

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180302SS	
Date of Notification: 8 March 2018				Date of Investigation Report: 9 April 2018		
Works Inspected: Data collected from water sampling works on 2 March 2018 and the results were issued on 7 March 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS)/ Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR6	Depth Average	23.5 and 120% (i.e. 8.3 for mid-ebb/6.6 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 9.0 for mid-ebb/7.1 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	10.4	24.6
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 2 March 2018, one AL exceedance of SS at SR6 was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 2 March 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was cat ladder installation inside box culvert which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station SR6, the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 2 March 2018.

The location of the WQM station where exceedances were recorded and all relevant WQM stations are shown in **Figure 1** and the location of marine-based construction works are shown in **Figure 2**.

The RSS of Contract No. HY/2013/03 concluded that the captioned exceedance was not related to the construction site activities of the contract.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 2 March 2018. Furthermore, no discharge originating from any HY/2013/04 site works on 2 March 2018 was identified.

While SS exceedance was recorded at SR6, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters. Also, no SS exceedance at SR6 was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's regular weekly site inspection on 28 February 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:00. There were no observations referring to water quality mitigation measures associated with that shoreline. During ET's subsequent regular weekly site inspection on 7 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:00. A water quality observation regarding the wetsep near the wheel washing bay was made; the Contractor was reminded to operate the wetsep as soon as possible. However, there was no observation regarding any presence of silty water in the open waters associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
3. IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03

The captioned exceedance was not related to the Contract and therefore, no additional follow-up action is needed. However, RSS proposed recommendations to Contractor in particular to the following aspects when there are marine construction activities.

Water Quality:


- Barges and hopper dredgers shall have tight fitting seals to their bottom openings to prevent leakage of material;
- Any pipe leakages shall be repaired quickly. Plant should not be operated with leaking pipes;
- Loading of barges and hoppers shall be controlled to prevent splashing of dredged material to the surrounding water. Barges or hoppers shall not be filled to a level which will cause overflow of materials or pollution of water during loading or transportation;
- Excess material shall be cleaned from the decks and exposed fittings of barges and hopper dredgers before the vessel is moved;
- Adequate freeboard shall be maintained on barges to reduce the likelihood of decks being washed by wave action; and
- All vessels shall be sized such that adequate clearance is maintained between vessels and the sea bed at all states of the tide to ensure that undue turbidity is not generated by turbulence from vessel movement or propeller wash.
- wastewater from temporary site facilities should be controlled to prevent direct discharge to surface or marine waters;
- storm drainage shall be directed to storm drains via adequately designed sand/silt removal facilities such as sand traps, silt traps and sediment basins. Channels, earth bunds or sand bag barriers should be provided on site to properly direct stormwater to such silt removal facilities. Catchpits and perimeter channels should be constructed in advance of site formation works and earthworks;
- silt removal facilities, channels and manholes shall be maintained and any deposited silt and grit shall be removed regularly, including specifically at the onset of and after each rainstorm;
- rainwater pumped out from trenches or foundation excavations should be discharged into storm drains via silt removal facilities;
- measures should be taken to prevent the washout of construction materials, soil, silt or debris into any drainage system;
- open stockpiles of construction materials (e.g. aggregates and sand) on site should be covered with tarpaulin or similar fabric during rainstorms;
- discharges of surface run-off into foul sewers must always be prevented in order not to unduly overload the foul sewerage system;
- surface run-off from bunded areas should pass through oil/grease traps prior to discharge to the stormwater system

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	Keith Chau	Title:	Environmental Team Leader (Contract No. HY/2013/01)
Signature:		Date:	9 April 2018
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

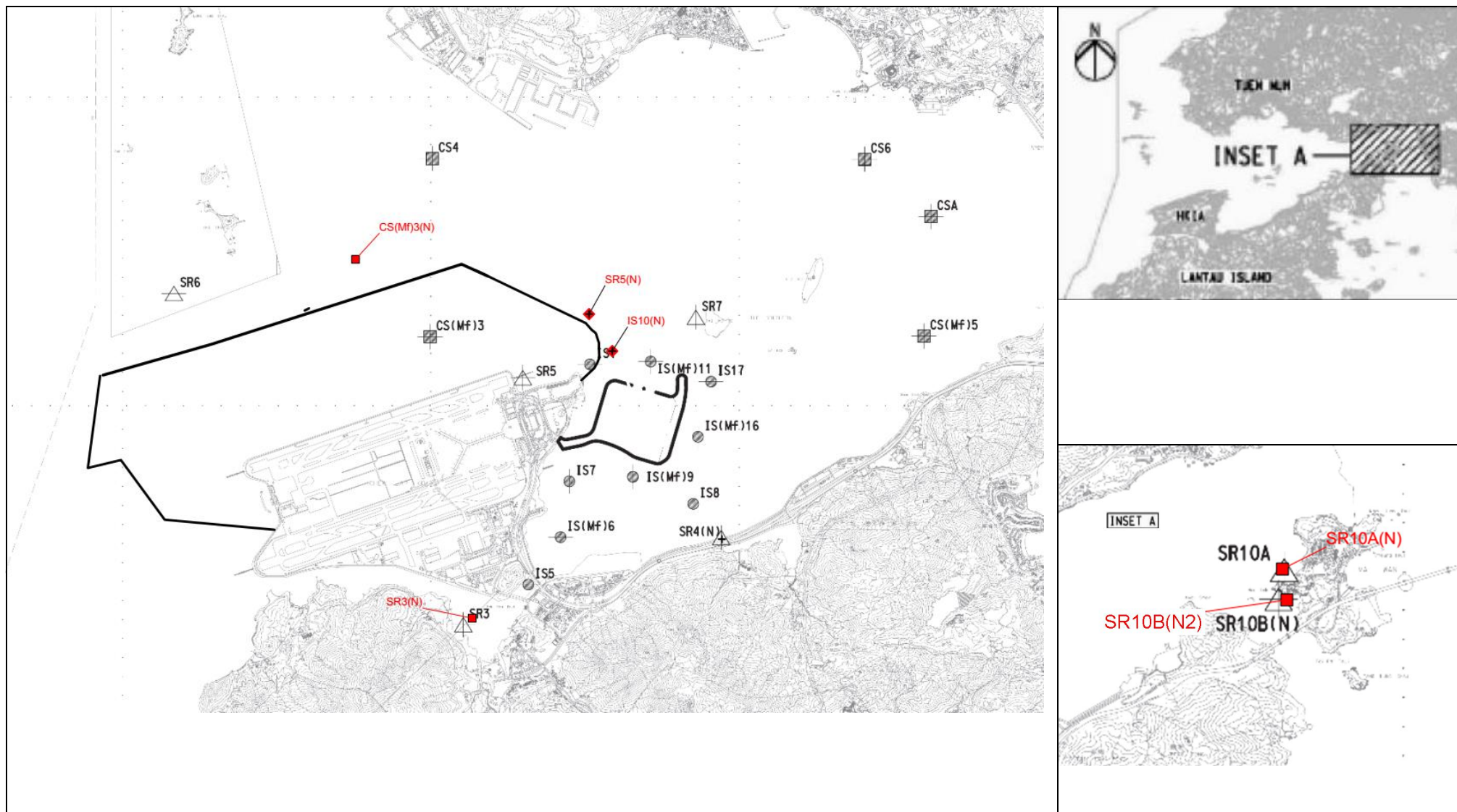
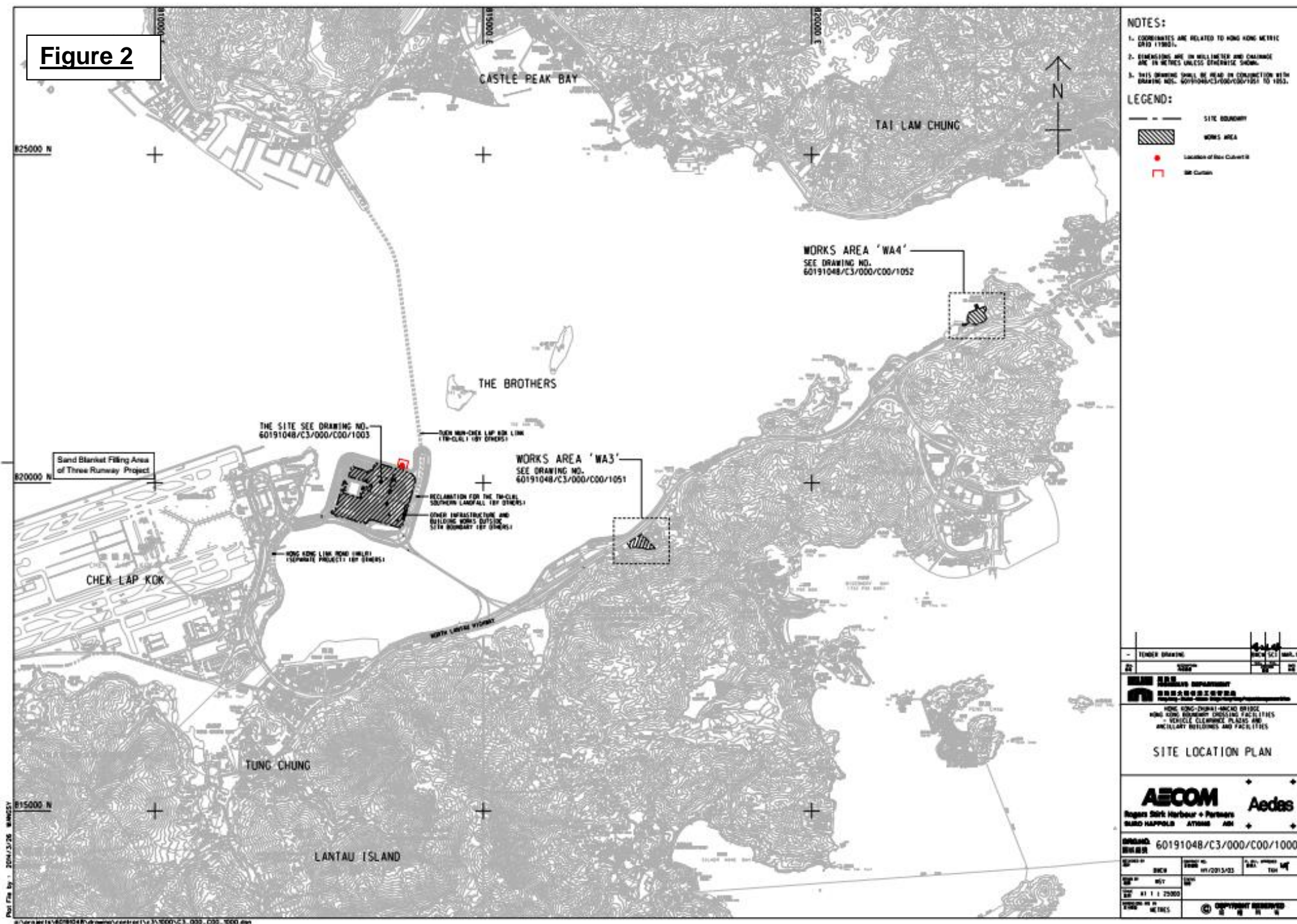


Figure 1: Location Plan

Figure 2



Hong Kong- Zhuhai- Macao Bridge						
Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts)						
Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180316SS	
Date of Notification: 23 March 2018				Date of Investigation Report: 9 April 2018		
Works Inspected: Data collected from water sampling works on 16 March 2018 and the results were issued on 22 March 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS)/ Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR5(N)	Depth Average	23.5 and 120% (i.e. 12.6 for mid-ebb/8.9 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 13.7 for mid-ebb/9.6 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	11.0	24.0
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 16 March 2018, one AL exceedance of SS at SR5(N) was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 16 March 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station SR5(N), the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 16 March 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 16 March 2018.

While SS exceedance was recorded at SR5(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and the shoreline interfacing with open waters. Also, no SS exceedance at SR5(N) was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 14 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:10 and 14:50. There were no observations referring to water quality mitigation measures associated with that shoreline. Furthermore, no discharge originating from any HY/2013/04 site works on 14 March 2018 was identified.

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 19 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:10 and 14:20. There were no observations referring to water quality mitigation measures associated with that shoreline. Furthermore, no discharge originating from any HY/2013/04 site works on 19 March 2018 was identified. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
3. IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such,

Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 1, 8, 16 and 22 March 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. ET (Contract No.: HY/2013/03) will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	Keith Chau	Title:	Environmental Team Leader (Contract No. HY/2013/01)
Signature:		Date:	9 April 2018
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

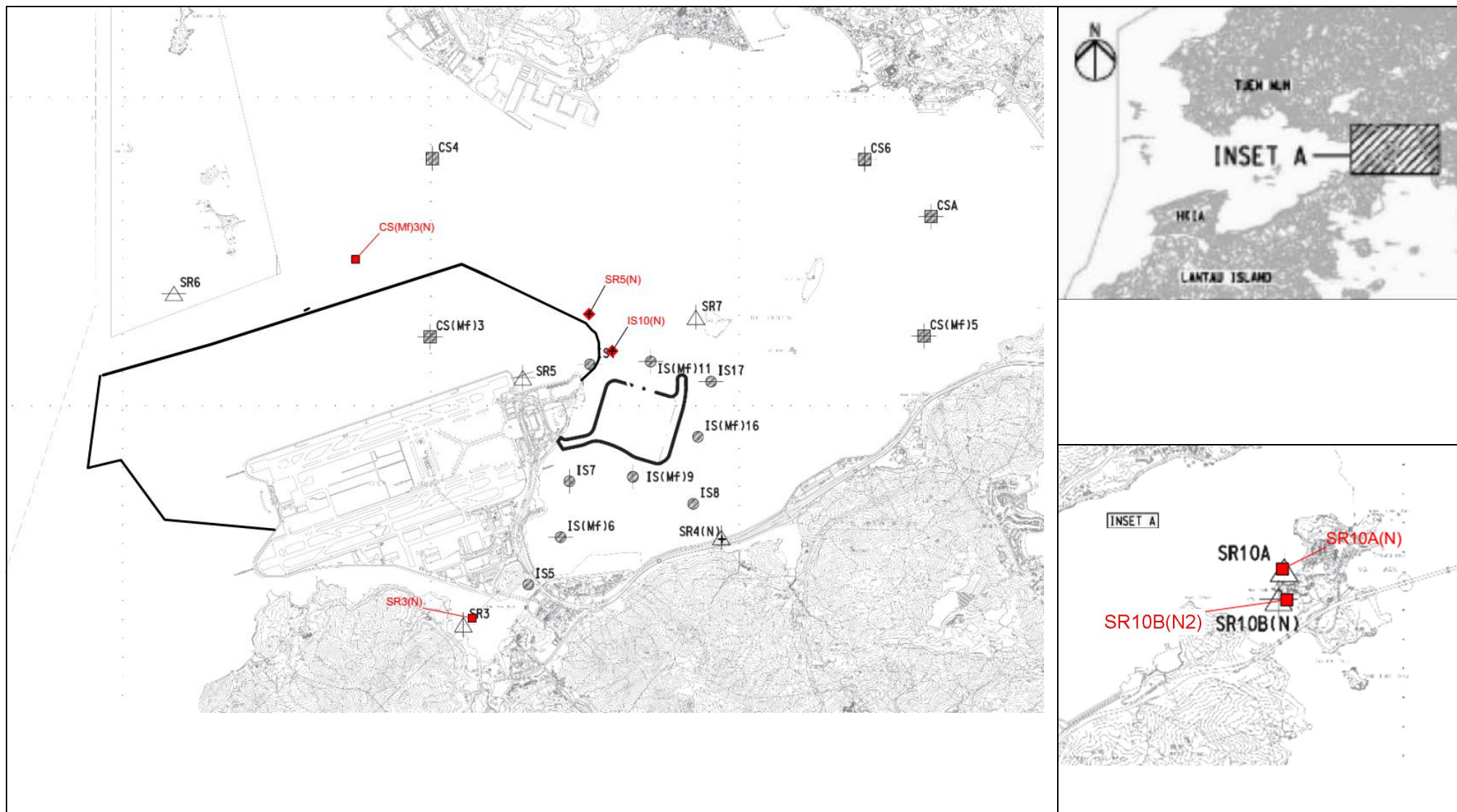


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge						
Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts)						
Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180321SS	
Date of Notification: 4 April 2018				Date of Investigation Report: 10 April 2018		
Works Inspected: Data collected from water sampling works on 21 March 2018 and the results were issued on 29 March 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS)/ Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS7	Depth Average	23.5 and 120% (i.e. 16.5 for mid-ebb/11.6 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 17.9 for mid-ebb/12.6 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	13.1	25.8
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 21 March 2018, one AL exceedance of SS at IS7 was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 21 March 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station IS7, the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 21 March 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 21 March 2018.

While SS exceedance was recorded at IS7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at IS7 was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 19 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:10 and 14:20. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 28 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 1, 8, 16 and 22 March 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures. ET will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	Keith Chau	Title:	Environmental Team Leader (Contract No. HY/2013/01)
Signature:		Date:	10 April 2018
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

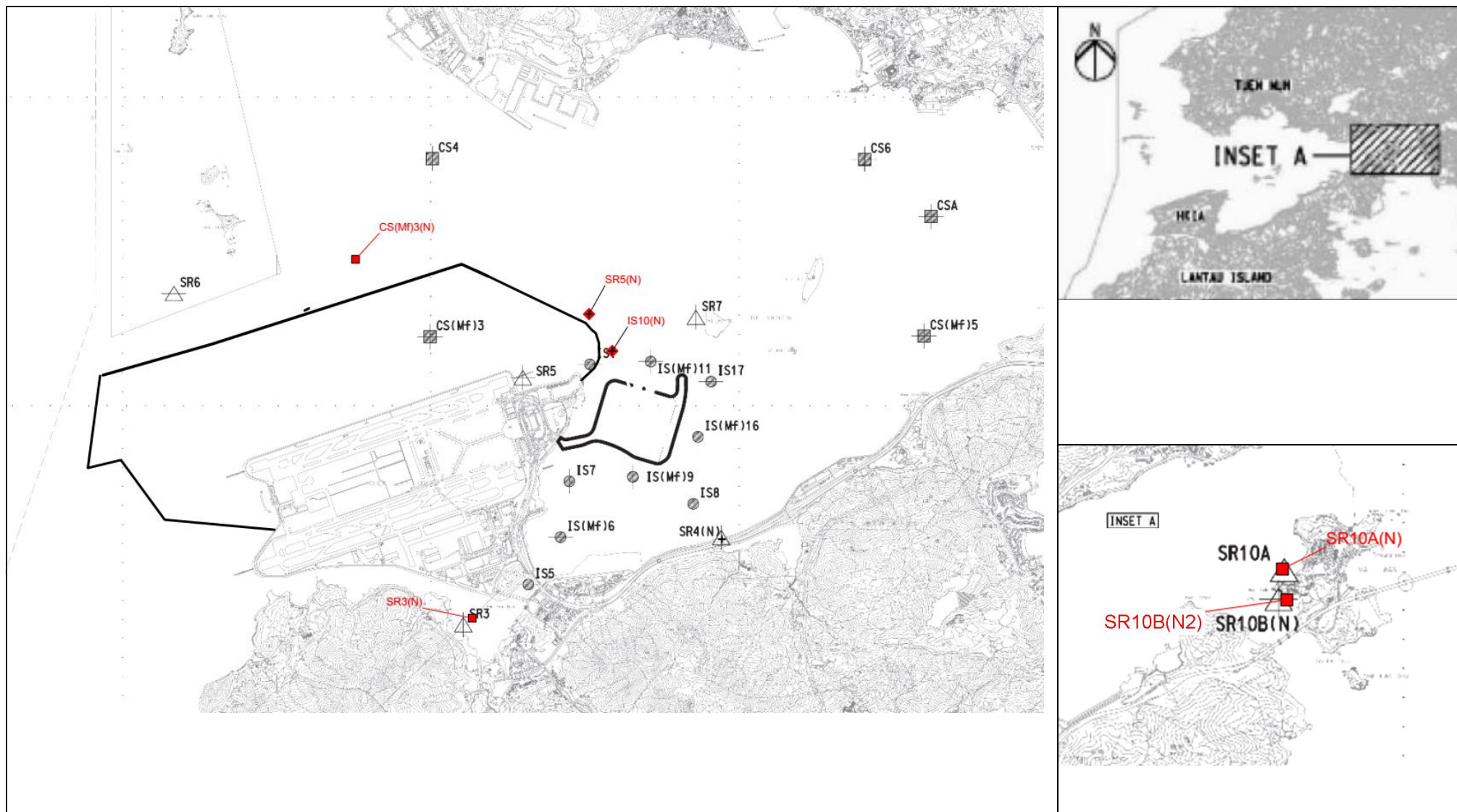


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180330SS	
Date of Notification: 12 April 2018				Date of Investigation Report: 13 April 2018		
Works Inspected: Data collected from water sampling works on 30 March 2018 and the results were issued on 12 April 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS)/ Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR5(N)	Depth Average	23.5 and 120% (i.e. 15.8 for mid-ebb/12.3 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 17.1 for mid-ebb/13.4 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	12.2	28.2
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 30 March 2018, one AL exceedance of SS at SR5(N) was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 30 March 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station SR5(N), the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 30 March 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 30 March 2018.

While SS exceedance was recorded at SR5(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at SR5(N) was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 28 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's subsequent regular weekly site inspection on 4 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:20 and 14:35. There were no observations referring to water quality mitigation measures associated. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 16, 22 29 March and 6 April 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures. ET will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>13 April 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

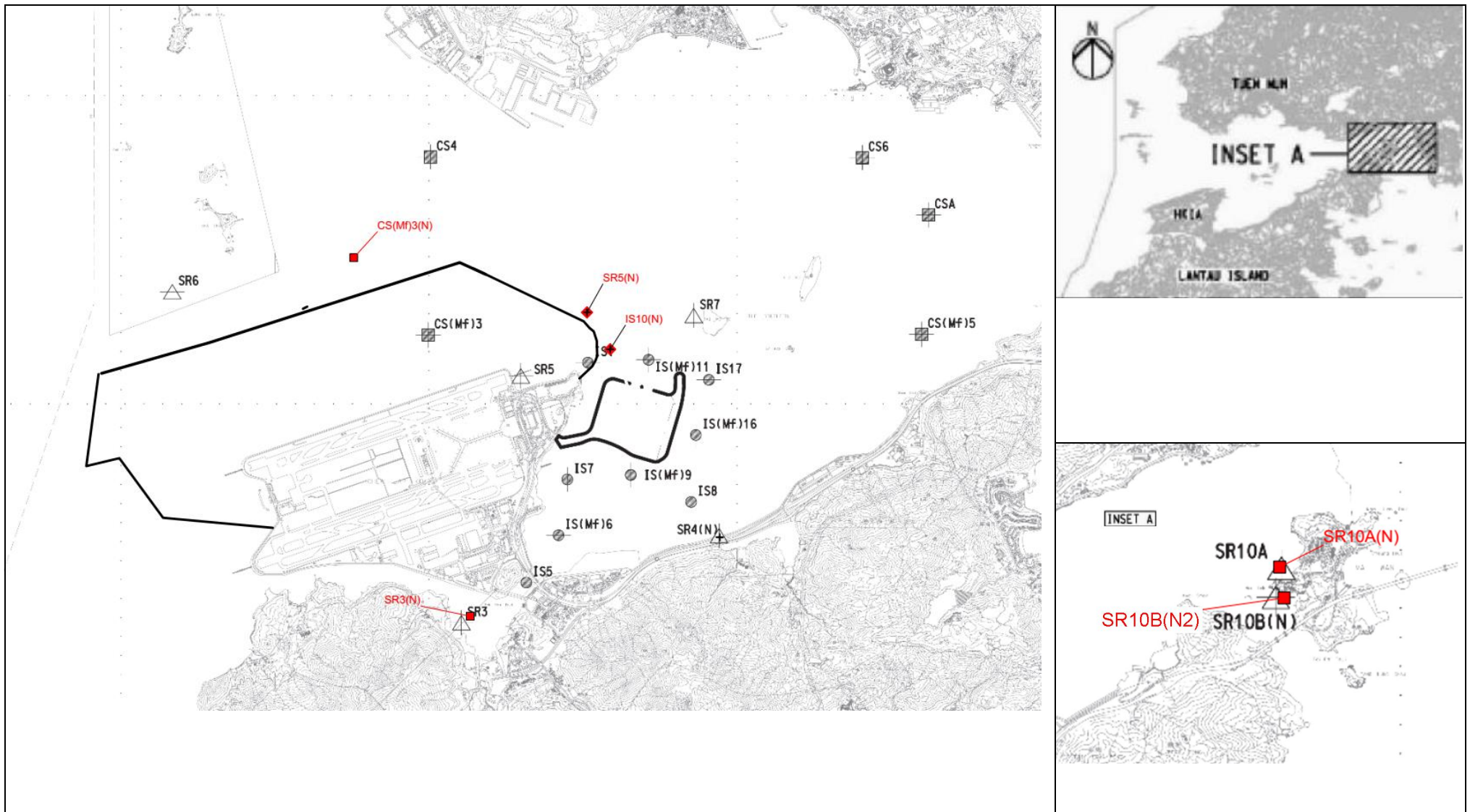


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180402SS	
Date of Notification: 18 April 2018				Date of Investigation Report: 25 April 2018		
Works Inspected: Data collected from water sampling works on 02 April 2018 and the results were issued on 18 April 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS5	Depth Average	23.5 and 120% (i.e. 13.4 for mid-ebb/13.3 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 14.5 for mid-ebb/14.4 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	24.7	13.1
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 2 April 2018, one AL exceedance of SS at IS5 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 2 April 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station IS5, the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-ebb tide on 2 April 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 2 April 2018.

While SS exceedance was recorded at IS5, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at IS5 was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 28 March 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:00 and 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 4 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:20 and 14:35. There were no observations referring to water quality mitigation measures associated

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 22, 29 March, 6 and 12 April 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. ET (Contract No.: HY/2013/03) will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>25 April 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

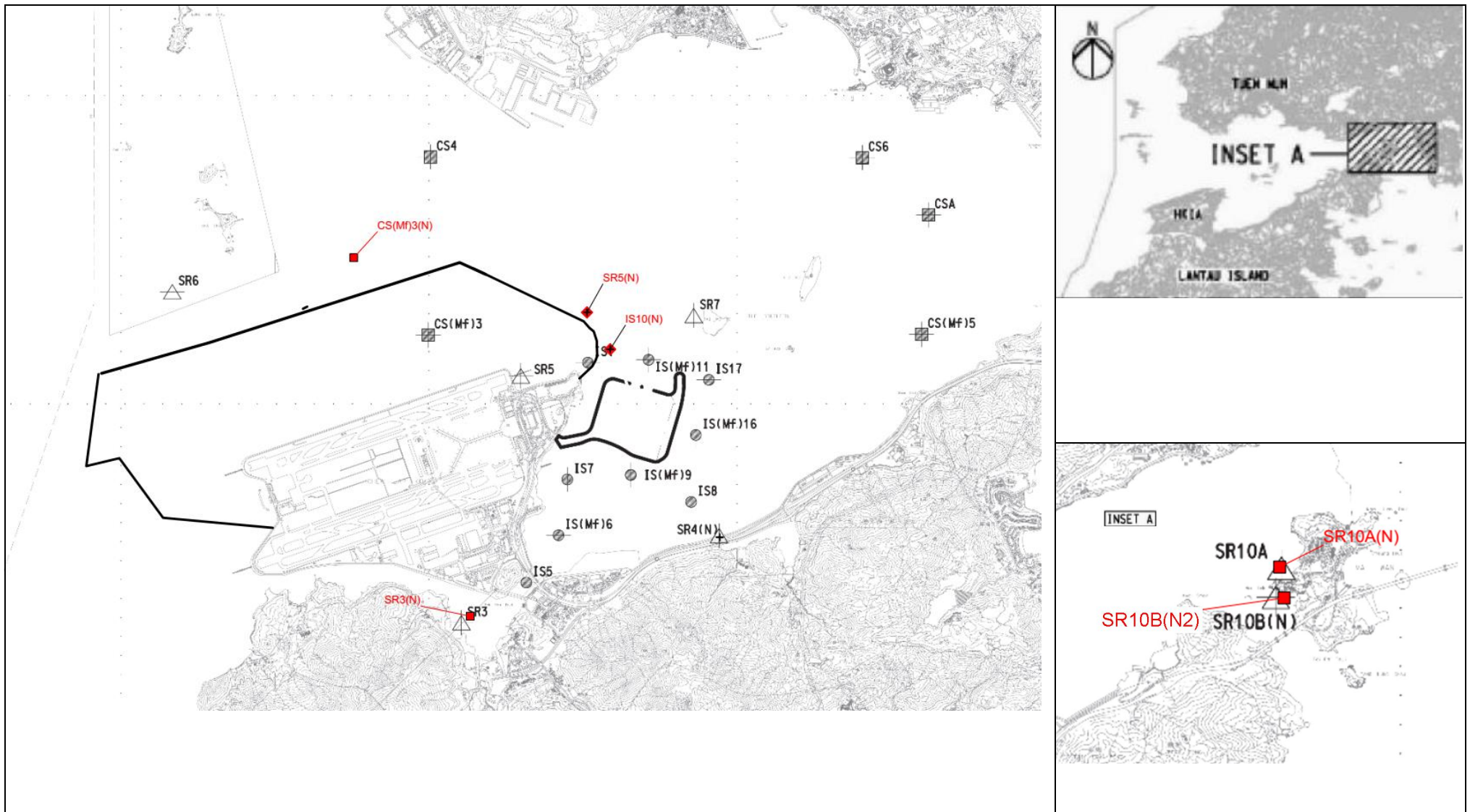


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances							Notification No.: 20180418SS_v1
Date of Notification: 25 April 2018					Date of Investigation Report: 2 May 2018		
Works Inspected: Data collected from water sampling works on 18 April 2018 and the results were issued on 25 April 2018							
Monitoring Location: Water Quality Monitoring Station							
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)							
Action & Limit Level (AL & LL) / Measured Level:							
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)	
SS	SR6	Depth Average	23.5 and 120% (i.e. 17.2 for mid-ebb/16.9 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 18.6 for mid-ebb/18.3 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	19.7	31.1	
SS	SR7	Depth Average			9.8	23.9	
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA							

Possible reason for Action / Limit Level Non-compliance:

On 18 April 2018, two AL exceedances of SS at SR6 and SR7 were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 18 April 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station SR6 and SR7, the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 18 April 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 18 April 2018.

While SS exceedance was recorded at SR6 and SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at SR6 and SR7 was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 11 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 15:30. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 18 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected at 15:10. There were no observations referring to water quality mitigation measures associated

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 6, 12, 20 and 26 April 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. ET (Contract No.: HY/2013/03) will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>2 May 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

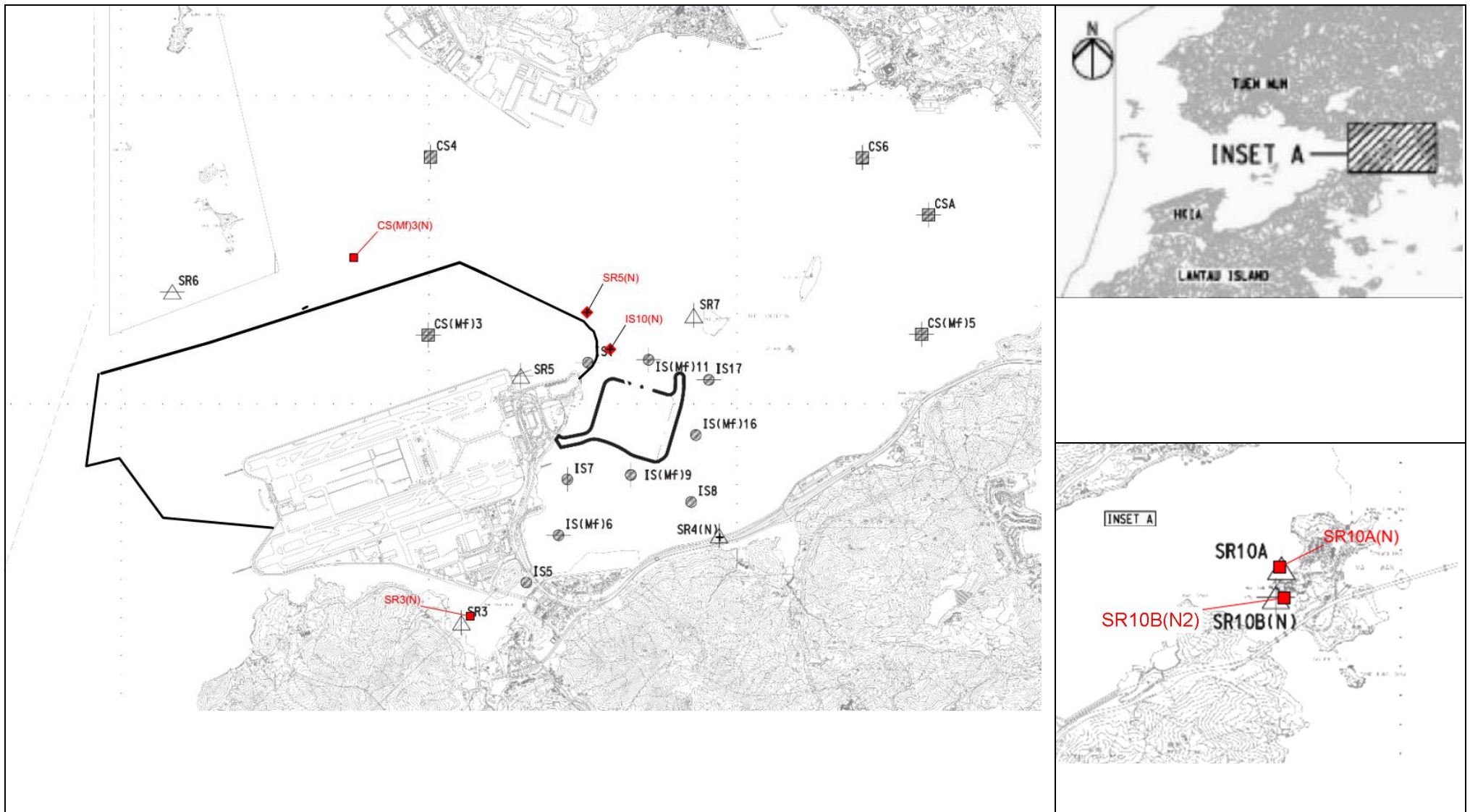


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge						
Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts)						
Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180420SS	
Date of Notification: 27 April 2018				Date of Investigation Report: 3 May 2018		
Works Inspected: Data collected from water sampling works on 20 April 2018 and the results were issued on 27 April 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	IS10(N)	Depth Average	23.5 and 120% (i.e. 18.3 for mid-ebb/14.1 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 19.8 for mid-ebb/15.3 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	21.0	25.5
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 20 April 2018, one AL exceedance of SS at IS10(N) was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 20 April 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station IS10(N), the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 20 April 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 20 April 2018.

While SS exceedance was recorded at IS10(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at IS10(N) was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 18 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected at 15:10. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's subsequent regular weekly site inspection on 23 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 14:50. Regarding water quality mitigation measures associated with that shoreline, it was observed that the silt curtain at Box Culvert C was not securely positioned at one end. The Contractor was reminded to secure the silt curtain to prevent contained site runoff entering the open waters. However, given the large distance between HY/2013/04 site shoreline and IS10(N), it is unlikely that this observation could be related to the subject exceedance.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 6, 12, 20 and 26 April 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. ET (Contract No.: HY/2013/03) will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>30 April 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

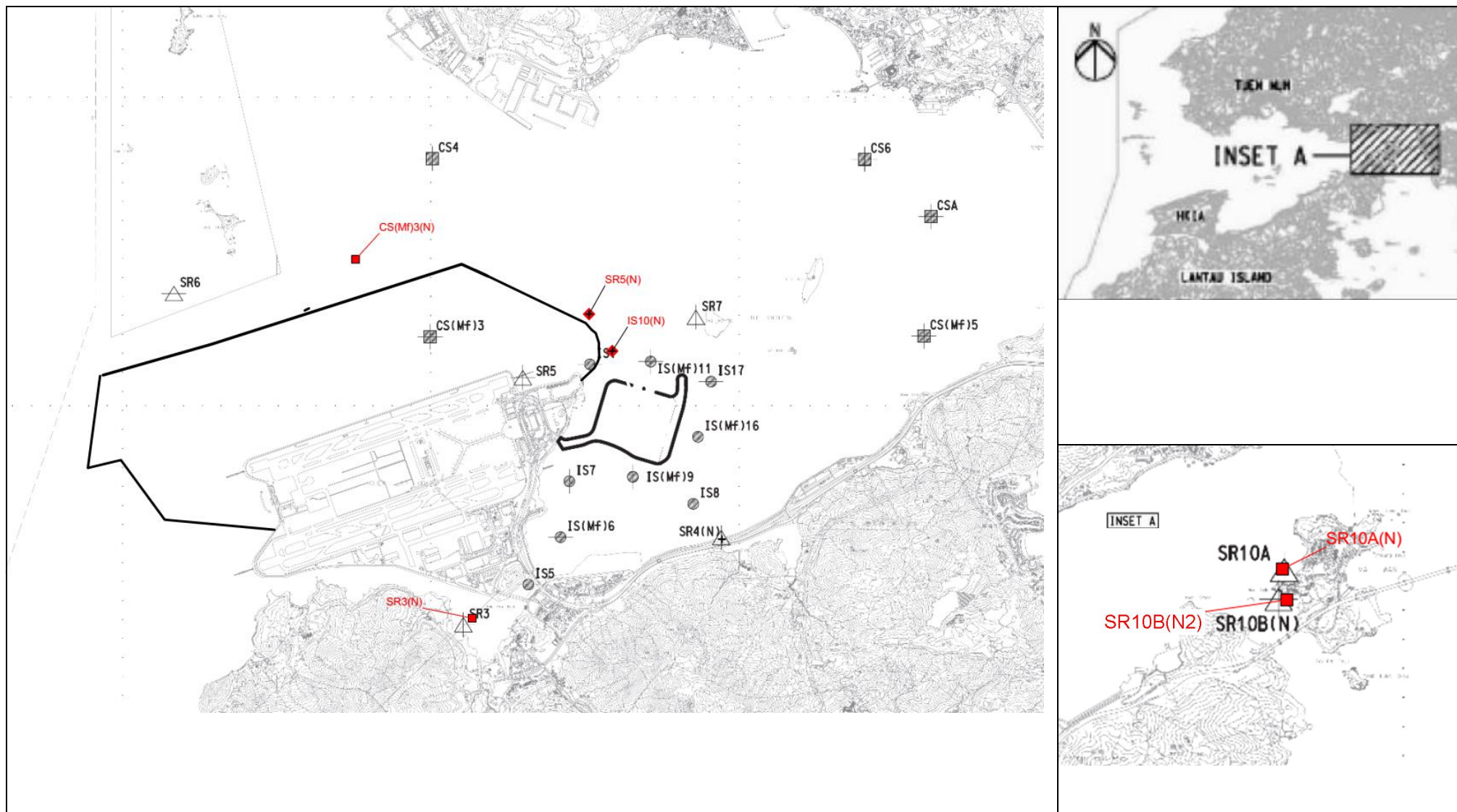


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge						
Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts)						
Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180423SS_v2	
Date of Notification: 3 May 2018				Date of Investigation Report: 11 May 2018		
Works Inspected: Data collected from water sampling works on 23 April 2018 and the results were issued on 3 May 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)
SS	SR7	Depth Average	23.5 and 120% (i.e. 12.1 for mid-ebb/10.6 for mid-flood) of upstream control station's SS at the same tide of the same day	34.4 and 130% (i.e. 13.1 for mid-ebb/11.5 for mid-flood) of upstream control station's SS at the same tide of the same day and 10mg/L for WSD Seawater intakes	9.3	33.6
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 23 April 2018, one AL exceedance of SS at SR7 was recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 23 April 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. Regarding marine-based works in Box Culvert B, the work undertaken at the date of exceedance was preparation work of precast installation which had a cofferdam to separate seawater and works area. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. All sea water flows into the work area of box culvert B will be treated by desilting facilities before discharge in accordance with the discharge license approved by EPD for Contract No. HY/2013/03. For SS exceedance recorded at the WQM station SR7, the concerned WQM stations where the exceedances were recorded were not close to the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused SS exceedance recorded at the concerned WQM station during mid-flood tide on 23 April 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 23 April 2018.

While SS exceedance was recorded at SR7, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no SS exceedance at SR7, was observed during monitoring at the next tide (i.e. mid-ebb tide on the same day).

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 23 April 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 14:50. Regarding water quality mitigation measures associated with that shoreline, it was observed that the silt curtain at Box Culvert C was not securely positioned at one end. The Contractor was reminded to secure the silt curtain to prevent contained site runoff entering the open waters. However, given the large distance between HY/2013/04 site shoreline and SR7, plus taking into account the subject exceedance being only observed at SR7, it is unlikely that this observation could be related to the subject exceedance. It is also noted that no exceedance was recorded at the monitoring locations closest to the silt curtain at Box Culvert C, namely IS7 and IS(Mf)9, on 23 April 2018.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. Not applicable as SS was not measured in situ;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the suspended solids exceedance was attributed to active construction activities of this Contract;
3. IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the suspended solids exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 12, 20, 26 April and 3 May 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures. ET (Contract No.: HY/2013/03) will take relevant photo records of the marine-based works for Contract No. HY/2013/03 via the on-going site inspections to support the necessary review of the effectiveness of site mitigation measures specific to the exceedance investigation.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>11 May 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

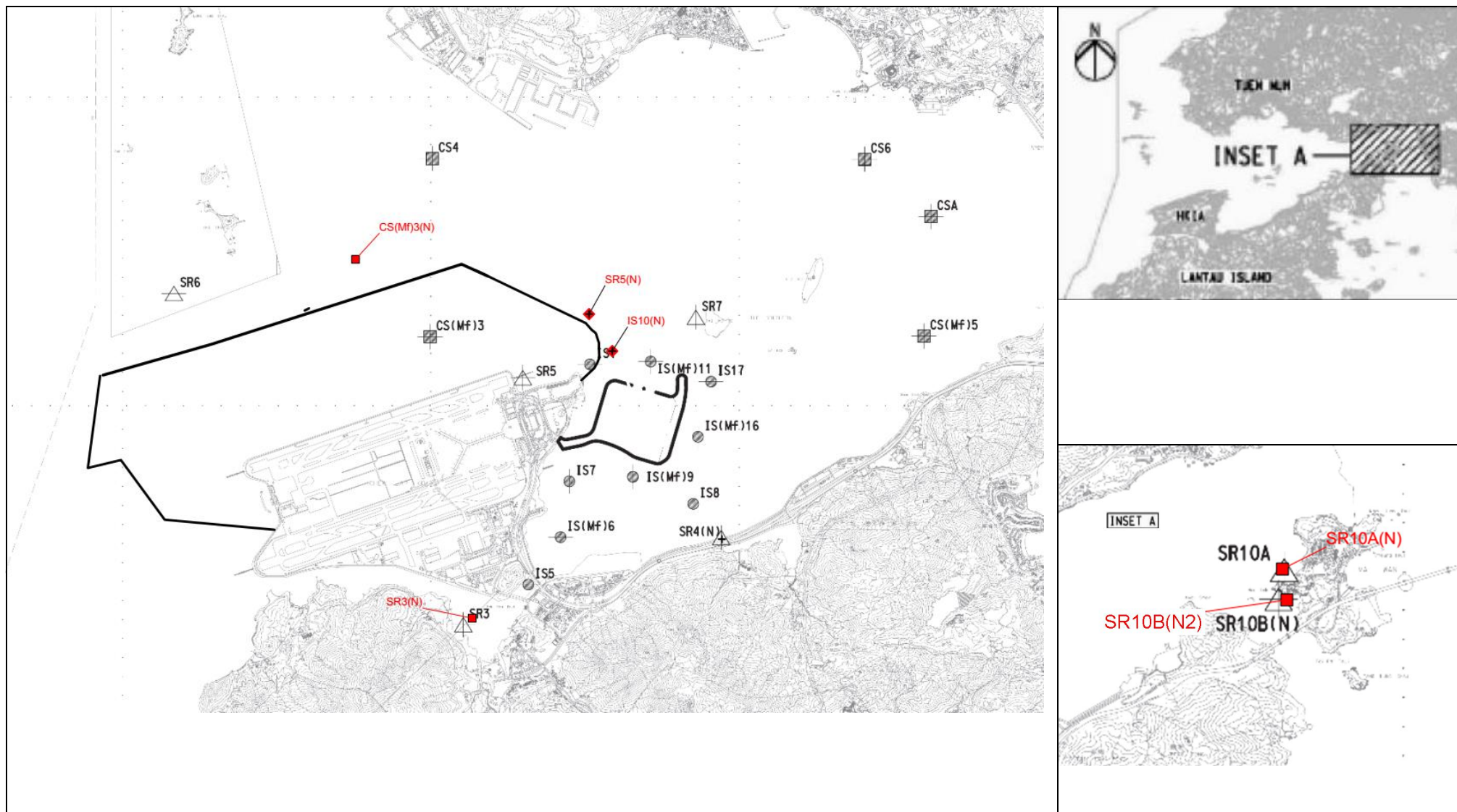


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge						
Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts)						
Notifications of Environmental Quality Limits Exceedances					Notification No.: 20180518TURB_v3	
Date of Notification: 18 May 2018				Date of Investigation Report: 15 June 2018		
Works Inspected: Data collected from water sampling works on 13 May 2018 and the results were issued on 18 May 2018						
Monitoring Location: Water Quality Monitoring Station						
Parameter: Dissolved Oxygen (DO) / Suspended Solid (SS) / Turbidity (TURB)						
Action & Limit Level (AL & LL) / Measured Level:						
PARAM	STATION	DEPTH	AL (NTU)	LL (NTU)	MEASURED AT MID-EBB TIDE (NTU)	MEASURED AT MID-FLOOD TIDE (NTU)
TURB	IS(Mf)11	Depth Average	27.5 and 120% (i.e. 21.7 for mid-ebb/12.3 for mid-flood) of upstream control station's turbidity at the same tide of the same day	47.0 and 130% (i.e. 23.5 for mid-ebb/13.3 for mid-flood) of upstream control station's turbidity at the same tide of the same day	12.1	29.7
TURB	SR5(N)	Depth Average			13.6	36.8
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA						

Possible reason for Action / Limit Level Non-compliance:

On 13 May 2018, two AL exceedances of TURB at IS(Mf)11 and SR5(N) were recorded during mid-flood tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 13 May 2018. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. The marine-based works in Box Culvert B had been completed. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. For turbidity exceedance recorded at the WQM station IS(Mf)11 and SR5(N) closer to the marine delivery route, there was no turbidity exceedance recorded at WQM station IS10(N) which also close to the marine delivery route. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused turbidity exceedance recorded at the concerned WQM station during mid-flood tide on 13 May 2018. The photos of site situation at box culvert are shown in Attachment 2.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 13 May 2018.

While turbidity exceedance was recorded at IS(Mf)11 and SR5(N), no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters.

During ET's (Contract No.: HY/2013/04) regular weekly site inspection on 10 May 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 09:55 and 10:00. There were no observations referring to water quality mitigation measures associated with that shoreline.

During ET's (Contract No.: HY/2013/04) subsequent regular weekly site inspection on 14 May 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:20 and 15:20. Regarding water quality mitigation measures associated with that shoreline, it was observed that silty water was observed outside silt curtain at Box Culvert D. The Contractor was reminded to check the integrity of silt curtain. However, the observed silty water was limited to the immediate vicinity of the silt curtain (see photo in Attachment 1). Also, no exceedance was recorded at the monitoring locations closest to the silt curtain at Box Culvert D, namely IS7 and IS(Mf)9, on 13 May 2018. Furthermore, given the large distance between HY/2013/04 site shoreline and the exceedance locations of IS(Mf)11 and SR5(N), it is unlikely that this observation could be related to the subject exceedances. It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. *In situ* measurement was repeated to confirm findings;
 2. After considering the above-mentioned investigation results, it appears that it was unlikely that the turbidity exceedances were attributed to active construction activities of this Contract;
 3. IEC, Contractor and ER were informed via email;
 4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
 5. Since it is considered that the turbidity exceedances are unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.
- However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 3, 10, 17 and 25 May 2018, ET (Contract No.: HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>15 June 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

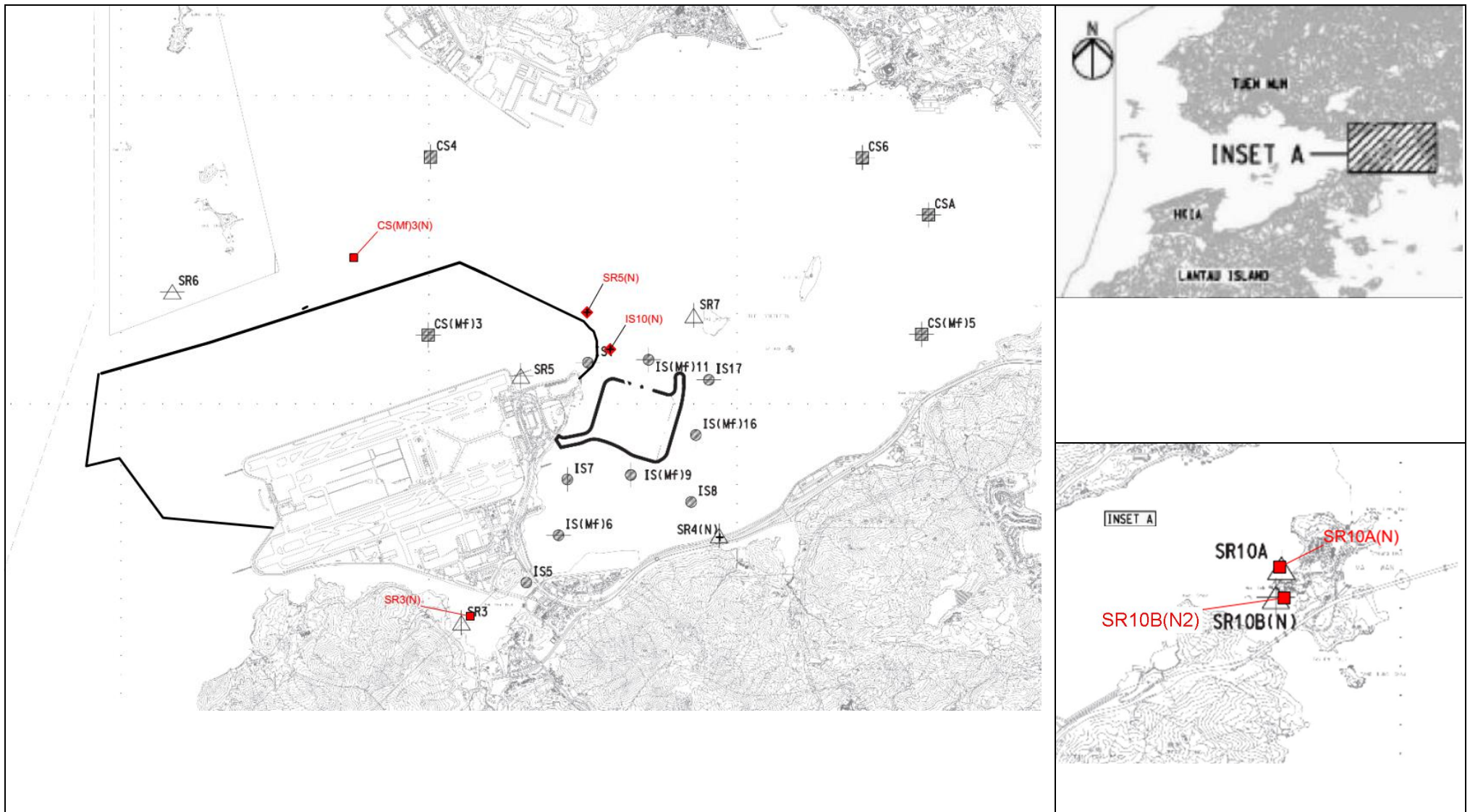


Figure 1: Location Plan

Attachment 1

Silty water was observed outside silt curtain at Box Culvert D. The Contractor was reminded to check the integrity of silt curtain.



Attachment 2

Photo 1



Photo 2



Photo 3 | Construction of seawall



Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances							Notification No.: 20180525DO_v3
Date of Notification: 30 May 2018				Date of Investigation Report: 15 June 2018			
Works Inspected: Data collected from water sampling works on 25 May 2018 and the results were issued on 30 May 2018							
Monitoring Location: Water Quality Monitoring Station							
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)							
Action & Limit Level (AL & LL) / Measured Level:							
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)	
DO	IS8	Depth Average	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	4.5	9.1	
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. Bold with underline means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA							

Possible reason for Action / Limit Level Non-compliance:

On 25 May 2018, one AL exceedance of DO at IS8 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 25 May 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by vacuum truck. No organic matter discharge/ accumulation at active works areas on 25 May 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 25 May 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. In addition, the exceedances recorded at WQM station IS8 are far away from the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused DO exceedance recorded at the concerned WQM station during mid-ebb tide on 25 May 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 25 May 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 25 May 2018.

While DO exceedance was recorded at IS8, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no notification of DO exceedance at IS8 during monitoring at the next tide (i.e. mid-flood tide on the same day) was received.

During ET's (Contract No. HY/2013/04) regular weekly site inspection on 23 May 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 15:00. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by vacuum truck. No organic matter discharge/ accumulation at active works areas on 25 May 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
3. IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the dissolved oxygen exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 3, 10, 17, 25 and 31 May 2018, ET confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>15 June 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

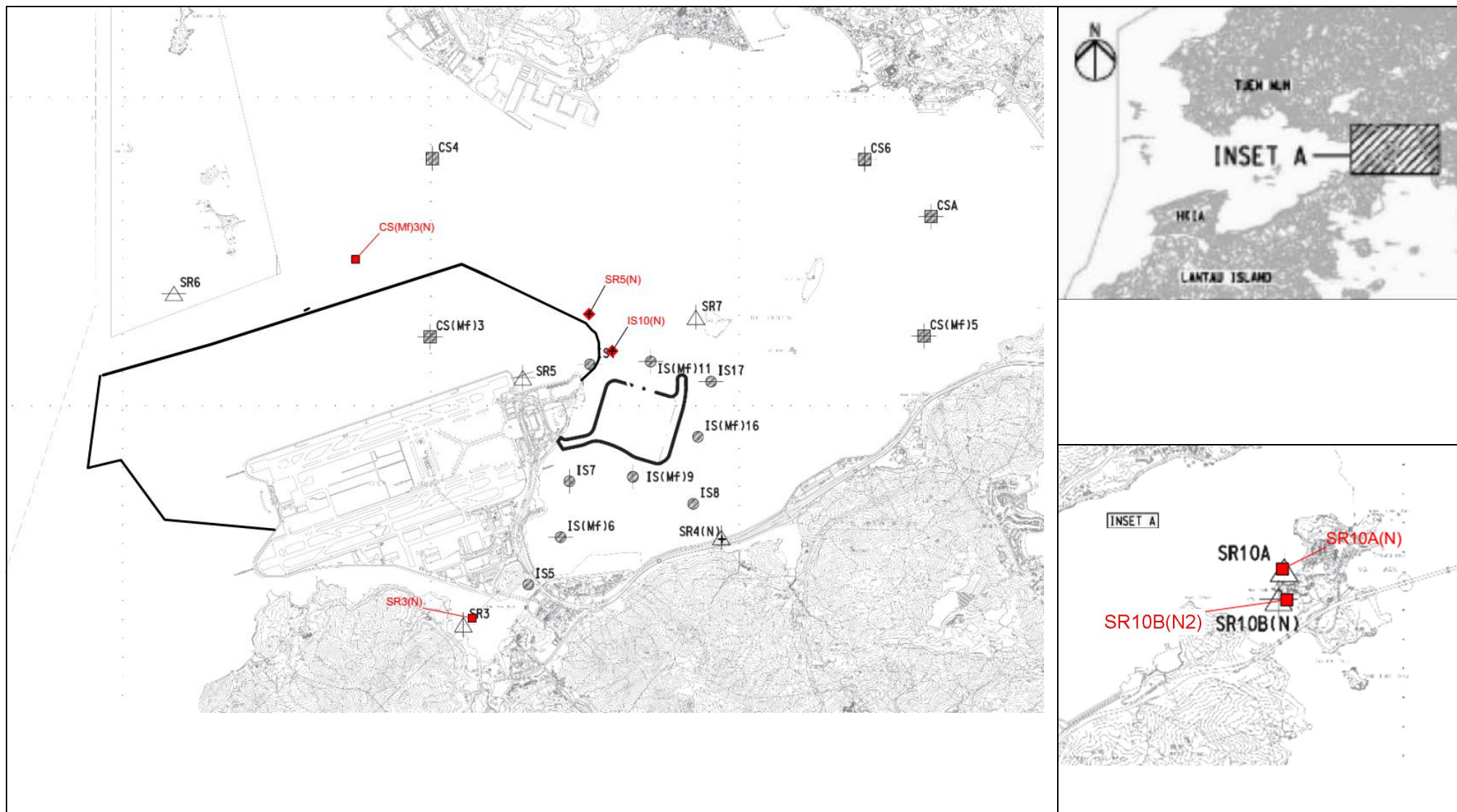


Figure 1: Location Plan

Hong Kong- Zhuhai- Macao Bridge Hong Kong Boundary Crossing Facilities (Superstructure and Infrastructure Contracts) Notifications of Environmental Quality Limits Exceedances							Notification No.: 20180528DO_v3
Date of Notification: 1 June 2018				Date of Investigation Report: 15 June 2018			
Works Inspected: Data collected from water sampling works on 28 May 2018 and the results were issued on 1 June 2018							
Monitoring Location: Water Quality Monitoring Station							
Parameter: Dissolved Oxygen (DO)/ Suspended Solid (SS) / Turbidity (TURB)							
Action & Limit Level (AL & LL) / Measured Level:							
PARAM	STATION	DEPTH	AL (mg/L)	LL (mg/L)	MEASURED AT MID-EBB TIDE (mg/L)	MEASURED AT MID-FLOOD TIDE (mg/L)	
DO	IS5	Bottom	Surface and Middle 5.0 Bottom 4.7	Surface and Middle 4.2 (except 5 mg/L for FCZ) Bottom 3.6	4.0	5.5	
Notes: AL means Action Level. LL means Limit Level. Bold means AL exceedances. <u>Bold with underline</u> means LL exceedances. Upstream control stations of mid-ebb tide: CS(Mf)3(N) and CS4 Upstream control stations of mid-flood tide: CS(Mf)5, CS6 and CSA							

Possible reason for Action / Limit Level Non-compliance:

On 28 May 2018, one AL exceedance of DO at IS5 was recorded during mid-ebb tide.

Contract No.: HY/2013/01

As confirmed by the Contractor of Contract No.: HY/2013/01, there was no marine transportation and marine-based work on 28 May 2018. No site runoff within the Contract site has been observed. All wastewater generated from construction site which potentially contain organic matter was collected by vacuum truck. No organic matter discharge/ accumulation at active works areas on 25 May 2018. Therefore, it is concluded that the exceedances were not related to the Contract.

Contract No.: HY/2013/02

As confirmed with RSS, it is concluded that the exceedances were not related to the Contract due to completion of marine works on 10 September 2017. ET (Contract No. HY/2013/02) confirmed that no any organic matter discharge/accumulation at active works areas under Contract HY/2013/02 was observed on the date of exceedance with respect to the exceedance in DO.

Contract No.: HY/2013/03

As confirmed with RSS of Contract No. HY/2013/03, there was no marine transportation on the date of exceedance. As confirmed with Mr. Marko Chan, Environmental Officer, and operation team of Contract No. HY/2013/03, no organic matter discharge or accumulation at active works areas on 25 May 2018 under Contract No. HY/2013/03. The marine-based works in Box Culvert B had been completed. Silt curtain was also maintained to enclose the work area of the outlet of the box culvert fully. In addition, the exceedances recorded at WQM station IS5 are far away from the marine works area of Contract No. HY/2013/03, while there was no notification of exceedance received at the WQM stations closer to the works areas, such as IS(Mf)11. It was unlikely that the works undertaken by Contract No. HY/2013/03 caused DO exceedance recorded at the concerned WQM station during mid-ebb tide on 28 May 2018.

Contract No.: HY/2013/04

According to the Contractor of HY/2013/04, all marine-based segment deliveries were completed in January 2018 and no marine-based works were conducted under the contract on 28 May 2018. Furthermore, there was no visible observation of any discharge or accumulation of organic matter at the active works areas within HY/2013/04 site area on 25 May 2018.

While DO exceedance was recorded at IS5, no exceedance was recorded at IS(Mf)9 which is the nearest monitoring location to HY/2013/04 loading and unloading point and HY/2013/04 shoreline interfacing with open waters. Also, no notification of DO exceedance at IS5 during monitoring at the next tide (i.e. mid-flood tide on the same day) was received.

During ET's (Contract No. HY/2013/04) regular weekly site inspection on 23 May 2018, HY/2013/04 site shoreline interfacing with open waters was inspected between 14:15 and 15:00. There were no observations referring to water quality mitigation measures associated with that shoreline.

It was concluded that the exceedance was not due to HY/2013/04.

Contract No.: HY/2014/05

There was no marine transportation and marine-based work under this contract. No site runoff within the Contract site has been observed. Therefore, it is concluded that the exceedances were not related to the Contract.

Actions taken/ to be taken:

Contract No.: HY/2013/01

Actions were taken under action plan:

1. in situ measurement was repeated to confirm findings;
2. After considering the above-mentioned investigation results, it appears that it was unlikely that the dissolved oxygen exceedance was attributed to active construction activities of this Contract;
3. IEC, Contractor and ER were informed via email;
4. Monitoring data, all plant, equipment and Contractor's working methods were checked;
5. Since it is considered that the dissolved oxygen exceedance is unlikely to be contract related, as such, Actions 5-7 under the EAP are not considered applicable.

However, the Contractor was also reminded to implement environmental mitigation measures in accordance with Environmental Mitigation Implementation Schedule.

Contract No.: HY/2013/02

Although the exceedance was considered not due to HY/2013/02, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2013/03


During weekly site audit on 3, 10, 17, 25 and 31 May 2018, ET (Contract No. HY/2013/03) confirmed the Contractor had provided workable and effective water quality mitigation measures.

Contract No.: HY/2013/04

Although the exceedance was considered not due to HY/2013/04, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Contract No.: HY/2014/05

Although the exceedance was considered not due to HY/2014/05, the Contractor is reminded to implement all necessary water quality mitigation measures identified in the EM&A Manual.

Checked by:	<u>Keith Chau</u>	Title:	<u>Environmental Team Leader (Contract No. HY/2013/01)</u>
Signature:	<u></u>	Date:	<u>15 June 2018</u>
Copied to	: Contractor, Engineer Representative and IEC/ENPO		

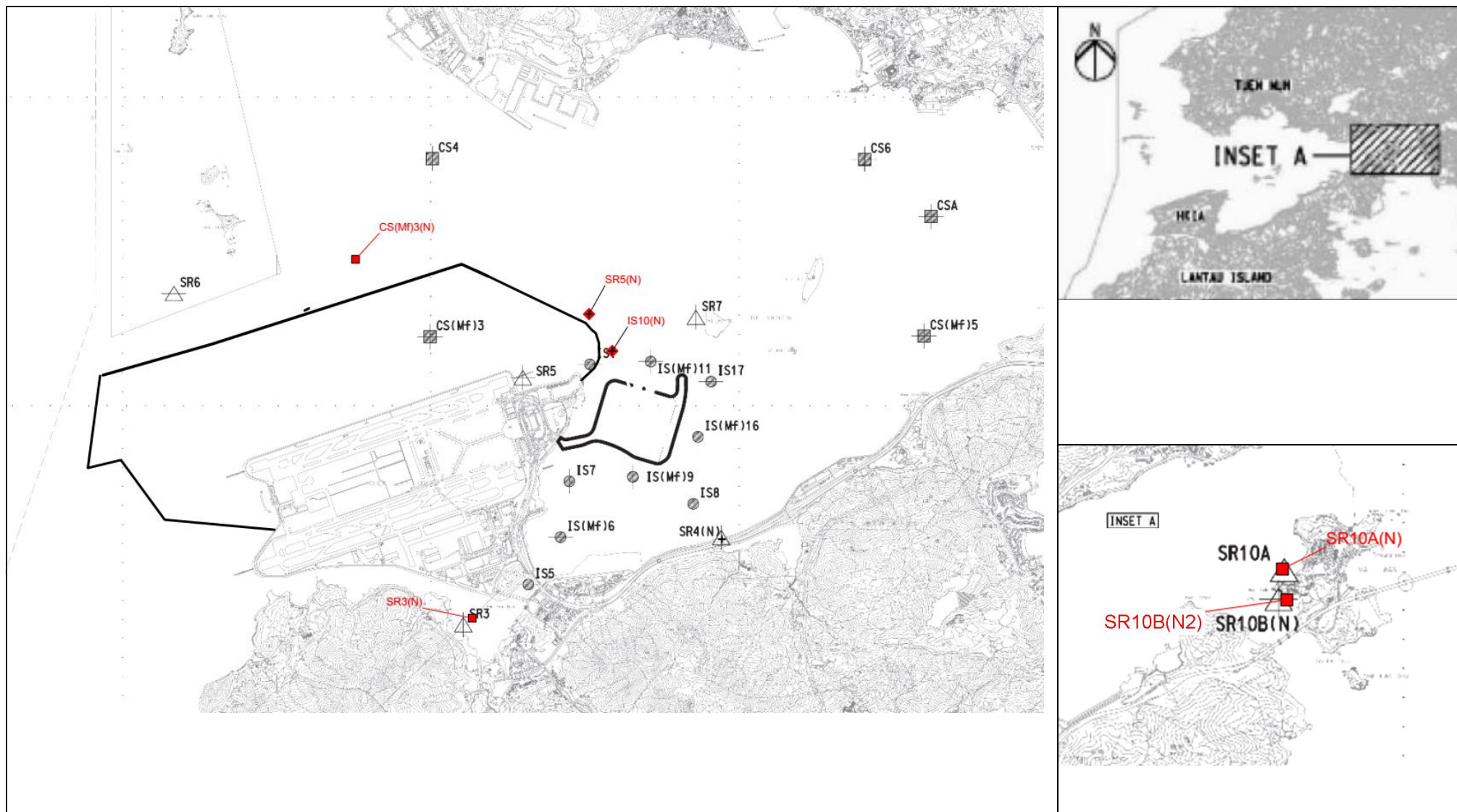


Figure 1: Location Plan

**Contract No. HY/2013/01 -
Hong Kong- Zhuhai- Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building
Notification of Environmental Quality Limit Exceedance**

Notification No.: 201803-05D

Date of Notification: 4 March 2019

Works Inspected: Not Applicable

Monitoring Location: NEL & NWL

Parameter: Ecology (Chinese White Dolphin Monitoring)

Action & Limit Levels			Monitoring Results
	North Lantau Social Cluster		The quarter of March – May 2018
	Action Level (AL)	Limit Level (LL)	
Northeast Lantau (NEL)	STG < 4.2 & ANI < 15.5	NEL: (STG < 2.4 & ANI < 8.9) and NWL: (STG < 3.9 & ANI < 17.9)	<u>STG = 0; ANI = 0</u>
Northwest Lantau (NWL)	STG < 6.9 & ANI < 31.3		<u>STG = 1.97; ANI = 4.81</u>

Notes:

1. STG means quarterly encounter rate of number of dolphin sightings.
2. ANI means quarterly encounter rate of total number of dolphins.
3. For North Lantau Social Cluster, AL will be triggered if either NEL or NWL falls below the criteria; LL will be triggered if both NEL and NWL fall below the criteria.
4. ***Bold Italic*** means AL exceedances.
5. ***Bold Italic with underline*** means LL exceedances.

Possible reason for Action / Limit Level Non-compliance:

One Limit Level exceedance of dolphin monitoring was recorded during quarterly monitoring (March – May 2018). The ETL informed IEC, ENPO, ER and Contractor via email on 8 June 2018.

According to information provided by ER, the marine based works undertaken during the quarterly were shown as below:

Contract No.: HY/2013/01

- No marine based work.

There is no evidence showing the current LL non-compliance directly related to the construction works of Contract No. HY/2013/01 (the Contract). According to information from the Contractor, no marine based construction works and marine transportation were undertaken during reporting period.

Contract No.: HY/2013/02

- No marine based works.

Contract No.: HY/2013/03

- Box Culvert B outfall construction with cofferdams.

Contract No.: HY/2013/04

- Outfall construction at Box C and D inside cofferdam.

Actions taken/ to be taken:

1. Statistical data analysis has been repeated to confirm findings;
2. All available and relevant data, including raw data and statistical analysis results of other parameters covered in the EM&A have been reviewed;
3. Identification of source of impact was carried out;
4. The ETL informed IEC, ENPO, ER and Contractor have been informed of findings on 8 June 2018;
5. Monitoring data have been checked;
6. Repeated review to ensure all the dolphin protective measures are fully and properly implemented and advise on additional measures if necessary;
7. After investigation, there was no evidence that indicated that the reduced number of dolphins in NWL and NEL was related solely to Project works. It was also concluded the contributed of impacted due to the HZMB works as a whole (or individual nor separate).

Recommendations/ mitigation measures/ actions if necessary:

All dolphin protective measures are fully and properly implemented in accordance with the EM&A Manual.

Contract No.: HY/2013/01

Not applicable.

Contract No.: HY/2013/02

Not applicable.

Contract No.: HY/2013/03

According to information from ER, silt curtain was installed.

Contract No.: HY/2013/04

According to information from ER, silt curtain was installed.

Based on section 10.2.19 of the Updated EM&A Manual (for Hong Kong Boundary Crossing Facilities) (version 1.0) that verification by IEC on 4 January 2012, the travelling speed of vessels must not exceed 10 knots within the boundaries of the Sha Chau/Lung Kwu Chau Marine Park appears to be effective in protecting the dolphins from vessel collisions. The Contractor will continue to provide training for Captains of construction vessels working in the West Lantau waters and near the Brothers Marine Parks should undergo training to learn about local dolphins and porpoises. They should be trained to be aware of the protocol for "dolphin friendly" vessel operation. All working vessels should be required to use regular travel routes, in order to minimize the chance of vessel collision. And the routes would not go through the dolphin hotspot near Brothers Marine Parks.

A meeting was held on 4 September 2018 with attendance of representative of ENPO, Resident Site Staff (RSS), Environmental Team (ET) and dolphin specialist for Contract Nos. HY/2013/01, HY/2011/03, HY/2012/07, HY/2012/08, to discuss dolphin encounter rates during the period March- May 2018.

In the meeting, it was conducted that the Hong Kong-Zhuhai-Macao (HZMB) works is one of the contribution factors affecting the dolphins. It was also concluded the contribution of impacts due to the HZMB work as a whole (or individual marine contracts) cannot be quantified nor separate from the other stress factors.

It was reminded that ETs shall keep reviewing the implementation status of the dolphin related mitigation measures and remind the contractor to ensure the relevant measures were fully implemented.

It was recommended that the marine works footprint (e.g., reduce the size of peripheral slit curtain) and vessels for the marine works should be reduced as much as possible, and vessels idling / mooring in other part of the North Lantau shall be avoided whenever possible.

The marine travel route will shift along the edge of Brothers Marine Park (BMP) as much as practical under the Regular Marine Travel Route Plan. It was noted that even though marine vessels may moor within the mooring site of BMP, commercial activities including loading/ unloading/ transshipment are not allowed except a permit is obtained. The HZMB works vessels were recommended to avoid the BMP.

There was a discussion on exploring possible further mitigation measures, for example, controlling the underwater noise. It was noted that the EIA reports for the projects suggested several mitigation measures, all of which have been implemented.

Prepared by: Ruby Law

Title: ET Representative (up to 31 October 2018)



Date: 4 March 2019

Reviewed by: Keith Chau

Title: ET Leader (up to 31 October 2018)



Date : 4 March 2019

Copied to: IEC/ENPO, Contractor and Engineer Representative