

Appendix N Exceedance Report

Statistical Summary of Exceedances

Water Quality			
Location	Action Level	Limit Level	Total
B1	1	0	1
B2	1	0	1
B3	0	1	1
B4	2	0	2
CR1	2	1	3
CR2	1	0	1
F1	1	0	1
H1	0	0	0
S1	0	0	0
S2	0	0	0
S3	1	0	1
M1	3	0	3
Noise			
Location	Action Level	Limit Level	Total
M1 / N_S1	0	0	0
M2 / N_S2	0	0	0
M3 / N_S3	0	0	0

Incident Report on Action Level or Limit Level Non-compliance

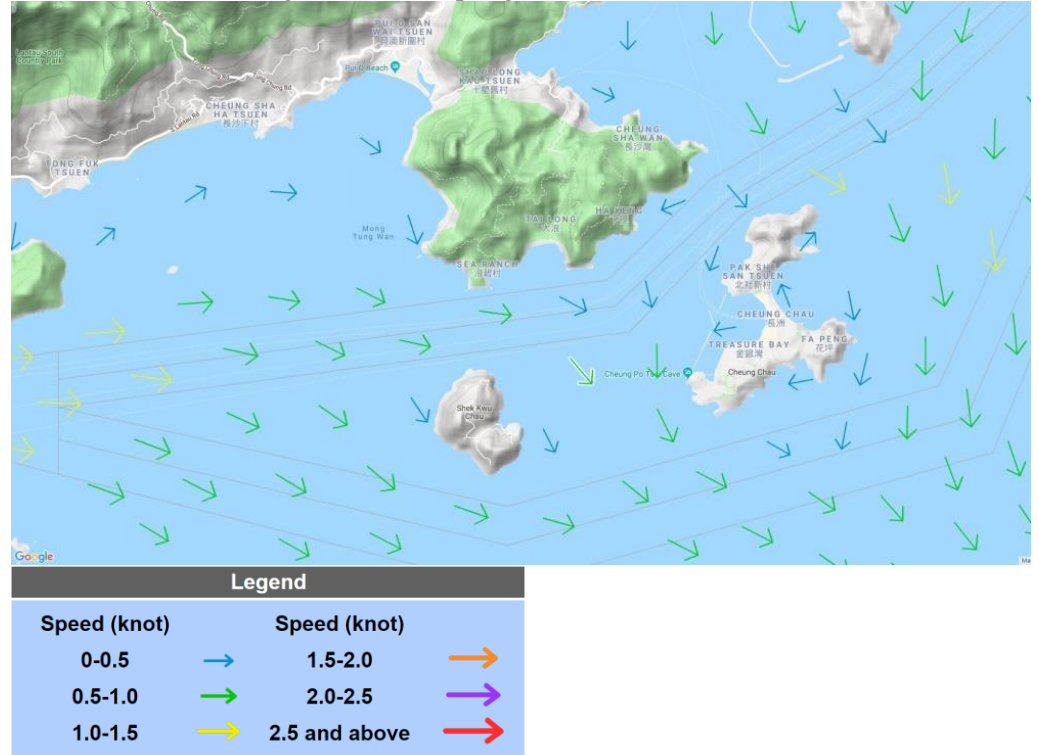
Project	Integrated Waste Management Facilities, Phase 1		
Date	29 June 2018 (Lab result received on 5 July 2018)		
Time	11:45 – 15:15 (Mid-ebb)		
Monitoring Location	B1, F1, CR1, CR2 and M1		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action	Limit	
	≥ 8 mg/L	≥ 10 mg/L	
Measurement Level	Station(s) of Exceedance	Control Stations	Impact Stations
	10.5 mg/L (B1) 10.5 mg/L (F1) 8.6 mg/L (CR1) 11.8 mg/L (CR2) 11.5 mg/L (M1)	5.8 mg/L (C1) 6.8 mg/L (C2)	7 mg/L (B2) 6.5 mg/L (B3) 7.5 mg/L (B4) 7.8 mg/L (H1)
Possible reason for Action or Limit Level Non-compliance	<p>Works carried out on site on 29/6 include ground investigation (GI) works of 3 borehole drilling and 1 cone penetration testing (CPT), which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>B1, F1, CR2 and M1 are located at upstream/unrelated stream direction to the works location, exceedance of these monitoring location are deemed to be unrelated to the Project, where these exceedance also implied the high background SS level of the near waters.</p> <p>CR1 is located downstream (Southeast) to the works location, while no major difference in SS level was observed as compared with the closest station (CR2, East/Northeast/Northwest to works location), thus exceedance of this monitoring location is deemed to be unrelated to the Project.</p> <p>Spatial variation among the background SS level is observed as control stations (C1, C2) and some impact stations (B2, B3, B4, H1) in the middle that are also located at upstream/unrelated stream direction to the works location have relatively lower SS level (5.8-7.8 mg/L).</p>		

Actions taken / to be taken

Nil

Remarks

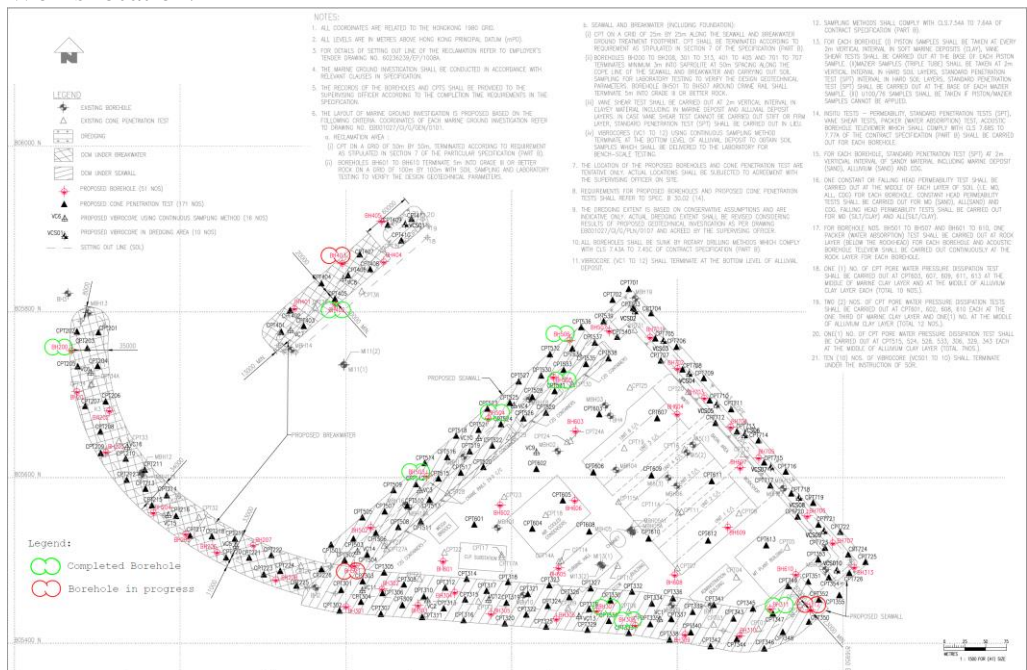
Current direction during mid-ebb sampling on 29/6:



Site condition on 29/6:

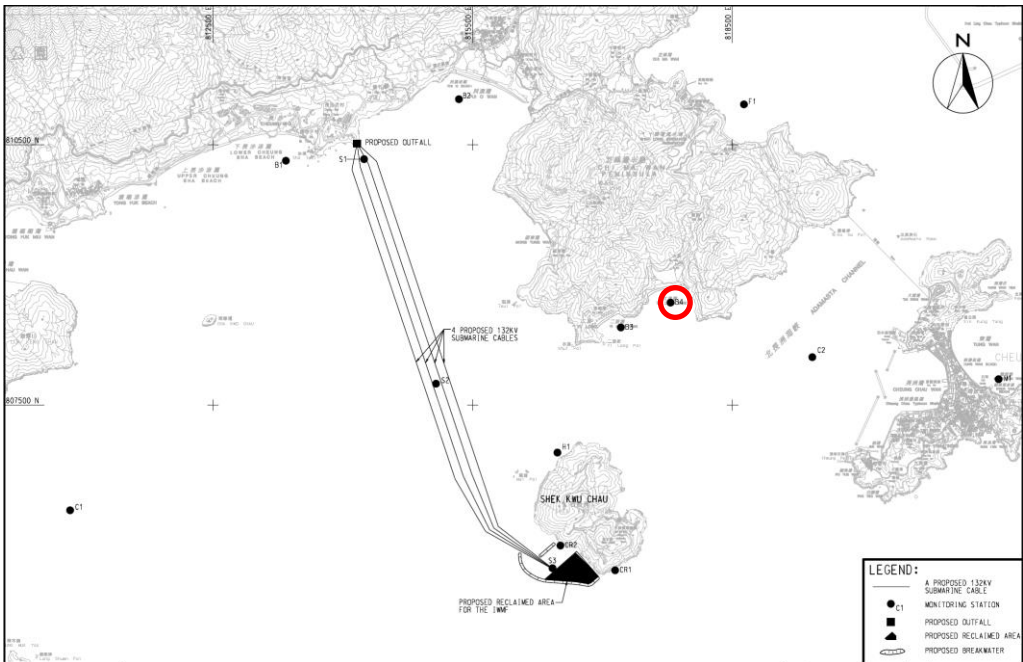


Works location:




Prepared by Nelson Tsui
 Date 6 July 2018

Incident Report on Action Level or Limit Level Non-compliance

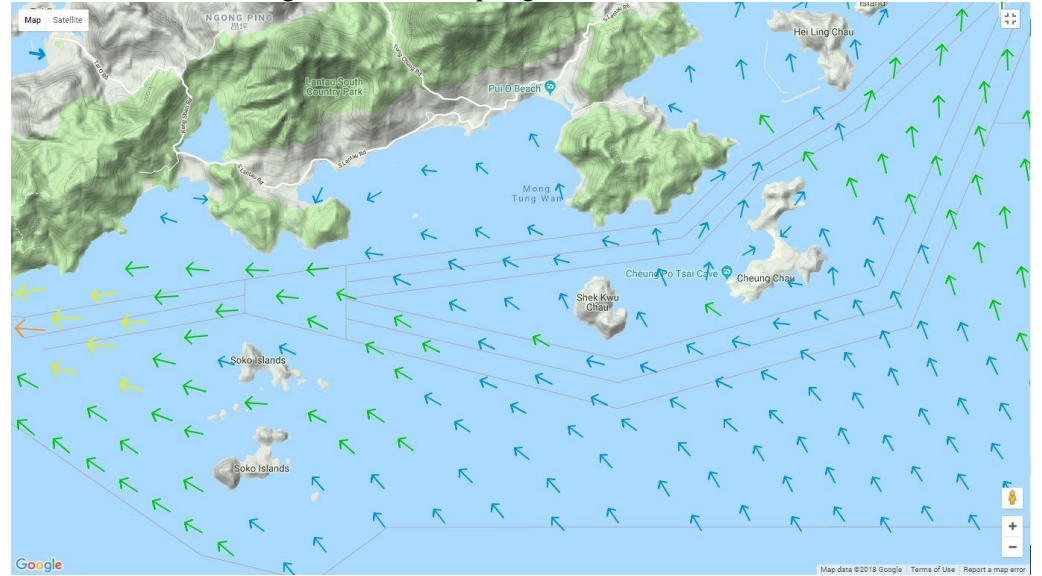
Project	Integrated Waste Management Facilities, Phase 1		
Date	10 July 2018 (Lab result received on 13 July 2018)		
Time	1:30 – 5:00 (Mid-flood) 8:15 – 11:45 (Mid-ebb)		
Mid-flood			
Monitoring Location	B4 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action	Limit	
	≥ 8.2 mg/L (120% of C2)	≥ 10 mg/L	
Measurement Level	Station(s) of Exceedance	Control Stations	Impact Stations without Exceedance
	9.3 mg/L (B4)	5 mg/L (C1) 6.8 mg/L (C2)	7 mg/L (B1) 8 mg/L (B2) 8 mg/L (B3) 7.2 mg/L (CR1) 7.7 mg/L (CR2) 7.8 mg/L (F1) 5.2 mg/L (H1) 6.3 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	<p>Works carried out on site on 10/7 include ground investigation (GI) works of 1 borehole drilling and preparation work for laying geotextile, frame type silt curtain and sand blanket, which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Dominating sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>B4 is located at unrelated stream direction to the works location, exceedance of this monitoring location is deemed to be unrelated to the Project.</p> <p>The exceedance of SS level is observed as a localized event with no continuous trending as all other monitoring stations have similarly low SS level.</p>		

Mid-ebb

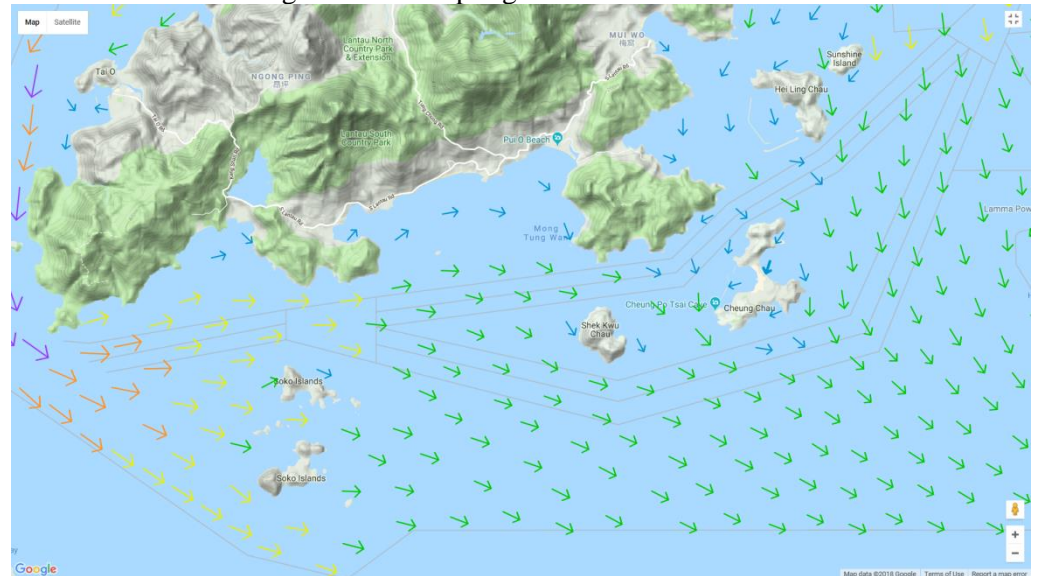
<p>Monitoring Location</p>	<p>M1</p>  <p>LEGEND: A PROPOSED 132KV SUBMARINE CABLE ● C1 MONITORING STATION ■ PROPOSED OUTFALL ▲ PROPOSED RECLAIMED AREA ○ PROPOSED BREAKWATER</p>		
<p>Parameter</p>	<p>Suspended Solid (SS)</p>		
<p>Action & Limit Levels</p>	<p>Action ≥ 8 mg/L</p>	<p>Limit ≥ 10 mg/L</p>	
<p>Measurement Level</p>	<p>Station(s) of Exceedance 12.2 mg/L (M1)</p>	<p>Control Stations 5.5 mg/L (C1) 6.3 mg/L (C2)</p>	<p>Impact Stations without Exceedance 5.8 mg/L (B1) 6 mg/L (B2) 5.8 mg/L (B3) 5.5 mg/L (B4) 6.8 mg/L (CR1) 6.7 mg/L (CR2) 5.3 mg/L (F1) 6.7 mg/L (H1)</p>
<p>Possible reason for Action or Limit Level Non-compliance</p>	<p>Works carried out on site on 10/7 include ground investigation (GI) works of 1 borehole drilling and preparation work for laying geotextile, frame type silt curtain and sand blanket, which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>M1 is located at unrelated stream direction to the works location, exceedance of this monitoring location is deemed to be unrelated to the Project.</p> <p>The exceedance of SS level is observed as a localized event with no continuous trending as all other monitoring stations have similarly low SS level.</p>		
<p>Actions taken / to be taken</p>	<p>Nil</p>		

Remarks

Current direction during mid-flood sampling on 10/7:



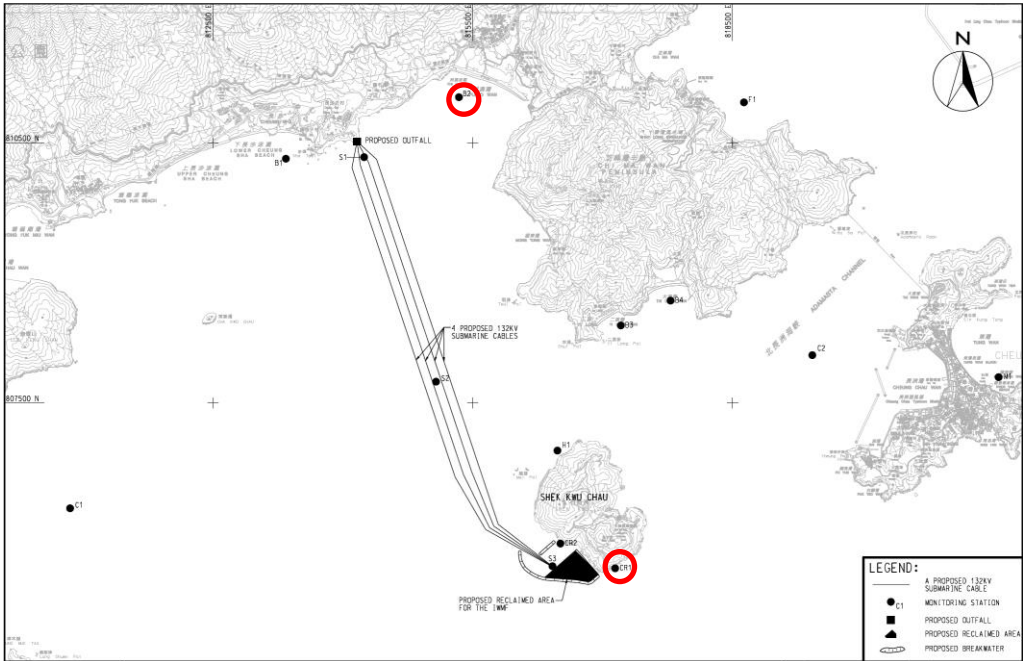
Current direction during mid-ebb sampling on 10/7:

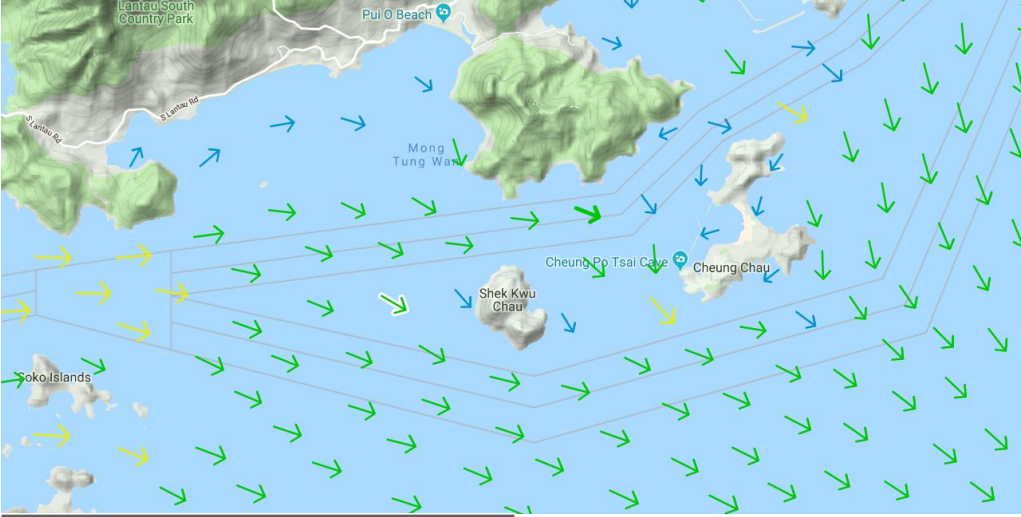



Legend			
Speed (knot)	Color	Speed (knot)	Color
0-0.5	Blue arrow	1.5-2.0	Orange arrow
0.5-1.0	Green arrow	2.0-2.5	Purple arrow
1.0-1.5	Yellow arrow	2.5 and above	Red arrow

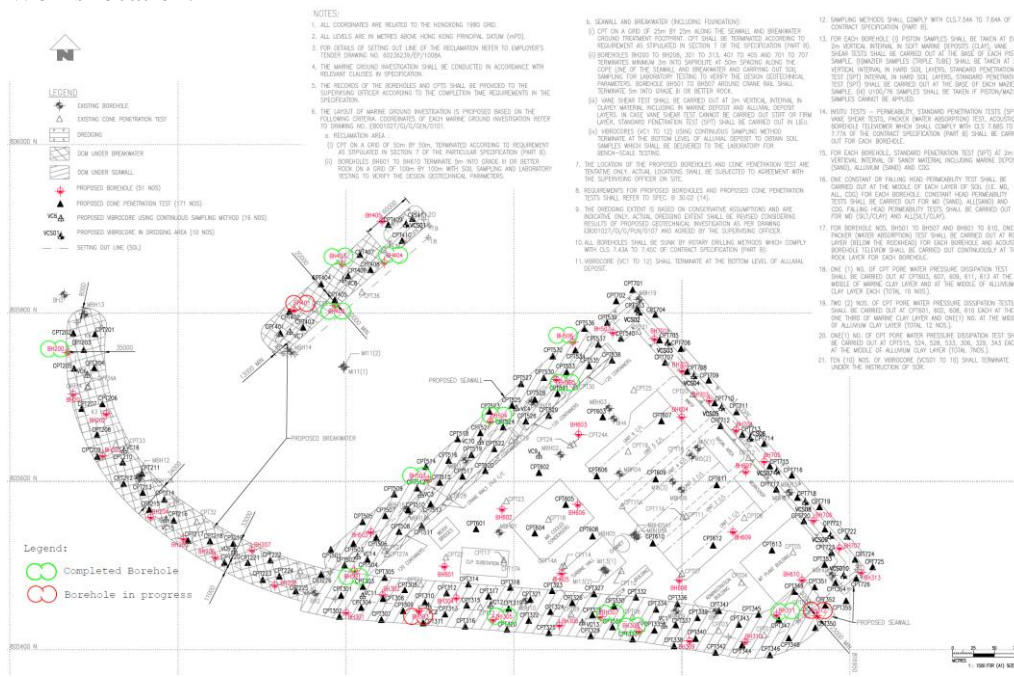
Prepared by	Nelson Tsui
Date	16 July 2018

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	12 July 2018 (Lab result received on 17 July 2018)		
Time	9:52 – 13:22 (Mid-ebb)		
Monitoring Location	B2 and CR1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action	Limit	
	≥ 8 mg/L	≥ 10 mg/L	
Measurement Level	Station(s) of Exceedance	Control Stations	Impact Stations of No Exceedance
	9 mg/L (CR1) 9.8 mg/L (B2)	6.5 mg/L (C1) 7.3 mg/L (C2)	7.5 mg/L (B1) 4.5 mg/L (B3) 3.5 mg/L (B4) 7.7 mg/L (CR2) 7.2 mg/L (F1) 6 mg/L (H1) 7.7 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	<p>Works carried out on site on 12/7 include ground investigation (GI) works of 3 borehole drilling, fabrication of the frame type silt curtain and loading of material on barge, which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>B2 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedance of this monitoring location is deemed to be unrelated to the Project. Control station C2 and several impact monitoring stations (B1, CR2, F1, M1) that are also located at upstream/unrelated stream direction to the works location showed considerably high SS level (7.2-7.7 mg/L) that is close to the Action Level (8 mg/L) of that tidal period, implying the high background SS level of the surrounding waters.</p> <p>CR1 is located downstream (Southeast) to the works location, yet in consideration of absent of potential SS deteriorating works activity, no observed silt plume in the site</p>		

	<p>area and high background SS level as stated above, it is noted that the singular exceedance at CR1 appeared to be an isolated case with no continuous trend to indicate SS increase due to the Project activities.</p> <p>Spatial variation among the background SS level is observed as control stations C1 and some impact stations (B3, B4, H1) in the middle that are also located at upstream/unrelated stream direction to the works location have relatively lower SS level (3.5-6.5 mg/L).</p>										
<p>Actions taken / to be taken</p>	<p>Nil</p>										
<p>Remarks</p>	<p>Current direction during mid-ebb sampling on 12/7:</p>  <table border="1" data-bbox="472 1048 986 1234"> <thead> <tr> <th colspan="2">Legend</th> </tr> <tr> <th>Speed (knot)</th> <th>Speed (knot)</th> </tr> </thead> <tbody> <tr> <td>0-0.5</td> <td>1.5-2.0</td> </tr> <tr> <td>0.5-1.0</td> <td>2.0-2.5</td> </tr> <tr> <td>1.0-1.5</td> <td>2.5 and above</td> </tr> </tbody> </table> <p>(Sourced from: http://current.hydro.gov.hk/en/map.html)</p> <p>Site condition on 12/7:</p> 	Legend		Speed (knot)	Speed (knot)	0-0.5	1.5-2.0	0.5-1.0	2.0-2.5	1.0-1.5	2.5 and above
Legend											
Speed (knot)	Speed (knot)										
0-0.5	1.5-2.0										
0.5-1.0	2.0-2.5										
1.0-1.5	2.5 and above										

Works location:



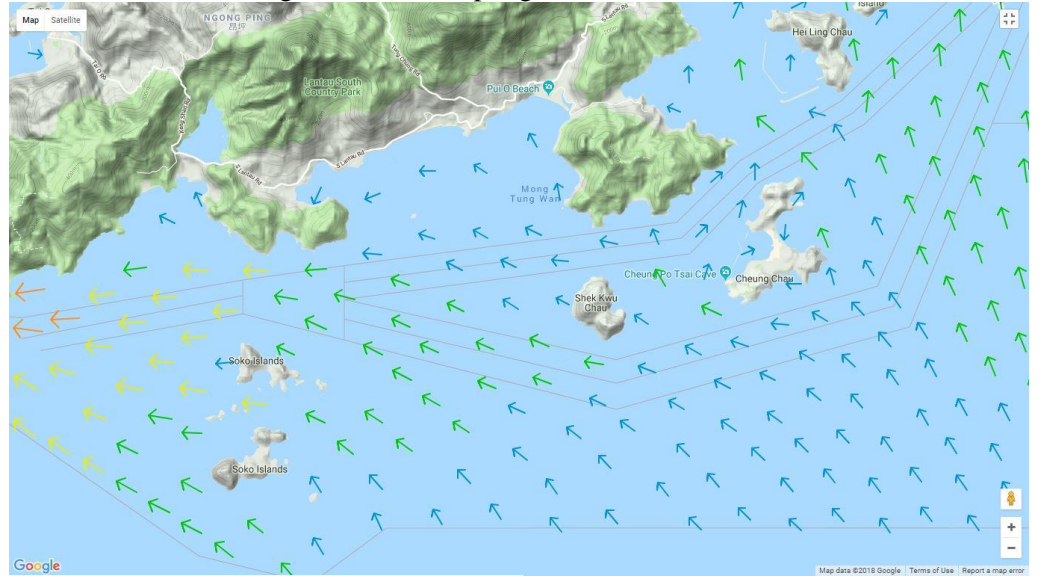
Prepared by Nelson Tsui
 Date 18 July 2018

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	16 July 2018 (Lab result received on 19 July 2018)		
Time	6:16 – 9:46 (Mid-flood)		
Monitoring Location	CR1		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action	Limit	
	≥ 12.4 mg/L (120% of C2)	≥ 13.4 mg/L (130% of C2)	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	14.7 mg/L (CR1)	8.5 mg/L (C1) 10.3 mg/L (C2)	8.5 mg/L (B1) 7.5 mg/L (B2) 10.0 mg/L (B3) 9.5 mg/L (B4) 8.8 mg/L (CR2) 10.2 mg/L (F1) 6.5 mg/L (H1) 7.5 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 16/7 include ground investigation (GI) works of 3 borehole drilling and site trial of sand blanket laying works, while all marine works were suspended on 16/7 due to strong wind and strong wave at the site, thus no source of SS concentration increase was available from the Project.</p> <p>Dominating sea current direction was found to be from Southeast to Northwest at waters around Shek Kwu Chau.</p> <p>In consideration of absence of works activity, no observed silt plume in the site area and the lower SS level at the closest downstream monitoring station (CR2, Northwest) to the proposed work location when comparing with that of CR1, it is concluded that the exceedance of this monitoring location is unrelated to the Project.</p>		
Actions taken / to be taken	Nil		

Remarks

Current direction during mid-flood sampling on 16/7:



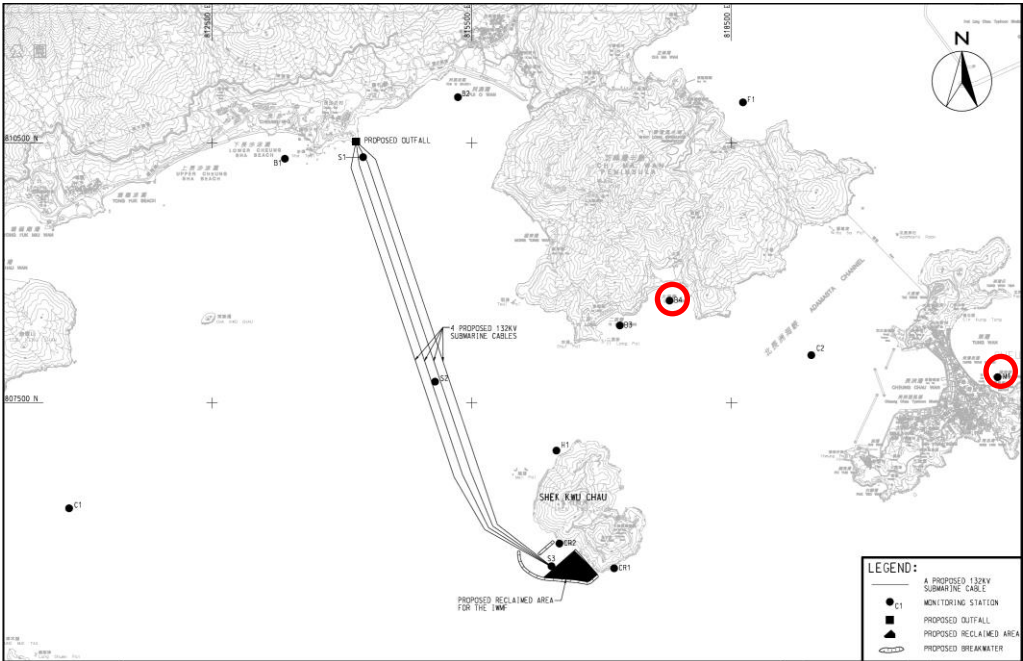
Legend			
Speed (knot)	→	Speed (knot)	→
0-0.5	→	1.5-2.0	→
0.5-1.0	→	2.0-2.5	→
1.0-1.5	→	2.5 and above	→

(Sourced from <http://current.hydro.gov.hk/en/map.html>)

Prepared by Karen Cheung

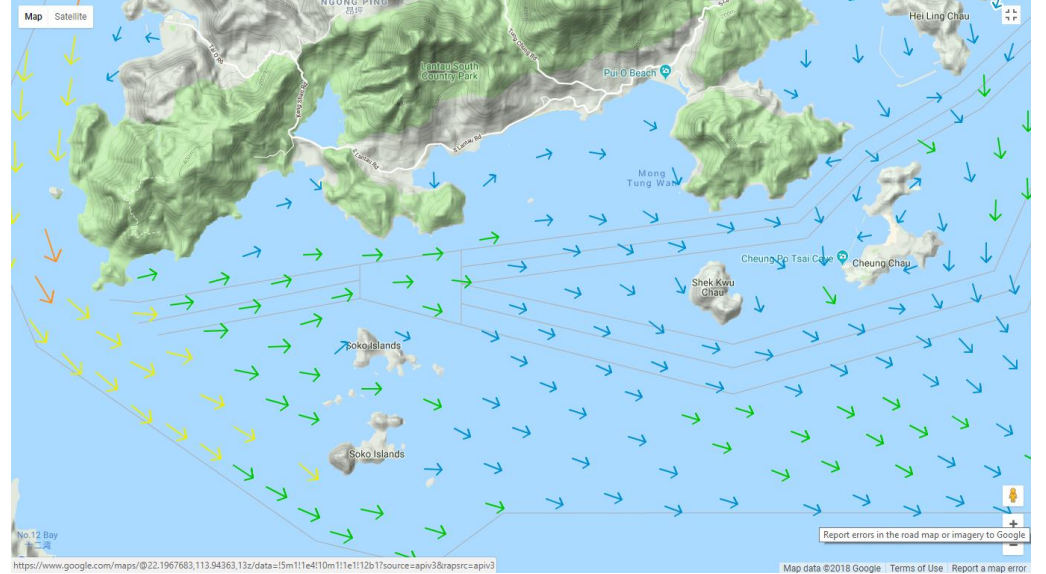
Date 20 July 2018

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	23 July 2018 (Lab result received on 26 July 2018)		
Time	8:04 – 11:34 (Mid-Ebb)		
Monitoring Location	B4 and M1 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action		Limit
	≥ 13.2 mg/L (120% of C1)		≥ 14.3 mg/L (130% of C1)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	16.8 mg/L (B4) 15.0 mg/L (M1)	11.0 mg/L (C1) 13.8 mg/L (C2)	11.3 mg/L (B1) 10.0 mg/L (B2) 8.3 mg/L (B3) 12.8 mg/L (CR1) 7.7 mg/L (CR2) 8.5 mg/L (F1) 12.7 mg/L (H1) 12.5 mg/L (S1) 8.8 mg/L (S2) 11.7 mg/L (S3)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 23/7 include ground investigation (GI) works of 3 borehole drilling and 1 site trial of sand blanket laying works, which started after the sampling period of that day.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>B4 and M1 are located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedance of this monitoring location is deemed to be unrelated to the Project.</p> <p>The exceedance of SS level is observed as a localized event with no continuous trending as all other monitoring stations have similarly relatively lower SS level.</p>		
Actions taken / to be taken	Nil		

Remarks

Current direction during mid-ebb sampling on 23/7:



Legend		
Speed (knot)		Speed (knot)
0-0.5	→	1.5-2.0
0.5-1.0	→	2.0-2.5
1.0-1.5	→	2.5 and above

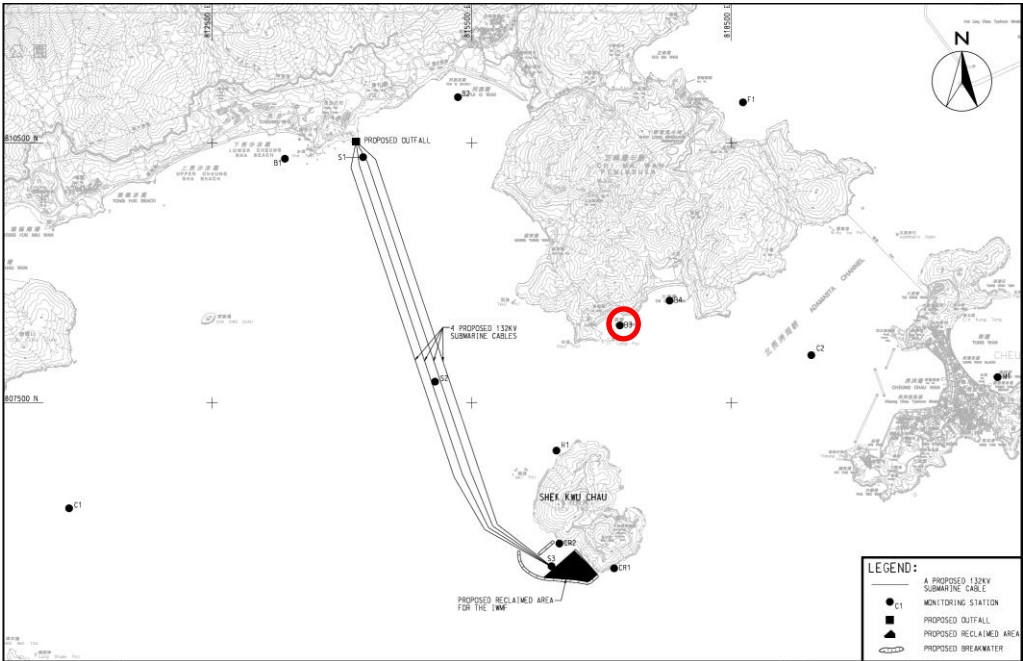
(Sourced from <http://current.hydro.gov.hk/en/map.html>)


Prepared by	Karen Cheung
Date	27 July 2018

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	25 July 2018 (Lab result received on 27 July 2018)		
Time	1:45 – 5:15 (Mid-Flood)		
Monitoring Location	S3		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action	Limit	
	≥ 8 mg/L	≥ 10 mg/L	
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	8.7 mg/L (S3)	3.5 mg/L (C1) 4.7 mg/L (C2)	6 mg/L (B1) 7.8 mg/L (B2) 7 mg/L (B3) 4 mg/L (B4) 7.8 mg/L (CR1) 6.5 mg/L (CR2) 5.8 mg/L (F1) 6 mg/L (H1) 6.2mg/L (M1) 5 mg/L (S1) 4.7 mg/L (S2)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 25/7 include ground investigation (GI) works of 3 borehole drilling and maintenance of DCM equipment, which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Mid-flood sampling was made at mid-night of 25/7, no site activities was carried out during the monitoring period.</p> <p>In consideration of absence of works and no exceedance during the other tide period of the same day with presence of works, it is concluded that the exceedance at S3 is unrelated to the Project.</p>		
Actions taken / to be taken	Nil		
Remarks	Nil		
Prepared by	Karen Cheung		
Date	30 July 2018		

Incident Report on Action Level or Limit Level Non-compliance

Project	Integrated Waste Management Facilities, Phase 1		
Date	30 July 2018 (Lab result received on 2 August 2018)		
Time	10:45 – 14:15 (Mid-Ebb)		
Monitoring Location	B3 		
Parameter	Suspended Solid (SS)		
Action & Limit Levels	Action		Limit
	≥ 11.0 mg/L (120% of C1)		≥ 11.9 mg/L (130% of C1)
Measurement Level	Impact Station(s) of Exceedance	Control Stations	Impact Station(s) without Exceedance
	13.0 mg/L (B3)	9.2 mg/L (C1) 7.2 mg/L (C2)	4.8 mg/L (B1) 4.8 mg/L (B2) 8.5 mg/L (B4) 6.5 mg/L (CR1) 7.0 mg/L (CR2) 8.3 mg/L (F1) 10.2 mg/L (H1) 8.2 mg/L (M1)
Possible reason for Action or Limit Level Non-compliance	<p>Works scheduled on site on 30/7 include ground investigation (GI) works of 3 borehole drilling, lifting up of primary and secondary silt curtain and laying works of geotextile, which shall not be a major source of SS concentration increase considering the limited scale and nature of works.</p> <p>Dominating sea current direction was found to be from Northwest to Southeast at waters around Shek Kwu Chau.</p> <p>B3 is located at unrelated stream direction (neither upstream nor downstream, far away) to the works location, exceedance of this monitoring location is deemed to be unrelated to the Project.</p> <p>The exceedance of SS level is observed as a localized event with no continuous trending as all other monitoring stations have similarly relatively lower SS level.</p>		
Actions taken / to be taken	Nil		

<p>Remarks</p>	<p>Current direction during mid-ebb sampling on 30/7:</p>  <p>Legend</p> <table border="1"> <thead> <tr> <th>Speed (knot)</th> <th>Speed (knot)</th> </tr> </thead> <tbody> <tr> <td>0-0.5</td> <td>1.5-2.0</td> </tr> <tr> <td>0.5-1.0</td> <td>2.0-2.5</td> </tr> <tr> <td>1.0-1.5</td> <td>2.5 and above</td> </tr> </tbody> </table> <p>(Sourced from http://current.hydro.gov.hk/en/map.html)</p>	Speed (knot)	Speed (knot)	0-0.5	1.5-2.0	0.5-1.0	2.0-2.5	1.0-1.5	2.5 and above
Speed (knot)	Speed (knot)								
0-0.5	1.5-2.0								
0.5-1.0	2.0-2.5								
1.0-1.5	2.5 and above								
<p>Prepared by</p>	<p>Karen Cheung</p>								
<p>Date</p>	<p>3 August 2018</p>								