Fixed Plant & Police Driving and Traffic Training Facilities Noise Impact Assessment (Day-time and Evening Periods)

NSR ID	NSR Description	Fixed Plant Source	Source ID	SWL, dB(A)	^Distance (m)	Distance Attenuation dB(A)	Tonality Correction dB(A)	*Screening Correction dB(A)	Facade Correction dB(A)	SPL, $L_{eq(30min)}$, dB(A)	Resultant SPL, $L_{eq(30min)}$, dB(A)	Noise Criteria, dB(A)
N9b	Village House, Kong Nga Po	Proposed Police Training Facility Ventilation Opening	FS1	90	226	-55	0	0	3	38		
			FS2	90	260	-56	0	-10	3	27		
			FS3	90	255	-56	0	-10	3	27		
			FS4	90	237	-55	0	-10	3	28		
			FS5	90	261	-56	0	-10	3	27		
			FS6	90	279	-57	0	-10	3	26		
			FS7	90	274	-57	0	-10	3	26		
			FS8	90	257	-56	0	-10	3	27		
			FS9	90	291	-57	0	-10	3	26		
			FS10	90	189	-54	0	0	3	39		
			FS11	90	205	-54	0	-10	3	29		
			FS12	90	206	-54	0	-10	3	29		
			FS13	90	189	-54	0	0	3	39		
			FS14	90	213	-55	0	-10	3	28		
			FS15	90	227	-55	0	-10	3	28		
			FS16	90	227	-55	0	-10	3	28		
			FS17	90	213	-55	0	0	3	38		
			FS18	90	234	-55	0	-10	3	28		
			FS19	90	248	-56	0	-10	3	27		
			FS20	90	249	-56	0	-10	3	27		
			FS21	90	235	-55	0	0	3	38		
			FS22	90	262	-56	0	-10	3	27		
		Weapons Training Facilities Ventilation Opening	FS23	90	162	-52	0	0	3	41		
			FS24	90	190	-54	0	-10	3	29		
			FS25	90	210	-54	0	-10	3	29		
			FS26	90	222	-55	0	-10	3	28		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	345	-59	0	-10	3	24		
			FS28	90	369	-59	0	-10	3	24		
			FS29	90	368	-59	0	-10	3	24		
			FS30	90	345	-59	0	-10	3	24		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	402	-60	0	-10	3	23		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	438	-61	0	-10	3	22		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	400	-60	0	-10	3	23		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	588	-63	0	-10	3	20		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	648	-64	0	-10	3	19		
		Skid Pan Control Tower Ventilation Opening	FS36	90	667	-64	0	-10	3	19		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	790	-66	0	-10	3	17		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	802	-66	0	-10	3	17		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	667	-64	0	-10	3	19		
		Sewage Pumping Station	SPS	100	245	-56	0	-10	3	37		
		Petrol / Diesel Filling Station	PFS	100	791	-66	0	-10	3	27		
		Four-wheeled Driving Training Track	FW1	106	699	-65	0	-10	3	34		
		Four-wheeled Driving Training Track	FW2	106	755	-66	0	-10	3	33		
		Skid Pan	SKP	106	692	-65	0	-10	3	34		
		Straight Driving Training Track	SDT	106	544	-63	0	-10	3	36	49.0	55
N10b	Village House, Kong Nga Po	Proposed Police Training Facility Ventilation Opening	FS1	90	102	-48	0	0	3	45		
			FS2	90	135	-51	0	-10	3	32		
			FS3	90	132	-50	0	-10	3	33		
			FS4	90	114	-49	0	-10	3	34		
			FS5	90	140	-51	0	-10	3	32		
			FS6	90	157	-52	0	-10	3	31		
			FS7	90	156	-52	0	-10	3	31		
			FS8	90	139	-51	0	-10	3	32		
			FS9	90	175	-53	0	-10	3	30		
			FS10	90	70	-45	0	0	3	48		
			FS11	90	88	-47	0	-10	3	36		
			FS12	90	96	-48	0	-10	3	35		
			FS13	90	78	-46	0	0	3	47		
			FS14	90	105	-48	0	-10	3	35		
			FS15	90	118	-49	0	-10	3	34		
			FS16	90	123	-50	0	-10	3	33		
			FS17	90	111	-49	0	0	3	44		
			FS18	90	133	-50	0	-10	3	33		
			FS19	90	146	-51	0	-10	3	32		
			FS20	90	152	-52	0	-10	3	31		
			FS21	90	140	-51	0	0	3	42		
			FS22	90	169	-53	0	-10	3	30		
		Weapons Training Facilities Ventilation Opening	FS23	90	137	-51	0	0	3	42		
			FS24	90	150	-52	0	0	3	41		
			FS25	90	186	-53	0	-10	3	30		
			FS26	90	208	-54	0	-10	3	29		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	256	-56	0	-10	3	27		
			FS28	90	275	-57	0	-10	3	26		
			FS29	90	282	-57	0	-10	3	26		
			FS30	90	264	-56	0	-10	3	27		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	300	-58	0	-10	3	25		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	335	-58	0	-10	3	25		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	285	-57	0	-10	3	26		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	470	-61	0	-10	3	22		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	526	-62	0	-10	3	21		
		Skid Pan Control Tower Ventilation Opening	FS36	90	545	-63	0	-10	3	20		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	669	-65	0	-10	3	18		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	680	-65	0	-10	3	18		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	542	-63	0	-10	3	20		
		Sewage Pumping Station	SPS	100	184	-53	0	-10	3	40		
		Petrol / Diesel Filling Station	PFS	100	666	-64	0	-10	3	29		
		Four-wheeled Driving Training Track	FW1	106	575	-63	0	-10	3	36		
		Four-wheeled Driving Training Track	FW2	106	633	-64	0	-10	3	35		
		Skid Pan	SKP	106	571	-63	0	-10	3	36		
		Straight Driving Training Track	SDT	106	426	-61	0	-10	3	38	54.6	55

Fixed Plant & Police Driving and Traffic Training Facilities Noise Impact Assessment (Day-time and Evening Periods)

NSR ID	NSR Description	Fixed Plant Source	Source ID	SWL, dB(A)	^Distance (m)	Distance Attenuation dB(A)	Tonality Correction dB(A)	*Screening Correction dB(A)	Facade Correction dB(A)	SPL, $L_{eq(30min)}$, dB(A)	Resultant SPL, $L_{eq(30min)}$, dB(A)	Noise Criteria, dB(A)
N11a	Village House, Kong Nga Po	Proposed Police Training Facility Ventilation Opening	FS1	90	85	-47	0	0	3	46		
			FS2	90	105	-48	0	-10	3	35		
			FS3	90	114	-49	0	-10	3	34		
			FS4	90	99	-48	0	0	3	45		
			FS5	90	126	-50	0	-10	3	33		
			FS6	90	140	-51	0	-10	3	32		
			FS7	90	148	-51	0	-10	3	32		
			FS8	90	135	-51	0	-10	3	32		
			FS9	90	168	-53	0	-10	3	30		
			FS10	90	91	-47	0	0	3	46		
			FS11	90	102	-48	0	0	3	45		
			FS12	90	119	-50	0	-10	3	33		
			FS13	90	109	-49	0	-10	3	34		
			FS14	90	129	-50	0	-10	3	33		
			FS15	90	136	-51	0	-10	3	32		
			FS16	90	148	-51	0	-10	3	32		
			FS17	90	141	-51	0	-10	3	32		
			FS18	90	158	-52	0	-10	3	31		
			FS19	90	166	-52	0	-10	3	31		
			FS20	90	178	-53	0	-10	3	30		
			FS21	90	170	-53	0	-10	3	30		
			FS22	90	196	-54	0	-10	3	29		
		Weapons Training Facilities Ventilation Opening	FS23	90	209	-54	0	-10	3	29		
			FS24	90	215	-55	0	-10	3	28		
			FS25	90	253	-56	0	-10	3	27		
			FS26	90	276	-57	0	-10	3	26		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	275	-57	0	-10	3	26		
			FS28	90	289	-57	0	-10	3	26		
			FS29	90	303	-58	0	-10	3	25		
			FS30	90	291	-57	0	-10	3	26		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	301	-58	0	-10	3	25		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	333	-58	0	-10	3	25		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	269	-57	0	-10	3	26		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	440	-61	0	-10	3	22		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	488	-62	0	-10	3	21		
		Skid Pan Control Tower Ventilation Opening	FS36	90	506	-62	0	-10	3	21		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	633	-64	0	-10	3	19		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	640	-64	0	-10	3	19		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	491	-62	0	-10	3	21		
		Sewage Pumping Station	SPS	100	234	-55	0	-10	3	38		
		Petrol / Diesel Filling Station	PFS	100	616	-64	0	-10	3	29		
		Four-wheeled Driving Training Track	FW1	106	526	-62	0	-10	3	36		
		Four-wheeled Driving Training Track	FW2	106	595	-63	0	-10	3	35		
		Skid Pan	SKP	106	534	-63	0	-10	3	36		
		Straight Driving Training Track	SDT	106	397	-60	0	-10	3	39	53.1	55
N12a	Village House, Kong Nga Po	Proposed Police Training Facility Ventilation Opening	FS1	90	514	-62	0	-10	3	21		
			FS2	90	485	-62	0	-10	3	21		
			FS3	90	482	-62	0	-10	3	21		
			FS4	90	500	-62	0	-10	3	21		
			FS5	90	472	-61	0	-10	3	22		
			FS6	90	455	-61	0	-10	3	22		
			FS7	90	454	-61	0	-10	3	22		
			FS8	90	471	-61	0	-10	3	22		
			FS9	90	436	-61	0	-10	3	22		
			FS10	90	541	-63	0	-10	3	20		
			FS11	90	523	-62	0	-10	3	21		
			FS12	90	518	-62	0	-10	3	21		
			FS13	90	536	-63	0	-10	3	20		
			FS14	90	511	-62	0	-10	3	21		
			FS15	90	497	-62	0	-10	3	21		
			FS16	90	496	-62	0	-10	3	21		
			FS17	90	510	-62	0	-10	3	21		
			FS18	90	489	-62	0	-10	3	21		
			FS19	90	475	-62	0	-10	3	21		
			FS20	90	475	-62	0	-10	3	21		
			FS21	90	489	-62	0	-10	3	21		
			FS22	90	465	-61	0	-10	3	22		
		Weapons Training Facilities Ventilation Opening	FS23	90	589	-63	0	-10	3	20		
			FS24	90	560	-63	0	-10	3	20		
			FS25	90	569	-63	0	-10	3	20		
			FS26	90	578	-63	0	-10	3	20		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	393	-60	0	-10	3	23		
			FS28	90	366	-59	0	-10	3	24		
			FS29	90	378	-60	0	-10	3	23		
			FS30	90	405	-60	0	-10	3	23		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	324	-58	0	-10	3	25		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	291	-57	0	-10	3	26		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	325	-58	0	-10	3	25		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	153	-52	0	-10	3	31		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	149	-51	0	-10	3	32		
		Skid Pan Control Tower Ventilation Opening	FS36	90	144	-51	0	-10	3	32		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	130	-50	0	-10	3	33		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	165	-52	0	-10	3	31		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	237	-55	0	-10	3	28		
		Sewage Pumping Station	SPS	100	505	-62	0	-10	3	31		
		Petrol / Diesel Filling Station	PFS	100	241	-56	0	-10	3	37		
		Four-wheeled Driving Training Track	FW1	106	212	-55	0	-10	3	44		
		Four-wheeled Driving Training Track	FW2	106	131	-50	0	-10	3	49		
		Skid Pan	SKP	106	121	-50	0	-10	3	49		
		Straight Driving Training Track	SDT	106	193	-54	0	-10	3	45	53.7	55

Fixed Plant & Police Driving and Traffic Training Facilities Noise Impact Assessment (Day-time and Evening Periods)

NSR ID	NSR Description	Fixed Plant Source	Source ID	SWL, dB(A)	^Distance (m)	Distance Attenuation dB(A)	Tonality Correction dB(A)	*Screening Correction dB(A)	Facade Correction dB(A)	SPL, $L_{eq(30min)}$, dB(A)	Resultant SPL, $L_{eq(30min)}$, dB(A)	Noise Criteria, dB(A)
N13	Village House, Kong Nga Po	Proposed Police Training Facility Ventilation Opening	FS1	90	445	-61	0	-10	3	22		
			FS2	90	426	-61	0	-10	3	22		
			FS3	90	444	-61	0	-10	3	22		
			FS4	90	448	-61	0	-10	3	22		
			FS5	90	451	-61	0	-10	3	22		
			FS6	90	448	-61	0	-10	3	22		
			FS7	90	465	-61	0	-10	3	22		
			FS8	90	469	-61	0	-10	3	22		
			FS9	90	473	-61	0	-10	3	22		
			FS10	90	481	-62	0	-10	3	21		
			FS11	90	480	-62	0	-10	3	21		
			FS12	90	496	-62	0	-10	3	21		
			FS13	90	497	-62	0	-10	3	21		
			FS14	90	502	-62	0	-10	3	21		
			FS15	90	499	-62	0	-10	3	21		
			FS16	90	513	-62	0	-10	3	21		
			FS17	90	515	-62	0	-10	3	21		
			FS18	90	518	-62	0	-10	3	21		
			FS19	90	516	-62	0	-10	3	21		
			FS20	90	530	-62	0	-10	3	21		
			FS21	90	532	-63	0	-10	3	20		
			FS22	90	543	-63	0	-10	3	20		
		Weapons Training Facilities Ventilation Opening	FS23	90	613	-64	0	-10	3	19		
			FS24	90	610	-64	0	-10	3	19		
			FS25	90	648	-64	0	-10	3	19		
			FS26	90	672	-65	0	-10	3	18		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	581	-63	0	-10	3	20		
			FS28	90	575	-63	0	-10	3	20		
			FS29	90	601	-64	0	-10	3	19		
			FS30	90	606	-64	0	-10	3	19		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	550	-63	0	-10	3	20		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	562	-63	0	-10	3	20		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	486	-62	0	-10	3	21		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	518	-62	0	-10	3	21		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	503	-62	0	-10	3	21		
		Skid Pan Control Tower Ventilation Opening	FS36	90	511	-62	0	-10	3	21		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	609	-64	0	-10	3	19		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	593	-63	0	-10	3	20		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	429	-61	0	-10	3	22		
		Sewage Pumping Station	SPS	100	606	-64	0	-10	3	29		
		Petrol / Diesel Filling Station	PFS	100	516	-62	0	-10	3	31		
		Four-wheeled Driving Training Track	FW1	106	466	-61	0	-10	3	38		
		Four-wheeled Driving Training Track	FW2	106	572	-63	0	-10	3	36		
		Skid Pan	SKP	106	540	-63	0	-10	3	36		
		Straight Driving Training Track	SDT	106	497	-62	0	-10	3	37	44.0	52
N14	Village House, near Man Kam To Road	Proposed Police Training Facility Ventilation Opening	FS1	90	653	-64	0	-10	3	19		
			FS2	90	627	-64	0	-10	3	19		
			FS3	90	644	-64	0	-10	3	19		
			FS4	90	652	-64	0	-10	3	19		
			FS5	90	648	-64	0	-10	3	19		
			FS6	90	639	-64	0	-10	3	19		
			FS7	90	656	-64	0	-10	3	19		
			FS8	90	664	-64	0	-10	3	19		
			FS9	90	657	-64	0	-10	3	19		
			FS10	90	694	-65	0	-10	3	18		
			FS11	90	689	-65	0	-10	3	18		
			FS12	90	702	-65	0	-10	3	18		
			FS13	90	708	-65	0	-10	3	18		
			FS14	90	705	-65	0	-10	3	18		
			FS15	90	699	-65	0	-10	3	18		
			FS16	90	712	-65	0	-10	3	18		
			FS17	90	718	-65	0	-10	3	18		
			FS18	90	715	-65	0	-10	3	18		
			FS19	90	709	-65	0	-10	3	18		
			FS20	90	722	-65	0	-10	3	18		
			FS21	90	728	-65	0	-10	3	18		
			FS22	90	731	-65	0	-10	3	18		
		Weapons Training Facilities Ventilation Opening	FS23	90	825	-66	0	-10	3	17		
			FS24	90	816	-66	0	-10	3	17		
			FS25	90	851	-67	0	-10	3	16		
			FS26	90	874	-67	0	-10	3	16		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	745	-65	0	-10	3	18		
			FS28	90	732	-65	0	-10	3	18		
			FS29	90	759	-66	0	-10	3	17		
			FS30	90	772	-66	0	-10	3	17		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	695	-65	0	-10	3	18		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	695	-65	0	-10	3	18		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	632	-64	0	-10	3	19		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	585	-63	0	-10	3	20		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	537	-63	0	-10	3	20		
		Skid Pan Control Tower Ventilation Opening	FS36	90	535	-63	0	-10	3	20		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	589	-63	0	-10	3	20		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	560	-63	0	-10	3	20		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	442	-61	0	-10	3	22		
		Sewage Pumping Station	SPS	100	798	-66	0	-10	3	27		
		Petrol / Diesel Filling Station	PFS	100	467	-61	0	-10	3	32		
		Four-wheeled Driving Training Track	FW1	106	464	-61	0	-10	3	38		
		Four-wheeled Driving Training Track	FW2	106	561	-63	0	-10	3	36		
		Skid Pan	SKP	106	556	-63	0	-10	3	36		
		Straight Driving Training Track	SDT	106	583	-63	0	-10	3	36	43.4	55

Fixed Plant & Police Driving and Traffic Training Facilities Noise Impact Assessment (Day-time and Evening Periods)

NSR ID	NSR Description	Fixed Plant Source	Source ID	SWL, dB(A)	^Distance (m)	Distance Attenuation dB(A)	Tonality Correction dB(A)	*Screening Correction dB(A)	Facade Correction dB(A)	SPL, $L_{eq(30min)}$, dB(A)	Resultant SPL, $L_{eq(30min)}$, dB(A)	Noise Criteria, dB(A)
N15	Village House, Sha Ling	Proposed Police Training Facility Ventilation Opening	FS1	90	169	-53	0	0	3	40		
			FS2	90	179	-53	0	0	3	40		
			FS3	90	193	-54	0	-10	3	29		
			FS4	90	181	-53	0	0	3	40		
			FS5	90	205	-54	0	-10	3	29		
			FS6	90	216	-55	0	-10	3	28		
			FS7	90	227	-55	0	-10	3	28		
			FS8	90	217	-55	0	-10	3	28		
			FS9	90	246	-56	0	-10	3	27		
			FS10	90	181	-53	0	0	3	40		
			FS11	90	191	-54	0	0	3	39		
			FS12	90	209	-54	0	-10	3	29		
			FS13	90	199	-54	0	-10	3	29		
			FS14	90	218	-55	0	-10	3	28		
			FS15	90	225	-55	0	-10	3	28		
			FS16	90	237	-56	0	-10	3	27		
			FS17	90	231	-55	0	-10	3	28		
			FS18	90	247	-56	0	-10	3	27		
			FS19	90	253	-56	0	-10	3	27		
			FS20	90	266	-56	0	-10	3	27		
			FS21	90	259	-56	0	-10	3	27		
			FS22	90	284	-57	0	-10	3	26		
		Weapons Training Facilities Ventilation Opening	FS23	90	295	-57	0	-10	3	26		
			FS24	90	303	-58	0	-10	3	25		
			FS25	90	341	-59	0	-10	3	24		
			FS26	90	364	-59	0	-10	3	24		
		Multi-Storey Training Complex Ventilation Opening	FS27	90	360	-59	0	-10	3	24		
			FS28	90	371	-59	0	-10	3	24		
			FS29	90	387	-60	0	-10	3	23		
			FS30	90	377	-60	0	-10	3	23		
		Lo Wu Firing Range Control Building Ventilation Opening	FS31	90	376	-60	0	-10	3	23		
		Straight Driving Training Track Control Tower Ventilation Opening	FS32	90	406	-60	0	-10	3	23		
		Ma Tso Lung Firing Range Control Building Ventilation Opening	FS33	90	336	-59	0	-10	3	24		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS34	90	488	-62	0	-10	3	21		
		Training Ground for Parking Training Control Building Ventilation Opening	FS35	90	526	-62	0	-10	3	21		
		Skid Pan Control Tower Ventilation Opening	FS36	90	543	-63	0	-10	3	20		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS37	90	669	-65	0	-10	3	18		
		Two-wheeled Driving Training Track Control Building Ventilation Opening	FS38	90	672	-65	0	-10	3	18		
		Four-wheeled Driving Training Track Control Building Ventilation Opening	FS39	90	512	-62	0	-10	3	21		
		Sewage Pumping Station	SPS	100	324	-58	0	-10	3	35		
		Petrol / Diesel Filling Station	PFS	100	636	-64	0	-10	3	29		
		Four-wheeled Driving Training Track	FW1	106	550	-63	0	-10	3	36		
		Four-wheeled Driving Training Track	FW2	106	630	-64	0	-10	3	35		
		Skid Pan	SKP	106	573	-63	0	-10	3	36		
		Straight Driving Training Track	SDT	106	447	-61	0	-10	3	38	49.2	55

Remark * While the NSR with no direct line of sight to the source/opening, a 5 dB(A) attenuation would be applied.
While the NSR with no direct line of sight to the source/opening which locates on the other side of the building or completely blocked by other building(s), a 10 dB(A) attenuation would be applied.
^ Horizontal Distance has been adopted for conservative approach.

Calculation of Barrier Correction (ISO 9613-2) for Firing Ranges

From ISO 9613-2, the barrier attenuation Dz, in decibels, shall be calculated by the following equation:

$$D_z = 10 \log \left[3 + \left(\frac{C_2}{\lambda}\right) C_3 \, z \, K_{met} \right]$$

where

$C_2 = 20$ includes the effect of ground reflections

$$C_3 = \frac{\left[1 + \left(\frac{5\lambda}{e}\right)^2\right]}{\frac{1}{3} + \left(\frac{5\lambda}{e}\right)^2}$$

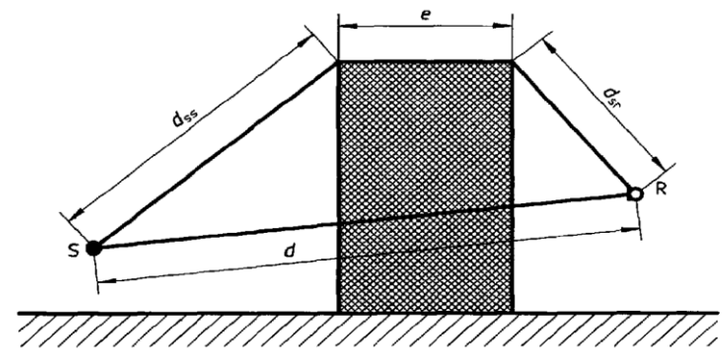
*Frequency (f)**	500	Hz	
Velocity (v)	343	m/s	
Wavelength (λ)	0.69	m	$\lambda = v / f$

(*) Note 1 of ISO 9613-2: If only A-weighted sound power levels of the sources are known, the attenuation terms for 500Hz may be used to estimate the resulting attenuation.

z is the difference between the path lengths of diffracted and direct sound, in meter.

$$K_{met} = \exp \left[-\left(\frac{1}{2000}\right) \sqrt{\frac{d_{ss}\, d_{sr}\, d}{2z}} \right] \quad \text{for } z > 0$$

e is the distance between the two diffraction edges in the case of double diffraction (see figure 7).



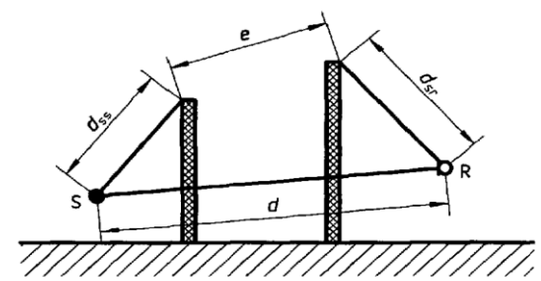


Figure 7 — Geometrical quantities for determining the pathlength difference for double diffraction

Existing San Uk Ling Firing Range (25m Shooting Range)

NSR	Height (mPD)				Distance (m)			Path Difference (m)				C2	C3	Kmet	Barrier Correction*
	Source (S)	Barrier 1 (B1)	Barrier 2 (B2)	Receiver (R)	S-B1	B1-B2	B2-R	dss	e	dsr	z				
N9b	33.8	62	52	29.3	100	110	195	104	110	196	5.6	20	2.99	0.65	20
N10b	33.8	61	52	29.8	103	100	76	107	100	79	7.1	20	2.99	0.82	20
N11a	33.8	58	31	29.9	125	99	6	127	103	6	6.0	20	2.99	0.94	20
N12a	33.8	64	61	40.3	74	200	90	80	200	92	8.2	20	3.00	0.82	20
N13	33.8	39	31	28	42	232	120	42	232	120	0.5	20	3.00	0.48	13
N14	33.8	54	59	20.3	65	290	195	68	290	199	6.7	20	3.00	0.69	20
N15	33.8	51	51	24.9	118	20	138	119	20	140	3.5	20	2.84	0.67	20

Notes: (*) Barrier correction has been limited to 20 dB(A) for conservative approach.

Calculation of Barrier Correction (ISO 9613-2) for Firing Ranges

Planned Reprovision of Ma Tso Lung Firing Range (25m Shooting Range)

NSR	Height (mPD)				Distance (m)			Path Difference (m)				C2	C3	Kmet	Barrier Correction*
	Source (S)	Barrier 1# (B1)	Barrier 2 (B2)	Receiver (R)	S-B1	B1-B2	B2-R	dss	e	dsr	z				
N9b	62	67	52	29.3	20	213	187	21	214	188	1.2	20	3.00	0.67	19
N10b	62	67	52	29.8	18	230	52	19	230	57	4.0	20	3.00	0.91	20
N11a	62	67	63	29.9	14	190	70	15	190	77	6.5	20	3.00	0.92	20
N12a	62	67	61	40.3	16	211	90	17	211	92	2.5	20	3.00	0.85	20
N13^	62	67	--	28	17	462	--	18	--	464	1.2	20	3.00	0.52	17
N14	62	67	62	20.3	19	420	182	20	420	187	4.0	20	3.00	0.77	20
N15	62	67	58	24.9	13	165	160	14	165	163	2.5	20	3.00	0.82	20

Notes: (*) Barrier correction has been limited to 20 dB(A) for conservative approach.
(^) Single Diffraction
(#) HKPF has confirmed that side walls with 5m height will be installed at Ma Tso Lung Firing Range (reprovision).

Planned Reprovision of Lo Wu Firing Range (300m Shooting Range)

NSR	Height (mPD)				Distance (m)			Path Difference (m)				C2	C3	Kmet	Barrier Correction*
	Source (S)	Barrier 1 (B1)	Barrier 2 (B2)	Receiver (R)	S-B1	B1-B2	B2-R	dss	e	dsr	z				
N9b	64	62	52	29.3	290	130	180	290	130	181	0.8	20	3.00	0.11	10
N10b	64	62	52	29.8	295	110	70	295	110	73	2.7	20	2.99	0.50	20
N11a	64	64	57	29.9	135	185	105	135	185	108	2.2	20	3.00	0.55	20
N12a	64	64	64	40.3	106	25	75	106	25	79	2.3	20	2.89	0.74	20
N13	64	66	33	28	68	330	50	68	332	50	0.5	20	3.00	0.53	14
N14	64	76	71	20.3	172	175	160	172	175	168	6.5	20	3.00	0.59	20
N15	64	64	45	24.9	60	250	150	60	251	151	0.4	20	3.00	0.32	12

Notes: (*) Barrier correction has been limited to 20 dB(A) for conservative approach.

Calculation of Noise Impact from Firing Ranges

Ma Tso Lung Firing Range:

Weapon	SWL for Single Mode Shooting, dB(A)		
	From Previous EIA	Measured	Maximum
Revovler	122.4	--	122.4
9mm Pistol	--	117.1	117.1
MP5	117.4	--	117.4
Shotgun	121.3	121.1	121.3
		Average:	**120.2**

Planned Reprovision of Ma Tso Lung Firing Range (25m Shooting Range)	Noise Sensitive Receiver							Remark
	N9b	N10b	N11a	N12a	N13	N14	N15	
Reference SWL for 1 Shot	120.2	120.2	120.2	120.2	120.2	120.2	120.2	Average
Number of Shots in 30 minutes	420	420	420	420	420	420	420	Data Provided by HKPF
Distance from NSR	420	300	274	317	479	621	338	
Distance Correction	-60	-58	-57	-58	-62	-64	-59	
Impulsiveness Correction	3	3	3	3	3	3	3	
Barrier Correction	-19	-20	-20	-20	-17	-20	-20	
Facade Correction	3	3	3	3	3	3	3	
SWL in 30 minutes at NSR	73	75	76	74	73	69	74	
Leq in 30 minutes at NSR	**41**	**42**	**43**	**42**	**41**	**36**	**41**	
Day-time and Evening Noise Criteria	**55**	**55**	**55**	**55**	**52**	**55**	**55**	
Compliance with the Criteria	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	
Exceedance	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Lo Wu & San Uk Ling Firing Ranges:

Weapon	SWL for Single Mode Shooting, dB(A)		
	From Previous EIA	Measured	Maximum
Revovler	122.4	--	122.4
9mm Pistol	--	117.1	117.1
MP5	117.4	--	117.4
AR15	120.5	120.9	120.9
Shotgun	121.3	121.1	121.3
		Average:	**120.3**

Planned Reprovision of Lo Wu Firing Range (300m Shooting Range)	Noise Sensitive Receiver							Remark
	N9b	N10b	N11a	N12a	N13	N14	N15	
Reference SWL for 1 Shot	120.3	120.3	120.3	120.3	120.3	120.3	120.3	Average
Number of Shots in 30 minutes	1000	1000	1000	1000	1000	1000	1000	Data Provided by HKPF
Distance from NSR	600	475	425	206	448	507	460	
Distance Correction	-64	-62	-61	-54	-61	-62	-61	
Impulsiveness Correction	3	3	3	3	3	3	3	
Barrier Correction	-10	-20	-20	-20	-14	-20	-12	
Facade Correction	3	3	3	3	3	3	3	
SWL in 30 minutes at NSR	82	75	76	82	81	74	83	
Leq in 30 minutes at NSR	**50**	**42**	**43**	**49**	**49**	**42**	**51**	
Day-time and Evening Noise Criteria	**55**	**55**	**55**	**55**	**52**	**55**	**55**	
Compliance with the Criteria	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	
Exceedance	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

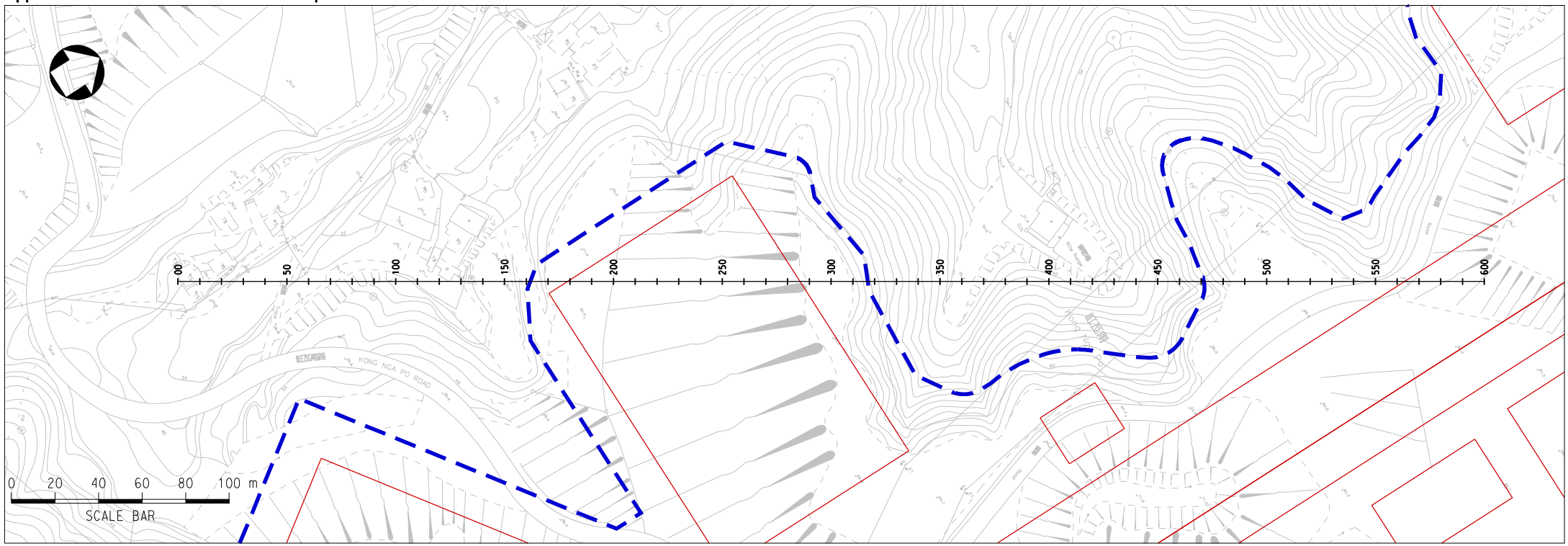
Existing San Uk Ling Firing Range (25m Shooting Range)	Noise Sensitive Receiver							Remark
	N9b	N10b	N11a	N12a	N13	N14	N15	
Reference SWL for 1 Shot	120.3	120.3	120.3	120.3	120.3	120.3	120.3	Average
Number of Shots in 30 minutes	250	250	250	250	250	250	250	Data Provided by HKPF
Distance from NSR	405	279	230	364	394	550	276	
Distance Correction	-60	-57	-55	-59	-60	-63	-57	
Impulsiveness Correction	3	3	3	3	3	3	3	
Barrier Correction	-20	-20	-20	-20	-13	-20	-20	
Facade Correction	3	3	3	3	3	3	3	
SWL in 30 minutes at NSR	70	73	75	71	77	67	73	
Leq in 30 minutes at NSR	**38**	**41**	**42**	**39**	**44**	**35**	**41**	
Day-time and Evening Noise Criteria	**60**	**60**	**60**	**60**	**60**	**60**	**60**	
Compliance with the Criteria	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	
Exceedance	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Total Noise Impact from Police Facilities in KNP

Total Fixed Noise Impacts	Noise Sensitive Receiver							Remark
	N9b	N10b	N11a	N12a	N13	N14	N15	
Planned Reprovision of Ma Tso Lung Firing Range	41	42	43	42	41	36	41	
Planned Reprovision of Lo Wu Firing Range	50	42	43	49	49	42	51	
Fixed Plant & Police Driving and Traffic Training Facilities	49	55	53	54	44	43	49	
Total	**53**	**55**	**54**	**55**	**50**	**46**	**53**	
Day-time and Evening Noise Criteria	**55**	**55**	**55**	**55**	**52**	**55**	**55**	
Compliance with the Criteria	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	
Exceedance	**--**	**--**	**--**	**--**	**--**	**--**	**--**	

Cumulative Noise Impact from Existing San Uk Ling Firing Range and Police Facilities in KNP

Cumulative Fixed Noise Impacts	Noise Sensitive Receiver							Remark
	N9b	N10b	N11a	N12a	N13	N14	N15	
Existing Sam Uk Ling Firing Range	38	41	42	39	44	35	41	
Planned Reprovision of Ma Tso Lung Firing Range	41	42	43	42	41	36	41	
Planned Reprovision of Lo Wu Firing Range	50	42	43	49	49	42	51	
Fixed Plant & Police Driving and Traffic Training Facilities	49	55	53	54	44	43	49	
Total	**53**	**55**	**54**	**55**	**51**	**46**	**54**	
Day-time and Evening Noise Criteria	**60**	**60**	**60**	**60**	**60**	**60**	**60**	
Compliance with the Criteria	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	
Exceedance	**--**	**--**	**--**	**--**	**--**	**--**	**--**	



N9b-LW - LONGSECTION
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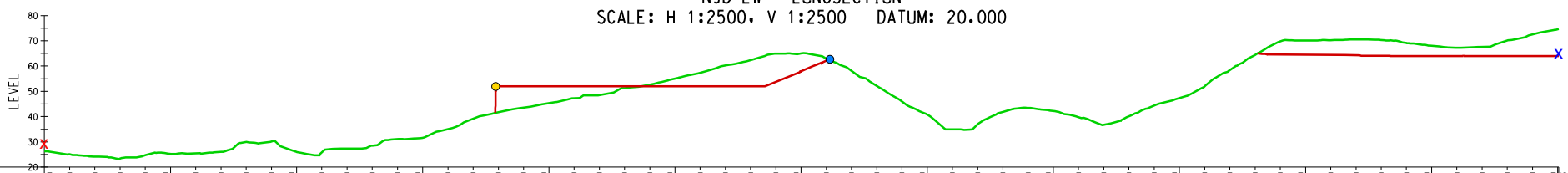
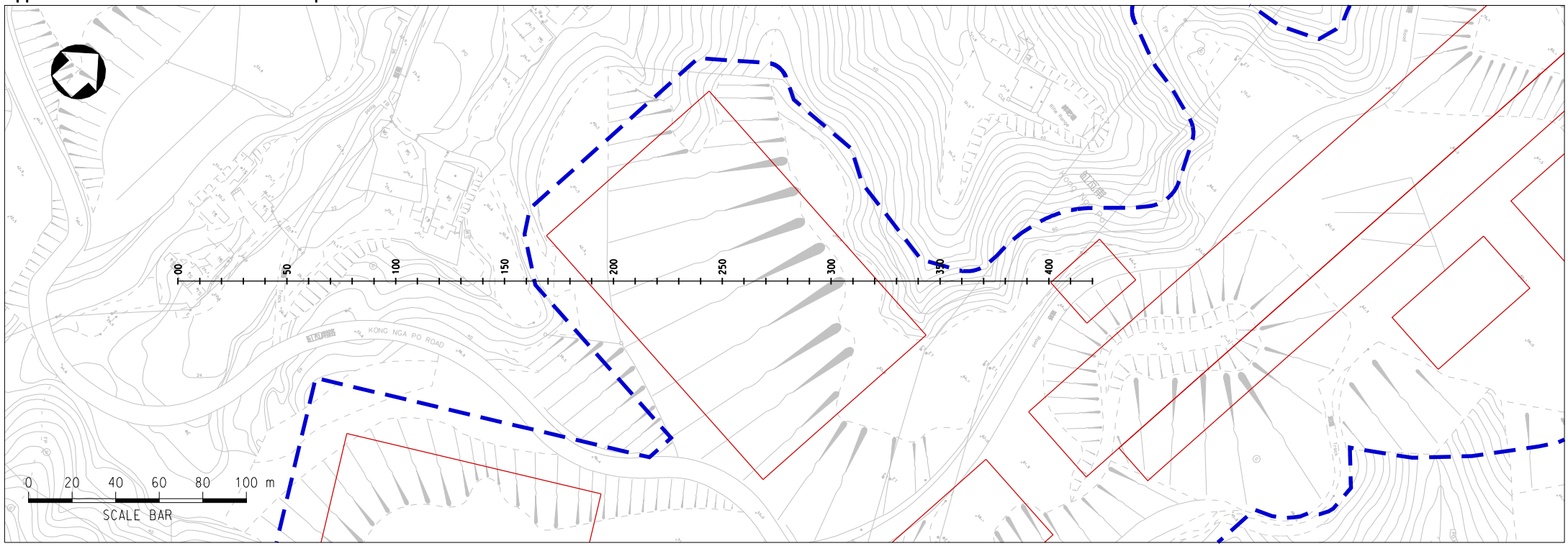


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.301		
10.000	25.106		
20.000	24.151		
30.000	23.398		
40.000	24.709		
50.000	25.242		
60.000	25.430		
70.000	26.021		
80.000	29.982		
90.000	30.132		
100.000	26.009		
110.000	25.814		
120.000	27.315		
130.000	28.525		
140.000	31.154		
150.000	31.608		
160.000	35.034		
170.000	39.144		
180.000	41.733	52.000	
190.000	43.561	52.004	
200.000	45.339	52.008	
210.000	47.296	52.011	
220.000	48.547	52.015	
230.000	51.221	52.018	
240.000	52.633	52.022	
250.000	55.043	52.026	
260.000	57.316	52.029	
270.000	60.208	52.033	
280.000	62.352	52.036	
290.000	64.935	53.760	
300.000	64.957	57.975	
310.000	62.872	62.131	
320.000	58.125		
330.000	52.123		
340.000	45.953		
350.000	40.857		
360.000	34.972		
370.000	36.971		
380.000	41.880		
390.000	43.387		
400.000	42.200		
410.000	39.803		
420.000	36.729		
430.000	40.165		
440.000	44.369		
450.000	47.333		
460.000	51.939		
470.000	58.350		
480.000	64.426		
490.000	69.717	64.513	
500.000	70.104	64.506	
510.000	70.247	64.439	
520.000	70.531	64.330	
530.000	70.298	64.040	
540.000	69.116	64.000	
550.000	68.021	64.000	
560.000	67.260	64.000	
570.000	67.580	64.000	
580.000	70.127	64.000	
590.000	72.535	64.000	
600.000	74.573	64.000	
600.423	74.673	64.000	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (29.3 mPD)
- x NOISE SOURCE
- B1
- B2

Appendix 4.8 Fixed Noise Sources Impact Assessment



N9b-MTL - LONGSECTION
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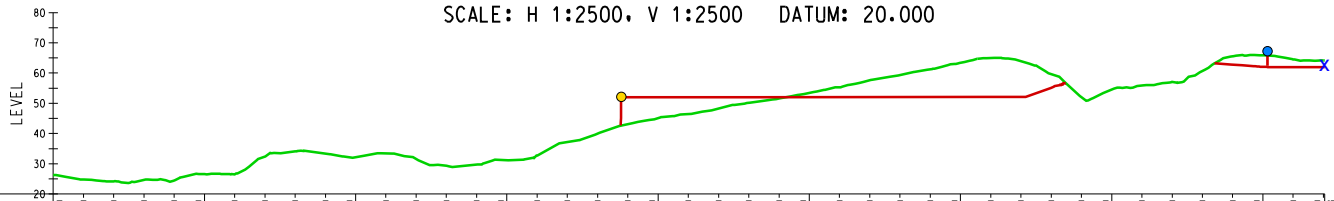
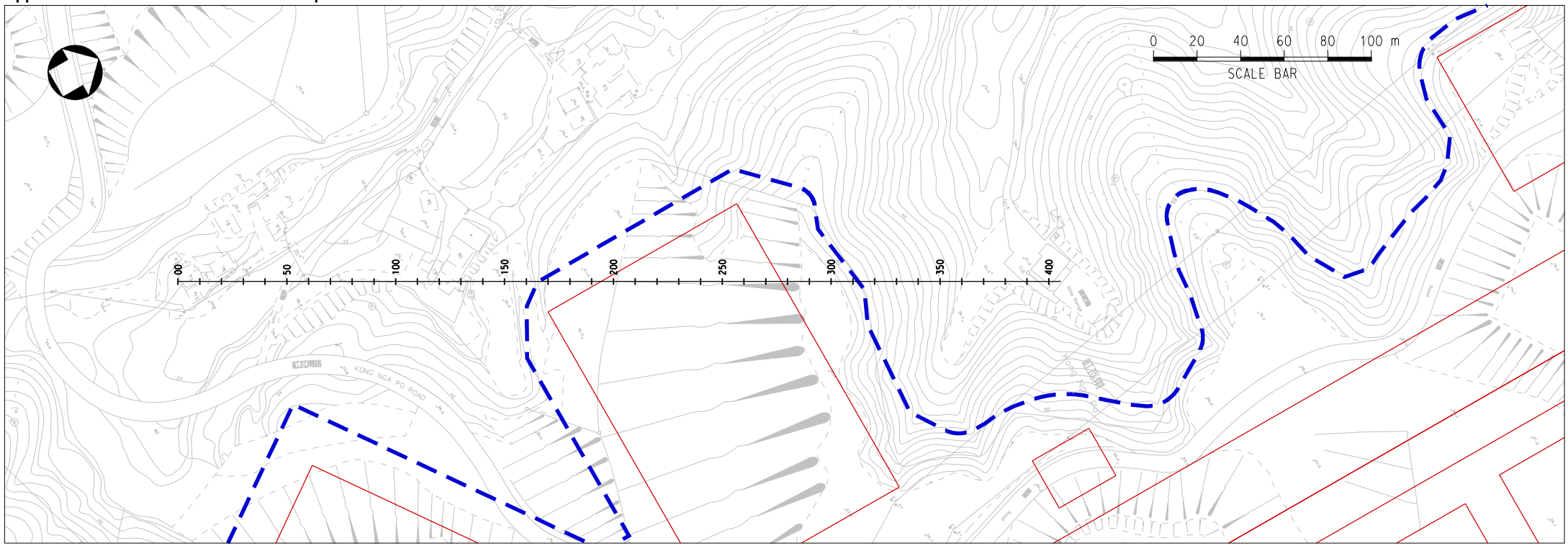


CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	420.418
EXISTING LEVELS	26.301	24.772	24.207	24.692	24.479	26.556	26.544	32.310	34.111	33.303	32.179	33.421	31.600	29.388	29.691	31.202	32.743	37.181	39.947	43.105	45.101	46.438	48.229	50.152	51.573	53.412	55.325	57.601	59.322	61.233	63.388	64.993	63.908	59.639	52.020	54.551	55.895	57.071	60.688	65.508	65.856	64.490	64.131	64.139
PROPOSED LEVELS																				52.002	52.010	52.019	52.028	52.036	52.042	52.046	52.051	52.055	52.059	52.064	52.068	52.073	52.092	55.114						62.808	62.050	62.000	62.000	62.000
HORIZONTAL GEOMETRY																																												

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT



N9b-SUL - LONGSECTION
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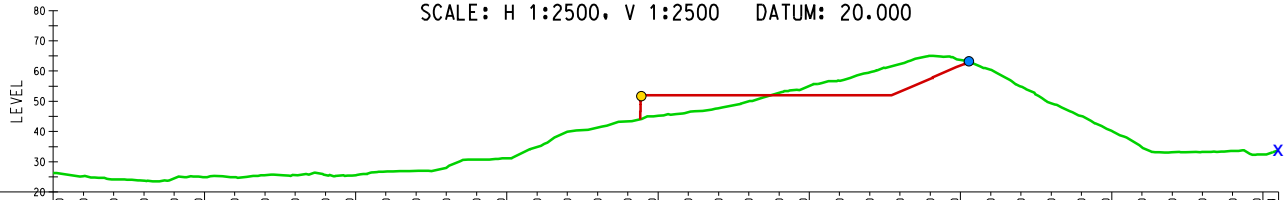
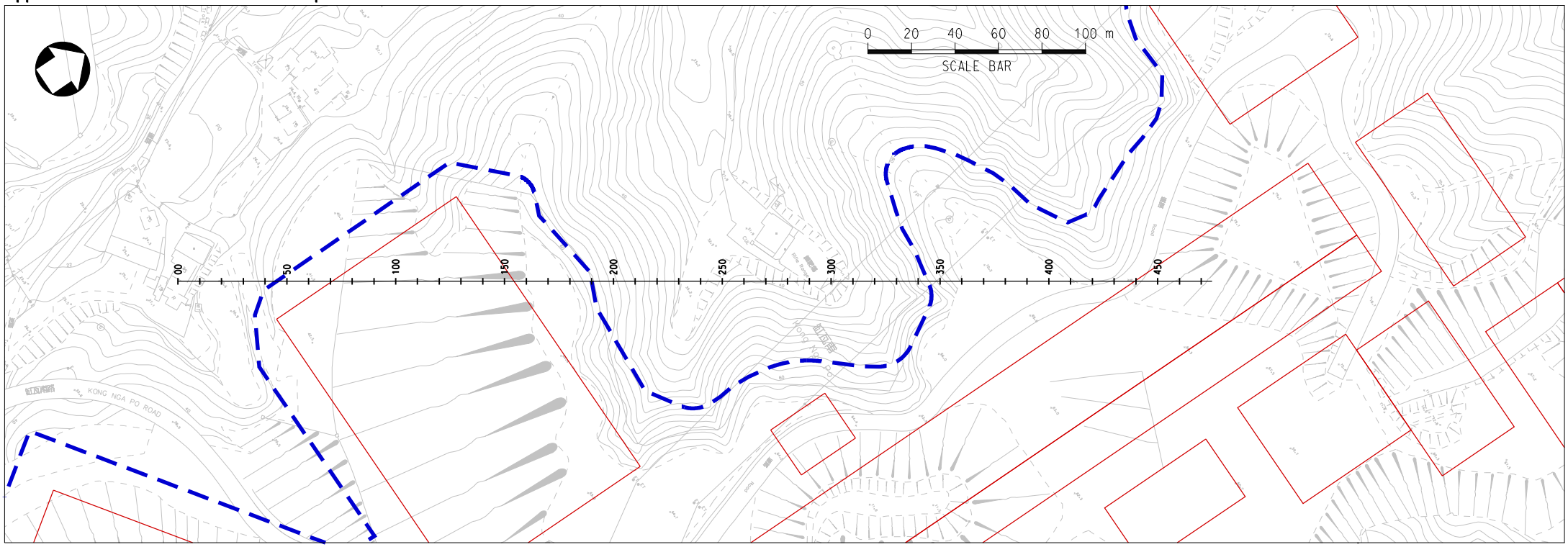


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.301		
10.000	25.259		
20.000	24.174		
30.000	23.780		
40.000	24.503		
50.000	24.909		
60.000	24.934		
70.000	25.576		
80.000	25.583		
90.000	25.594		
100.000	25.517		
110.000	26.750		
120.000	26.970		
130.000	28.012		
140.000	30.716		
150.000	31.121		
160.000	34.859		
170.000	39.883		
180.000	41.296		
190.000	43.352		
200.000	45.191	52.002	
210.000	46.405	52.005	
220.000	47.686	52.009	
230.000	50.011	52.012	
240.000	52.833	52.015	
250.000	55.076	52.018	
260.000	56.804	52.022	
270.000	59.573	52.025	
280.000	62.317	53.193	
290.000	65.018	57.454	
300.000	63.650	61.807	
310.000	60.425		
320.000	54.901		
330.000	49.349		
340.000	45.069		
350.000	40.189		
360.000	34.854		
370.000	33.138		
380.000	33.217		
390.000	33.577		
400.000	32.413		
405.164	33.835		

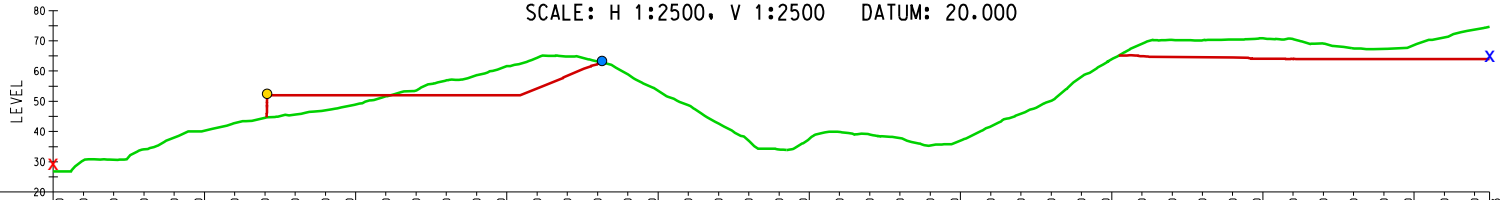
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT



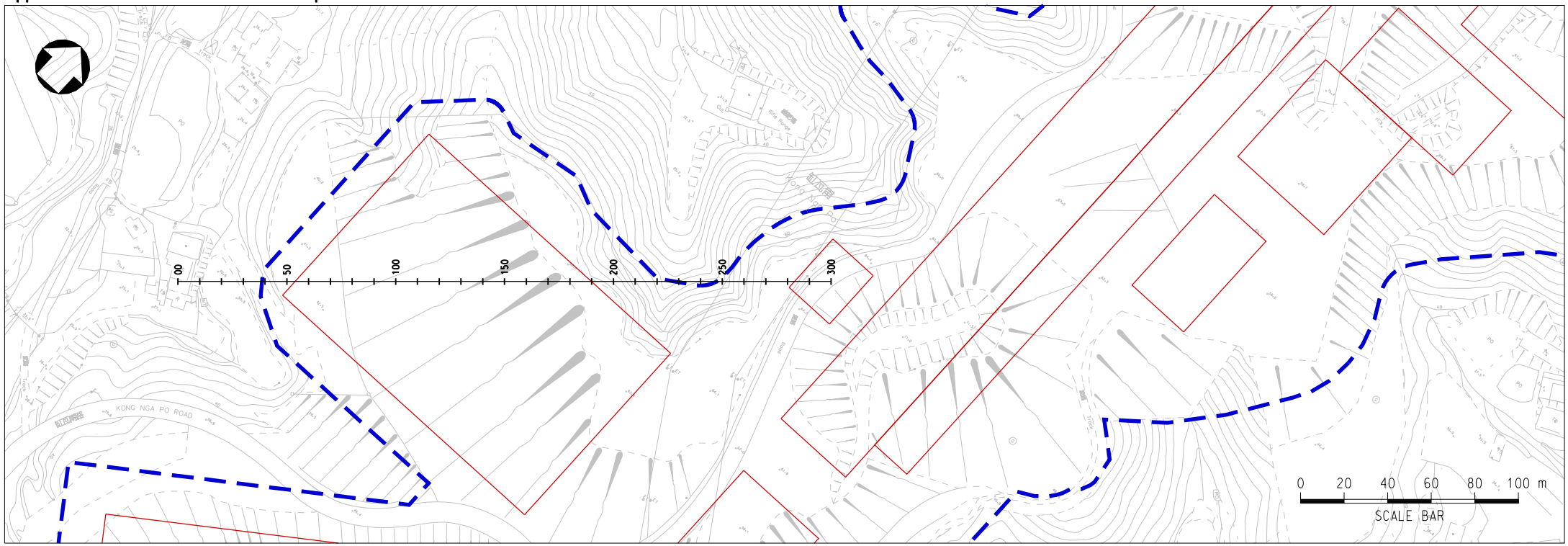
N10b-LW - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000



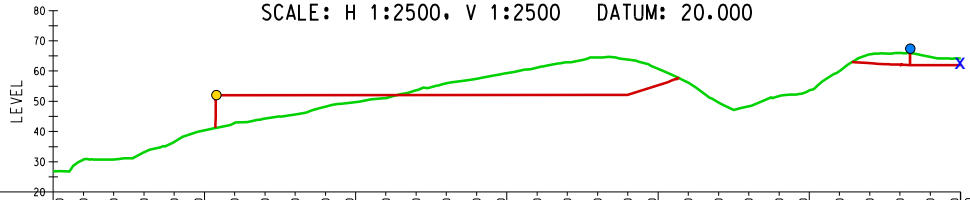
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.849		
10.000	30.437		
20.000	30.650		
30.000	34.145		
40.000	37.983		
50.000	40.225		
60.000	42.755		
70.000	44.566		
80.000	45.578	52.003	
90.000	47.012	52.007	
100.000	48.916	52.011	
110.000	51.662	52.015	
120.000	53.538	52.018	
130.000	56.945	52.022	
140.000	58.624	52.026	
150.000	61.607	52.030	
160.000	64.357	54.244	
170.000	64.837	58.431	
180.000	63.180	62.334	
190.000	58.866		
200.000	53.444		
210.000	48.720		
220.000	42.643		
230.000	36.913		
240.000	34.084		
250.000	37.567		
260.000	39.887		
270.000	39.025		
280.000	37.861		
290.000	35.390		
300.000	36.963		
310.000	41.668		
320.000	45.923		
330.000	50.106		
340.000	58.117		
350.000	63.884		
360.000	69.057	64.902	
370.000	70.327	64.611	
380.000	70.193	64.536	
390.000	70.408	64.462	
400.000	70.791	64.070	
410.000	70.569	64.020	
420.000	69.072	64.000	
430.000	67.431	64.000	
440.000	67.353	64.000	
450.000	68.583	64.000	
460.000	71.125	64.000	
470.000	73.730	64.000	
474.913	74.613	64.000	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- NSR (29.8 mPD)



N10b-MTL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

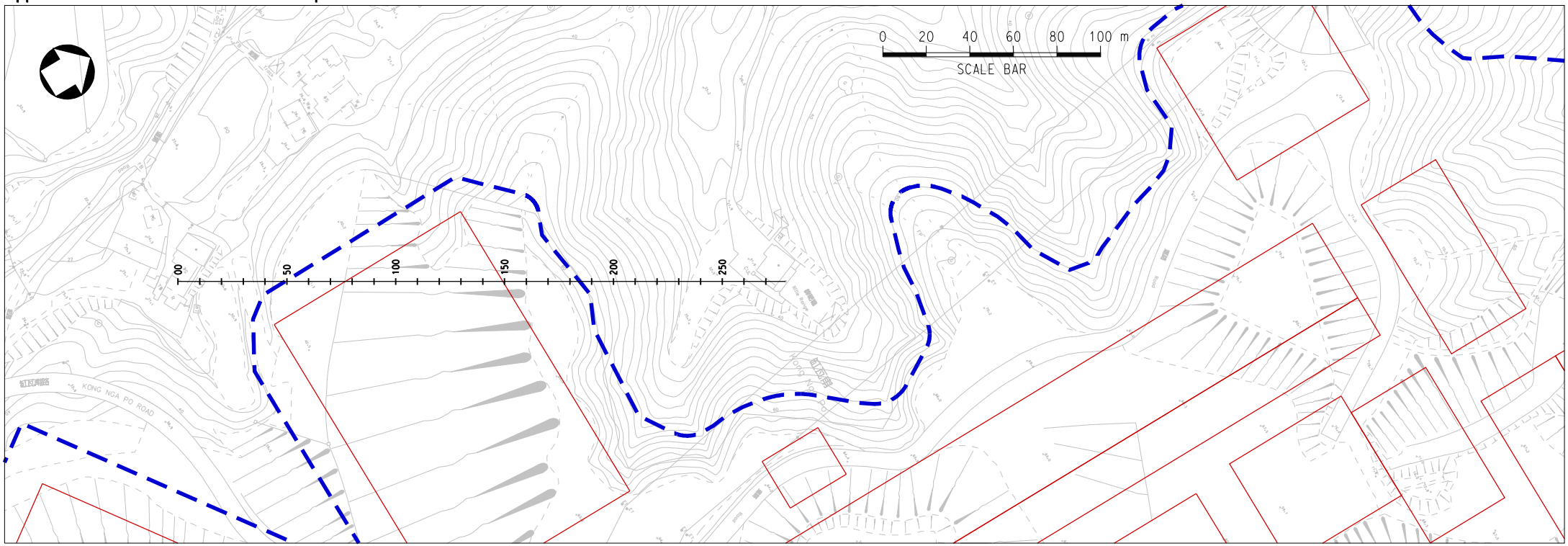


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.849		
10.000	30.722		
20.000	30.791		
30.000	33.107		
40.000	36.484		
50.000	40.421		
60.000	42.882	52.003	
70.000	44.263	52.008	
80.000	45.647	52.013	
90.000	48.171	52.018	
100.000	49.700	52.023	
110.000	51.063	52.028	
120.000	53.677	52.033	
130.000	55.905	52.038	
140.000	57.460	52.043	
150.000	59.339	52.048	
160.000	61.168	52.052	
170.000	62.925	52.057	
180.000	64.475	52.062	
190.000	63.782	52.117	
200.000	60.723	55.301	
210.000	56.154		
220.000	49.577		
230.000	48.320		
240.000	51.708		
250.000	53.627		
260.000	60.064		
270.000	65.504	62.593	
280.000	65.966	62.132	
290.000	64.692	62.000	
300.000	64.132	62.000	
300.040	64.131	62.000	

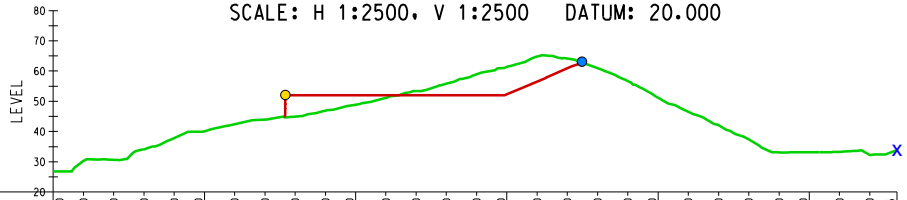
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT



N10b-SUL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

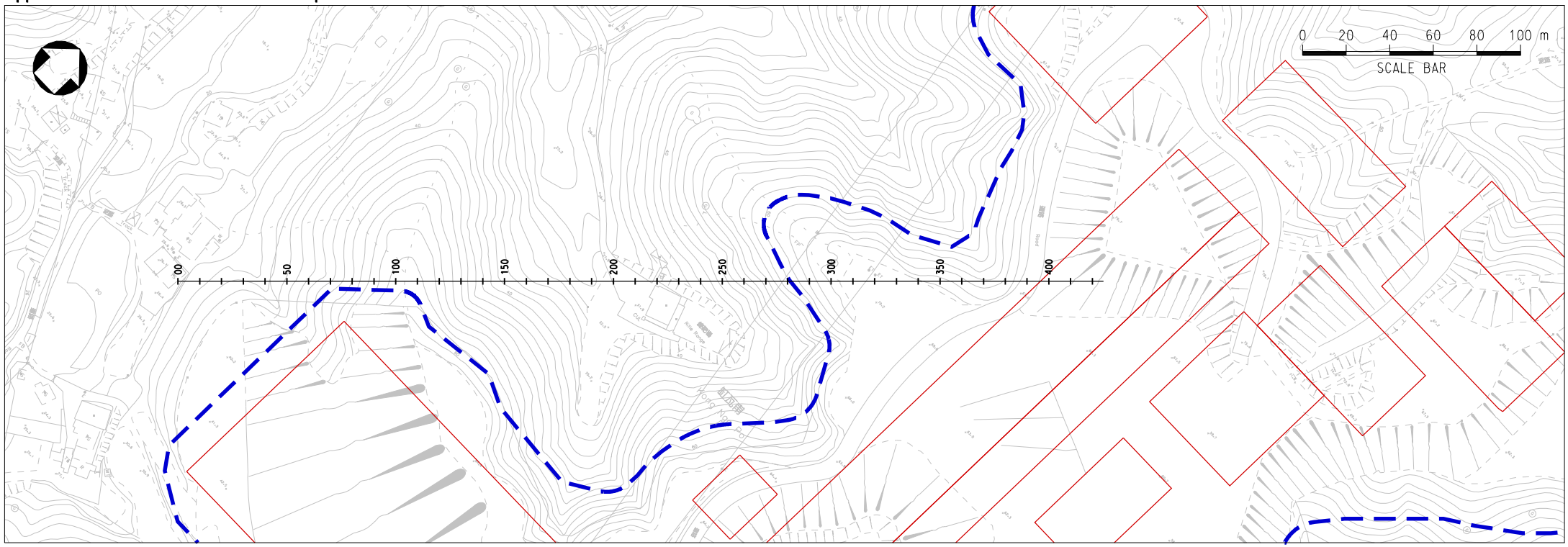


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.849		
10.000	30.242		
20.000	30.619		
30.000	34.097		
40.000	37.825		
50.000	40.027		
60.000	42.412		
70.000	43.939		
80.000	44.932	52.001	
90.000	46.938	52.005	
100.000	48.877	52.008	
110.000	51.085	52.011	
120.000	53.401	52.015	
130.000	55.823	52.018	
140.000	58.913	52.022	
150.000	61.346	52.357	
160.000	64.837	56.522	
170.000	64.148	60.884	
180.000	60.937		
190.000	56.684		
200.000	51.173		
210.000	46.567		
220.000	42.127		
230.000	37.375		
240.000	33.102		
250.000	33.176		
260.000	33.266		
270.000	32.312		
279.055	33.835		

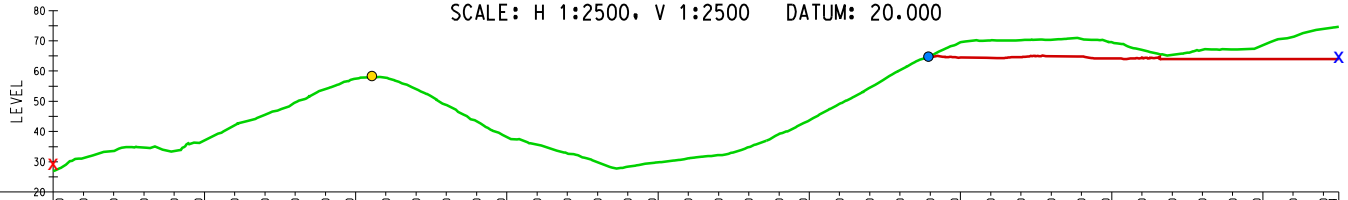
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT



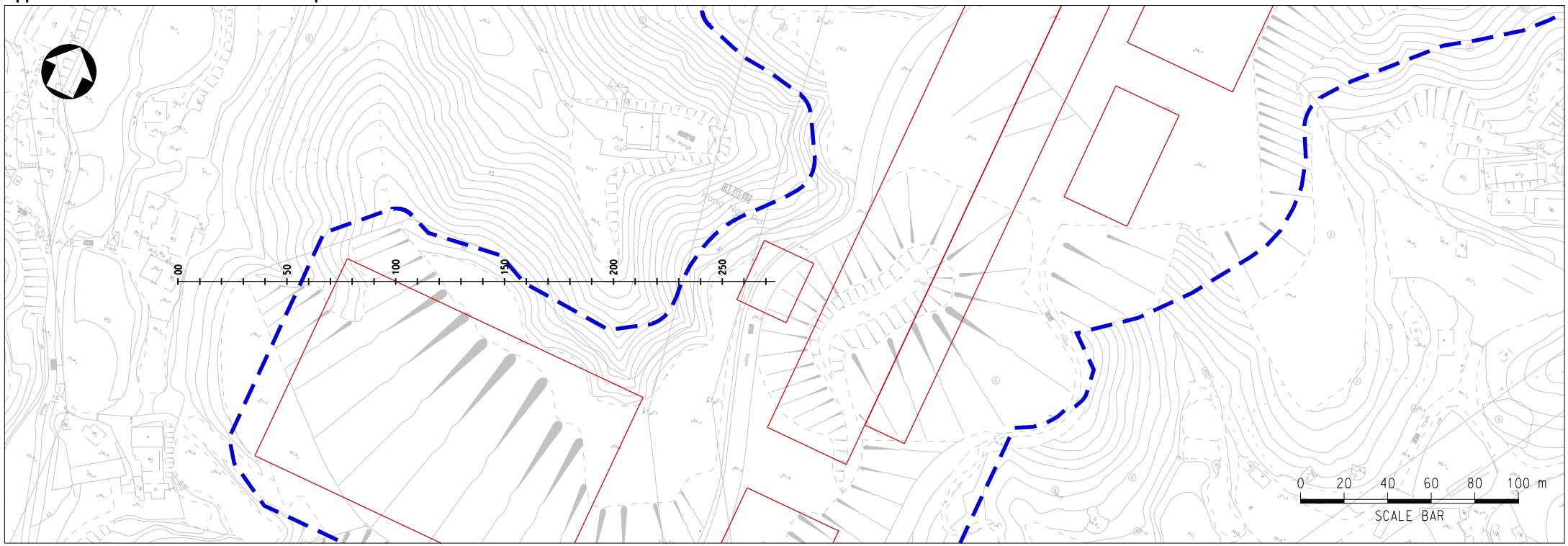
N11a-LW - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000



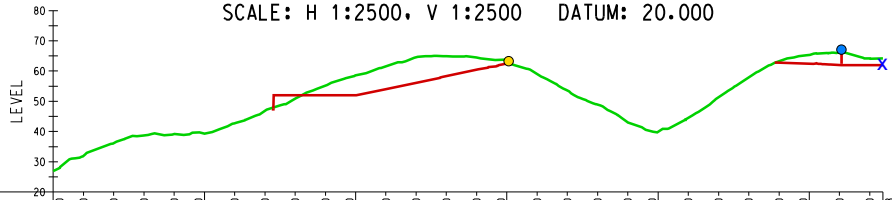
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.859		
10.000	31.214		
20.000	33.591		
30.000	34.702		
40.000	33.532		
50.000	37.063		
60.000	42.071		
70.000	45.579		
80.000	49.617		
90.000	54.031		
100.000	57.495		
110.000	57.796		
120.000	54.005		
130.000	48.781		
140.000	43.359		
150.000	38.217		
160.000	35.689		
170.000	32.772		
180.000	29.833		
190.000	28.418		
200.000	29.808		
210.000	31.118		
220.000	32.173		
230.000	34.844		
240.000	39.209		
250.000	43.676		
260.000	49.148		
270.000	54.472		
280.000	60.319		
290.000	64.993	64.662	
300.000	69.483	64.510	
310.000	70.160	64.351	
320.000	70.246	64.635	
330.000	70.331	64.922	
340.000	70.648	64.793	
350.000	69.592	64.161	
360.000	67.007	64.258	
370.000	65.344	64.000	
380.000	67.048	64.000	
390.000	61.123	64.000	
400.000	68.538	64.000	
410.000	71.276	64.000	
420.000	73.892	64.000	
425.084	74.673	64.000	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- NSR (29.9 mPD)



N11a-MTL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

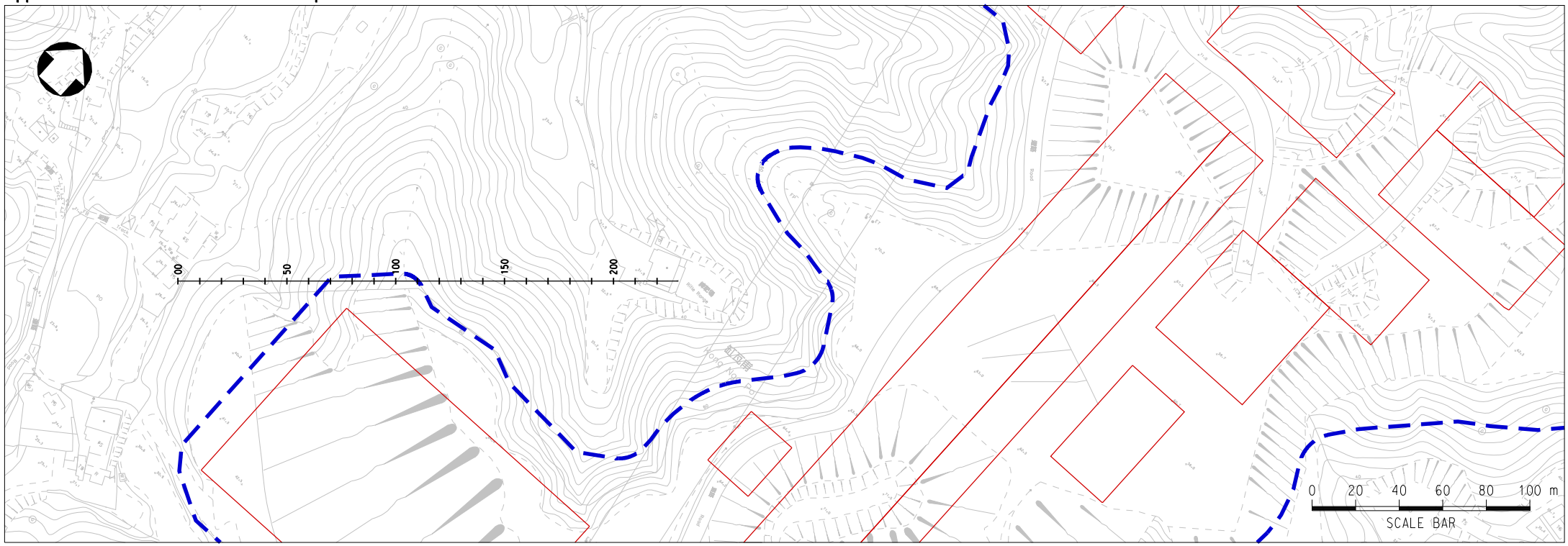


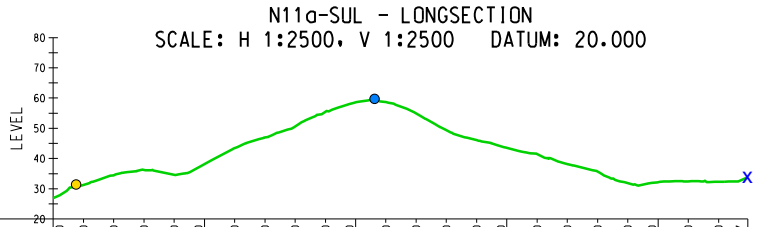
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	26.859		
10.000	31.914		
20.000	36.172		
30.000	38.693		
40.000	39.138		
50.000	39.364		
60.000	42.740		
70.000	46.816		
80.000	50.866	52.004	
90.000	55.225	52.010	
100.000	58.531	52.022	
110.000	61.576	54.007	
120.000	64.508	56.113	
130.000	64.914	58.302	
140.000	64.453	60.451	
150.000	63.089	62.527	
160.000	59.027		
170.000	53.534		
180.000	48.876		
190.000	43.052		
200.000	39.880		
210.000	44.471		
220.000	51.388		
230.000	57.931		
240.000	63.265	62.794	
250.000	65.359	62.463	
260.000	66.056	62.029	
270.000	64.135	62.000	
274.368	64.131	62.000	

LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT





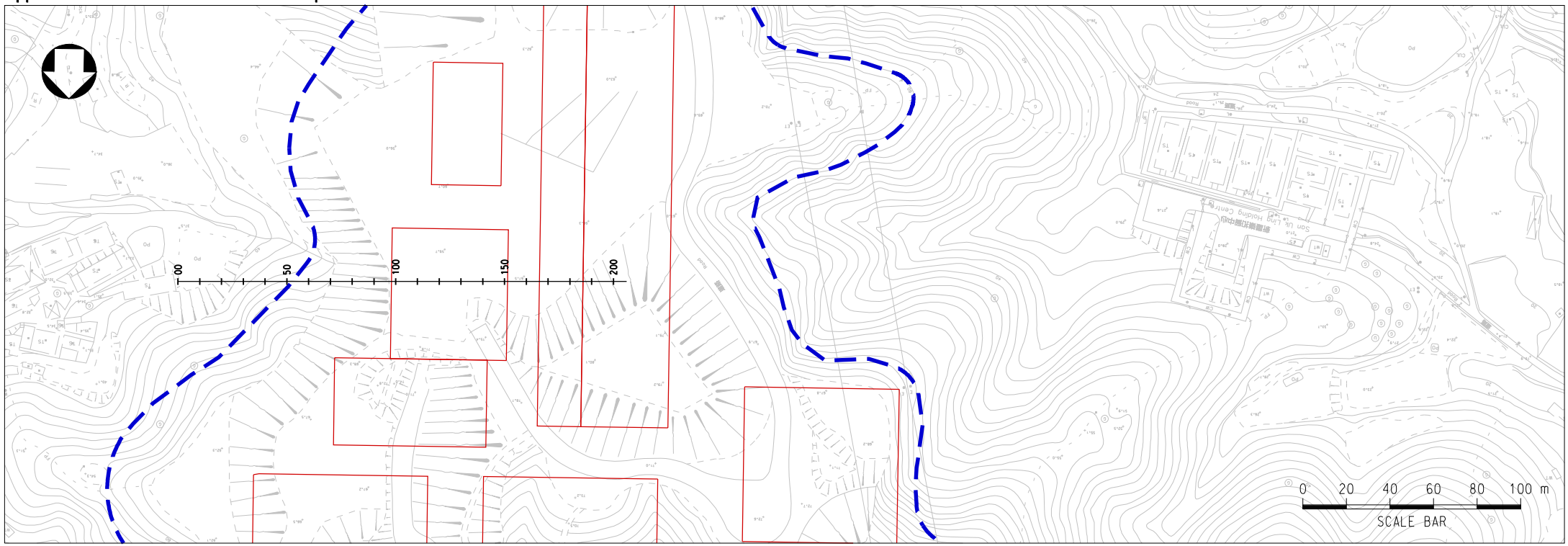
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	229.727
EXISTING LEVELS	26.859	31.265	34.482	36.211	34.673	38.131	43.473	46.924	50.586	55.492	58.608	58.661	54.954	49.326	46.060	43.499	41.478	38.154	35.672	31.822	32.155	32.464	32.312	33.835
PROPOSED LEVELS																								
HORIZONTAL GEOMETRY																								

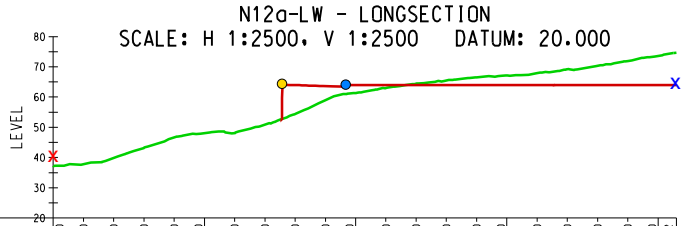
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT

Appendix 4.8 Fixed Noise Sources Impact Assessment





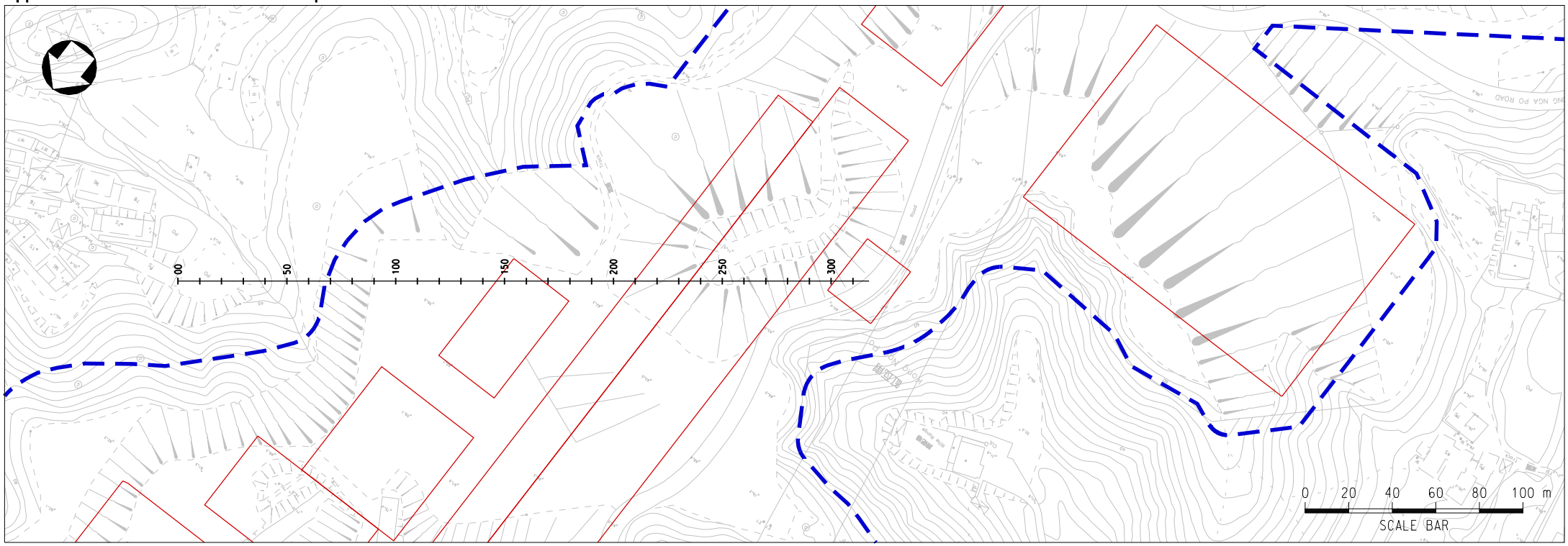
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	206.042
EXISTING LEVELS	37.234	37.772	39.866	43.216	46.649	48.061	48.097	50.863	54.418	58.906	61.318	62.996	64.394	65.480	66.488	67.132	67.888	69.175	70.352	71.893	73.611	74.673
PROPOSED LEVELS									63.958	63.597	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000
HORIZONTAL GEOMETRY																						

LEGEND:

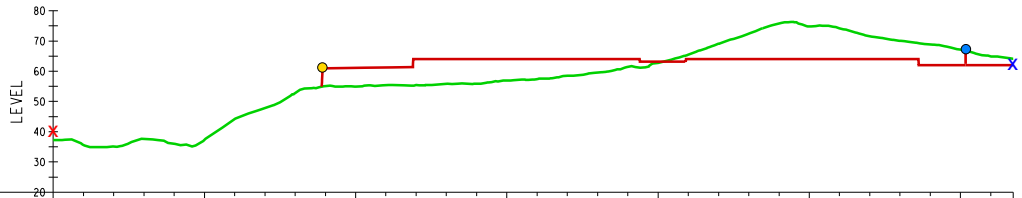
EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT

NSR (40.3 mPD)



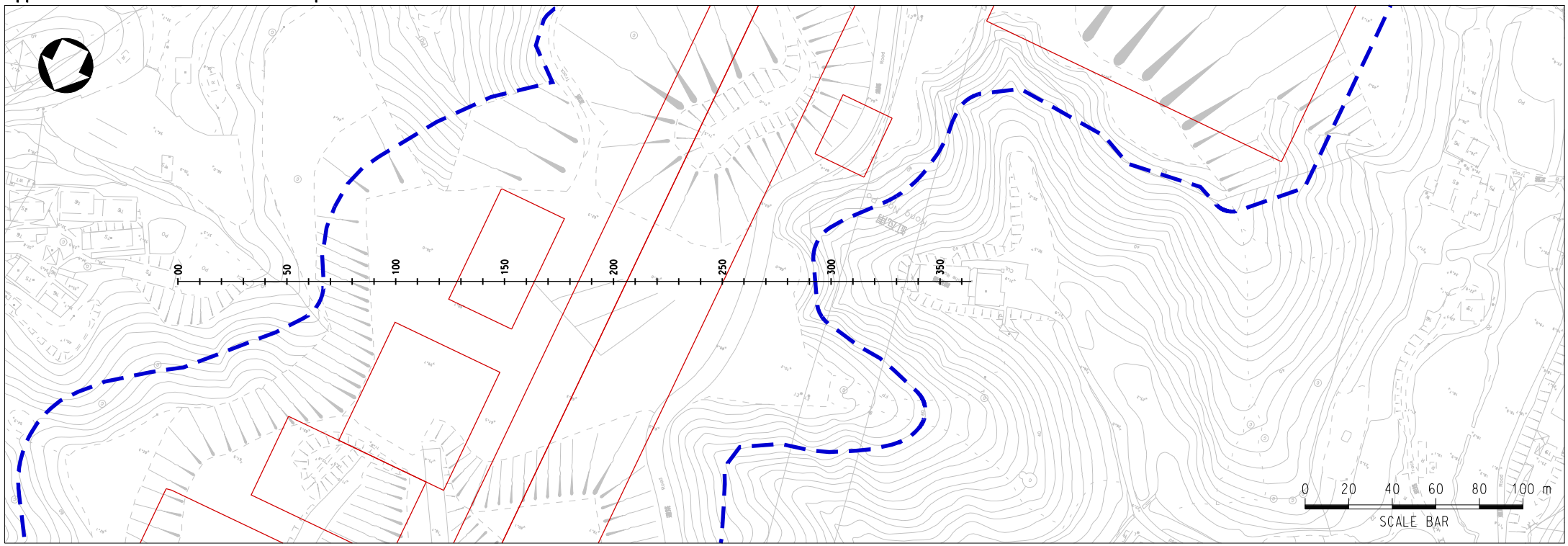
N12a-MTL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

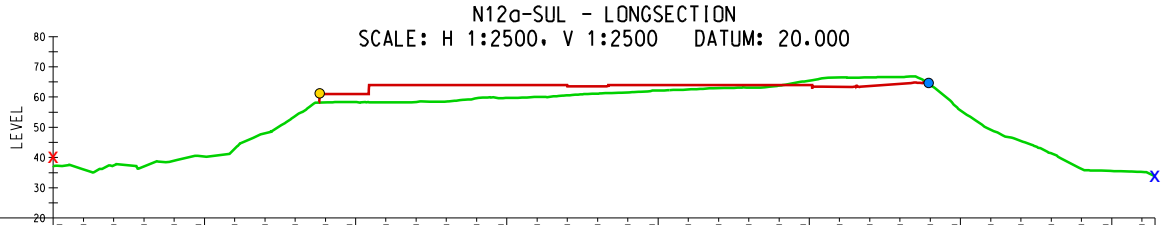


CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	317.428
EXISTING LEVELS	37.234	35.620	35.140	37.577	35.986	37.324	44.140	47.816	52.738	55.068	54.894	55.384	55.407	55.794	55.867	56.978	57.410	58.525	59.555	61.401	62.794	65.473	69.080	72.416	75.812	74.844	74.185	71.586	70.044	68.861	67.127	64.913	64.131
PROPOSED LEVELS										61.005	61.132	61.299	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	63.187	64.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	62.000	62.000	62.000	62.000
HORIZONTAL GEOMETRY																																	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (40.3 mPD)
- x NOISE SOURCE
- B1
- B2

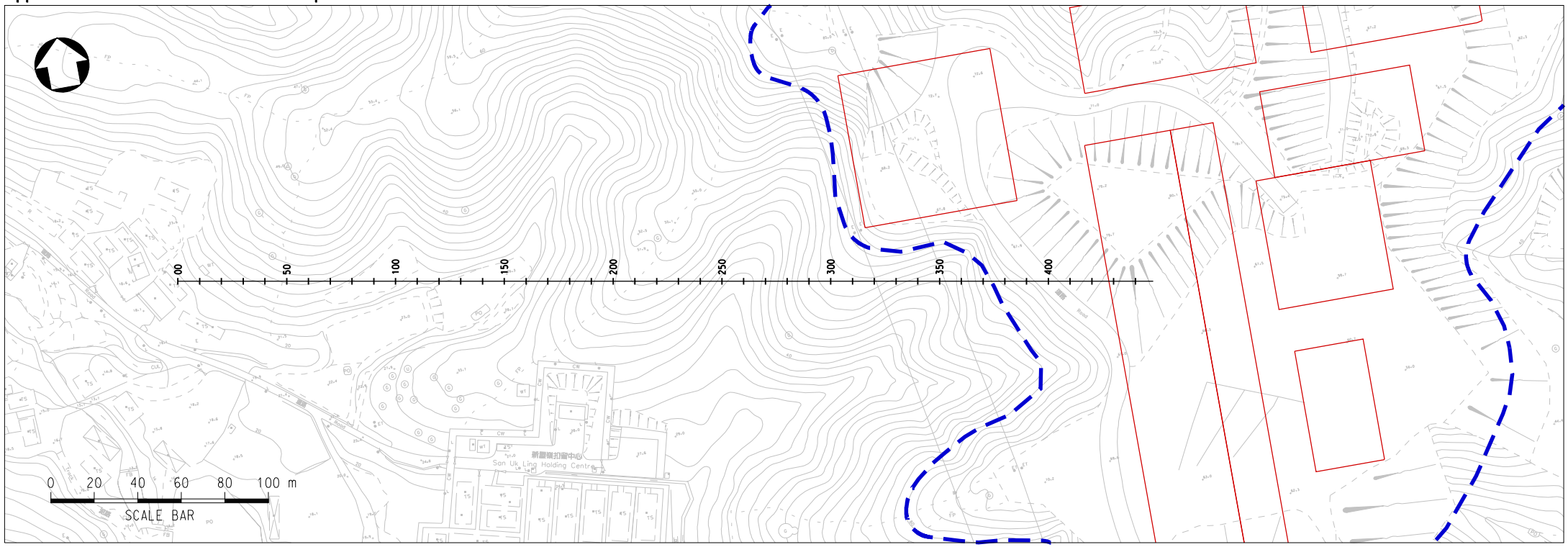




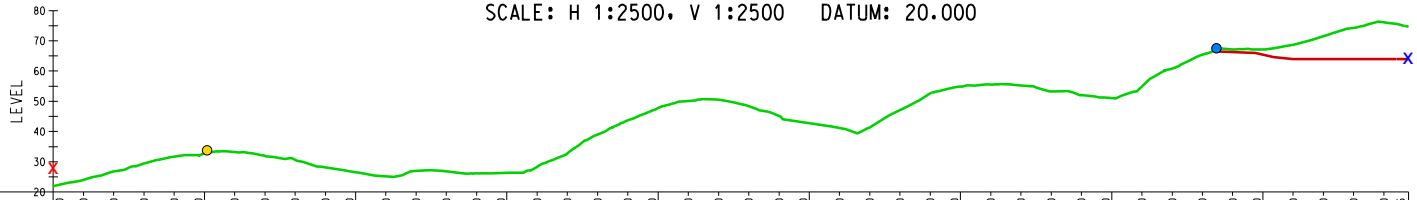
CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	364.314
EXISTING LEVELS	37.234	36.018	37.362	37.011	38.957	40.316	42.950	47.999	53.741	58.252	58.368	58.301	58.330	58.538	59.624	59.686	60.018	60.545	61.142	61.541	62.166	62.472	62.983	63.128	63.759	65.411	66.484	66.545	66.647	64.018	55.554	49.159	45.455	41.409	36.269	35.554	35.249	33.835
PROPOSED LEVELS										61.000	61.000	64.000	64.000	64.000	64.000	64.000	64.000	64.000	63.559	64.000	64.000	64.000	64.000	64.000	64.000	64.000	63.402	63.616	64.372									
HORIZONTAL GEOMETRY																																						

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (40.3 mPD)
- x NOISE SOURCE
- B1
- B2



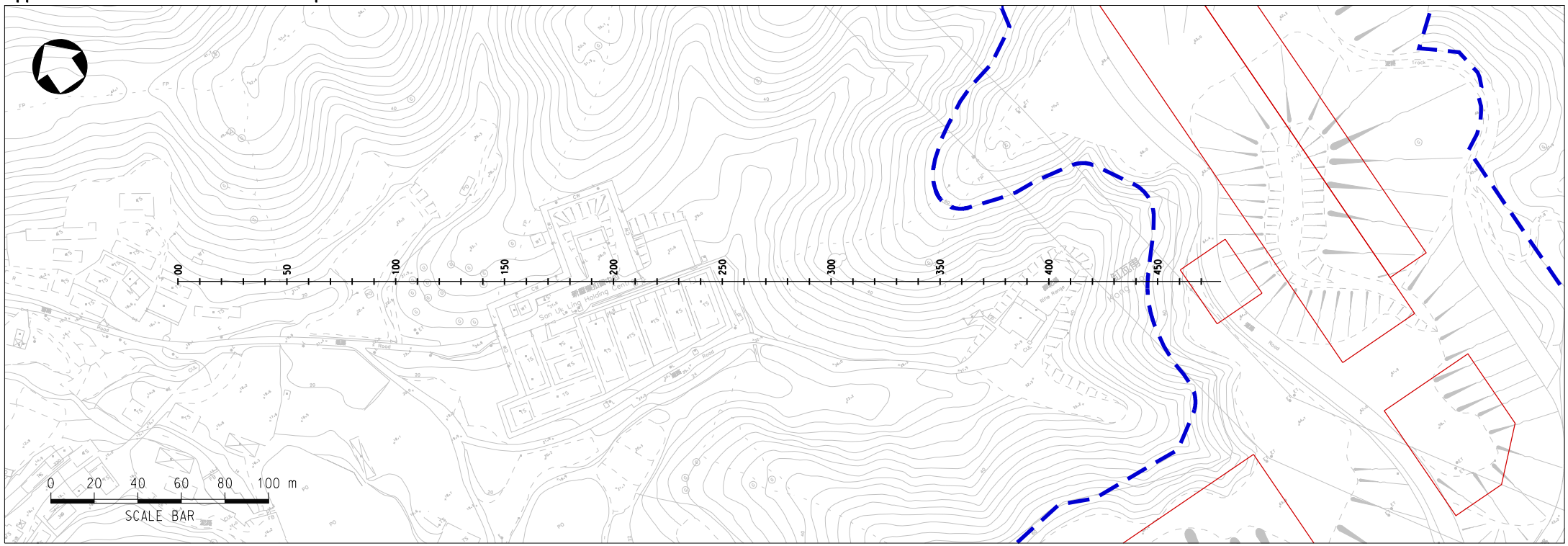
N13-LW - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000



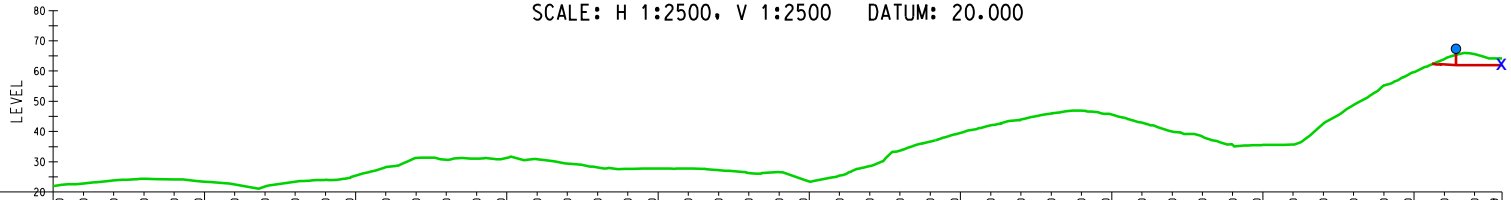
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	21.963		
10.000	24.039		
20.000	26.815		
30.000	29.417		
40.000	31.704		
50.000	32.855		
60.000	33.185		
70.000	31.956		
80.000	30.613		
90.000	28.145		
100.000	26.565		
110.000	25.136		
120.000	26.956		
130.000	26.864		
140.000	26.134		
150.000	26.337		
160.000	28.345		
170.000	32.781		
180.000	39.013		
190.000	43.675		
200.000	47.757		
210.000	50.109		
220.000	50.518		
230.000	48.353		
240.000	45.108		
250.000	42.786		
260.000	41.182		
270.000	41.346		
280.000	47.042		
290.000	52.586		
300.000	54.839		
310.000	55.495		
320.000	55.238		
330.000	53.285		
340.000	52.026		
350.000	51.087		
360.000	54.949		
370.000	60.799		
380.000	65.427		
390.000	67.179	66.276	
400.000	67.140	65.451	
410.000	68.729	64.000	
420.000	71.543	64.000	
430.000	74.272	64.000	
440.000	76.154	64.000	
448.126	74.673	64.000	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- NSR (28.0 mPD)



N13-MTL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

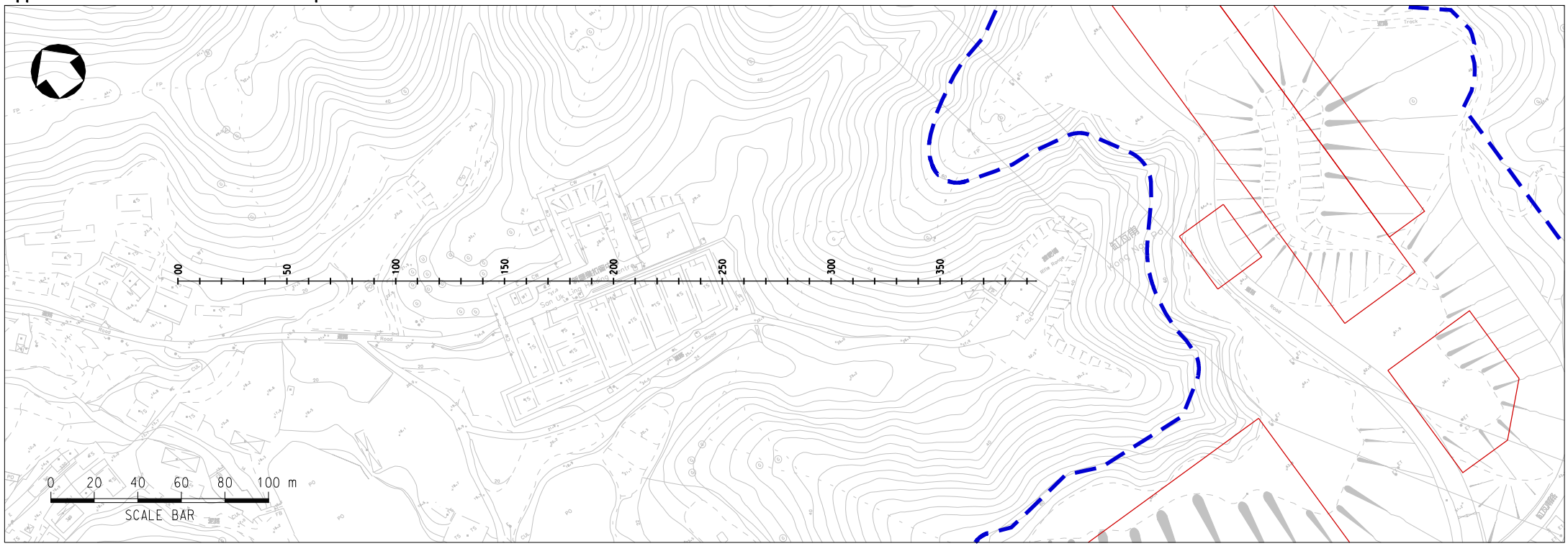


CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000	470.000	479.119
EXISTING LEVELS	21.963	22.826	23.838	24.394	24.165	23.450	22.490	21.801	23.353	24.004	25.434	28.283	31.275	30.702	31.087	31.305	30.884	29.360	28.133	27.663	27.751	27.744	27.242	26.312	26.567	23.531	25.409	28.562	33.704	36.685	39.556	42.035	43.925	45.963	46.875	45.663	42.951	39.987	38.339	35.536	35.550	35.662	42.589	48.777	55.226	59.642	63.954	65.584	64.131
PROPOSED LEVELS																																															62.191	62.000	62.000
HORIZONTAL GEOMETRY																																																	

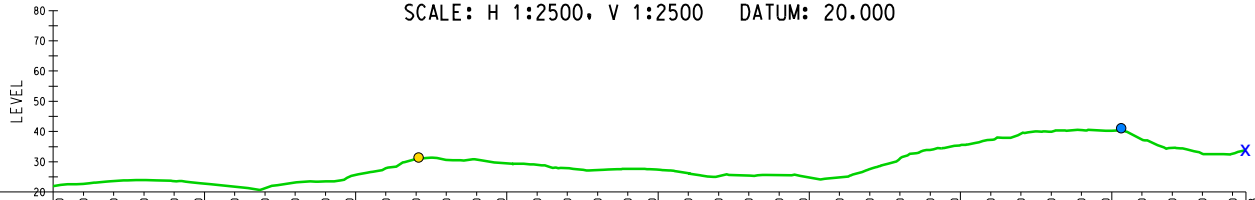
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT



N13-SUL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 20.000

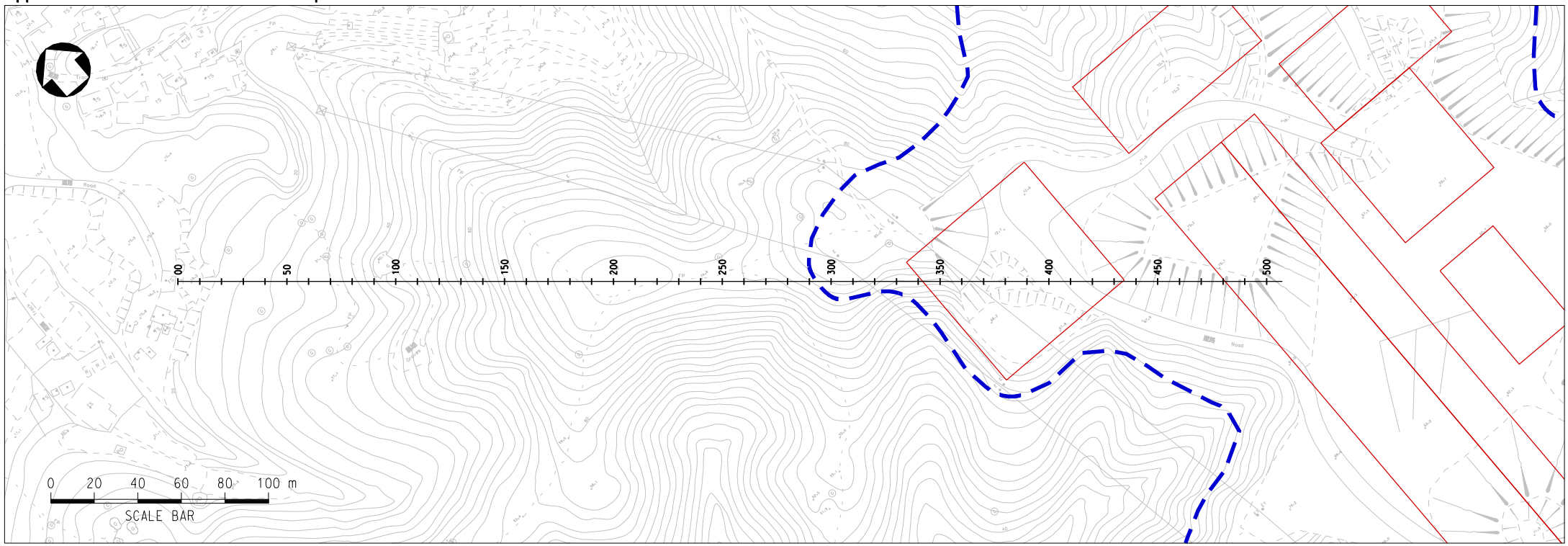


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	21.963		
10.000	22.729		
20.000	23.614		
30.000	23.994		
40.000	23.619		
50.000	22.740		
60.000	21.781		
70.000	21.211		
80.000	23.119		
90.000	23.551		
100.000	25.697		
110.000	27.838		
120.000	30.891		
130.000	30.607		
140.000	30.729		
150.000	29.449		
160.000	28.961		
170.000	27.924		
180.000	27.264		
190.000	27.655		
200.000	27.395		
210.000	26.183		
220.000	25.196		
230.000	25.481		
240.000	25.604		
250.000	24.797		
260.000	24.840		
270.000	27.592		
280.000	31.068		
290.000	33.890		
300.000	35.473		
310.000	37.212		
320.000	39.293		
330.000	39.910		
340.000	40.467		
350.000	40.281		
360.000	37.349		
370.000	34.571		
380.000	32.628		
390.000	32.677		
394.388	33.835		

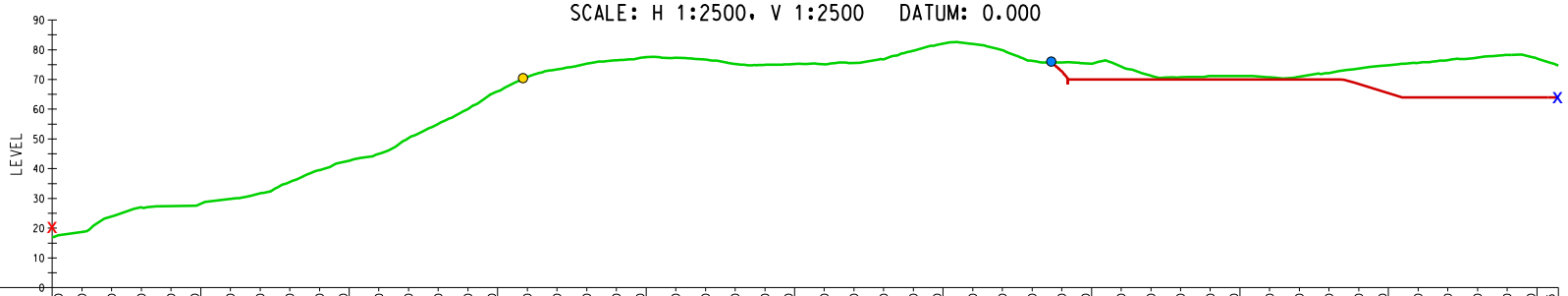
LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT



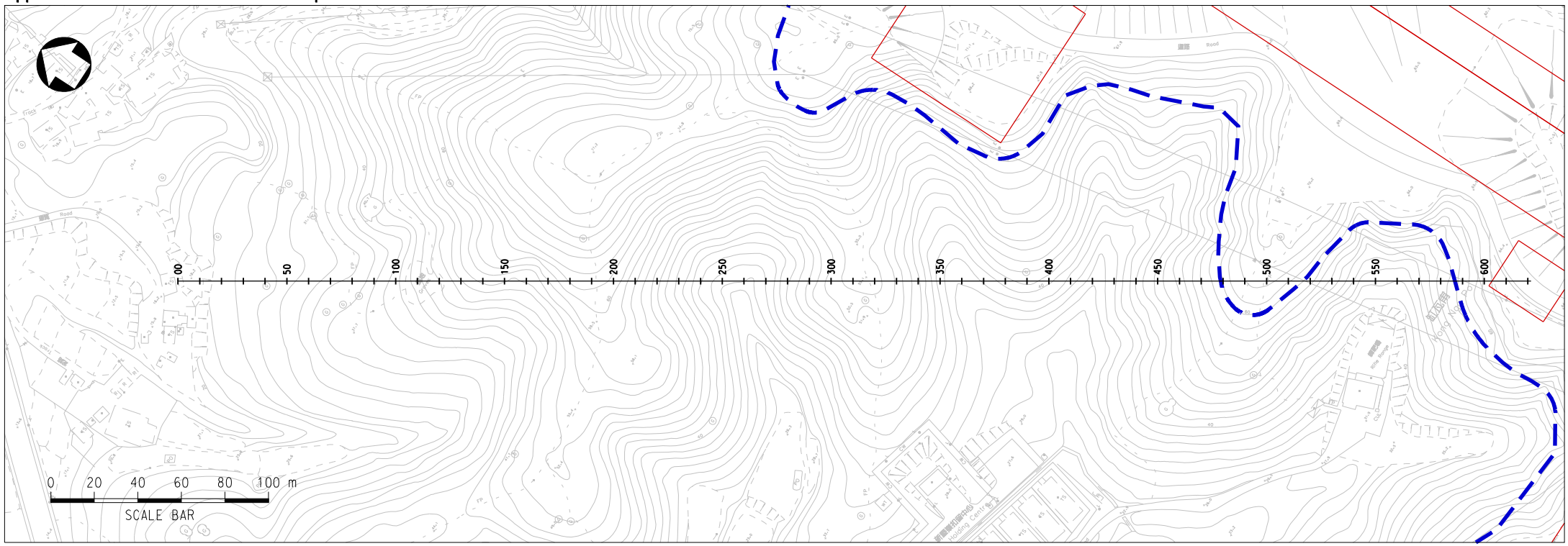
N14-LW - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 0.000

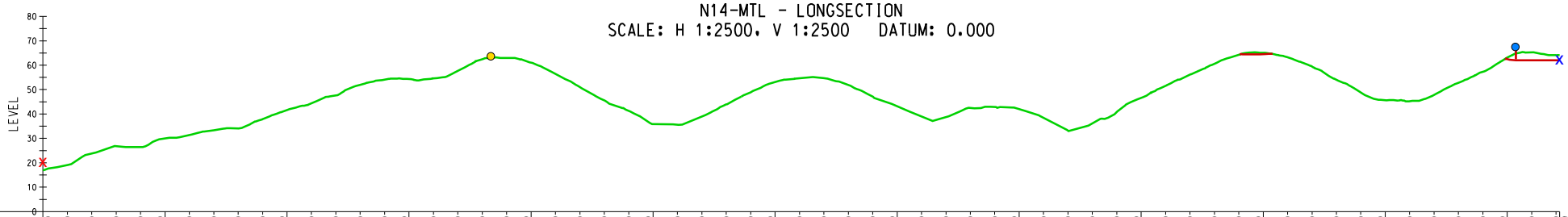


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	16.909		
10.000	18.747		
20.000	23.893		
30.000	26.956		
40.000	27.423		
50.000	28.185		
60.000	29.827		
70.000	31.763		
80.000	35.490		
90.000	39.524		
100.000	42.709		
110.000	44.992		
120.000	50.305		
130.000	55.066		
140.000	60.050		
150.000	65.993		
160.000	70.830		
170.000	73.393		
180.000	75.299		
190.000	76.487		
200.000	77.503		
210.000	77.297		
220.000	76.718		
230.000	75.212		
240.000	74.929		
250.000	75.172		
260.000	75.117		
270.000	75.567		
280.000	76.744		
290.000	79.652		
300.000	82.049		
310.000	81.943		
320.000	79.870		
330.000	76.260		
340.000	75.675	72.685	
350.000	75.323	70.000	
360.000	74.350	70.000	
370.000	71.228	70.000	
380.000	70.740	70.000	
390.000	71.153	70.000	
400.000	71.200	70.000	
410.000	70.722	70.000	
420.000	70.953	70.000	
430.000	72.147	70.000	
440.000	73.666	68.497	
450.000	74.776	65.414	
460.000	75.600	64.000	
470.000	76.497	64.000	
480.000	77.373	64.000	
490.000	78.226	64.000	
500.000	77.048	64.000	
507.275	74.673	64.000	

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (20.3 mPD)
- x NOISE SOURCE
- B1
- B2



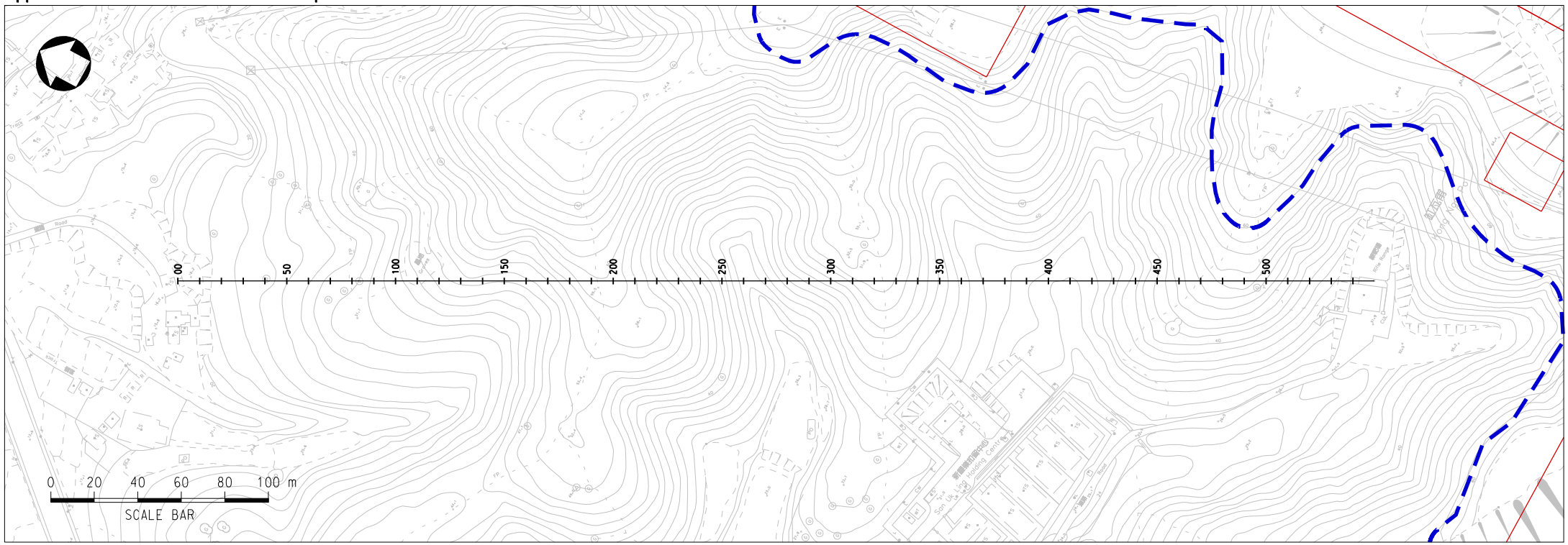


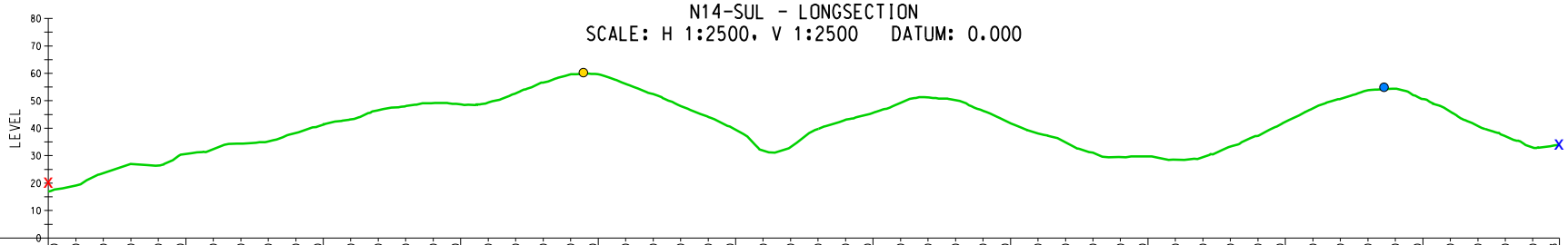
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS
00.000	16.909	
10.000	19.061	
20.000	23.811	
30.000	26.777	
40.000	26.449	
50.000	30.009	
60.000	31.376	
70.000	33.309	
80.000	34.027	
90.000	37.860	
100.000	41.638	
110.000	44.338	
120.000	47.625	
130.000	51.970	
140.000	54.084	
150.000	54.319	
160.000	54.591	
170.000	57.657	
180.000	62.481	
190.000	62.999	
200.000	60.996	
210.000	56.418	
220.000	51.035	
230.000	45.588	
240.000	41.278	
250.000	35.829	
260.000	35.575	
270.000	38.929	
280.000	43.918	
290.000	48.922	
300.000	53.071	
310.000	54.648	
320.000	54.714	
330.000	51.878	
340.000	47.088	
350.000	43.219	
360.000	38.993	
370.000	38.718	
380.000	42.457	
390.000	42.872	
400.000	41.993	
410.000	38.384	
420.000	33.203	
430.000	36.099	
440.000	40.827	
450.000	46.649	
460.000	51.516	
470.000	56.129	
480.000	60.572	
490.000	64.312	
500.000	65.035	64.526
510.000	63.236	
520.000	59.447	
530.000	53.978	
540.000	48.850	
550.000	45.653	
560.000	45.218	
570.000	47.835	
580.000	52.816	
590.000	57.301	
600.000	63.142	62.485
610.000	65.307	62.000
620.000	64.129	62.000
621.449	64.131	62.000

HORIZONTAL GEOMETRY

LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (20.3 mPD)
- x NOISE SOURCE
- B1
- B2



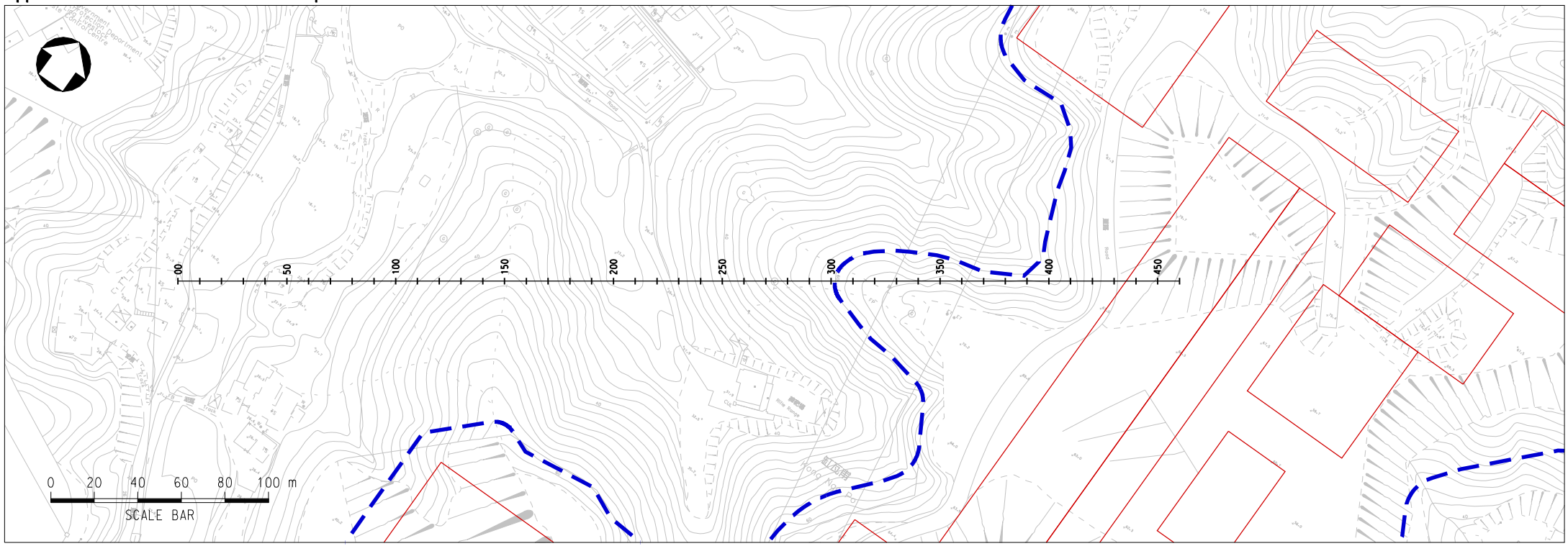


CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	16.909		
10.000	19.124		
20.000	23.639		
30.000	26.940		
40.000	26.391		
50.000	30.564		
60.000	32.396		
70.000	34.340		
80.000	35.173		
90.000	38.281		
100.000	41.340		
110.000	43.195		
120.000	46.496		
130.000	48.044		
140.000	49.149		
150.000	48.646		
160.000	49.368		
170.000	52.682		
180.000	56.639		
190.000	59.636		
200.000	59.681		
210.000	56.116		
220.000	52.474		
230.000	48.089		
240.000	44.142		
250.000	39.425		
260.000	31.852		
270.000	33.120		
280.000	39.774		
290.000	43.052		
300.000	45.611		
310.000	49.245		
320.000	51.229		
330.000	50.226		
340.000	46.354		
350.000	41.825		
360.000	38.056		
370.000	34.839		
380.000	31.080		
390.000	29.472		
400.000	29.741		
410.000	28.496		
420.000	29.458		
430.000	33.318		
440.000	37.222		
450.000	42.323		
460.000	47.245		
470.000	50.661		
480.000	53.818		
490.000	54.380		
500.000	50.662		
510.000	46.033		
520.000	40.836		
530.000	37.053		
540.000	33.001		
549.673	33.835		

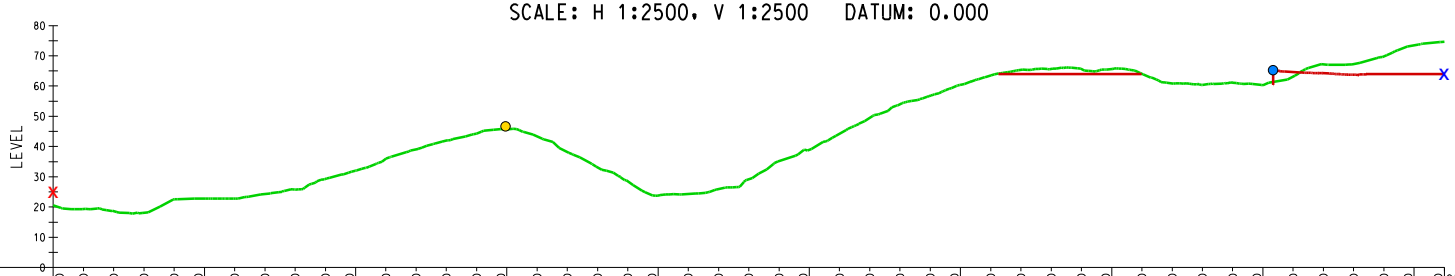
LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (20.3 mPD)
- x NOISE SOURCE
- ●
- ●

Appendix 4.8 Fixed Noise Sources Impact Assessment



N15-LW - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 0.000

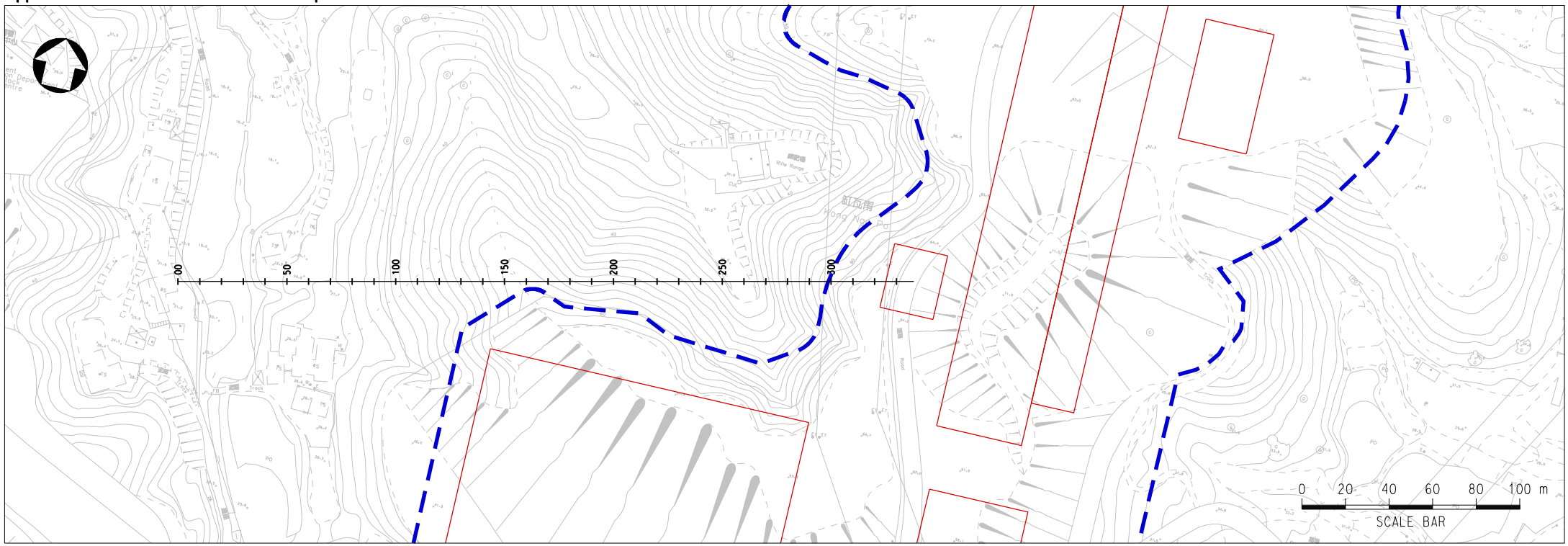


CHAINAGE	00.000	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	320.000	330.000	340.000	350.000	360.000	370.000	380.000	390.000	400.000	410.000	420.000	430.000	440.000	450.000	460.000	460.042
EXISTING LEVELS	20.520	19.338	18.611	18.058	22.532	22.789	22.798	24.312	25.778	29.301	32.020	35.949	39.085	41.983	44.301	45.685	43.341	38.162	33.137	28.518	23.781	24.305	25.877	29.204	35.144	38.856	44.191	49.510	53.988	56.813	60.440	63.473	65.340	65.657	65.638	65.636	64.036	60.876	60.405	61.088	60.282	63.154	67.188	67.290	69.841	73.444	74.669	74.613
PROPOSED LEVELS																																	64.000	64.000	64.000	64.000						64.636	64.250	63.737	64.000	64.000	64.000	64.000
HORIZONTAL GEOMETRY																																																

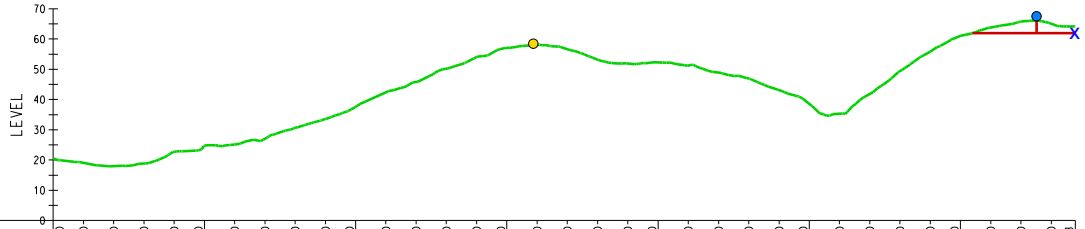
LEGEND:

- EXISTING GROUND PROFILE
- GROUND PROFILE OF PROPOSED DEVELOPMENT
- x NSR (24.9 mPD)

Appendix 4.8 Fixed Noise Sources Impact Assessment



N15-MTL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 0.000



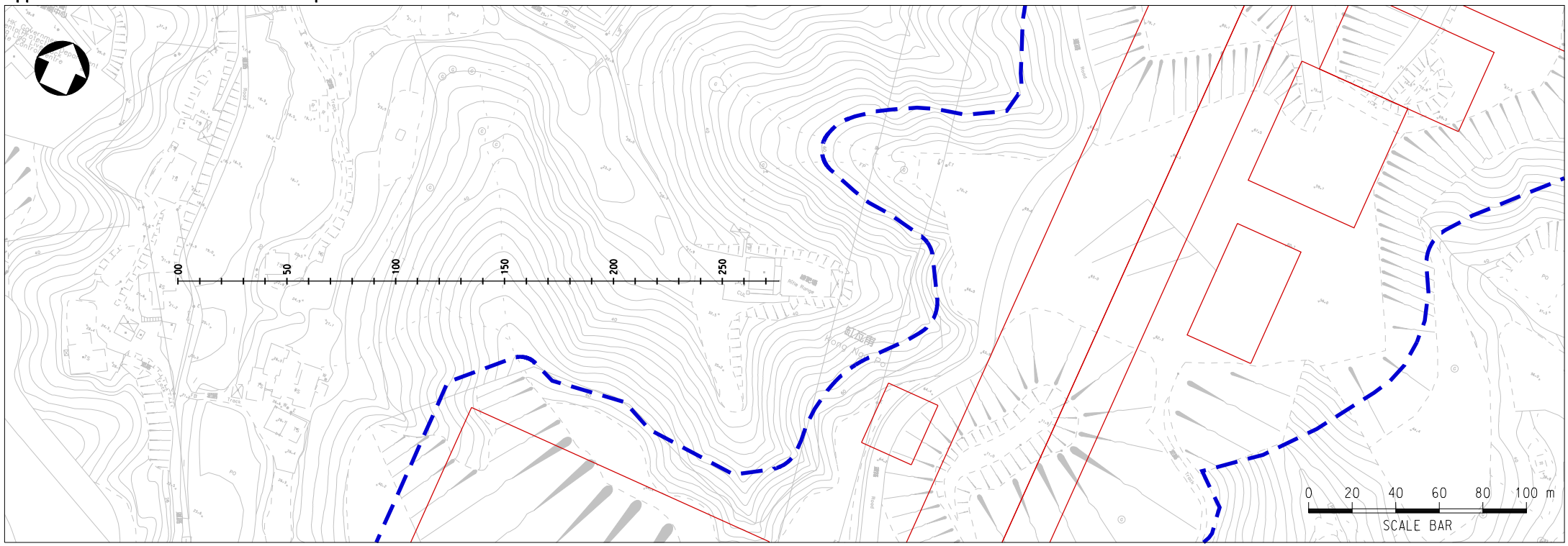
CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	20.520		
10.000	19.065		
20.000	17.960		
30.000	18.837		
40.000	22.669		
50.000	24.755		
60.000	25.105		
70.000	27.029		
80.000	30.627		
90.000	33.563		
100.000	37.558		
110.000	42.375		
120.000	45.775		
130.000	50.215		
140.000	54.106		
150.000	57.072		
160.000	58.077		
170.000	56.631		
180.000	53.159		
190.000	51.906		
200.000	52.253		
210.000	51.246		
220.000	48.879		
230.000	46.958		
240.000	43.128		
250.000	38.577		
260.000	35.287		
270.000	41.865		
280.000	49.422		
290.000	55.790		
300.000	61.059		
310.000	63.819	62.000	
320.000	65.797	62.000	
330.000	65.068	62.000	
337.978	64.131	62.000	

LEGEND:

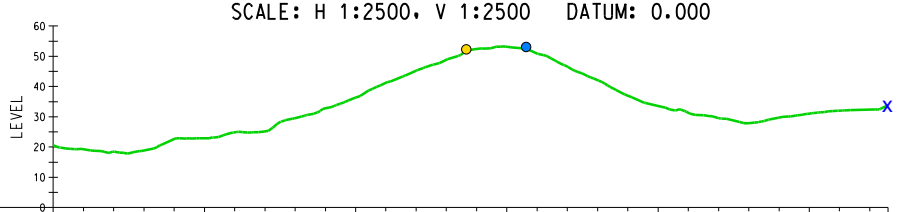
EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT

Appendix 4.8 Fixed Noise Sources Impact Assessment



N15-SUL - LONGSECTION
SCALE: H 1:2500, V 1:2500 DATUM: 0.000



CHAINAGE	EXISTING LEVELS	PROPOSED LEVELS	HORIZONTAL GEOMETRY
00.000	20.520		
10.000	19.238		
20.000	18.414		
30.000	18.848		
40.000	22.608		
50.000	22.910		
60.000	24.864		
70.000	25.188		
80.000	29.580		
90.000	32.785		
100.000	36.343		
110.000	41.240		
120.000	45.197		
130.000	48.868		
140.000	52.374		
150.000	53.163		
160.000	50.962		
170.000	46.632		
180.000	42.145		
190.000	37.015		
200.000	33.561		
210.000	31.262		
220.000	29.564		
230.000	27.868		
240.000	29.734		
250.000	31.032		
260.000	32.024		
210.000	32.389		
216.076	33.835		

LEGEND:

EXISTING GROUND PROFILE

GROUND PROFILE OF PROPOSED DEVELOPMENT