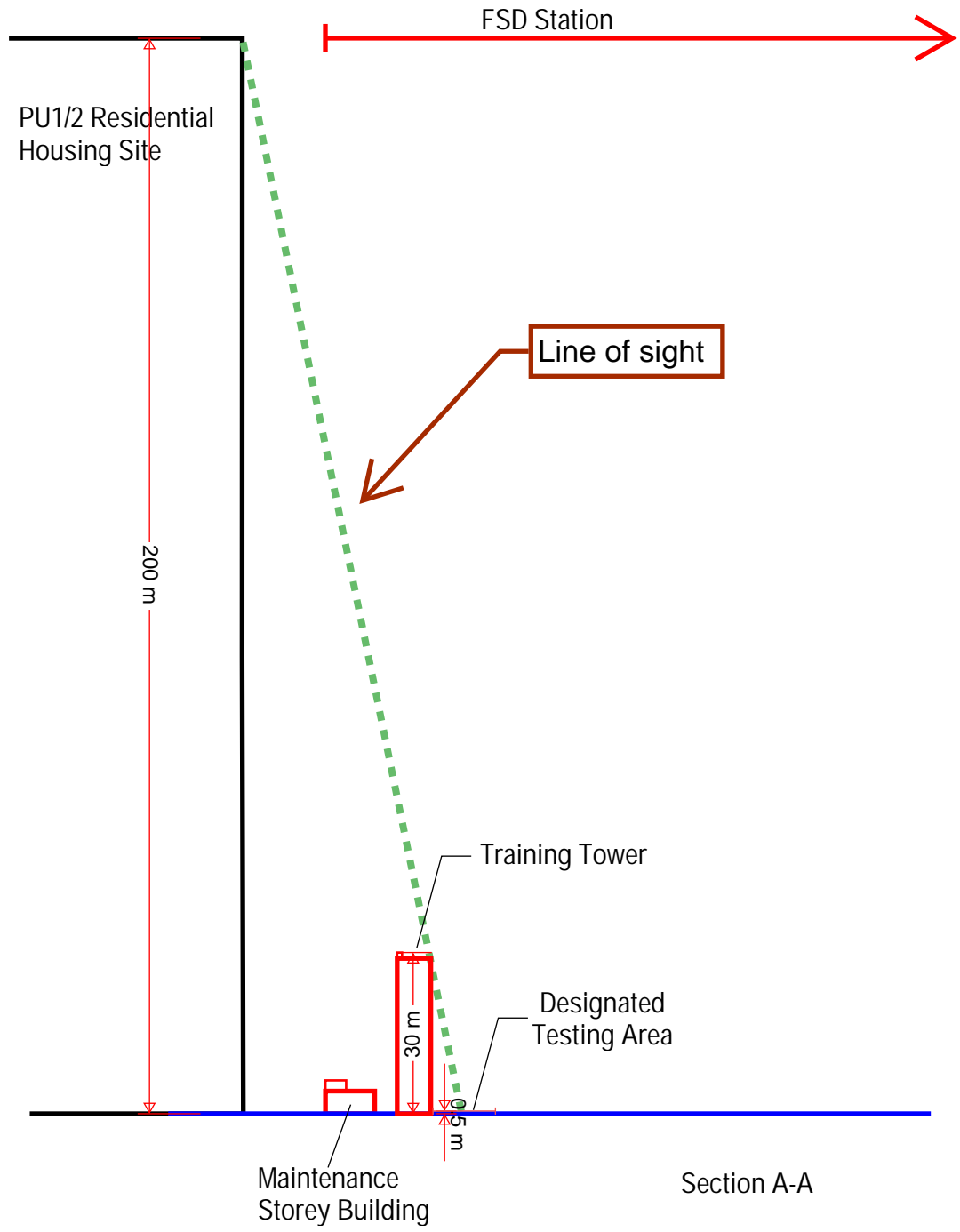
Remarks

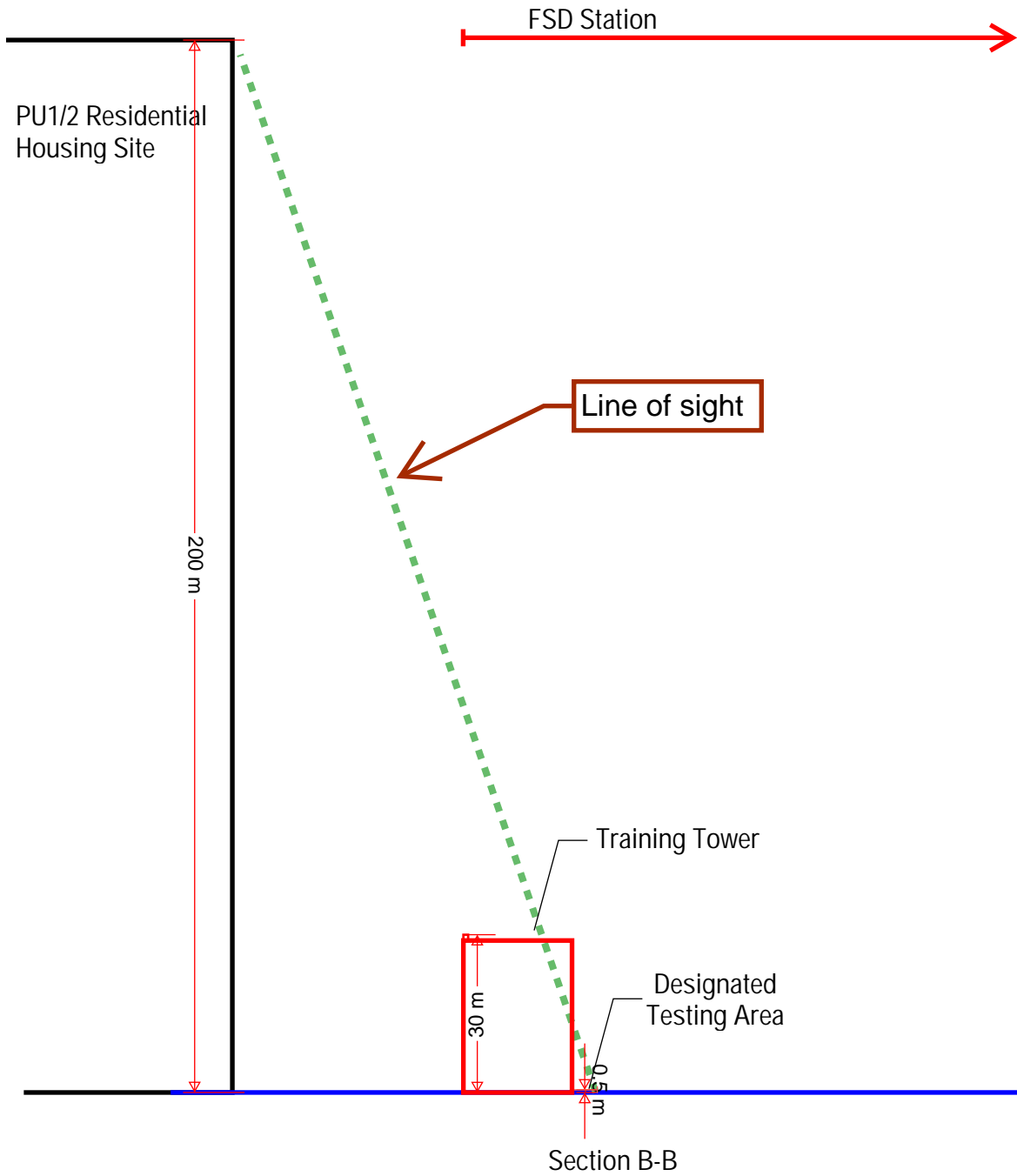
- [1] Photo of Appliances of Fire Services Department (<https://www.hkfsd.gov.hk/eng/gallery/fireappliances/>)
- [2] Annex B5 Operational Noise Impact Assessment of EIA Report AEIAR-117/2008 ([https://www.epd.gov.hk/eia/register/report/eiareport/eia\\_1432007/pdf/0036286%20EIA%20Report%20Volume%20II%2014\\_Feb\\_08.pdf](https://www.epd.gov.hk/eia/register/report/eiareport/eia_1432007/pdf/0036286%20EIA%20Report%20Volume%20II%2014_Feb_08.pdf))
- [3] Section 5.4.2 of Chapter 5 of EIA Report AEIAR-192/2015 ([https://www.epd.gov.hk/eia/register/report/eiareport/eia\\_2292015/1\\_Main%20Text\\_HTML/Section%205.htm#\\_Toc424287410](https://www.epd.gov.hk/eia/register/report/eiareport/eia_2292015/1_Main%20Text_HTML/Section%205.htm#_Toc424287410))
- [4] Fixed plant inventory was provided by / agreed with the relevant operator or government departments/authorities
- [5] Sound power level based on site measurement
- [6] Committed by WSD as 60 dB(A) at plant boundary, with 50% louvre opening as conservative assumption with reference to Stage 1 of Desalination Plant
- [7] Section 3.8.25 of Noise Impact of Assessment of EIA report AEIAR-068/2002 ([https://www.epd.gov.hk/eia/register/report/eiareport/eia\\_0832002/English/7305\\_3.htm](https://www.epd.gov.hk/eia/register/report/eiareport/eia_0832002/English/7305_3.htm))
- [8] Table 7.13 - Operational plant and Sound Power Levels of Chapter 7 of EIA Report EIA-026/BC (<https://www.epd.gov.hk/eia/register/report-bc/eia026/ieiar.pdf>)
- [9] Overall sound power level derived based on sound power level of each plant, no. of plant, noise reduction by design, and other corrections with sample calculation provided to EPD separately.
- [10] Fixed plant inventory of Cavern Development in Area around Tseung Kwan O is not available at the time of preparation of the EIA. The associated fixed noise assessment would be conducted in separate study.

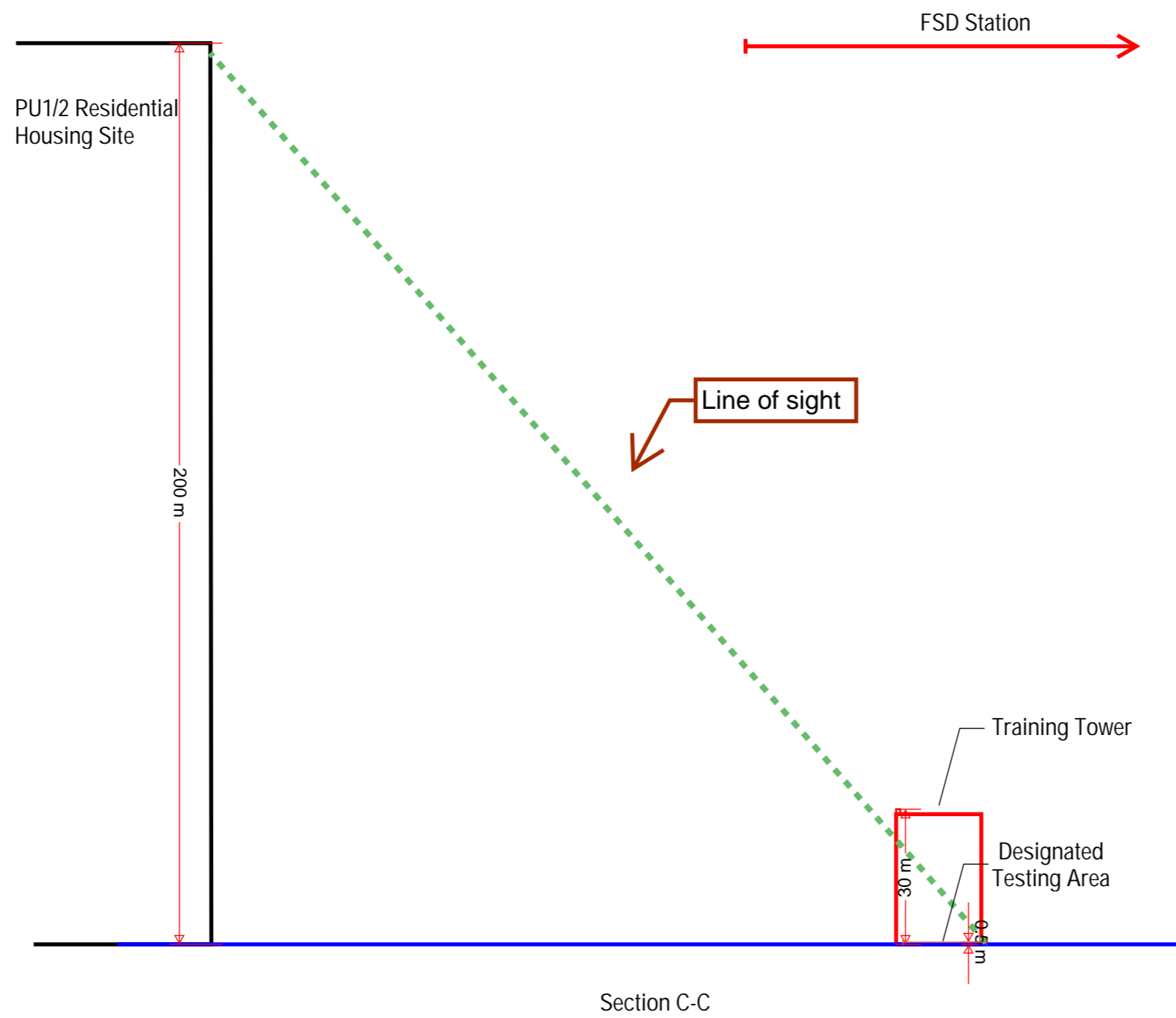
# Designated Testing Area for Fire Station near PU1



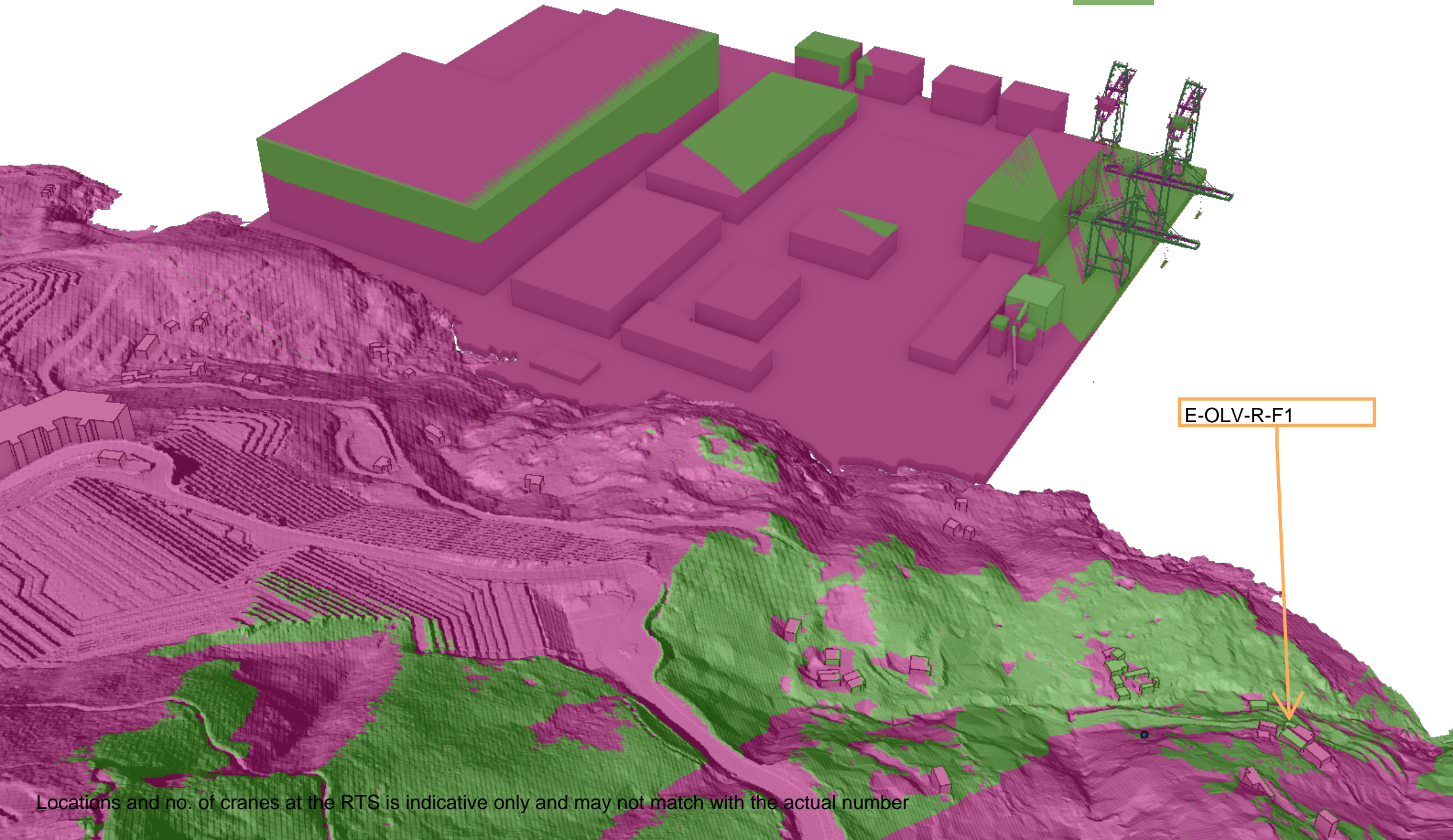
**Assumptions:**  
No. of Floors of Training Tower: 9 involving G/F  
Height of each floor: 2.8m+ 0.3m (slab thickness) = 3.1m including floor slab  
Maximum Height of Training Tower: 27.9m + 1.1m (parapet wall @ roof floor) = 29m (say 30m)





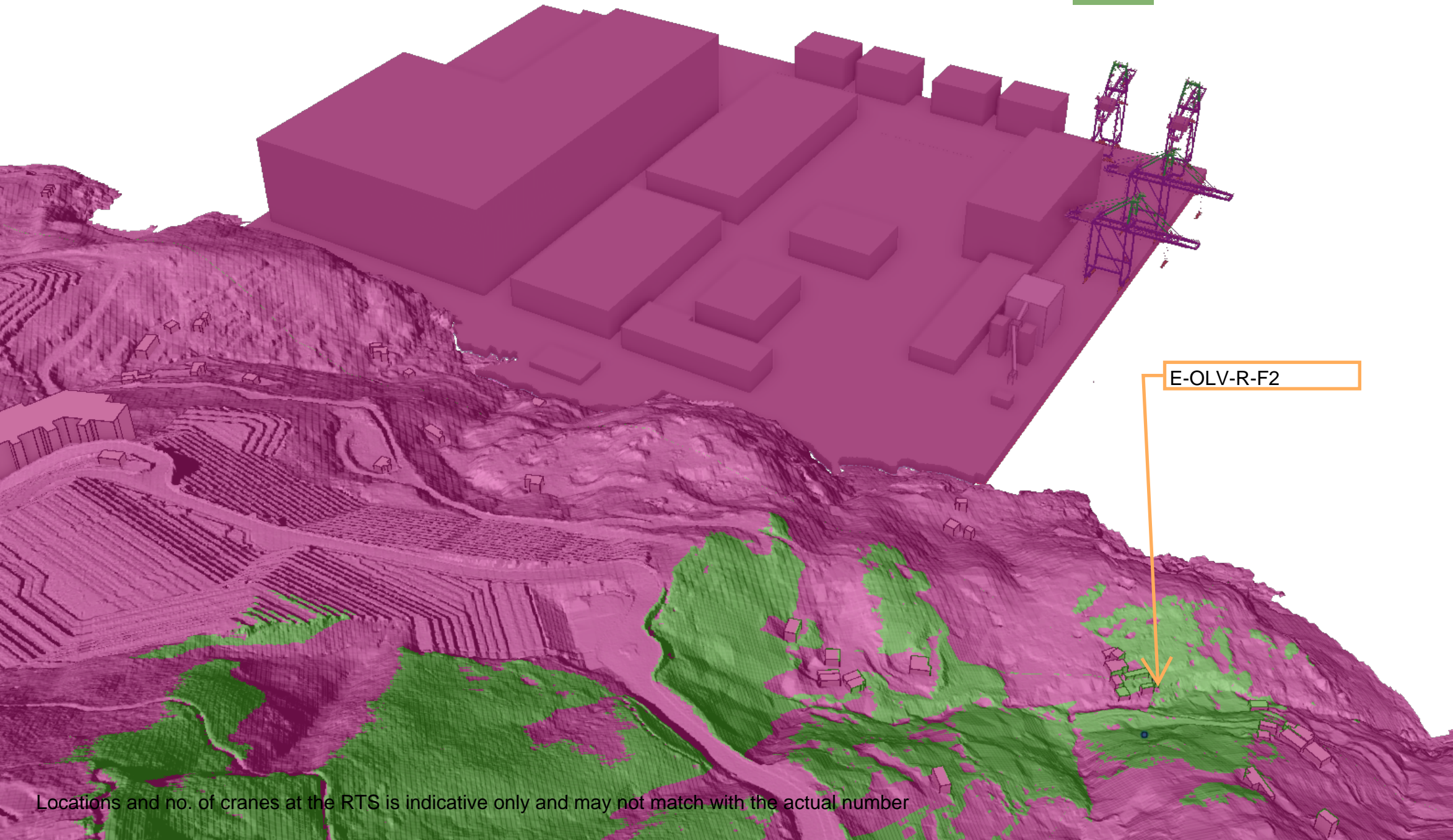


# Viewshed Analysis of E-OLV-R-F1 at height 4.2m



Locations and no. of cranes at the RTS is indicative only and may not match with the actual number

# Viewshed Analysis of E-OLV-R-F2 at height 4.2m



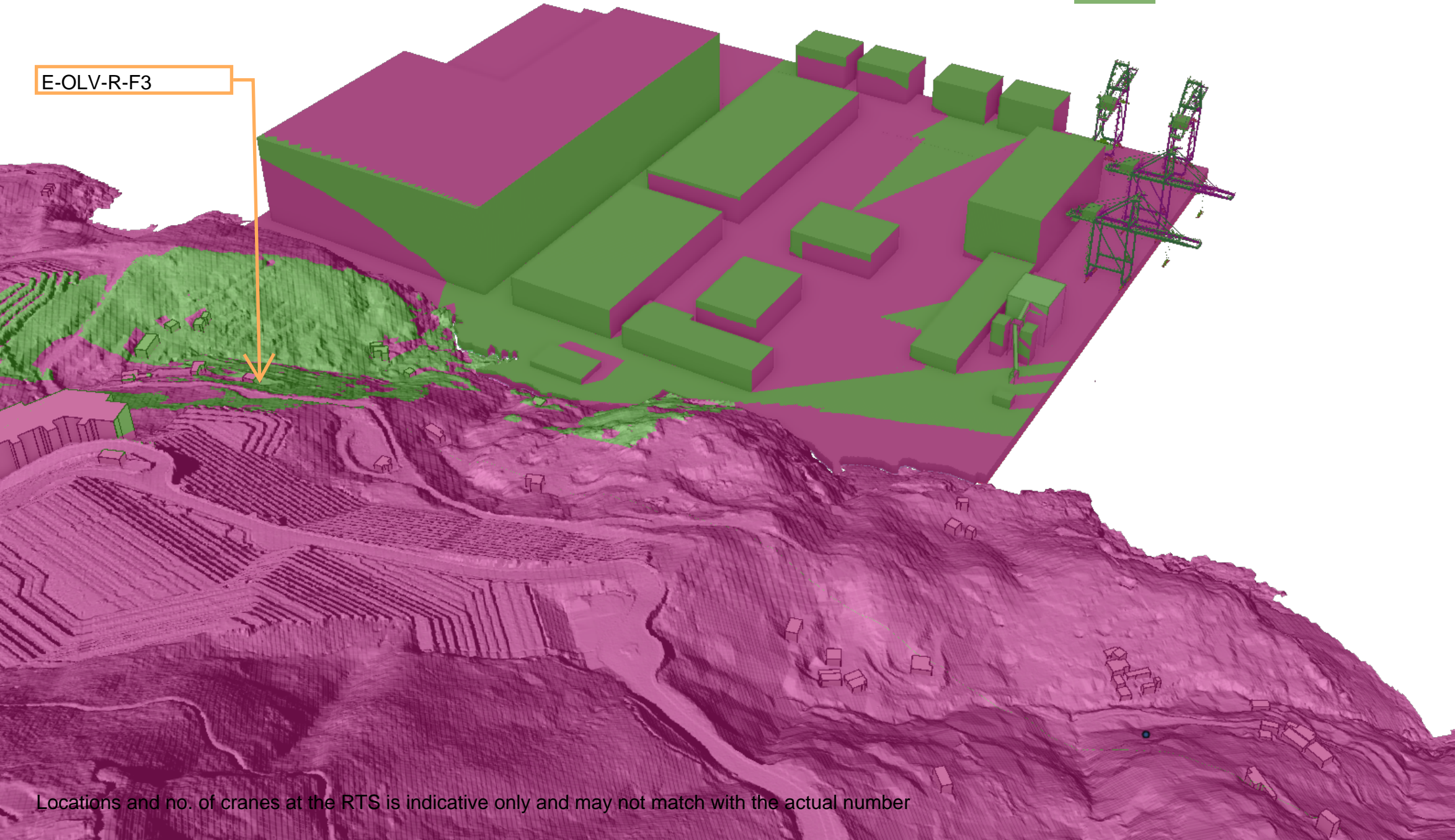
Locations and no. of cranes at the RTS is indicative only and may not match with the actual number



# Viewshed Analysis of E-OLV-R-F3 at height 4.2m



E-OLV-R-F3

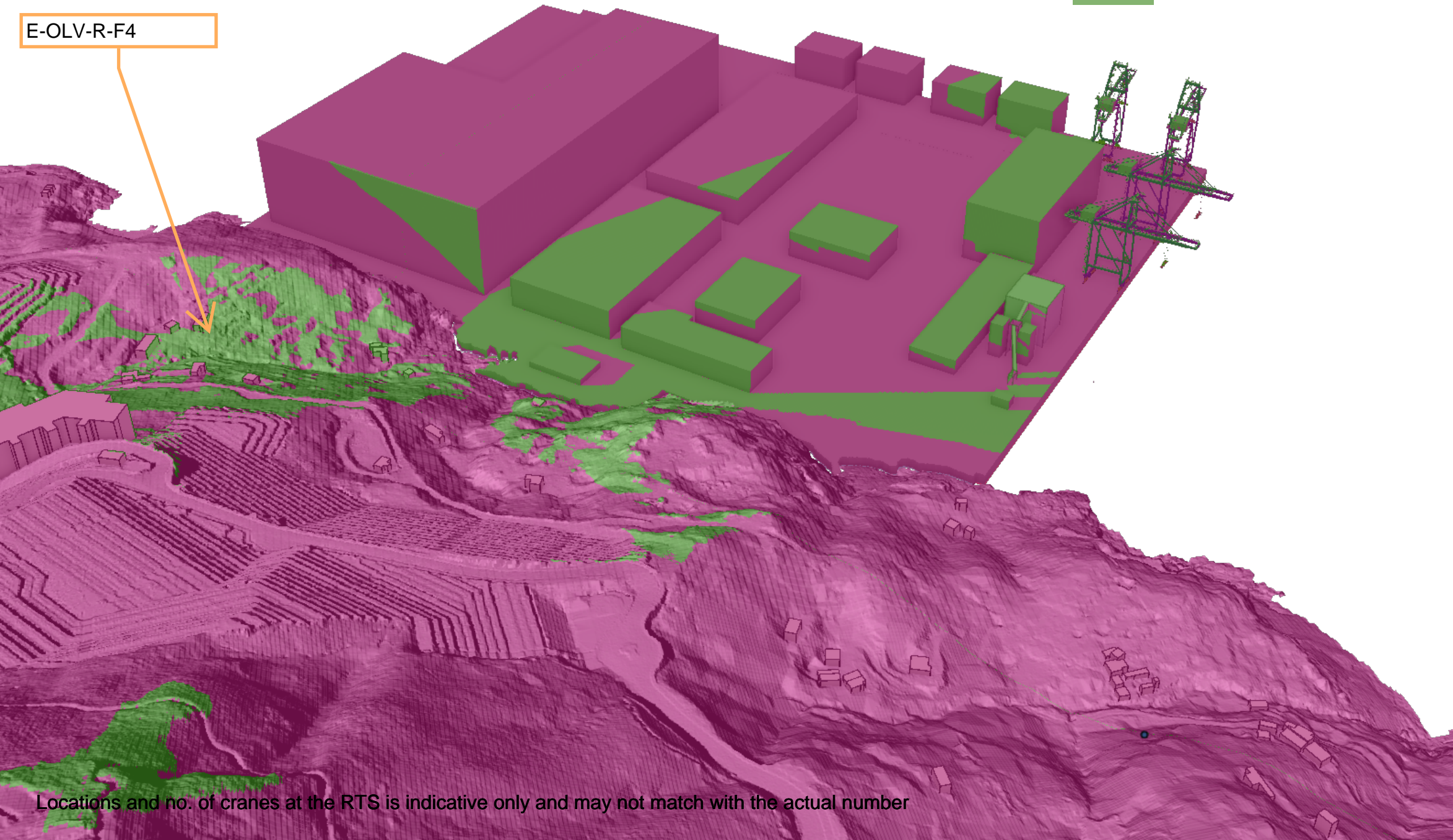


Locations and no. of cranes at the RTS is indicative only and may not match with the actual number

# Viewshed Analysis of E-OLV-R-F4 at height 4.2m



E-OLV-R-F4



Locations and no. of cranes at the RTS is indicative only and may not match with the actual number