

**Investigation Report for Exceedances of Limit Levels of Water Quality Monitoring on 14 November 2023**

Investigation was carried out in response to exceedances of limit levels during the water quality monitoring on 14 November 2023. The following table summarizes details of the exceedances.

<b>Environmental Team for Hung Shui Kiu/ Ha Tsuen New Development Area Stage 1 Works – Site Formation and Engineering Infrastructure</b>								
Date	Station	Parameter (Unit)	Depth-averaged Measured Value	Action Level	Limit Level	Exceedance		Project Related (Y/N)
						AL	LL	
14/11	TKW1	Suspended Solids (SS) (mg/L)	8.0	7.1	7.8		✓	N
	TKW		12.0	7.0	7.1		✓	N

<p>Construction activities carried out at and adjacent to Road D1 during the investigation period:</p>	<p>According to the information provided by the engineer representative (RE), the construction works carried out within the site area of Road D1 (Designated Project (DP)) on 14 November 2023 include:</p> <p><u>Site 3-8 (Road D1) at Portion B7</u></p> <ul style="list-style-type: none"> <li>• Dewatering.</li> <li>• Housekeeping.</li> <li>• Excavation of contaminated soil.</li> </ul> <p>The construction works carried out at adjoining non-DP works area on 14 November 2023 include:</p> <p><u>Site 3-6 and Site 3-7 at Portion B2</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul> <p><u>Site 3-6 (near Chun Tsuen) (Temporary Stockpile Area) at Portion B1</u></p> <ul style="list-style-type: none"> <li>• Breaking concrete slab for exposing existing underground utility at gate A.</li> </ul> <p><u>Site 3-6 (Wing Hong) at Portion B2</u></p> <ul style="list-style-type: none"> <li>• General Electric work for blower of biopile.</li> <li>• Cement mix contaminated soil.</li> </ul> <p><u>Site 3-7 (near Bee Bee Garden) at Portion A2</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul> <p><u>Site 3-7 (near gate B) at Portion A2</u></p> <ul style="list-style-type: none"> <li>• Trimming concrete to cut off level for lagging wall construction.</li> <li>• Dewatering.</li> <li>• Dismantle formwork for manhole wall and top slab.</li> </ul> <p><u>Site 3-7 and Site 3-8 at Portion B6</u></p> <ul style="list-style-type: none"> <li>• Excavation for laying cable duct of street lighting near gate</li> </ul>
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	<p>B.</p> <p><u>Site 3-7 and Site 3-8 (Kai Pak Ling Road) at Portion B6</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul> <p><u>Site 3-8 (Box Culvert) at Portion B7</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul> <p><u>Site 3-8 (Hung Wan) at Portion B7</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul>
<p>Possible reason for Action or Limit Level Non-compliance:</p>	<p>As observed during the site inspections on 14 and 16 November 2023 and 5 December 2023, the Contractor had implemented on-site measures to control site runoff from Site 3-8, Road D1 and Contaminated Soil Treatment Area, including sump, WetSep and portable pumps for temporary storage and treatment of surface water and site effluent. During dry season, construction effluent from Site 3-6 and Site 3-7 was collected and diverted to the WetSep on site. Treated effluent was stored and reused on site for fugitive dust control. No direct effluent discharge from these sites was recorded.</p> <p>No evidence was found to indicate that the exceedances on 14 November 2023 were affected by the site activities. The non-compliances at TKW1 and TKW was considered related to surface runoff from the catchment, effluent discharges from workshops, open storages, warehouse, private toilet(s) and/ or residential dwellings along the catchment downstream of the site.</p> <p>No further exceedance of action or limit levels of turbidity at TKW1 and TKW was detected during the water quality monitoring on 16 November 2023.</p> <p>In conclusion, the exceedances recorded on 14 November 2023 were considered non-project related.</p>
<p>Action taken / to be taken:</p>	<ol style="list-style-type: none"> <li>1. Repeated in-situ measurement was not applicable for laboratory measurement of SS level at TKW and TKW1.</li> <li>2. The source of impact may be related to surface runoff, effluent discharges from workshops, open storages, warehouse, private toilet(s) and/ or residential dwellings along the catchment downstream of the site.</li> <li>3. Notifications of exceedances have been issued to the IEC, the Contractor, and the EPD on 4 December 2023.</li> <li>4. Duplicate water samples were collected on site. The monitoring data were checked and confirmed. All plant, equipment and the Contractor's working methods were checked during the site inspection. No non-compliance was observed.</li> </ol>

5. As no evidence was found to indicate that the exceedances on 14 November 2023 were affected by the site activities, no additional mitigation measure was discussed with the IEC, the RE and the Contractor.
  
6. During the site inspection, the Contractor had implemented on-site measures to control site runoff. The Contractor was reminded to implement/ maintain the following mitigation measures:
  - Site 3-8 and Road D1
    - a. The WetSep and other accessories shall be maintained regularly to minimise malfunction.
    - b. Surface run-off from construction sites shall be discharged at the designated discharge point as indicated in the effluent discharge licence for Site 3-8 via adequately designed sand/silt removal facilities.
    - c. The Contractor will provide sump/ detention pond at Site 3-8 to temporary store site runoff prior to treatment.
    - d. Channels/ earth bunds/ sandbag barriers will be properly provided on site to direct stormwater to the sump(s).
    - e. Any site runoff detained behind the box culvert will be treated by the WetSep at Site 3-8 prior to discharge.
  - Site 3-6, Site 3-7, and Contaminated Soil Treatment Area
    - f. During dry season, construction effluent will be collected and diverted to the Wetsep for treatment and storage. Treated effluent will be reused on site for water spraying and fugitive dust control. No direct discharge of surface runoff or construction effluent is anticipated.
    - g. Impervious canvases are deployed to cover the stockpiles at the contaminated soil treatment area to minimise contaminated surface runoff.
    - h. Perimeter channels, sump pits and leachate collection tanks are installed at the contaminated soil treatment area to collect and store leachate from the stockpiles of excavated materials to eliminate untreated leachate escaping from the treatment area.
  
7. The frequency of monitoring was not increased as the exceedance was considered non-project related and no further water quality monitoring was considered. No further action or limit level exceedances of turbidity at TKW and TKW1 were recorded on 16 November 2023.

Date	16 November 2023
<b>Parameters</b>	<b>SS</b>
<b>Stations</b>	<b>(mg/L)</b>
TKW1	5.6
TKW	6.7

**Photo Records of Site Inspection held by the ET on 16 November 2023**

***Site 3-8 and Road D1***



(P1)

Stockpile of dusty materials was covered properly to avoid generation of muddy runoff. No muddy surface runoff was observed during the site inspection.



(P2)

Surface runoff and site effluent were collected and diverted to the WetSep for temporary storage and treatment before the water was used for fugitive dust suppression on site or discharged at designated location under the requirement of effluent discharge licence.



(P3)

Surface runoff was directed to the sump/ detention pond for temporary storage. No muddy surface runoff and no direct discharge of construction effluent was observed.

***Contaminated Soil Treatment Area (Portion B2) (Non-DP area)***



(P4)

Contaminated materials were stocked on site.



(P5)

Stockpiles within the contaminated soil treatment area were covered by impervious canvases.



(P6)

Perimeter channels were installed outside the contaminated soil treatment area.



(P7)

A WetSep was provided on site to treat and store construction effluent from Site 3-6, Site 3-7, and Contaminated Soil Treatment Area. No off-site effluent discharge was recorded in November 2023.

**Photo Records of Site Inspection held by the ET on 5 December 2023**

***Contaminated Soil Treatment Area (Portion B2) (Non-DP area)***



(P8)

Contaminated materials were covered by canvases and stocked on site. Perimeter channels were installed outside the contaminated soil treatment area.



(P9)

A WetSep was provided on site to treat and store construction effluent from Site 3-6, Site 3-7 and Contaminated Soil Treatment Area. No off-site effluent discharge was recorded in November 2023.



(P10)

An effluent discharge license for Site 3-6, Site 3-7 and Contaminated Soil Treatment Area has been acquired in November 2023. A channel constructed for off-site discharge of treated effluent was dry and no wastewater was observed.



(P11)

**Site Photos on 14 November 2023 provided by the RE**

***Site 3-8 and Road D1 (Portion B7)***



(R1)

The road roller was provided to avoid generation of muddy runoff.

***Contaminated Soil Treatment Area (Portion B2) (Non-DP area)***



(R2)

The contaminated soil treatment area were covered by impervious canvas. No surface runoff or effluent was leaked from the contaminated soil treatment area during the site inspection.

**Site 3-6 (Portion B2) (Non-DP area)**



(R3)

No effluent discharge from the site was observed.

**Site 3-7 (Portion A2)**



(R4)

No effluent discharge from the site was observed.

**Site Observation Photos around Water Quality Monitoring Stations taken by the ET on 14 November 2023**



(W1)

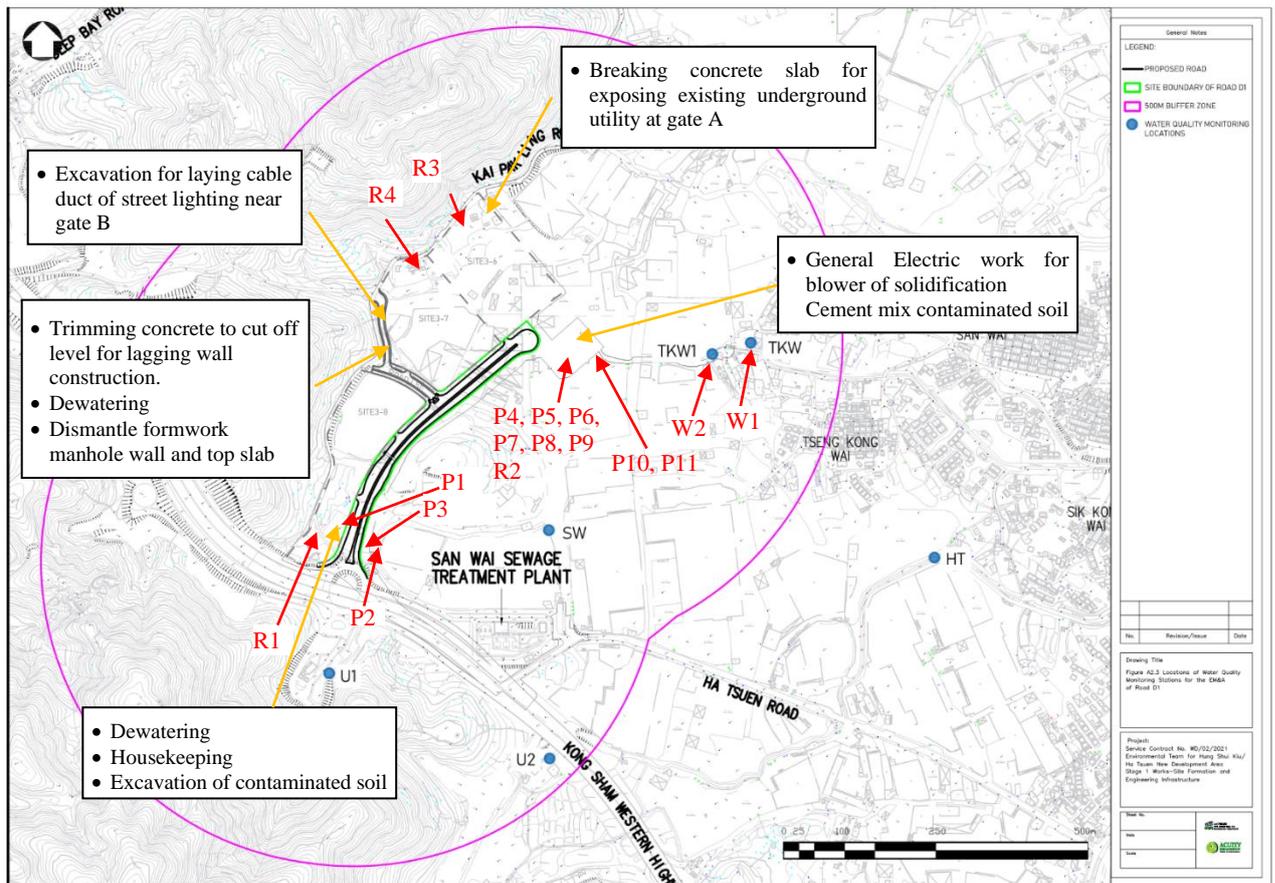
Water Quality Monitoring Station: TKW

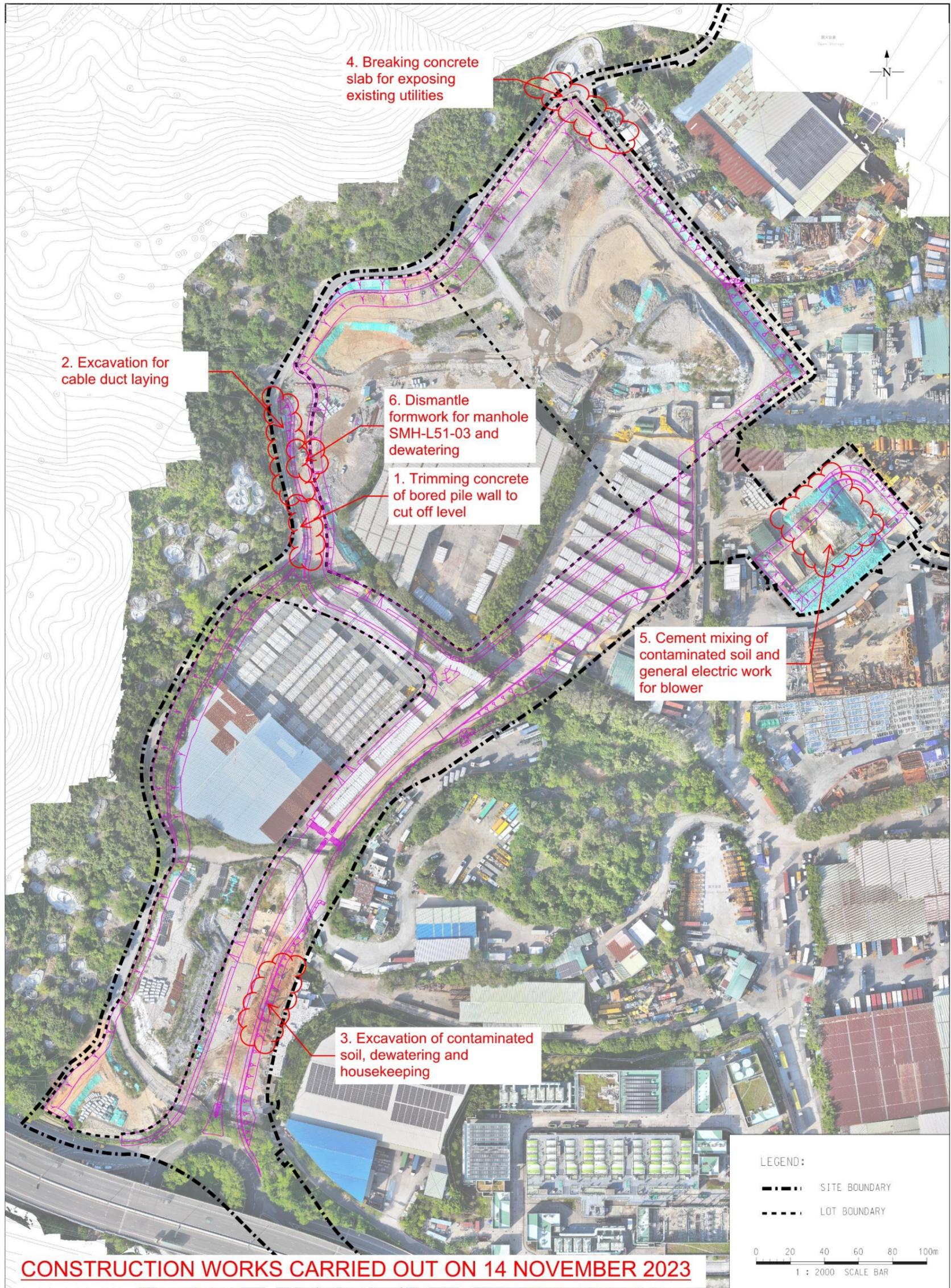


(W2)

Water Quality Monitoring Station: TKW1

**Figure 1 Location Plan of Impact Water Quality Monitoring Stations (Site activities held on 14 November 2023 were reported in text boxes)**





**CONSTRUCTION WORKS CARRIED OUT ON 14 NOVEMBER 2023**

<b>M</b> <b>MOTT</b> <b>MACDONALD</b>	CONTRACT NO. YL/2020/03 HUNG SHUI KIU/HA TSUEN NEW DEVELOPMENT AREA STAGE 1 WORKS	Construction works carried out on 14 November 2023 at Site 3-6 and Site 3-7	SCALE 1:2000 @ A3	DATE 24-NOV-23
			CHECK -	DRAWN RH
			JOB NO. SK0050	SKETCH NO. <b>Figure 2</b>
				REV 37

Default \\YI202003-srv1\share\Public\YL202003\Land Survey\Site Sketch\0050 Aerial photo\380288-CV-SK-0050 - rev.37.dgn 5/12/2023

Prepared by:	Angel Lee	Certified by:	F. C. Tsang
Designation:	Environmental Team Member	Designation:	Environmental Team Leader
Signature:		Signature:	
Date:	13 December 2023	Date:	13 December 2023

**Investigation Report for Exceedances of Limit Levels of Water Quality Monitoring on 18 November 2023**

Investigation was carried out in response to exceedances of limit levels during the water quality monitoring on 18 November 2023. The following table summarizes details of the exceedances.

<b>Environmental Team for Hung Shui Kiu/ Ha Tsuen New Development Area Stage 1 Works – Site Formation and Engineering Infrastructure</b>								
Date	Station	Parameter (Unit)	Depth-averaged Measured Value	Action Level	Limit Level	Exceedance		Project Related (Y/N)
						AL	LL	
18/11	TKW1	Suspended Solids (SS) (mg/L)	9.6	7.1	7.8		✓	N
	TKW		9.4	7.0	7.1		✓	N

<p>Construction activities carried out at and adjacent to Road D1 during the investigation period:</p>	<p>According to the information provided by the engineer representative (RE), the construction works carried out within the site area of Road D1 (Designated Project (DP)) on 18 November 2023 include:</p> <p><u>Site 3-8 (Road D1) at Portion B7</u></p> <ul style="list-style-type: none"> <li>• Dewatering.</li> <li>• Housekeeping.</li> <li>• Backfilling and compaction of trial pit.</li> </ul> <p>The construction works carried out at adjoining non-DP works area on 18 November 2023 include:</p> <p><u>Site 3-6 and Site 3-7 at Portion B2</u></p> <ul style="list-style-type: none"> <li>• No construction activity.</li> </ul> <p><u>Site 3-6 (near Chun Tsuen) (Temporary Stockpile Area) at Portion B1</u></p> <ul style="list-style-type: none"> <li>• Hand dig to expose underground utility for U-channel starting to CP-KP-01.</li> </ul> <p><u>Site 3-6 (Wing Hong) at Portion B2</u></p> <ul style="list-style-type: none"> <li>• General electric work for blower biopile.</li> <li>• Cement solidification of heavy metal contaminated soil.</li> </ul> <p><u>Site 3-7 (near Bee Bee Garden) at Portion A2</u></p> <ul style="list-style-type: none"> <li>• Dismantle formwork for U-channel starting to CP-3.7-01 CH10-12 and chain link fence footing starting to CP-3.7-01 CH0-32.</li> <li>• Make good formation.</li> </ul> <p><u>Site 3-7 (near gate B) at Portion A2</u></p> <ul style="list-style-type: none"> <li>• Dewatering.</li> <li>• Rebar fixing for manhole wall and top slab.</li> <li>• Preparation work for manhole wall and top slab formwork.</li> </ul>
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	<p><u>Site 3-7 and Site 3-8 at Portion B6</u></p> <ul style="list-style-type: none"> <li>No construction activity.</li> </ul> <p><u>Site 3-7 and Site 3-8 (Kai Pak Ling Road) at Portion B6</u></p> <ul style="list-style-type: none"> <li>No construction activity.</li> </ul> <p><u>Site 3-8 (Box Culvert) at Portion B7</u></p> <ul style="list-style-type: none"> <li>No construction activity.</li> </ul> <p><u>Site 3-8 (Hung Wan) at Portion B7</u></p> <ul style="list-style-type: none"> <li>No construction activity.</li> </ul>
<p>Possible reason for Action or Limit Level Non-compliance:</p>	<p>As observed during the site inspections on 16 and 18 November 2023, and 5 December 2023, the Contractor had implemented on-site measures to control site runoff from Site 3-8, Road D1 and Contaminated Soil Treatment Area, including sump, WetSep and portable pumps for temporary storage and treatment of surface water and site effluent. During dry season, construction effluent from Site 3-6 and Site 3-7 was collected and diverted to the WetSep on site. Treated effluent was stored and reused on site for fugitive dust control. No direct effluent discharge from these sites was recorded.</p> <p>No evidence was found to indicate that the exceedances on 18 November 2023 were affected by the site activities. The non-compliances at TKW1 and TKW was considered related to surface runoff from the catchment, effluent discharges from workshops, open storages, warehouse, private toilet(s) and/ or residential dwellings along the catchment downstream of the site.</p> <p>No further exceedance of action or limit levels of turbidity at TKW1 and TKW was detected during the water quality monitoring on 21 November 2023.</p> <p>In conclusion, the exceedances recorded on 18 November 2023 were considered non-project related.</p>
<p>Action taken / to be taken:</p>	<ol style="list-style-type: none"> <li>Repeated in-situ measurement was not applicable for laboratory measurement of SS level at TKW and TKW1.</li> <li>The source of impact may be related to surface runoff, effluent discharges from workshops, open storages, warehouse, private toilet(s) and/ or residential dwellings along the catchment downstream of the site.</li> <li>Notifications of exceedances have been issued to the IEC, the Contractor, and the EPD on 4 December 2023.</li> <li>Duplicate water samples were collected on site. The monitoring data were checked and confirmed. All plant, equipment and the Contractor's working methods were checked during the site inspection. No non-compliance was observed.</li> </ol>

5. As no evidence was found to indicate that the exceedances on 18 November 2023 were affected by the site activities, no additional mitigation measure was discussed with the IEC, the RE and the Contractor.
  
6. During the site inspection, the Contractor had implemented on-site measures to control site runoff. The Contractor was reminded to implement/ maintain the following mitigation measures:
  - Site 3-8 and Road D1
    - a. The WetSep and other accessories shall be maintained regularly to minimise malfunction.
    - b. Surface run-off from construction sites shall be discharged at the designated discharge point as indicated in the effluent discharge licence for Site 3-8 via adequately designed sand/silt removal facilities.
    - c. The Contractor will provide sump/ detention pond at Site 3-8 to temporary store site runoff prior to treatment.
    - d. Channels/ earth bunds/ sandbag barriers will be properly provided on site to direct stormwater to the sump(s).
    - e. Any site runoff detained behind the box culvert will be treated by the WetSep at Site 3-8 prior to discharge.
  - Site 3-6, Site 3-7, and Contaminated Soil Treatment Area
    - f. During dry season, construction effluent will be collected and diverted to the Wetsep for treatment and storage. Treated effluent will be reused on site for water sparying and fugitive dust control. No direct discharge of surface runoff or construction effluent is anticipated.
    - g. Impervious canvases are deployed to cover the stockpiles at the contaminated soil treatment area to minimise contaminated surface runoff.
    - h. Perimeter channels, sump pits and leachate collection tanks are installed at the contaminated soil treatment area to collect and store leachate from the stockpiles of excavated materials to eliminate untreated leachate escaping from the treatment area.
  
7. The frequency of monitoring was not increased as the exceedance was considered non-project related and no further water quality monitoring was considered. No further action or limit level exceedances of turbidity at TKW and TKW1 were recorded on 21 November 2023.

Date	21 November 2023
Parameters	SS
Stations	(mg/L)
TKW1	3.5
TKW	3.3

**Photo Records of Site Inspection held by the ET on 16 November 2023**

***Site 3-8 and Road D1***



(P1)

Stockpile of dusty materials was covered properly to avoid generation of muddy runoff. No muddy surface runoff was observed during the site inspection.



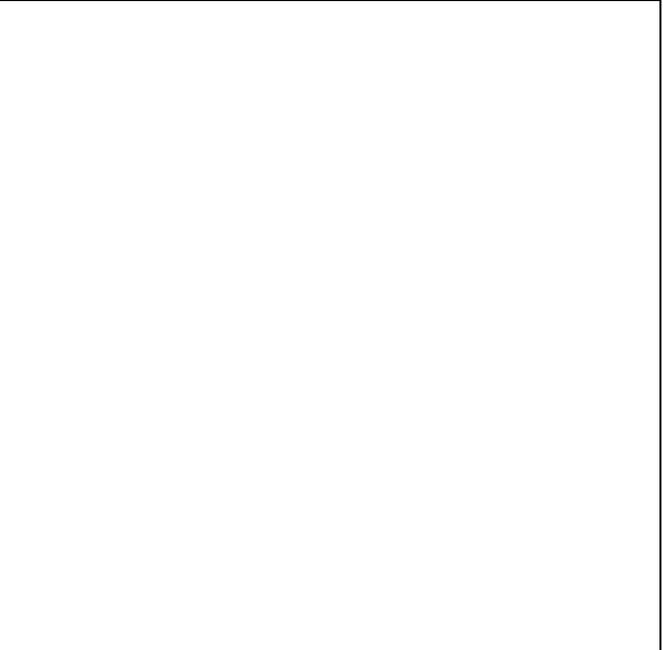
(P2)

Surface runoff and site effluent were collected and diverted to the WetSep for temporary storage and treatment before the water was used for fugitive dust suppression on site or discharged at designated location under the requirement of effluent discharge licence.



(P3)

Surface runoff was directed to the sump/ detention pond for temporary storage. No muddy surface runoff and no direct discharge of construction effluent was observed.



**Contaminated Soil Treatment Area (Portion B2) (Non-DP area)**



(P4)

Contaminated materials were stocked on site pending for decontamination.



(P5)

Stockpiles within the contaminated soil treatment area were covered by impervious canvases.



(P6)

Perimeter channels were installed outside the contaminated soil treatment area.

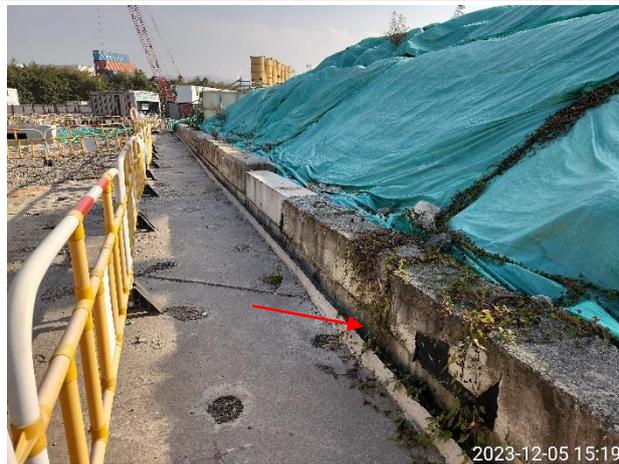


(P7)

A WetSep was provided on site to treat and store construction effluent from Site 3-6, Site 3-7, and Contaminated Soil Treatment Area. No off-site effluent discharge was recorded in November 2023.

### Photo Records of Site Inspection held by the ET on 5 December 2023

#### Contaminated Soil Treatment Area (Portion B2) (Non-DP area)



(P8)

Contaminated materials were covered by canvases and stocked on site. Perimeter channels were installed outside the contaminated soil treatment area.



(P9)

A WetSep was provided on site to treat and store construction effluent from Site 3-6, Site 3-7 and Contaminated Soil Treatment Area. No off-site effluent discharge was recorded in November 2023.



(P10)

An effluent discharge license for Site 3-6, Site 3-7 and Contaminated Soil Treatment Area has been acquired in November 2023. A channel constructed for off-site discharge of treated effluent was dry and no wastewater was observed.



(P11)

**Site Photos on 18 November 2023 provided by the RE**

***Site 3-8 and Road D1 (Portion B7)***



(R1)

No effluent discharge from the site was observed.

***Contaminated Soil Treatment Area (Portion B2) (Non-DP area)***



(R2)

The contaminated soil treatment area were covered by impervious canvas. No surface runoff or effluent was leaked from the contaminated soil treatment area during the site inspection.

**Site 3-6 (Portion B2) (Non-DP area)**



(R3)

No effluent discharge from the site was observed.

**Site 3-7 (Portion A2)**



(R4)

No effluent discharge from the site was observed.

**Site Observation Photos around Water Quality Monitoring Stations taken by the ET on 18 November 2023**



(W1)

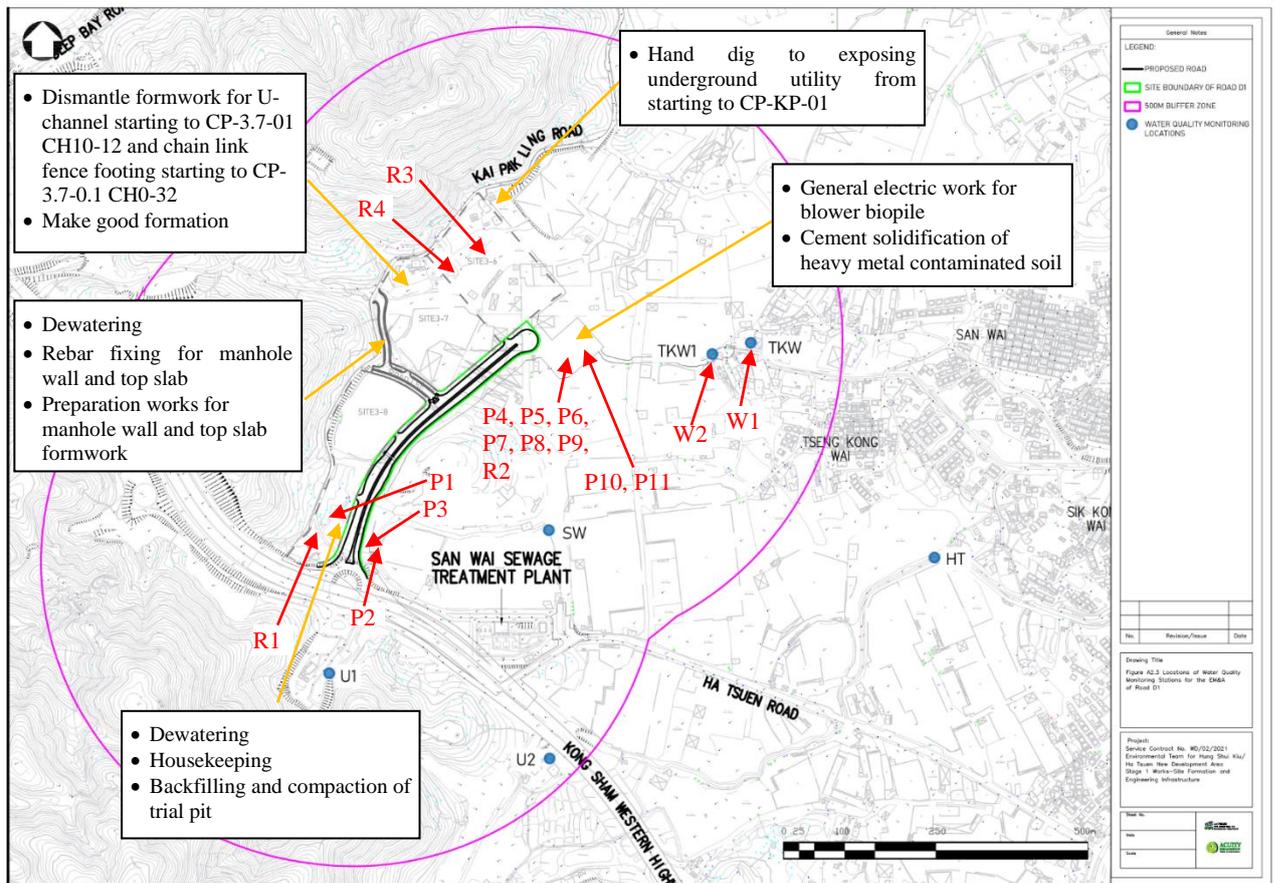
Water Quality Monitoring Station: TKW

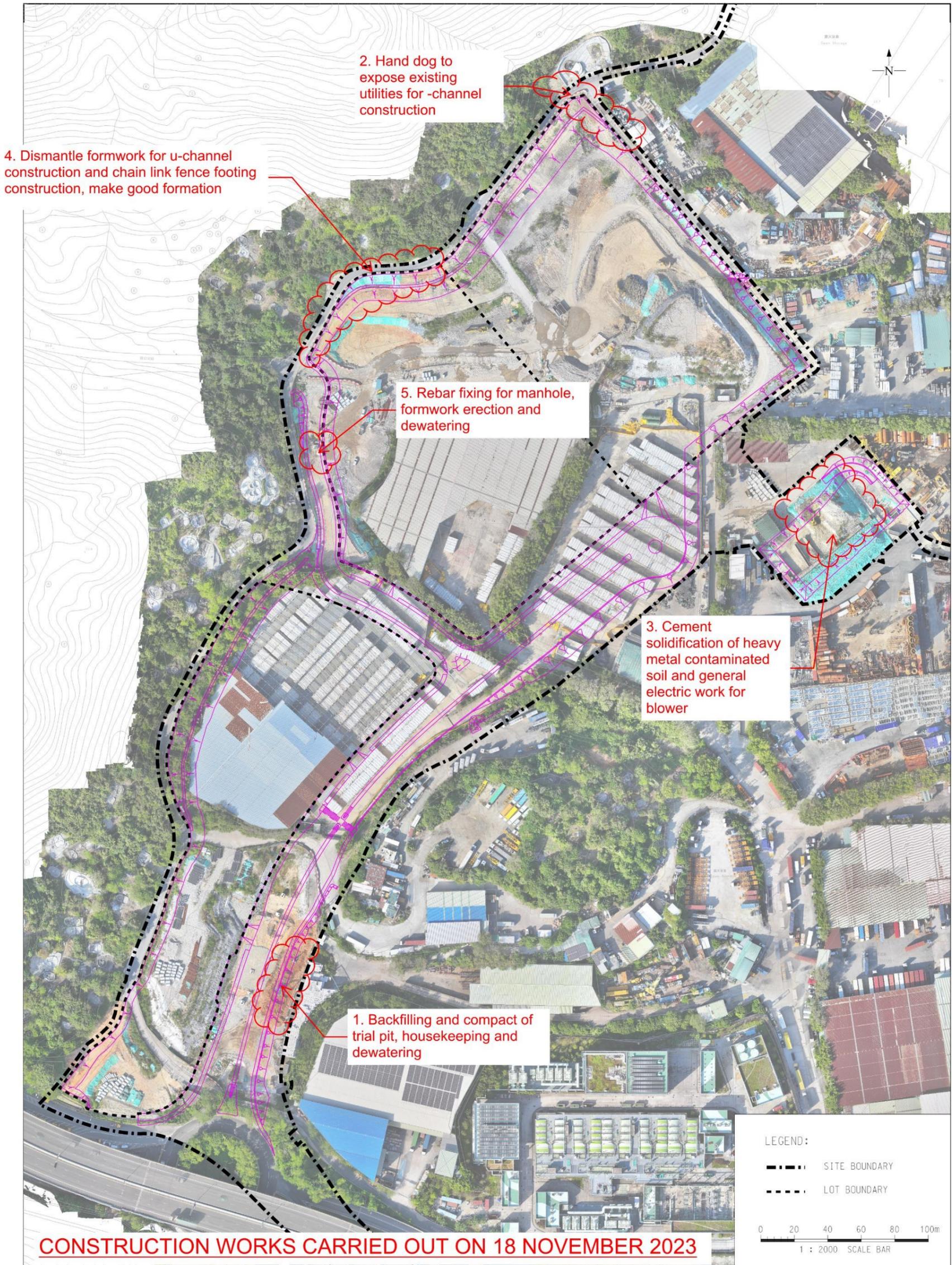


(W2)

Water Quality Monitoring Station: TKW1

**Figure 1 Location Plan of Impact Water Quality Monitoring Stations (Site activities held on 18 November 2023 were reported in text boxes)**





<b>M</b> <b>M</b> <b>MOTT</b> <b>MACDONALD</b>	CONTRACT NO. YL/2020/03 HUNG SHUI KIU/HA TSUEN NEW DEVELOPMENT AREA STAGE 1 WORKS	Construction works carried out at Site 3-6 and Site 3-7 on 18 November 2023	SCALE 1:2000 @ A3	DATE 24-NOV-23
			CHECK -	DRAWN RH
			JOB NO. SK0050	SKETCH NO. Figure 2
				REV 37

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Prepared by:	Angel Lee	Certified by:	F. C. Tsang
Designation:	Environmental Team Member	Designation:	Environmental Team Leader
Signature:		Signature:	
Date:	13 December 2023	Date:	13 December 2023