

Appendix B

Construction Programme

TMCLKL Northern Connection Sub-sea Tunnel Section

Contract Key Dates

[KD-2b] Stage 2b Completion - TSS between CP33 to CP13	0	15-Apr-19*
[KD-10] Section 3A Completion - SVB	0	20-Jul-19*
[KD-10a] Stage 5 Completion - SVB BL2	0	11-May-19*

Portion Handover Dates

N5 - Handover	0	30-Apr-19*
N11A - Handover	0	15-Feb-19*
N11B - Handover	0	15-Feb-19*
N13Ji, Jii, Ki & Kii - Handover for E&M Contract scope	0	15-Feb-19*
N13B - Handover	0	12-Apr-19*

North Approach Ramp

Portion N12 Section

NAR - Pumping Test (Bay 3 to 6)	12	23-Aug-18	05-Sep-18
NAR - Excavation & Strut Installation (Bay 3 to 6)	36	06-Sep-18	20-Oct-18
NAR - Bay 3 - Base Slab + Retaining Wall	48	20-Sep-18	17-Nov-18
NAR - Bay 4 - Base Slab + Retaining Wall	72	06-Oct-18	02-Jan-19
NAR - Bay 5 - Base Slab + Retaining Wall	72	22-Oct-18	16-Jan-19

Access Ramp Section

Pre-bored H-piles - Pile Load Test	36	22-Aug-18	04-Oct-18
Pipe Pile Wall - TAM Grouting	36	22-Aug-18	04-Oct-18
Pump wells	35	05-Oct-18	15-Nov-18
Pump Test	12	16-Nov-18	29-Nov-18
Pipe Pile Wall Section - Excavation Start	0	30-Nov-18	
Excavation to S1 - 7,200 m3	12	30-Nov-18	13-Dec-18
Strut & Waling Installation - S1 - 7 struts	14	07-Dec-18	22-Dec-18
Excavation to S2 - 9,650 m3	16	14-Dec-18	04-Jan-19
Strut & Waling Installation - S2 - 7 struts	15	24-Dec-18	12-Jan-19
Excavation to FEL - 7,600 m3	14	05-Jan-19	21-Jan-19
NAR Pipe Pile Section - Base Slab	48	22-Jan-19	25-Mar-19
NAR Pipe Pile Section - Strut S2 Removal	24	12-Mar-19	09-Apr-19
NAR Pipe Pile Section - Wall up to S1	48	26-Mar-19	27-May-19
NAR Pipe Pile Section - Strut S1 Removal	24	14-May-19	11-Jun-19
NAR Pipe Pile Section - Wall Remaining	48	28-May-19	24-Jul-19

NLS Interface (OAP-NAR-DWG-10442-B)

NLS Cell 3 Dwall removal (down to +2.5mPD) - 90m3	15	14-Dec-18	03-Jan-19
Strut Installation and Excavation down to S2	12	04-Jan-19	17-Jan-19
NLS Cell 3 Dwall removal (down to -3.0mPD) - 188m3	18	18-Jan-19	14-Feb-19
Strut Installation and Excavation down to FWL	12	15-Feb-19	28-Feb-19
NLS Cell 3 Dwall removal (down to -6.0mPD) - 134m3	18	01-Mar-19	21-Mar-19
NLS/NAR Stitch structure - Base Slab & S2 removed	36	19-Mar-19	04-May-19
Resume Tunnel Ramp Access	0	06-May-19	
NLS/NAR Stitch structure - Remaining Wall Structure & Str	48	06-May-19	03-Jul-19
NAR Parapet, Cable Trough	58	25-Jul-19	02-Oct-19*

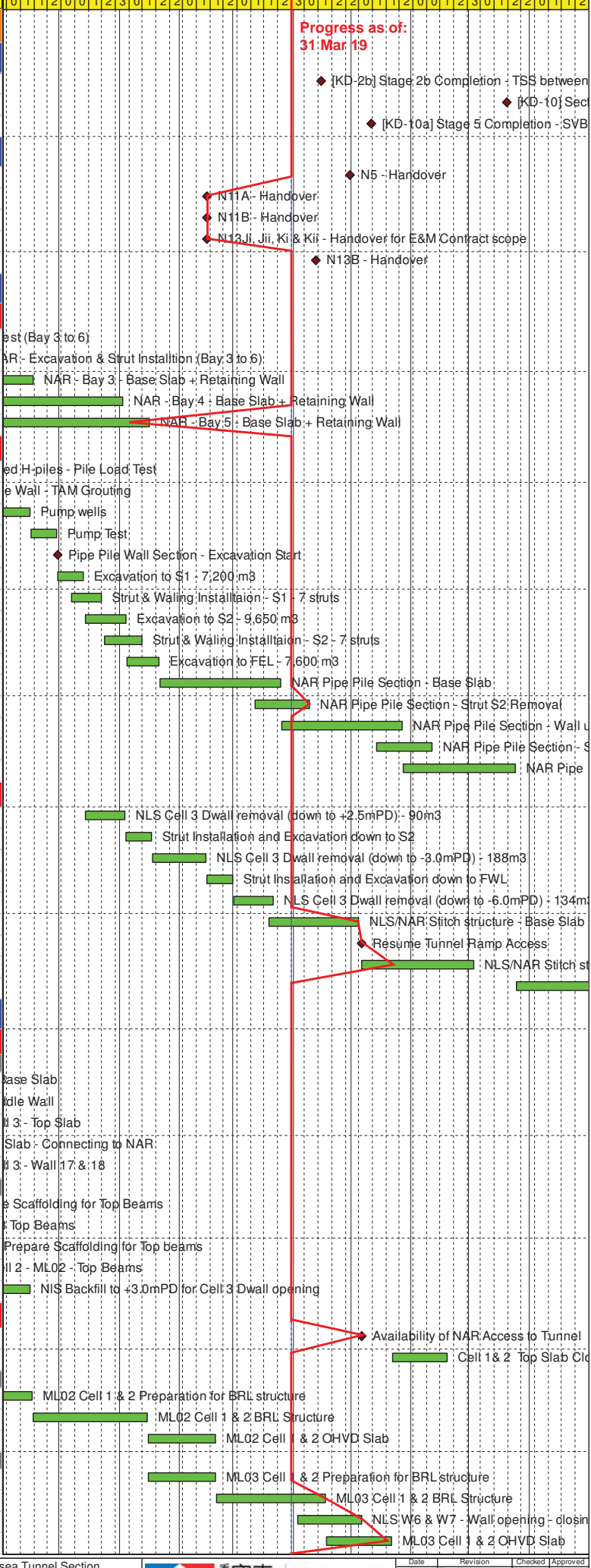
North Launching Shaft

NLS Cell 1-3 Structure for Cell 3 Dwall opening

Cell 3			
Cell 3 - Remaining Base Slab	18	07-Aug-18	27-Aug-18
Cell 3 - Middle Wall	24	28-Aug-18	24-Sep-18
Cell 3 - Top Slab	18	26-Sep-18	18-Oct-18
Cell 3 - Base Slab - Connecting to NAR	18	28-Aug-18	17-Sep-18
Cell 3 - Wall 17 & 18	24	18-Sep-18	18-Oct-18
Cell 2			
Cell 2 - ML03 - Prepare Scaffolding for Top Beams	18	01-Aug-18	21-Aug-18
Cell 2 - ML03 Top Beams	24	22-Aug-18	18-Sep-18
Cell 2 - ML02 - Prepare Scaffolding for Top beams	18	22-Aug-18	11-Sep-18
Cell 2 - ML02 - Top Beams	24	19-Sep-18	19-Oct-18
NIS Backfill to +3.0mPD for Cell 3 Dwall opening	24	19-Oct-18	15-Nov-18

NLS Cell 1-3 Remaining Structure

Availability of NAR Access to Tunnel	0	06-May-19
Cell 1 & 2 Top Slab Closing	24	22-May-19
ML02		
ML02 Cell 1 & 2 Preparation for BRL structure	24	20-Oct-18
ML02 Cell 1 & 2 BRL Structure	48	17-Nov-18
ML02 Cell 1 & 2 OHVD Slab	24	16-Jan-19
ML03		
ML03 Cell 1 & 2 Preparation for BRL structure	24	16-Jan-19
ML03 Cell 1 & 2 BRL Structure	48	20-Feb-19
NLS W6 & W7 - Wall opening - closing	24	03-Apr-19
ML03 Cell 1 & 2 OHVD Slab	24	18-Apr-19



Activity Name	Orig Dur	Start	Finish	2018												2019															
				N	0	1	2	0	1	2	3	0	1	2	0	1	2	3	0	1	2	3	0	1	2	3	0	1	2	3	
NLF Demobilization & At-grade works																															
[KD-7a] Stage 4 Completion - FSDB/CEDB Provide Access	0		15-Sep-18*	4 Completion - FSDB/CEDB Provide Access																											
[KD-7] Section 1C Completion - Portion N7 Handover	0		29-Nov-18*	◆ [KD-7] Section 1C Completion - Portion N7 Handover																											
[KD-4] Section 1A1 Completion - N12 Reclamation & Seawall	0		11-Jan-19*	◆ [KD-4] Section 1A1 Completion - N12 Reclamation & Seawall																											
Portion N1 Handover	0		15-Sep-18*	Handover:																											
Portion N12 & Portion N6B																															
Seawall Coping - final concreting	48	27-Sep-18	23-Nov-18	Seawall Coping - final concreting																											
Portion N12 - Seawall Inspection & Remedial works (if any)	39	24-Nov-18	11-Jan-19	Portion N12 - Seawall Inspection & Remedial works (if any)																											
CLP Substation - Prepare for CLP Consent for de-energiza	96	01-Jun-19	24-Sep-19																												
Drainages & Watermain - Portion N12 & N6B	144	17-Jan-19	19-Jul-19	Drainages & Watermain - Portion N12 & N6B																											
Provision for Utilities - Portion N12 & N6B	72	23-May-19	16-Aug-19	Provision for Utilities - Portion N12 & N6B																											
Utilities parties coordination & Remaining Civil Provision - I	117	17-Aug-19	07-Jan-20																												
North Launching Shaft																															
NLS Gantry Crane removal	48	06-May-19	03-Jul-19	NLS Gantry Crane removal																											
Drainages & Watermain - NLS	194	21-Feb-19	17-Oct-19	Drainages & Watermain - NLS																											
Provision for Utilities - NLS	96	23-Jul-19	14-Nov-19	Provision for Utilities - NLS																											
Sloping Seawall																															
Workshop & Amenities - Removal	48	26-Mar-19	27-May-19	Workshop & Amenities - Removal																											
Drainages & Watermain - Workshop & Amenities	96	09-May-19	31-Aug-19	Drainages & Watermain - Workshop & Amenities																											
Provision for Utilities - Workshop & Amenities	48	05-Aug-19	30-Sep-19	Provision for Utilities - Workshop & Amenities																											
Precast Segment Yard																															
Gantry Crane 4 - Dismantling	36	28-Aug-18	10-Oct-18	Gantry Crane 4 - Dismantling																											
Gantry Crane 4 Area - Ground slab removal	17	11-Oct-18	31-Oct-18	Gantry Crane 4 Area - Ground slab removal																											
Drainages & Watermain - Zone C Roundabout	144	01-Nov-18	03-May-19	Drainages & Watermain - Zone C Roundabout																											
Provision for Utilities - Zone C Roundabout	72	04-Mar-19	01-Jun-19	Provision for Utilities - Zone C Roundabout																											
Utilities parties coordination & Remaining Civil Provision - 2	180	03-Jun-19	07-Jan-20																												
NVS & STP (Portion N7 Interface)																															
FSD / C&ED Building - Footprint - site clearance	29	14-Aug-18	15-Sep-18	Building - Footprint - site clearance																											
STP Barging Point Removal	24	14-Aug-18	10-Sep-18	Int. Removal																											
N7 - Type A, Filter & Seawall (Coping, Landing Steps, Cat L	48	11-Sep-18	08-Nov-18	N7 - Type A, Filter & Seawall (Coping, Landing Steps, Cat Ladder, Bollard)																											
N7 - Drainage Catch pit, U-channel	36	26-Sep-18	08-Nov-18	N7 - Drainage Catch pit, U-channel																											
Portion N7 - Preparation for Handover	18	09-Nov-18	29-Nov-18	Portion N7 - Preparation for Handover																											
FSDB/CEDB ELS system - Removal from Portion X (by C4)	0	15-Apr-19*		◆ FSDB/CEDB ELS system - Removal from Portion X																											
Branch drains & Watermain Terminal Manholes - FSDB/CE	72	15-Apr-19	15-Jul-19	Branch drains & Watermain Terminal Manholes - FSDB/CE																											
FSDB/CEDB Terminal Manholes	48	16-Jul-19	09-Sep-19	FSDB/CEDB Terminal Manholes																											
Provision for Utilities - Portion N7 Interface	36	20-Aug-19	02-Oct-19	Provision for Utilities - Portion N7 Interface																											
Drainages & Watermain - NVS / STP	144	30-Nov-18	03-Jun-19	Drainages & Watermain - NVS / STP																											
Provision for Utilities - NVS / STP	72	04-Jun-19	28-Aug-19	Provision for Utilities - NVS / STP																											
Utilities parties coordination & Remaining Civil Provision - I	107	29-Aug-19	07-Jan-20																												
Tunnel - Thermal Barrier																															
[KD-2a] Stage 2a Completion - TNA & TSS up to CP33	0		15-Dec-18*	◆ [KD-2a] Stage 2a Completion - TNA & TSS up to CP33																											
[KD-2b] Stage 2b Completion - TSS between CP33 to CP13	0		15-Apr-19*	◆ [KD-2b] Stage 2b Completion - TSS between CP33 to CP13																											
[KD-3e] Stage 3e Completion - NVS Tunnel	0		15-Dec-18*	◆ [KD-3e] Stage 3e Completion - NVS Tunnel																											
Fire board Installation below OHVD																															
Fire Board between CP33 and CP13																															
ML03 TSS Utilities Removal / Relocation - TSS CP33-CP15	48	22-Sep-18	20-Nov-18	ML03 TSS Utilities Removal / Relocation - TSS CP33-CP15																											
ML03 Fire Board Installation - NPS - TSS CP33-CP13 - RL	68	08-Dec-18	07-Mar-19	ML03 Fire Board Installation - NPS - TSS CP33-CP13 - RL																											
ML03 Fire Board Installation - CPS - TSS CP15-CP13 - RL	8	08-Mar-19	16-Mar-19	ML03 Fire Board Installation - CPS - TSS CP15-CP13 - RL																											
ML02 TSS Utilities Removal / Relocation - TSS CP33-CP15	48	21-Sep-18	19-Nov-18	ML02 TSS Utilities Removal / Relocation - TSS CP33-CP15																											
ML02 Fire Board Installation - NPS - TSS CP33-CP13 - RL	68	12-Dec-18	11-Mar-19	ML02 Fire Board Installation - NPS - TSS CP33-CP13 - RL																											
ML02 Fire Board Installation - CPS - TSS CP15-CP13 - RL	3	12-Mar-19	14-Mar-19	ML02 Fire Board Installation - CPS - TSS CP15-CP13 - RL																											
Fire board between NLS and CP33																															
ML03 Fire Board installation - NCPS - TNA + NVS - RL	33	25-Aug-18	04-Oct-18	Fire Board installation - NCPS - TNA + NVS - RL																											
ML03 Fire Board Installation - NCPS - TSS NVS-CP33 - RL	54	05-Oct-18	07-Dec-18	ML03 Fire Board Installation - NCPS - TSS NVS-CP33 - RL																											
ML02 Fire Board installation - NCPS - TNA + NVS - RL	24	08-Sep-18	08-Oct-18	Fire Board installation - NCPS - TNA + NVS - RL																											
ML02 Fire Board Installation - NCPS - TSS NVS-CP33 - RL	54	09-Oct-18	11-Dec-18	ML02 Fire Board Installation - NCPS - TSS NVS-CP33 - RL																											
Fire board Installation above OHVD																															
Fire Board installation - TNA+NVS - above OHVD Slab - ML	13	18-Mar-19	01-Apr-19	Fire Board installation - TNA+NVS - above OHVD Slab - ML																											
Fire Board installation - TNA+NVS - above OHVD Slab - ML	17	02-Apr-19	25-Apr-19	Fire Board installation - TNA+NVS - above OHVD Slab - ML																											
Fire Board installation - North TSS - above OHVD Slab	30	26-Apr-19	01-Jun-19	Fire Board installation - North TSS - above OHVD Slab																											
Fire Board installation - South TSS - above OHVD Slab	39	03-Jun-19	19-Jul-19	Fire Board installation - South TSS - above OHVD Slab																											
Fire Board installation - ML02 TSS CP13 to SVS	15	20-Jul-19	06-Aug-19	Fire Board installation - ML02 TSS CP13 to SVS																											
Fire Board installation - ML02 TSA	8	07-Aug-19	15-Aug-19	Fire Board installation - ML02 TSA																											
Fire Board installation - ML03 TSS CP13 to SVS	16	16-Aug-19	03-Sep-19	Fire Board installation - ML03 TSS CP13 to SVS																											
ML02 TSS OHVD Slab Completion	0		30-May-19	◆ ML02 TSS OHVD Slab Completion																											
ML02 TSA OHVD Slab Completion	0		27-Jul-19	◆ ML02 TSA OHVD Slab Completion																											
ML03 TSS OHVD Slab Completion	0		28-Aug-19	◆ ML03 TSS OHVD Slab Completion																											
Tunnel - Anchor / E&M Bracket (VO72)																															
VO72 - Bracket Installation - Tunnel between NLS to CP33 (20R/d)	115	01-Aug-18	15-Dec-18	VO72 - Bracket Installation - Tunnel between NLS to CP33 (20R/d)																											
VO72 - Drilling & Anchor Installation - Tunnel between CP33	93	19-Nov-18	16-Mar-19	VO72 - Drilling & Anchor Installation - Tunnel between CP33																											

