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Application No. : Reference No. : (For official use)

## FORM 5 ENVIRONMENTAL IMPACT ASSESSMENT ORDINANCE (CHAPTER 499) SECTION 13(1)

# **Application for Variation of an Environmental Permit**

### PART A PREVIOUS APPLICATIONS

No previous application for variation of an environmental permit.

The environmental permit was previously amended.

Application No. : VEP-321/2010, VEP-374/2012, VEP-443/2014, VEP-485/2015, VEP-512/2016

### PART B DETAILS OF APPLICANT

B1. Name : (person or company)	
Highways Department	
[Note : In accordance with section 13(1) of the Ordinand assumes responsibility for the designated project i	ce, the person holding an environmental permit or a person who may apply for variation of the environmental permit.]
B2. Business Registration No. : (if applicable)	
B3. Correspondence Address :	V.
B4. Name of Contact Person :	<b>B5. Position of Contact Person :</b>
B6. Telephone No. :	87. Fax No. :
B8. E-mail Address : (if any)	

### PART C DETAILS OF CURRENT ENVIRONMENTAL PERMIT

C1. Name of the C Highways Depar	urrent Environmental Permit Holder : ment
C2. Application N	o. of the Current Environmental Permit : VEP-512/2016
C3. The Current E	nvironmental Permit was issued in : month / year
	12 2016
Important Notes :	Please submit the application together with (a) 3 copies of this completed form; and (b) appropriate fee as stipulated in the Environmental Impact Assessment (Fees) Regulation to the Environmental Protection Department at the following address : The EIA Ordinance Register Office, 27th floor, Southorn Centre, 130 Hennessy Road, Wan Chai, Hong Kong.
□ Tick (✓) the approp	briate box
EPD185	20 50 70 10 10

# PART D PROPOSED VARIATIONS TO THE CONDITIONS IN CURRENT ENVIRONMENTAL PERMIT

D1.	D2.	D3.	D4.	D5.	D6.	D7.
Condition(s) in the Current Environmental Permit :	Proposed Variation(s) :	Reason for Variation(s) :	Describe the environmental changes arising from the proposed variation(s) :	Describe how the environment and the community might be affected by the proposed variation(s) :	Describe how and to what extent the environmental performance requirements set out in the EIA report previously approved or project profile previously submitted for this project may be affected :	Describe any additional measures proposed to eliminate. reduce or control any adverse environmental impact arising from the proposed variation(s) and to meet the requirements in the Technical Memorandum on Environmental Impact Assessment Process :
Condition 2.10 To mitigate traffic noise from road operations, the following noise barriers and semi-noise enclosures shall be installed before the commencement of operation of the road project unless otherwise specified in this Permit: Figure 4a: Location of Direct Noise Mitigation Measures	Condition 2.10 To mitigate traffic noise from road operations, the following noise barriers and semi- noise enclosures shall be installed before the commencement of operation of the corresponding road sections unless otherwise specified in this Permit. Figure 4a: Location of Direct Noise Mitigation Measures with a highlighted section of the proposed TTA to be implemented after CWB tunnel is opened	Please refer to the Section 2 of the attached Environmental Review Report	Please refer to the Section 3 of the attached Environmental Review Report	Please refer to the Section 3 of the attached Environmental Review Report	Please refer to the Section 3 of the attached Environmental Review Report	Please refer to the Section 3 of the attached Environmental Review Report

### PART E DECLARATION BY APPLICANT

belief. I understand information given ab	the environ ove is false, m	mental permit may be suspended isleading, wrong or incomplete.	, varied or cancelled if a
Signature of Ap	oplicant	Full Name in Block Letters	Position
			10 (5/2019
on behalf of	High	ways Department	

#### NOTES :

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- A person who constructs or operates a designated project in Part I of Schedule 2 of the Ordinance or decommissions a designated project listed in Part II of Schedule 2 of the Ordinance without an environmental permit or contrary to the permit conditions commits an offence under the Ordinance and is liable to a maximum fine of \$5,000,000 and to a maximum imprisonment for 2 years.
- A person for whom a designated project is constructed, operated or decommissioned and who permits the carrying out of the designated project in contravention of the Ordinance commits an offence and is liable to a maximum fine of \$5,000,000 and to a maximum imprisonment for 2 years.

#### Environmental Review Report for

#### Alternative Arrangement for Installation of Noise Barriers and Semi-enclosures on the Island Eastern Corridor

#### 1. Introduction

- 1.1 As stipulated in Condition 2.10 of Environmental Permit EP-364/2009/E (EP) and Further Environmental Permit FEP-07/364/2009/D (FEP), to mitigate traffic noise from road operation, the following noise barriers and semi-enclosures shall be installed before the commencement of operation of the road project unless otherwise specified in the EP and FEP:
  - (a) about 235m length of noise semi-enclosure covering the westbound slip road from the Island Eastern Corridor (IEC);
  - (b) about 230m length of noise semi-enclosure covering the main carriageways (eastbound and westbound) of the Central-Wan Chai Bypass (CWB) and IEC;
  - (c) about 135m length of 5.5m high cantilevered noise barrier with 4.5m long cantilever inclined at 45° on the eastbound slip road to the IEC;
  - (d) about 95m length of 5.5m high cantilevered noise barrier with 1m long cantilever inclined at 45° on the eastbound slip road to the IEC;
  - (e) about 350m length of 3.5m high vertical noise barrier on the eastbound slip road to the IEC; and
  - (f) about 265m length of noise semi-enclosure covering the westbound slip road from the IEC shall be installed before the occupation of planned noise sensitive receivers (NSRs) in the Comprehensive Development Areas (CDA) near Oil Street, North Point, as shown in Figures 4a and 4b of the EP and FEP.
- 1.2 Due to existing site constraint, the noise semi-enclosure between IEC westbound Pier 17 and Pier 22 (i.e. portion of noise semi-enclosure in item (a) above) cannot be installed until some of the traffic lanes are diverted to CWB tunnel after tunnel commissioning so as to allow working space for installation. Alternative arrangement consists of re-sequencing of the noise enclosure installation is therefore required to suit actual site condition.
- 1.3 This Environmental Assessment aims to identify potential environmental impact due to the alternative arrangement on the installation of noise barriers and semi-enclosures with associated environmental mitigation measures.

#### 2. Site Constraints and Alternative Arrangement on Noise Barrier / Semi-enclosure Installation

- 2.1 As mentioned in the EP, the scope of the Central Wan Chai Bypass Project includes:
  - a dual three-lane trunk road, approximately 4.5 km in length, and tunnel approximately 3.7 km in length defined from the connection with the existing Rumsey Street Flyover in Central, through to a connection with the existing Island Eastern Corridor to the east of the Causeway Bay Typhoon Shelter (CBTS);
  - (ii) the Central Interchange near the Rumsey Street Flyover to provide road connections to the Central area;
  - (iii) tunnel control buildings and ventilation buildings;
  - (iv) slip roads to connect the CWB to the local road system in the Wan Chai North and Causeway Bay area;
  - (v) associated road lighting, road signing, traffic control and surveillance system; and
  - (vi) other associated works.



- 2.2 As part of the works of the Project, noise barriers and semi-enclosures as stipulated in Condition 2.10 of the EP and FEP shall be installed before the commencement of operation of the road project.
- 2.3 As the IEC is the main traffic link between the Hong Kong Island East and Causeway Bay, due consideration shall be taken to avoid disruption to the existing traffic during the installation work of noise barriers and semi-enclosures. In view of this, temporary traffic arrangements (TTA) involving traffic lane closure on the IEC should be implemented to facilitate the installation work.
- 2.4 Amongst the required areas for noise barrier / semi-enclosure installation, the installation work along the IEC westbound at Pier 17 to Pier 22 is particularly complicated due to the limited space on the IEC. TTA involving closure of total 2 nos. traffic lanes will be required for such installation.
- 2.5 As the installation work requires closure of 2 traffic lanes at this location, the IEC westbound traffic towards Hing Fat Street and Victoria Park Road will be seriously affected prior to the commissioning of the CWB tunnel. Approval could not be granted from the Traffic Management Liaison Group (TMLG) members including Transport Department and Hong Kong Police Force based on such proposed traffic lane closure. The installation work can be carried out only after the commissioning of CWB tunnel which some of the road traffic will be diverted to the CWB tunnel to allow buffer for traffic lane closure on the IEC westbound.
- 2.6 Temporary Traffic Arrangement (TTA) at the concerned road sections between Piers 17 and 22 will be implemented after the CWB tunnel is opened due to traffic constraint (refer to **Figure 4a** in **Appendix 1**)
- 2.7 Due to above site constraint, the noise semi-enclosure between IEC westbound Pier 17 and Pier 22 (i.e. portion of noise semi-enclosure in item (a) of Condition 2.10 of the EP and FEP) will have to be installed until some of the traffic is diverted to the CWB tunnel after tunnel commissioning so as to allow working space for installation.

#### 3. Potential Noise Impacts and Proposed Environmental Mitigation Measures

- 3.1 As mentioned in Section 2.6 above, the noise semi-enclosure between IEC westbound Pier 17 and Pier 22 (i.e. portion of noise semi-enclosure in item (a) of Condition 2.10 of the EP and FEP) will have to be installed until some of the traffic is diverted to the CWB tunnel after tunnel commissioning so as to allow working space for installation.
- 3.2 The remaining section of noise semi-enclosure between IEC westbound Pier 17 and Pier 22 will be completed as soon as possible after granting the approval from the TMLG members including Transport Department and Hong Kong Police Force on the traffic lane closure after CWB tunnel commissioning. Please refer to the attached works programme for the installation of noise semi-enclosure between IEC westbound Pier 17 and Pier 22 (**Appendix 3**).
- 3.3 To mitigate the construction noise impact for the installation of the remaining permanent noise semienclosures due to the incomplete noise semi-enclosure between IEC westbound Pier 17 and Pier 22, a 3.5m high vertical noise barrier with PMMA panels with same specification as the noise barriers in item (a) of Condition 2.10 of the EP and FEP will be installed along the edge of IEC Pier 17 to Pier 22 as temporary noise mitigation measures (refer to **Figures a** and **b** in **Appendix 1**) prior to the commencement work of above construction work.
- 3.4 An updated noise assessment of cumulative impacts due to construction work with reference to (i) Appendix 4.13 Powered Mechanical Equipment (PME) for the Different Construction Tasks during Normal Daytime Working Hours (with Mitigation Measures), and (ii) Appendix 4.14 Calculations and Results of Construction Noise Impacts During Normal Daytime Working Hour (with Mitigation Measures) of approved EIA report has been carried out (refer to **Appendix 2**). It is noted that the predicted cumulative construction noise level complies with the construction noise criteria, which is below 75dB(A) with the temporary noise mitigation measures properly in place.

- 3.5 In addition to the 3.5m high vertical noise barrier with PMMA panels with same specification as the noise barriers in item (a) of Condition 2.10 of the EP and FEP will be installed along the edge of IEC Pier 17 to Pier 22 as temporary noise mitigation measures, all practicable noise mitigation measures will be implemented if necessary to minimize the construction noise impact to nearby residents.
- 3.6 The proposed construction equipment list in **Appendix 2** is confirmed to be realistic, practical and practicable in completing the installation works of noise semi-enclosure between Pier 17 and 22 within the proposed schedule.

#### 4. Conclusion

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4.1 With the temporary 3.5m high vertical noise barrier with PMMA panels placed as indicated in **Figures a** and b in **Appendix 1**, the construction noise arises from the installation of noise semi-enclosure between IEC westbound Pier 17 and Pier 22 complies with the construction noise criteria (75dB(A)).

Reference:

Technical Memorandum on Environmental Impact Assessment Process, published by EPD, HKSAR

A Guide to the EIA Ordinance, published by EPD, HKSAR

Technical Memorandum on Noise from Construction Work other than Percussive Piling

END

# **Appendix 1**

- 1. Figure a Elevation for 3.5m high noise barrier between Piers 17 and 22 as temporary noise mitigation
- 2. Figure b Section for 3.5m high noise barrier between Piers 17 and 22 as temporary noise mitigation
- 3. Figure 4a Location of Direct Mitigation Measures





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Figure a - Elevation for 3.5m High Noise Barrier Between Piers 17 and 22 as Temporary Noise Mitigation



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# Appendix 2

# Noise Assessment on Installation of Noise Semi-enclosure between Pier 17 and 22

#### Reference No. 1

Powered Mechanical Equipment (PME) for Different Construction Tasks during Normal Daytime Working Hours (With Mitigation Measures)

NSR: N17 Harbour Heights

Section 6.0 Construction of IECL

#### 6.2 IEC Connection Work

6.2D Noise Enclosure / Noise Barrier Installation

Powered Mechanical Equipment (PME)	TM Ref. Identification Code	SWL (dB(A))	Quantity	On-time %	*Reduction	Total SWL (dB(A))
Lorry with crane, 5.5 tonne < gross vehicle weight <= 38 tonne	-	105	1	100%	5	100.0
Cherry picker (electric)		88	2	100%	5	86.0
Winch (electric)	CNP 262	95	1	100%	0	95.0
Drill, hand-held (battery)		89	4	100%	0	95.0
Grinder (electric)	CNP 066	98	2	100%	0	101.0
						104.7

\*Remark: Negative 5 dB(A) correction for the effect of vertical noise barrier with PMMA panels as temporary noise mitigation is applied to the Predicted Noise Level.

### Reference No. 2 - Predicted Construction Noise Levels at N17 Harbour Hieghts with Group 1 PME

Predicted Construction Noise Levels, dB(A)		SWL	Distance				T	T		T		T		TT	T		T		T	Т
N17 Harbour Hieghts with Group 1 PME		dB(A)	(m)				2019	)								2020	* <u>*</u> **		-	Ť
				1 2	3	4 5	6	7 8	3 9	10 1	1 12	1	2 3	3 4	5	6 7	8	9 1	0 11	1
1.1 Temporary Relocation CBTS																				
1.1.1 Temporary Breakwater																				
1.1.1B Piling		118	280					-			Comp	leted					<del></del>			-
1 Causeway Bay Reclamation							-	-					-		-	-	$\vdash$		+	4
1.2 CBTS Temporary Reclamation Stage 1						+	-+-	+		-		-	-	+		+-	++	+	+	+
1.2.1 Dredging, Seawalls & Filling (TCBR1)		110	250					-			6	lated			9	-		_	_	1
1.2.1A Dredging (TCBR1E)		110	250								Comp	leted								_
1.2.16 Temporary Seawall (TCBR1E)		112	250			-			-		Comp	leted			-			_	-	_
1.2.2 CW/R Tuppel /TCRP1)	Contraction of the second s	115	250			11	1	T	1 1		TI	leteu	1			-	ГТ	-	T	Т
1.2.2 CWB fullier (FCBR1)		119	250			_					Comp	leted	1	1			<u> </u>		_	-
1.2.28 Diapinagini (Conte)		116	250								Comp	leted								_
1.2.2C Construction of Slabs (TCBR1E)		111	250								Comp	leted			_			-		_
1.2.2D Backfill (TCBR1E)		114	250								Comp	leted								-
1.2.1A Removal Temp. Reclamation (Dredging)		116	250					_			Comp	leted						_	_	_
5 North Point Reclamation					T			T			ΤÌ		T	TT					T	Τ
5.1 North Point Reclamation Stage 1																				T
5.1.1 Dredging, Seawalls & Filling																				T
5.1.1A Dredging		116	105				-				Comp	leted						_		
5.1.1B Seawall Construction		111	105								Comp	leted								
5.1.1C Filling behind Seawall		113	105								Comp	leted				10.00				
5.1.2 CWB Tunnel (NPR2W)																				Τ
5.1.2A Diaphragm Wall		113	81								Comp	leted								
5.1.2B Excavation		116	81								Comp	leted								
5.1.2C Construction of Slabs		111	81								Comp	leted								
5.1.2D Backfill		114	81								Comp	leted								
5.2 North Point Reclamation Stage 2																				
5.2.1 Dredging, Seawalls & Filling							-													
5.2.1A Dredging	E	116	250		_						Comp	leted								_
5.2.1B Seawall Construction	E	109	250		100						Comp	leted		_	_					
5.2.1C Filling behind Seawall	E	113	250					_			Comp	leted								_
5.2.2 CWB Tunnel (NPR2W)									-	-										
5.2.1A Dredging	W	116	170		_					_	Comp	leted					_			_
5.2.1B Seawall Construction	W	109	170		_						Comp	leted								_
5.2.1C Filling behind Seawall	W	113	170			_	_				Comp	leted								_
5.2.2A Diaphragm Wall		113	150					-		_	Comp	leted	-	_				_		_
5.2.2B Excavation		116	150								Comp	leted	_					_		_
5.2.2C Construction of Slabs		111	150			_					Comp	leted			_					_
5.2.2D Backfill		115	150						_		Comp	leted	-							_
5.2.2E Foundation of East Vent Building		105	150		-	-	-	-	1 1		Comp	leted	-				ГТ		-	T
6.0 Construction of IECL							-		+	_	+	-+		+		+-	++		+	+
6.2 EC Connection Work	NDD1	107	75									Interd								1
6.2A Substructures	NPR1	107	75								Comp	leted								-
6.28 Superstructures	NPRI	107	160								Comp	leted								
6.28 Superstructures	NDD2E	107	160								Comp	lotod								-
6.26 Substructures	NIDP2W/	107	110							-	Comp	leted				-				_
6 28 Superstructures	NPR2W	107	110								Comp	leted								-
Beconstruction IEC West Bound	in new	107	110				T	1	1		TT		T	TT		-	ГТ		T	T
6.2C Demolition of Structure	WB(section 1 (90m in length))	111	20					1			Comp	leted					<u> </u>			-
6.2C Demolition of Structure	WB(other than section 1)	111	50					0.01			Comp	leted								-
6.2A Substructures	WB(Group 1 PME)	98	28								Comp	leted								-
6.2B Superstructures	WB(other than section C)	107	23								Comp	leted								-
6.2B Superstructures	WB(section C.(36m in length))	107	20								Comp	leted								
6.2C Demolition of Structure	EB(section 4,(90m in length))	114	32								Comp	leted								-
6.2C Demolition of Structure	EB(other than section 4)	114	53								Comp	leted								_
6.2D Noise Enclosure / Noise Barrier Installation	WB(other than section C)	105	23			73	73 7	3												T
6.2D Noise Enclosure / Noise Barrier Installation	WB(section C,(36m in length))	105	20					74	74	74 74	1 74	74 7	74 74	74	74	74				T
6.3 East Portal and IEC Connection Work																				T
6.3.1 Substructures		107	105								Comp	leted								-
6.3.2 Retaining Structures		112	105								Comp	leted								
9.0 Tunnel Building & Installation																				T
9.0 Tunnel Building & Installation at East Ventilation Building, Administration Bulding, &																				
Central Ventilation Building, West Ventilation Building																				1
9.0B Superstructures	East Vent B.	112	190					-	1		Comp	leted								_
Predicted Construction Noise Level, dB(A)(with Façade Effect)						73	73 7	3 74	74	74 74	74	74 7	74 74	74	74 7	14		_	_	1
Construction noise criteria (Leq (30 minutes), dB(A)		-				75	75 7	5 75	75	75 7	75	75 7	75 75	75	75 7	/5 75	75	75 75	5 75	4
Exceedances noted?						No	NO	IO NO	No	NO NO	No	NON	No No	No	NO	10				1



#### Reference No. 3 - Predicted Construction Noise Levels at N17 Harbour Hieghts with Group 2 PME

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Durdisted Construction Noise Lough (D/A)		CIA/I	Distance	-	-	T		-	-	-	1			-	-	-	_		-	-		-		
N17 Harbour Hights with Group 2 BME		dP(A)	Ustance			-		2010		1	1		-+-	_			-	2020	_	1		-		
N17 Harbour Hieghts with Group 2 Pivic		UB(A)	(m)	1	2	2 4	c l	2019	7		1 10	1 11	12	1	2		r l	2020	7 0		1 10	11		
				-	2	3 4	1 2	0	/ /	9 9	1 10	- 11	12	1	2 :	9 4	5	0	1	2 3	10	11		
1.1 Temperary Palecation CPTS	and the state of t			-		+	+	-	+	+	+			+	+-			-	+	+	+	-		
1.1.1 Temporary Breakwater				-	+	+	+	-	-	+	+			+	+			-	+	-	$\vdash$	-		
1 1 18 Piling		118	280	_		_			_	1	1		omple	bot	_		-	_	-	_				
1 Causeway Bay Reclamation		110	200	T	-	T			T	T	1	Ē		T	1			1	1					
1 2 CBTS Temporary Beclamation Stage 1					-	-		-	+	+	-			-	+				+	+				
1 2 1 Dredging Seawalls & Filling (TCBR1)				-	-	-		-	+	1	-			-	+				+	+	+	-		
1 2 1A Dredging (TCBR1F)		116	250	_					_		1		omple	ted	_	1				-				
1.2.1B Temporary Seawall (TCBR1F)		111	250								-	0	Comple	ted						-				
1.2.1C Filling behind seawall (TCBR1E)		113	250	-			-	-	-		_	0	omple	ted	_					-				
1 2 2 CWB Tunnel (TCBR1)		115	2.50	T	-	T			1	1	1	ГÌ		T	T	TT			1	T				
1 2 2A Diaphragm Wall (TCBR1F)		119	250			1					I		omnle	ted				_	1	-				
1.2.2B Excavation (TCBR1E)		116	250	1		100	0.000					0	omple	ted						_				
1.2.2C Construction of Slabs (TCBR1E)		111	250						_				omple	ted				-	- 77			-		
1.2.2D Backfill /TCBB1F)		114	250										omple	tod	_									
1.2.1A Removal Temp. Reclamation (Dredging)		116	250									0	omple	ted										
5 North Point Reclamation		110	250	-	1	T	ГТ	1	T	1	1	Ē		T	1	TT			1	1				
5 1 North Point Reclamation Stage 1				-	-	+	+		+	-	+			+	+		-	-		+	$\vdash$			
5.1.1 Dredeing. Seawalls & Filling				-	+	+			+	+	-			+	+	+ +	-		+	+	$\vdash$			
5.1.1 Dredging		116	105					_	_	<u>t</u>	<u> </u>		omple	tod	1	1								
5.1.18 Seawall Construction		111	105									0	omple	tod						-		-		
5.1.1C Filling behind Seawall		113	105						-			0	omple	tod										
5.1.2 CWB Tunnel (NPR2W)		115	100	-	-	1			1	T	T	ΓÌ		Ť	T	1 1		1	T	1		_		
5.1.2 Civil runner (it in iter)		113	81			1		_	1	1	1		omple	hot	1.	11		-	-					
5.1.2B Excavation		116	81					-				0	omnle	ted		0					_			
5.1.20 Construction of Slabs		111	81									0	omple	ted		_								
5.1.2D Backfill		114	81									0	omple	ted								-		
5 2 North Point Reclamation Stage 2			01	-	1	1	ГТ	1	T	T	Г	ΓĨ		T	1				1	1	П			
5.2.1 Dredging. Seawalls & Filling					-	+		-	+	-	-			+	+		-	+	+	+	$\vdash$	-		
5.2.1 Dredging	F	116	250			1			_				omnle	ted	_	1_1			_	1				
5.2.18 Seawall Construction	F	109	250		_			-				0	omnle	ted				-						
5.2.10 Seawar construction	F	113	250									0	omple	tod								-		
5.2.2 CWB Tunnel (NPR2W)	k,	115	250	- T-	1	T			1	T	1	ГÌ	ompie	T	T			1	T	T				
5.2.1 Dredging	w	116	170		_	1			_	-	-		`omple	ted	_			_	_	-				
5.2.18 Seawall Construction	W	109	170									0	omple	ted										
5.2.10 Sedwar construction	W	113	170	-	-		_				-	0	omple	ted					-					
5 2 24 Dianhragm Wall		113	150							_			omple	tod						-				
5.2.2A Dispining in Wall		116	150										omple	tod				-		-				
5.2.20 Construction of Slabs		111	150	_								0	omple	tod										
5.2.20 Construction of Stabs		115	150						-				omple	tod								-		
5.2.25 Beckini		105	150	-							-		omple	tod						_		-		
6.0 Construction of IFCI		105	150	-	1	T			1	1	1	ГТ	Jonpie	T	1		-	1	1	1				
6.2 IFC Connection Work				-		-		-	+	+		$\left  \right $		+	+	+	-+	-	+-	-	$\vdash$	-		
6 24 Substructures	NPR1	107	75			1			_	-			omnle	tod					_	-				
5 2B Superstructures	NPR1	107	68										omple	tod						_		_		
6.26 Substructures	NPD2F	107	160										ample	tod				***		-				
6 28 Superstructures	NPR2F	107	160			-					-	0	omple	tod						_				
6 24 Substructures	NPR2W	107	110								_		omple	tod										
6 28 Superstructures	NPR2W	107	110										omple	tod		-								
Beconstruction IFC West Bound	NT N2W	107	110		1				1			ГŤ	J	T	1				1		ГТ			
6.2C Demolition of Structure	WB(section 1 (90m in length))	111	20			-		_	_		-		omnlei	ted	_				-					
6 2C Demolition of Structure	WB(other than section 1)	111	50									0	omple	tod										
6 24 Substructures	WB(Group 2 PME)	105	28									0	omple	tod										
6.28 Superstructures	WB(other than section ()	107	20									0	omple	tod								-		
6 28 Superstructures	WB(section C (36m in length))	107	20			-			-			0	omplet	tod		- 11			-					
6.20 Demolition of Structure	EB(section 4 (90m in length))	114	32							-			omplet	tod			-		-	-		-		
6.20 Demolition of Structure	EB(other than section 4)	114	52						_			0	omplet	tod			_							
6.20 Noise Enclosure / Noise Parrier Installation	W/P(other than section ()	105	22	-	1	T	72	72 7	2	1	-	гŤ	I	T	-	<u> </u>	- 1	-	1		ГТ	-		
6.2D Noise Enclosure / Noise Barrier Installation	WP/costion C (26m in length))	105	20		-		15	15 1.	74	74	74	74	74 7	4 7	1 74	74	74	74	+		$\vdash$	-		
6.3 Fact Portal and IEC Connection Work	wolsection c,(som intengrif)	105	20			+-+			14	74	14	74	14 1	- /	7 /4	74	74	1-4	+		-+	-		
6.3.1 Substructures		107	105		_				1	1	L		omelei	tod						1				
6.3.2 Potsining Structures		117	105	-						1	_	0	omple	tod							_	-		
0.0 Tuppal Ruilding & Installation		112	105	-	T				T	1			Umplet	lea	1	<b>_</b>			1	<u> </u>				
9.0 Tunnel Building & Installation at East Ventilation Building Administration Building 9						+								+	+	+-+	-		-		$\vdash$	-		
Control Ventilation Building, West Ventilation Building, Administration Building, &				+		+			-	+				-	+	+	-		+-		$\vdash$	-		
Q OR Superstructures	East Vent R	110	100	_		1			1	1		<u> </u>	-	1	1				1		4			
Predicted Construction Noice Loval dD/Al/with Eacode Effort	Last vent b.	112	190	-	-	-	72	72 7	2 74	74	74	70	7A -	A Z	1 74	7.1	74	74	r	r 1		_		
Construction poice criteria (Log (20 minutes) dP/A)	1			-+		+-+	75	75 7	5 74	74	74	74	74 /	+ /	7 14	74	74	75 7	75	75	75	75		
Evendances noted				-	-	+	Na	No N	15	15	15	15	No N	J /:	15	15	15 No	15 /5	15	15	15	15		
Excedences noted:							NU	NU	0110	NO	INU	NU	NOIN	U IN	0110	NO	NO	NU				_		

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# **Appendix 3**

# Tentative Works Programme for the Installation of Noise Semienclosure between Pier 17 and 22

Detailed Wo	orks Programme (Rev. F)	2019-05-08 VEP ap	plication for SNE	construction	08-May-19 17:06
Activity ID	Activity Nam	e	Original		Week
Dete	iled Works Drogramm	(Boy E)		1 2 3 4 5 6	7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29
Deta	lied works Programme	(Rev. P)	and the second state		
10-	- SECTION X OF THE W	URKS			
10	0.3 - Middle Bridge (Bridge F)		and the state of the second		
	10.3.2 - Bridge Construction	A. F.			
	Outstanding Works			and the second s	
	Bridge C1 (P17 to P21)			TTA Charad Ch	
	1210-3000 TTA Stage 1	- Close 2 lane (1 & 2) > Open 2 lane (3 & 4)	4	TIASage1-Co	Dise 2 lane (1 & 2) > O pen 2 lane (3 & 4)
	1210-3120 Stage 1 - Ins	stallation of temporary post & main beam (P17-P21)	21	Sta	ge 1 - Installation of temporary post & main beam (P17-P21)
	1210-3240 Stage 1 - Ins	stallation of secondary beam & roof and side noise panel (P17-P21)	25		Stage 1 - Installation of secondary beam & roof and side noise panel (P17-P21)
	1210-3280 TTA Stage 2	- Cbse 2 lane (2 & 3) > Open 2 lane (1 & 4)	2	000000000000000000000000000000000000000	TTA Stage 2 - Close 2 lane (2 & 3) > Open 2 lane (1 & 4)
	1210-3320 Stage 2 - Ex	tend main beam up to lane 3 (P17-P21)	12		Stage 2 - Extend main beam up to lane 3 (P17-P21)
	1210-3360 TTA Stage 3	- Cbse 2 lane (3 & 4) > Open 2 lane (1 & 2)	2		TTA Stage 3 - Close 2 lane (3 & 4) > Open 2 lane (1 & 2)
	1210-3400 Stage 3 - Pr	eparation works; Remove asphalt & drill holes for starter bars (P17-P2'	1) 6		Stage 3 - Preparation works; Remove asphalt & drill holes for start
	1210-3440 Stage 3 - Co	onstruction of parapet (P21-P17)(111.52m)	19		Stage 3 - Construction of parapet (P21-P17)(111.52
	1210-3480 Stage 3 - Ins	stallation of permanent post & main beam (P21-P17)	25	anzennen mande	Stage 3 - Installation of permanent post &
	1210-3520 TTA Stage 4	- C b se 2 lane (2 & 3) > O pen 2 lane (1 & 4)	2		TTA Stage 4 - Close 2 lane (2 & 3) > O p
	1210-3560 Stage 4 - Ins	stallation of secondary beam & noise panel (P17-P21)	25		Stage 4 - Installation of s
	1210-3600 Stage 4 - Re	emove temporary post (P17-P21)	18		► Contraction of the second s
	1210-3640 TTA Stage 5	-Cbse2lane (3 & 4) > Open 2 lane (1 & 2)	2		TTA Slage 5 - Close 2
	1210-3680 Stage 5 - In:	stallation of secondary beam & noise panel (P17-P21)	25		Stage
	1210-3800 TTA Stage 6	- Cbse 2 lane (1 & 2) > Open 2 lane (3 & 4)	2		TTA
	Actual Work Remaining Work Milestone	HY/2009/19 - Central-War Tunnel (North Point Section) and Isl Bridge C1 Single Noise Enc	n Chai Bypass and Eastern C losure Installa	orridor Link tion	Project ID: 3MRP-02/2019-1 Project Name: Detailed Works Programme (Rev. F) Layout: 2019-05-08 VEP application for SNE construction Pages: Page1 of 1 Date: 08-May-19