Agreement No. CE 10/2008 Replacement and Rehabilitation of Water Mains Stage 4 Mains in New Territories – Investigation, Design and Construction

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Heritage Impact Assessment Report (Final)

2833/B&V/0032 Issue 2

Report Authorized For Issue By:	For and on Behalf of Black & Veatch Hong Kong Limited

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1. INTRODUCTION

1.1.1 The above-cited project will replace and rehabilitate the aged water mains located in the New Territories. This assignment covers the area of Tseung Kwan O, Sai Kung, Wu Kai Sha, Fo Tan, Ma Liu Shui, Sha Tin, Tai Wai, Tai Po, Fanling, Sheung Shui, Sha Tau Kok, Kwu Tung, Kam Tin, Pat Heung, Yuen Long, Ping Shan, Tuen Mun, Lung Kwu Tan, Siu Lam, Sham Tseng, Ma Wan, Tsuen Wan, Kwai Chung and Tsing Yi.

1.1.2 In accordance of the Study Brief Clause 6.2.10, heritage impact assessment (HIA) shall be carried out during the investigation stage and scopes of the HIA of this study are shown as below:

(a) Prepare and submit a checklist to the AMO to seek their advice on whether a HIA is required for this Project in accordance with DEVB TCW No. 11/2007.

(b) Carry out an HIA and submit the HIA report to AMO for approval in accordance with DEVB TCW No. 11/2007, if necessary. The Consultants shall also provide technical support to the Employer in the public engagement exercises as stipulated in DEVB TCW No. 11/2007. Every effort should be made to avoid or minimise adverse impact of the proposed works on the "heritage site".

(c) Carry out archaeological review by a qualified archaeologist if works has to be carried out in the vicinity of or within archaeological sites and areas as required by AMO.

2. ARCHAEOLOGY

2.1.1 The above-cited project will replace and rehabilitate the aged water mains located in the New Territories. This assignment covers the area of Tseung Kwan O, Sai Kung, Wu Kai Sha, Fo Tan, Ma Liu Shui, Sha Tin, Tai Wai, Tai Po, Fanling, Sheung Shui, Sha Tau Kok, Kwu Tung, Kam Tin, Pat Heung, Yuen Long, Ping Shan, Tuen Mun, Lung Kwu Tan, Siu Lam, Sham Tseng, Ma Wan, Tsuen Wan, Kwai Chung and Tsing Yi. For easy reference, the project area is further grouped into 25 areas as shown in ***Figure 1***.

2.1.2 The proposed works comprises the following:-

(i) the replacement and rehabilitation of approximately 416 km of water mains;
(ii) the replacement and rehabilitation of the service pipes from these mains up to the lot boundaries of the consumers' premises or up to the connection to fire hydrants, the associated connection works and the abandonment of the old water mains; and
(iii) ground investigations, laboratory tests, utility surveys and stray current surveys (hereinafter in this report collectively referred to as site investigation) necessary for the design and completion of the rehabilitation and replacement works

2.1.3 The proposed alignments of the replacement and rehabilitation of aged water mains are shown in **Appendix I**.

3. OBJECTIVES OF THE ARCHAEOLOGICAL FIELD SURVEY

3.1.1 The following are the objectives of the Archaeological Field Survey, in accordance with requirements set out in Annex 10 and 19 of the Technical Memorandum, EIAO, Cap.499, S.16:

- to assess portions of known archaeological sites which will be directly impacted by the proposed works;
- to assess the archaeological potential of areas near known archaeological sites;
- to identify any unknown archaeological sites affected by the proposed works; and
- to submit a report containing all the data and results of the archaeological field survey.

4. SURVEY METHODS

4.1.1 The following three-step methodology is to be implemented according to the requirements of the Antiquities and Monuments Office (AMO) Guidelines for Cultural Heritage Impact Assessment:

4.1 Field Scan

4.1.2 Field walking is conducted to identify archaeological deposits on the surface. The scanning of the surface for archaeological material is conducted, under ideal circumstances, in a systematic manner and covers the entire study area. Particular attention is given to areas of land undisturbed in the recent past and to exposed areas such as riverbed cuts, erosion areas, terraces, etc. During the field scanning, concentrations of finds are recorded, bagged and plotted on 1:1000 scale mapping and are retained as part of the archive.

Topography, surface conditions and existing impacts are noted during the field walking.

4.2 Auger Testing Programme

4.2.1 Auger survey will be considered within the study area in order to establish soil sequence, the presence/absence of cultural soils or deposits and their horizontal extent.

4.2.2 The auger tool consists of a bucket, pole and handle and is vertically drilled by hand into the surface. When the bucket is filled with soil the auger is extracted and the soil emptied from the bucket. Soils are described and depth changes are measured inside the hole. The depth and type of any finds recovered are also recorded. The auger hole is abandoned when water table, the end of the auger or rock is reached or the auger bucket fails to hold the soil. The location of each auger hole test is marked on a 1:1000 scale map. The results of the auger tests provide one of the criteria used to position the test pit excavations.

4.3 Test Pit Excavation

4.3.1 Test pit excavations will be considered to verify the archaeological potential within a study area. The choice of location for test pit excavations will depend on various factors such as desk-based information, landforms, field scan and auger test results as well as issues relating to access.

4.3.2 Hand digging of test pits measuring between 1 by 1 and 2 by 2 metres is carried out in order to determine the presence/absence of archaeological deposits and their stratigraphy. The size may depend on close proximity to large trees, narrow terraces or other external factors. Hand excavation will continue until decomposing rock or sterile soils are reached and no potential for further cultural layers exists. A test pit will also be abandoned when the maximum safe working depth is reached or when, despite the use of appropriate and practicable dewatering measures, the effects of ground water prevent further excavation. In cases where sterile deposits or the maximum safe excavation limit cannot be reached, the AMO should be consulted prior to backfilling.

4.3.3 During excavation contexts, finds and features are recorded, soils are described and relevant depths measured. Artefacts are collected, bagged and labelled by context. Sections are photographed and drawn and, if required, ground plans are also photographed and/or drawn. The position of each test pit, its top and bottom levels and associated TBM are recorded by a qualified land surveyor and plotted on 1:1000 scale mapping. On completion of all recording and site inspection by the AMO, test pits are backfilled.

5. DESK-BASED REVIEW

5.1 Geological and topographical background

5.1.1 **Table 1** summarises the topographical, geological and elevation information for each area of impact:

Table 1 Summary of Topographical, geological and elevation information for each area

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Tseung Kwan O South *This study area is further divided into 8 areas, see* ***Figures 2a & 2b*** *for their general locations.*			
Siu Chik Sha *(382833/BV/TKS/F027 – F030)*	The fresh water mains alignments are located along Wan Po Road near Siu Chik Sha.	Mang Kung Uk Formation, undivided, consisting mainly of tuffaceous mudstone, siltstone and breccias; Fill over Holocene alluvium, sedimentary and volcanic rocks	+13 to 46 mPD
Tiu Keng Leng and Mau Wu Tsai *(382833/BV/TKS/F019A – F023A)*	The fresh water mains alignments are located along the eastern slopes of Black Hill, and the lower hill slopes to the east of Mau Wu Shan. Some of the alignments are also located along Po Lam Road South, which are sloping down in a north-easterly direction towards Tsui Lam.	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff	+50 to 100 mPD
Hong Sing Garden *(382833/BV/TKS/F016 – F018; S001 – S003A)*	The fresh water mains alignments are located along Po Lam Road North. The salt water mains alignments are mainly located along steep slopes between Hong Sing Garden and the Tseung Kwan O pumping station.	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff	+70 to 103 mPD
Ma Yau Tong & Tsui Lam *(382833/BV/TKS/F010 - F016A)*	The fresh water mains alignments are located along the south-eastern end of Anderson Road, Ma Yau Tong Road, Tsui Lam Road, village paths and across the fields in the middle part of Ma Yau Tong Village. Some of the alignments are	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff; Pleistocene and Holocene debris flow deposits	+53 to 167 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	located along the Tseung Kwan O Tunnel.		
Hang Hau Village *(382833/BV/TKS/F009. S004A-S007A)*	The small section of fresh water mains alignment is located immediately to the west of Hang Hau Village along Ying Yip Road. It is situated in the western coast of the former Ap Tsai Wan. The salt water mains alignments are located along Po Ning Road, Sheung Ning Road, Chiu Shun Road and Ngan O Road.	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff; fill over marine sand; fill over marine mud	+3.2 to 8.4 mPD
Silverstrand *(382833/BV/TKS/F008)*	The fresh water mains alignments are located along Silver Crest Road, which gradually slopes up towards north.	Silverstrand Formation, undivided, consisting mainly of eutaxite	+63 to 86 mPD
Tseung Kwan O North *This study area is further divided into 5 regions, see* ***Figure 3*** *for their general locations.*			
Fei Ngo Shan *(382833/BV/TKN/ F007A, F008 – F010)*	The fresh water mains alignments are located along Clear Water Bay Road and adjacent to Fei Ngo Shan Road to the west of Pak Kung Au.	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff; Pleistocene and Holocene debris flow deposits	+174 to 320 mPD
Southern end of Hiram's Highway *(382833/BV/F002 & F003)*	The fresh water mains alignments are located along steep slopes and minor road adjacent to the southern end of Hiram's Highway near Ta Kwu Ling New Village.	Ap Lei Chau Formation, undivided, consisting mainly of fine ash vitric tuff	+76 to 134 mPD
Wo Mei *(382833/BV/TKN/F001)*	The fresh water mains alignment is located at Hiram's Highway in front of Wo Mei Village.	Holocene alluvium	+5.5 to 6 mPD
Sai Kung *This study area is further divided into 7 regions, see* ***Figure 4*** *for their general locations.*			
Ta Ho Tun *(382833/BV/SK/F030 – F033)*	The fresh water mains alignments are located along slopes, existing roads and village footpaths within Ta Ho Tun and Lions Nature Education Centre in the northern shore of Hebe Haven.	Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff	+5.8 to 60 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Tui Min Hoi *(382833/BV/SK/F024A – F025A)*	The fresh water mains alignments are located along slopes, existing roads and village footpaths within Tsiu Hang Special Area and Tui Min Hoi in the north-western shore of Inner Port Shelter.	Mainly Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff; and small areas of Pleistocene and Holocene debris flow deposits and fill over Holocene marine mud	+3.2 to 70 mPD
Sai Kung Tuk to Kap Pin Long *(382833/BV/SK/F018 – F023, F037A)*	The fresh water mains alignments are located along existing roads, hill slopes, and village footpaths in Sai Kung Tuk, Yau Ma Po, Tan Cheung, Po Tung Road and Kap Pin Long. Man Nin Street and part of the Po Tung Road alignment are situated on reclaimed land.	Mainly Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff (Yau Ma Po and Tan Cheung); Pleistocene and Holocene debris flow deposits (Kap Pin Long) and fill over Holocene marine sand and beach deposits (Man Nin Street and part of Po Tung Road)	+5 to 60 mPD
Sha Kok Mei and Sha Ha *(382833/BV/SK/F017)*	The fresh water mains alignments are located along existing village footpaths within Sha Kok Mei. One of the alignments is located by the stream between Sha Kok Mei and Sha Ha.	Pleistocene and Holocene debris flow deposits (Sha Kok Mei) and alluvium (Sha Ha)	+10 to 18 mPD
Nam Shan *(382833/BV/SK/F016)*	The fresh water mains alignments are located along existing village footpaths within San Uk, Wo Tong Kong and Nam Shan Village.	Mainly Pleistocene and Holocene debris flow deposits and a small area of Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff	+29 to 75 mPD
Muk Min Shan to Long Keng *(382833/BV/SK/F005 – F011, F013A, F014 & F015)*	The fresh water mains alignments are located along major roads (such as Sai Sha Road and Tai Mong Tsai Road), steep slopes, and village footpaths within Long Keng, Nam A, Wo Liu, Tai Wan, Lung Mei Tsuen, Muk Miu Shan and Shan Liu.	Pleistocene and Holocene debris flow deposits and Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff; Pleistocene and Holocene alluvium (north-western Long Keng)	+8.4 to 117 mPD
Shui Long Wo *(382833/BV/SK/F001-F002)*	The fresh water mains alignments are mostly located along hill slopes between Shui Long Wo Shaft and an existing	Pleistocene and Holocene debris flow deposits	+7.7 to 94 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	pumping station.		
Tai Mong Tsai Road *(382833/BV/SK/F036A)*	The small section of alignment is running beside Tai Mong Tsai Road.	Tai Mo Shan Formation, undivided, consisting mainly of coarse ash crystal tuff	+27.9 mPD
Ma On Shan *This study area is further divided into 3 regions, see* ***Figure 5*** *for their general locations.*			
SW of Sai O *(382833/BV/MOS/F004)*	The fresh water mains alignments are situated within the Sai O Pumping Station compound.	Mainly Bluff Head Formation, consisting of sandstone and siltstone	+25.9
Cheung Muk Tau *(382833/BV/MOS/F003)*	The fresh water mains alignments are located along existing village footpaths.	Bluff Head Formation, consisting of sandstone and siltstone	+20 to 26 mPD
Wu Kai Sha *(382833/BV/MOS/F001 &, F002A)*	The fresh water mains alignment is situated along Lok Wo Sha Lane in the eastern edge of Wu Kai Sha.	Holocene marine sand	+5.2 to 7.8 mPD
Tai Po East *This study area is further divided into 4 regions, see* ***Figure 6*** *for their general locations.*			
Tai Mei Tuk *(382833/BV/TPE/F012 – F014)*	The fresh water mains alignments are located along Ting Kok Road, Bride's Pool Road and within the Tai Mei Tuk Government Holiday Bungalows, to the north-east of Plover Cove. One section of the alignments is located along steep slopes of Ngau Au, connecting to the Tai Mei Tuk Fresh Water Tank.	Pleistocene terraced alluvium; fine ash crystal tuff and fine ash to coarse ash tuffs, tuff-breccia and tuffite of Shing Mun Formation; Pleistocene debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff	+17 to 80 mPD
Shuen Wan *(382833/BV/TPE/F005 – F011)*	The northern fresh water mains alignments are located along Ting Kok Road and village footpaths at Shuen Wan Chim Uk, Lei Uk and Chan Uk. The southern alignments are located at Sha Lan Road, Sam Mun Tsai Road and the breakwater of the typhoon shelter.	Granodiorite, fill over Holocene marine sand and marine mud.	+3.5 to 12 mPD
Wong Yue Tan *(382833/BV/TPE/F004)*	The fresh water mains alignments are mainly located along footpaths within the	Holocene alluvium; Pleistocene & Holocene debris flow deposits	+1.5 to 8 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	village or across the low-lying fields.		
Casa Marina *(382833/BV/TPE/F001 – F003)*	The northern part of the fresh water mains alignments is located along an access road connecting to the Tai Po East High Level Fresh Water Service Reservoir. The southern part alignments are located along Lo Fai Road and Lo Ping Road near Casa Marina.	Shing Mun Formation: fine ash crystal tuff and fine ash to coarse ash tuffs, tuff-breccia and tuffite, block-bearing tuff and tuffite	+58 to 114 mPD
Tai Po West *This study area is further divided into 16 regions, see* ***Figures 7a & 7b*** *for their general locations.*			
Lai Chi Hang *(382833/BV/TPW/F038 – F040)*	The fresh water mains alignments are mostly located on existing footpaths in a hilly terrain next to the Tai Po Kau Nature Reserve.	Mainly Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende	+80 to 170 mPD
Tai Po Kau *(382833/BV/TPW/F036 & F037)*	The fresh water mains alignments are located on existing roads, footpaths or steep slopes in a hilly terrain.	Mainly granodiorite; Pleistocene and Holocene debris flow deposits and alluvium	+53 to 85 mPD
Wong Yi Au *(382833/BV/TPW/F034 & F035)*	The fresh water mains alignments are located on existing road in Sheung Wong Yi Au and Ha Wong Yi Au.	Mainly Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende; and small areas of Pleistocene and Holocene debris flow deposits	+25 to 100 mPD
Shan Tong New Village *(382833/BV/TPW/F032 - F033 & S014)*	The fresh/ salt water mains alignments are situated along Shan Tong Road and footpaths within the village. Shan Tong New Village is located on cut and terraced lower hill slopes.	Mainly Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende; quartzphyric rhyolite; a small area of Pleistocene and Holocene debris flow deposits	+14.5 to 43.5 mPD
Ma Wo *(382833/BV/TPW/F031)*	The fresh water mains alignments are mostly located along existing roads and footpaths along steep slopes in the south-eastern part of Ma Wo.	Shing Mun Formation, undivided, consisting of crystal and lithic tuff, tuff-breccia and tuffite; siltstone and mudstone; granodiorite; Pleistocene and Holocene debris flow deposits.	+29 to 43 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Care Village *(382833/BV/TPW/F029 & F030)*	The fresh water mains alignments are located along existing footpaths within Care Village, and the causeways of Yong Yi Road and Tai Po Road – Yuen Chau Tsai Section. Some of the alignments are located next to a stream or in close proximity to the existing railway alignments.	Mainly Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende; and small areas of Pleistocene and Holocene alluvium	+5.1 to 14.3 mPD
Island House *(382833/BV/TPW/F027 – F028)*	Only a small portion of the fresh water mains alignments are situated on the former island of Yuen Chai Tsai. The rest of the alignments are situated on fill over former wet area.	Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende (Island House); Fill over Holocene marine sand and Fill over Pleistocene and Holocene alluvium	+4.5 to 6 mPD
Tai Wo & Fu Shin *(382833/BV/TPW/F019 – F025, S005 – S008)*	Most of the fresh/salt water mains alignments are located along Tai Po Tai Wo Road and its causeways near Lam Tsuen River. The rest of the alignments are located at Chung Nga Road, Ting Kok Road and Yuen Shin Road. The entire area is situated on fill over former wet areas.	Fill over Holocene marine sand	+4.3 to 8.1 mPD
Tai Po Industrial Estate *(382833/BV/TPW/F026, S001 – S004)*	The salt water mains alignments are located along Dai Fu Street, Dai Fuk Street, Yuen Shin Road, and adjacent to Ting Kok Road, in the north-western edge of Tai Po Industrial Estate. The fresh water mains alignments run along the edge of the existing Tin Sam Sewage Pumping Station, which is located between Ting Kok Road and a river.	Fill over Holocene marine sand and Pleistocene and Holocene alluvium	+4.1 to 7.6 mPD
Tai Po Market *(382833/BV/TPW/S009, S015A)*	The salt water mains alignments are located along Plover Cove Road, Pak Shing Street and Kwong Fok Road.	Granodiorite and fill over Holocene marine sand (Plover Cove Road)	+4.4 to 4.9 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Kam Shan *(382833/BV/TPW/F017 & F018, S010 – S011)*	The fresh/ salt water mains alignments are located along Kam Shan Road, Shek Lin Road, and village paths within Kam Shan Village.	Holocene alluvium; Pleistocene and Holocene debris flow deposits; Granodiorite	+4.4 to 8.3 mPD
Shek Kwu Lung *(382833/BV/TPW/F017)*	Part of the fresh water mains alignments are located adjacent to Shek Lin Road. The rest of the alignments are situated on steep slopes near Yat Wing Garden	Granodiorite	+15 to 27 mPD
Pun Chun Yuen *(382833/BV/TPW/S012 – S013)*	The salt water mains alignments run across Tolo Highway towards Tai Po Water Treatment Works via Shek Lin Road.	Granodiorite and Pleistocene and Holocene debris flow deposits	+41 to 79 mPD
Tai Po Tau *(382833/BV/TPW/F010 - F013)*	The fresh water mains alignments are located on existing footpaths within Tai Po Tau Village, Tai Po Tau Drive and Tai Po Road – Tai Road Section located to the north-east of Lam Tsuen River.	Granodiorite and Pleistocene and Holocene debris flow deposits	+6.8 to 14 mPD
Mui Shue Hang *(382833/BV/TPW/F010, F014 & F015)*	The water mains alignments run between Tai Po Road – Tai Wo Section and the Tai Po Tau Fresh Water Primary Service Reservoir on a hilltop.	Mainly Granodiorite; Pleistocene and Holocene alluvium (Lam Tsuen River)	+12 to 105 mPD
Tong Min Tsuen *(382833/BV/TPW/F016)*	The fresh water mains alignments are located along existing footpaths and the village access road. Tong Min Tsuen is situated in the middle part of Lam Tsuen Valley.	Pleistocene and Holocene alluvium	+42 to 47 mPD
Near Lam Kam Interchange *(382833/BV/TPW/F007- & F010)*	The water mains alignments are largely located along Tai Po Road – Tai Wo Section or adjacent minor roads near Lam Kam Interchange. Part of the alignment is situated at the lower hill slope near the existing Hong Lok Yuen Freshwater Booster Pumping Station.	Granodiorite, Pleistocene and Holocene alluvium	+16.5 to 26.4 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Fanling Highway *(382833/BV/TPW/F001 – F007)*	The fresh water mains alignments are located along Fanling Highway between Wai Tau and Yuen Leng and adjacent to railway alignment. One of the alignments is located along a minor road in the western end of Yuen Leng.	Pleistocene terraced alluvium	+22 to 32 mPD
Fo Tan & Ma Liu Shui *This study area is further divided into 4 regions, see* ***Figures 8and 9a*** *for their general locations.*			
Ma Liu Shui *(382833/BV/FT/F001& F002)*	The fresh water mains alignment is situated along both Ma Liu Shui and Tai Po Kau sections of Tai Po Road near The Chinese University of Hong Kong and Chek Nai Ping.	Tolo Harbour Formation, undivided, consisting of mudstone, siltstone and sandstone; fine-grained granite; medium-grained granite; and a small area of Pleistocene and Holocene debris flow deposits	+73 to 109 mPD
Fo Tan *(382833/BV/FT/F003 – F007, F008A, F009A, F010-12, F013A, F014, F015 & 382833/BV/ST/S001, S002)*	The fresh water mains alignments are mainly located along existing carriageway, village minor roads and footpaths in Sha Tin Sewage Treatment Works, Ho Tun Lau, Pat Tsz Wo Village, Wo Liu Hang, Fo Tan Industrial District, Sha Tin Road, and Fo Tan Cottage Area. The original shoreline is in general rocky and hilly. Areas situated along the river bank are resulted from the reclamation associated with the canalisation of Shing Mun River Channel.	Fill over Holocene marine mud (Sha Tin Sewage); Fill over Holocene marine sand, Fill over Pleistocene and Holocene debris flow deposits and alluvium (Fo Tan Industrial District, Wo Liu Hang and Sha Tin Road); and medium-grained granite (Ho Tun Lau, Pat Tsz Wo Village, Fo Tan Cottage Area)	+5 to 99.5 mPD
Ho Wo Che to Pai Tau Hang *(382833/BV/FT/F016 – F021)*	The fresh/ salt water mains alignments are located along existing footpaths or along very steep slopes of hilly terrains.	Coarse-grained granite and medium-grained granite	+39 to 200 mPD
Lek Yuen *(382833/BV/TWS/F025 & 382833/BV/ST/S003-4, S018)*	The fresh/ salt water mains alignments are located along Sha Tin Centre Street, Tai Po Road – Sha Tin Section and Wo Che Street near Lek Yuen Estate.	Fill over Holocene marine sand	+4.6 to 5.6 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Sha Tin *This study area is further divided into 9 regions, see* ***Figures 9a & 9b*** *for their general locations.*			
Ah Kung Kok *(382833/BV/ST/F001 – F005)*	The fresh water mains alignments are located along Ah Kung Kok Street, Ah Kung Kok Shan Road, across Tate's Cairn Highway and minor roads adjacent to Tate's Cairn Highway. Most of the alignments are situated on reclaimed land of former Sha Tin Hoi, except for the Ah Kung Kok Fresh Water service Reservoir and it's adjacent Ah Kung Kok Shan Road, which are located on a hilltop and very steep slopes.	Fill over Holocene marine sand and medium-grained granite	+3.5 to 56 mPD
Shek Mun *(382833/BV/ST/F006 – F008)*	The fresh water mains alignments are located along Tai Chung Kiu Road, On Sum Street, On Muk Street, On Yiu Street and On King Street. The entire area is situated on reclaimed land over former Sha Tin Hoi.	Fill over Holocene marine mud	+4.6 to 12.8 mPD
Tai Shek Kwu *(382833/BV/ST/F009 & F010)*	The fresh water mains alignment is situated on fill over former wet area, in the southern part of Tai Shek Kwu.	Fill over Holocene marine sand	+5.9 to 7 mPD
Wong Nai Tau to Nam Shan *(382833/BV/ST/F012 & F014)*	The proposed fresh water mains alignments are located along village footpaths and steep hill slopes at Nam Sham, Tai Lam Liu, Shek Kwu Lung and Wong Nai Tau.	Pleistocene and Holocene debris flow deposits	+37 to 80 mPD
Kwong Lam Court *(382833/BV/ST/F017)*	The proposed fresh water mains alignments are situated along a minor road at Kwong Lam Court and through steep hill slopes leading up to the Siu Lek Yuen Fresh Water Service Reservoir	Fine-grained granite; medium-grained granite; and a small area of Pleistocene and Holocene debris flow deposits	+44 to 82 mPD
Chap Wai Kon *(382833/BV/ST/F015 &*	The proposed fresh water mains alignments are located along village footpaths at Chap Wai	Medium-grained granite; Pleistocene and Holocene debris flow deposits and	+4.3 to 28 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
F016)	Kon, Chap Wai Kon New Village and Nga Pei Sha New Village	alluvium	
City One Shatin *(382833/BV/ST/S005A)*	The proposed salt water mains alignment is situated along Tai Chung Kiu Road..	Fill over Holocene marine mud	+ 5.8 mPD
Yuen Chau Kok *(382833/BV/ST/S010, S014, S015 & S017)*	The proposed salt water mains alignments are situated along major roads such as Yuen Chau Kok Road, Kong Pui Street and Sha Tin Wai Road.	Fill over Holocene marine mud	+5.2 to 6.7 mPD
Sha Tin Road *(382833/BV/ST/F018-F020, F021A)*	The fresh water mains alignments are located along Sha Tin Road between Sha Tin Wai and Tseng Tai Uk.	Fill over Holocene marine sand; Pleistocene and Holocene debris flow deposits; coarse-grained granite and quartz monzonite	+6.7 to 28mPD
Sha Tin Tau *(382833/BV/ST/F022A)*	The proposed fresh water mains alignments are located along village footpaths within Sha Tin Tau Village.	Pleistocene & Holocene debris flow deposits and coarse-grained granite	+4 to 5 mPD
Pai Tau New Village *(382833/BV/ST/F023A-F024A)*	The proposed fresh water mains alignments are located along village footpaths and lower hill slopes within Pai Tau New Village.	Pleistocene & Holocene debris flow deposits and granodiorite	+32 to 71 mPD
Tai Wai & Shing Mun Reservoir *This study area is further divided into 5 regions, see* ***Figures 9a & 10*** *for their general locations.*			
To Fung Shan *(382833/BV/TWS/F021 – F024)*	The fresh water mains alignments are located on existing roads or along very steep slopes of To Fung Shan.	Coarse-grained granite	+96 to 174 mPD
Heung Fan Liu and Pak Tin *(382833/BV/TWS/F004 – F010)*	The fresh water mains alignments are located on both sides of the Shing Mun Tunnel, along the very steep slopes of the south-eastern lower hill slopes of Needle Hill.	Mainly coarse-grained granite and fine-grained granite and a small area of Pleistocene and Holocene debris flow deposits	+28 to 180 mPD
Tai Wai *(382833/BV/TWS/F011, 382833/BV/ST/S019 – S021)*	The fresh/ salt water mains alignments are located mainly on existing roads (such as Heung Fan Liu Street, Mei Tin Road and Chik Wan Street). Most	Fill over Pleistocene and Holocene alluvium; coarse-grained granite (western end of Heung Fan Liu Street and Mei Tin Road)	+9.3 to 126m PD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	parts of Tai Wai are situated on fill over alluvial deposits associated with the Shing Mun River prior to canalisation.		
Sha Tin Heights *(382833/BV/TWS/F012 & F013)*	The fresh water mains alignments are located along very steep slopes of Sha Tin Heights.	Coarse-grained granite	+106 to 126 mPD
Hung Mui Kuk *(382833/BV/TWS/F015A, F016-17, F018A, F019, F020,F026A-27A; 382833/BV/ST/S022 – S024)*	The fresh/ salt water mains alignments are located along major roads (such as Hung Miu Kuk Road, Sha Tin Tau Road, minor road adjacent to Che Kung Miu Road, and Lion Rock Tunnel Road) and village paths within Kak Tin Village Nam Kau, Kak Tin Village Kung Miu, San Tin Tsuen and Lei Uk Tsuen. Northern part of this study area is situated on fill over alluvial deposits associated with the Shing Mun River prior to canalisation.	Fill over Pleistocene and Holocene alluvium (Hung Miu Kuk Road, Tin Sam); Pleistocene and Holocene alluvium (part of Lei Uk Tsuen); Pleistocene and Holocene debris flow deposits (Kak Tin); coarse-grained granite (San Tin Tsuen, Lion Rock Tunnel Road)	+4.8 to 81 mPD
Pak Shek *(382833/BV/TWS/F014A, F028A-31A; 382833/BV/ST/S025-028)*	The fresh/ salt water mains alignments are located along major roads such as Che Kung Miu Road, Keng Hau Road, Hin Keng Street, Fu Kin Street, Hin Hong Street and Hin Tai Street between Sha Tin Heights and Hung Mui Kuk.	Fill over Pleistocene and Holocene alluvium (Che Kung Miu Road, Fu Kin Street); coarse-grained granite	+8.2 to 83 mPD
Shing Mun Reservoir *(382833/BV/TWS/F001-F003)*	The fresh water mains alignments are mostly located along the existing pipelines along steep hill slopes near Lower Shing Mun Reservoir	Fine-grained granite, medium-grained granite and fill over fine-grained granite	+92 to 194 mPD
Tai Po Road & Lion Rock Tunnel *This study area is further divided into 2 regions, see* ***Figure 11*** *for their general locations.*			
Kowloon Bywash Reservoir *(382833/BV/TPR/F001, F002 & F004A-008A)*	The fresh water mains alignments are located along very steep slopes near the Kowloon Bywash Reservoir and Tai Po Road Fresh Water Reservoir.	Coarse-grained granite	+80 to 160 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Lion Rock Tunnel *(382833/BV/TPR/F003)*	The fresh water mains alignment is along the Second Lion Rock Tunnel.	Medium-grained granite and Pleistocene and Holocene debris flow deposits	+120 to 200 mPD
Kwai Chung & Tsing Yi *This study area is further divided into 9 regions, see **Figures 12a & b, and Figures 13a & b** for their general locations.*			
Butterfly Valley *(382833/BV/KT/F055A, F056 – F057)*	The proposed fresh water mains alignments are located in Butterfly Valley. Some of the alignments are situated along very steep slopes and adjacent to existing pipelines. The southern alignment is located within the Lai Chi Kok 400kv Substation compound next to a nullah.	Coarse-grained granite and fine-grained granite	+ 43 to 136 mPD
Lai King *(382833/BV/KT/F043 – F044, F047 – F049, F051, F052 & F054)*	The proposed fresh water mains alignment is located along Lai King Hill Road, Wing Cho Street, Lai Chi Ling Road and steep slopes next to Kwai Chung Hospital.	Coarse-grained granite and fine-grained granite	+28 to 113 mPD
Kau Wa Keng *(382833/BV/KT/F040 – F041, F045, F046A, F049 & F050, F089A)*	The proposed fresh water mains alignments are located along village footpaths and steep hill slopes at Kau Wa Keng Old Village, Kau Wa Keng San Tsuen,Chung Shan Terrace and Tai Ching Cheung.	Holocene alluvium; Pleistocene and Holocene debris flow deposits; fine-grained granite	+3.7 to 141 mPD
Ha Kwai Chung *(382833/BV/KT/F024 – F025, F026A – F027A, F028 – F039; S008, S009A, S010 – S013)*	Ha Kwai Chung is situated in the rocky shore along the south-eastern coastline of Tsuen Wan. The proposed fresh water mains alignments are located along major roads such as Tai Wo Interchange, Tsing Kwai Highway, Castle Peak Road – Kwai Chung Section, Kwai Chung Road, Lai King Hill Road, Lai Yiu Street, Lai Kong Street, Lai Chi Ling Road and village footpaths within Ha Kwai Chung Tsuen. Some alignments are situated at steep hill slopes/ engineered slopes leading to Tai Wo Tsuen Fresh Water Service	Coarse-grained granite; fine-grained granite and feldsparphyric rhyolite; fill over Holocene marine sand and fill over Holocene alluvium (Kwai Chung Road and Tsing Kwai Highway)	+5 to 256 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	Reservoir and Lai King Headland Fresh Water Service Reservoir.		
Kwai Tsing Container Terminals *(382833/BV/KT/F042, S028 – S029, S031 – S032)*	The proposed fresh/salt water mains alignments are located within the Kwai Tsing Container Terminals, which is situated on modern reclaimed land.	Fill over Holocene marine sand	+4.7 to 17 mPD
Kwai Hing *(382833/BV/KT/F002, F003A, F004, F005, F006A, F011A, F012A, F013, F014A, F018 – F020; 382833/BV/TW/S020, S021, S030, S033 – S035)*	The proposed fresh/salt water mains alignments are located along major roads such as Castle Peak Road – Kwai Chung Section, Kwai Ching Road, Tai Loong Street, Wo Yi Hop Street, Kung Yip Street, Wing Yip Street, Shek Pai Street and Yip Shing Street.	Mainly fine-grained granite; small areas of Fill over Holocene alluvium (Kwai Chung Road)	+6.4 to 82 mPD
Kwai Fong *(382833/BV/KT/F007-F010, F015-F017, F021, F022, F023A, S001 – S005 & 382833/BV/TW/F045A, & F048A-F050A, S013, S015, S017A – S019A, S031, S032)*	The proposed fresh water mains alignments are located along existing roads such as Tai Wo Hau Road, Tsing Tsuen Road, Wing Shun Street, Kwai Shing Circuit, Kwai Hop Street, Kwai Fuk Road, Wing Kin Road, Shun Fong Street, roads leading to Peninsula High Level Salt Water Service Reservoir, area surrounding Kwai Fong Street Rest Garden and within Tai Wo Hau Estate.	Fine-granite granite; medium-grained granite; granodiorite; small areas of Pleistocene and Holocene debris flow deposits and alluvium; fill over Holocene marine sand (area near Shun Fong Street)	+7.4 to 121 mPD
Fung Shue Wo *(382833/BV/KT/F058, S015A, S016A, S017)*	The proposed fresh/ salt water mains alignments are located along major roads such as Tsing Yu Street, Fung Shue Wo Road and Tsing Sum Street next to Tsing Yi Estate.	Fill over Holocene alluvium; Fill over mud blanket consisting of soft to very soft marine mud and some sand;fill over granodiorite	+6 to 10 mPD
Near Cheung Hong Estate *(382833/BV/KT/F059-F064, F071 – F076; S018 – S020, S021, S022A, S023, S024,*	The proposed fresh water mains alignments are located along major roads such as Tsing Yi Interchange, Kwai Tsing Road (Tsing Yi Bridge), Tsing Yi Heung Sze Wui Road, Cheung Wan Street, Cheung Fai Road,	Medium-grained granite; Fill over Holocene marine mud; fine-grained granite; Yim Tin Tsai Formation, consisting of coarse ash crystal tuff	+5 to 87.6 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
S025A)	Tsing Chin Street, Ching Hong Road, Chung Mei Road, Sheung Ko Tan Street and Tsing Yi Road West. Some alignments are situated along steep slopes leading to Tsing Yi East Salt Water Service Reservoir.		
Sai Tso Wan *(382833/BV/KT/F065-F070)*	Sai Tso Wan is situated in the western part of Tsing Yi. The proposed fresh water mains alignments are located along major roads, namely Sai Tso Wan Road, Tsing Yi Road and Tsing Yi Road West.	Yim Tin Tsai Formation, consisting of coarse ash crystal tuff; feldsparphyric rhyolite; fine-grained granite; medium-grained granite	+10.2 to 74.8 mPD
Tsing Yi Road *(382833/BV/KT/F078 – F088)*	The fresh water mains alignments are located along Tsing Yi Road between Cheung Ching Estate and Nam Wan.	Fill over Holocene alluvium; Fill over mud blanket consisting of soft to very soft marine mud and some sand; fine-grained granite; feldsparphyric rhyolite	+4.3to 45 mPD
Tsuen Wan *This study area is further divided into 9 regions, see **Figures 13a & b** for their general locations.*			
On Yam *(382833/BV/TW/F038-F040, S027 – S029)*	The proposed fresh water mains alignments are located along On Chik Street, Tai Loong Street, Tai Pak Tin Lane and steep slopes to the east of On Yam.	Mainly fine-grained granite; a small area of fill over fine-grained granite	+57.8 to 140 mPD
Lei Muk Shue *(382833/BV/TW/F022A, F023 – F028, S022 – S026)*	The proposed fresh/ salt water mains alignments are located along Wo Yi Hop Road, Wo Yi Hop Lane, Shing Mun Road, Cheung Pei Shan Road, Lei Shue Road, south-eastern slopes of Da Chuen Ping Tsuen, and hill slopes at Lower Shing Mun Village in the northern part of Kwai Chung, leading to the North Kwai Chung Fresh Water Service Reservoir and Kwai Chung North Salt Water Service Reservoir.	Granodiorite and fill over fine-grained granite	+44 to 150 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Lo Wai *(382833/BV/TW/F003A & F004-F006)*	The proposed fresh water mains alignments are located along village footpaths, access roads, steps, or steep slopes adjacent to existing catchwater in a hilly terrain.	Mainly Yim Tin Tsai Formation, undivided, consisting of crystal tuff with hornblende; and a small area of Pleistocene and Holocene debris flow deposits	+ 80 to 135 mPD
Sai Lau Kok & Pak Tin Pa *382833/BV/TW/S005)*	The proposed salt water mains alignments are located along village footpaths within Sai Lau Kok Tsuen and Pak Tin Pa Tsuen in the lower hill slopes of Fu Yung Shan.	Granodiorite	+48.1 to 54.3 mPD
Tai Wo Hau *(382833/BV/TW/F018-F021, F028, F031A-F032A, F033, F034A , F035, F036A, F037)*	The proposed fresh/salt water mains alignments are located along major roads such as Castle Peak Road – Kwai Chung Section, Tai Wo Hau Road, Shing Mun Road, Yau Ma Hom Road, Kwok Shui Road, and hill slopes to the south of Shing Mun Road.	Mainly granodiorite and fine-grained granite; a small area of Holocene alluvium	+8 to 106 mPD
Fuk Loi Estate to Ham Tin *(382833/BV/TW/F014, F015, F016A, F017, F029, F030A, F031A, F041A, F042A; S004, S006A, S007, S008A, S009B, S012A)*	The proposed fresh/ salt water mains alignments are located along major roads such as Castle Peak Road – Tsuen Wan Section, Shing Mun Road, Texaco Road North, Sai Lau Kok Road, Tai Ho Road North, Mei Wan Street and Shek Wai Kok Road.	Fill over Holocene alluvium; Holocene alluvium; Pleistocene and Holocene debris flow deposits and granodiorite	+6 to 38.7 mPD
Sha Tsui *(382833/BV/TW/F042A, F043, F044A, F046 & F047; S012A, S016)*	The proposed fresh water mains alignments are locate along Texaco Road, Tsuen Fu Street, Tsuen Wah Street, Tsuen Wing Street, Ma Kok Street and Yeung Uk Road. The area is mostly situated on fill over former wet area.	Fill over Holocene marine sand; Fill over Holocene alluvium; and granodiorite (Texaco Road)	+4.7 to 12 mPD
Clague Garden Estate *(382833/BV/TW/S003)*	The proposed salt water mains alignments are located along Hoi Kwai Road and Tsuen Wan Road to the north of Tsuen Wan West Station.	Fill over marine mud	+4.2 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Chai Wan Kok *(382833/BV/TW/F007 & F008A, F012 – F013; S001, S002A)*	Chai Wan Kok is situated in a hilly area in the western part of the original coastline of Tsuen Wan. The proposed fresh/ salt water mains alignments are located along Castle Peak Road – Tsuen Wan Section, On Yuk Road and steep slopes leading to Tuen Wan West Low Level Fresh Water Service Reservoir.	Mainly Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Fill over marine sand (Castle Peak Road – Tsuen Wan);	+6.3 to 123.3 mPD
Yau Kom Tau *(382833/BV/TW/ F09B, F011)*	The proposed fresh water mains alignments are located along steep slopes adjacent to existing pipelines, to the north-east of Yau Kom Tau Village.	Dacite	+131 to 132 mPD
Sham Tseng & Ma Wan *This study area is further divided into 6 regions, see* ***Figure 14*** *for their general locations.*			
Lau Fa Tsuen *(382833/BV/SMW/F008)*	The fresh water mains alignments are located along village footpaths, steep slopes and small streams along the coast of the typhoon shelter. Lantau Link is situated immediately to its south.	Mainly Yim Tin Tsai Formation, consisting of coarse ash crystal tuff; Holocene beach deposits and Holocene alluvium	+3.1 to 53.4 mPD
Tai Yuk Road *(382833/BV/SMW/ F007A)*	The fresh water mains alignments are located along village footpaths in the lower hill slopes.	Mainly Yim Tin Tsai Formation, consisting of coarse ash crystal tuff; feldsparphyric rhyolite	+16 to 16.5 mPD
Ma Wan Town and Ma Wan New Street Village *(382833/BV/SMW/F006)*	Ma Wan Town and Ma Wan Main Street Village are situated in the western end of Ma Wan Island. The fresh water mains alignments are located along village footpaths or lower hill slopes.	Yim Tin Tsai Formation, consisting of coarse ash crystal tuff; feldsparphyric rhyolite; Holocene alluvium	+2.6 to 10 mPD
Ma Wan Fishermen's Village *(382833/BV/SMW/F006)*	The proposed fresh water mains alignments are located along village footpaths and steps in the steep lower hill slopes to the south of Shek Tsai Wan.	Yim Tin Tsai Formation, consisting of coarse ash crystal tuff; feldsparphyric rhyolite;	+9 to 20 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Sham Tseng *(382833/BV/SMW/F001 A, F002 & F003)*	The proposed fresh water mains alignments are located along major roads (Castle Peak Road – Sham Tseng Section, Tune Mun Road and Shing Hong Road), along steep hill slopes and village footpaths within Sham Tseng Commercial New Village, Sham Tseng San Tsuen and Sham Tseng Kau Tsuen.	Fine to medium-grained granite; medium-grained granite; Pleistocene and Holocene debris flow deposits and Holocene alluvium	+20 to 68.7 mPD
Yuen Tun Tsuen *(382833/BV/SMW/ F005)*	The proposed fresh water mains alignments are located along Lung Yue Road and village footpaths within Yuen Tun Village in Tsing Lung Tau.	Mainly medium-grained granite; a small area of Pleistocene and Holocene debris flow deposits	+12 to 16.6 mPD
Siu Lam *This study area is further divided into 5 regions, see* ***Figure 15*** *for their general locations.*			
Wu Uk *(382833/BV/SL/F006, F008)*	The proposed fresh water mains alignments are located along village footpaths within Wu Uk, of Tai Lam Chung Valley.	Pleistocene and Holocene debris flow deposits and Holocene alluvium; Holocene marine sand	+3.2 to 3.8 mPD
Luen On San Tsuen (E) *(382833/BV/SL/F006)*	The proposed fresh water mains alignments are located along Tai Lam Chung Road and village paths within Luen On San Tsuen. Luen On san Tsuen is situated in Tai Lam Chung Valley, between Wong Uk and Wu Uk. The western end of Luen On San Tsuen is situated on reclaimed land.	Fill over Holocene marine sand; Holocene marine sand and a small area of Holocene alluvium	+2.9 to 3.8 mPD
Wong Uk *(382833/BV/SL/F006&F 007)*	The proposed fresh water mains alignments are located along village footpaths with Wong Uk, which is situated in the foot of a mountain.	Pleistocene and Holocene debris flow deposits and a small area of Holocene alluvium	+3.7mPD
Tai Lam Chung Tsuen *(382833/BV/SL/F001, F003A & F004)*	The proposed fresh water mains alignments are located along Tai Lam Chung Road and village footpaths within Tai Lam Chung Tsuen in Tai Lam Chung Valley.	Holocene alluvium; Pleistocene and Holocene debris flow deposits	+3.8 to 4 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Luen On San Tsuen (W) *(382833/BV/SL/F003A)*	The proposed fresh water mains alignments are located along lower hill slopes, village paths and abandoned fields. The area located near the nullah is very low-lying and was partially covered by existing or filled ponds.	Holocene alluvium; fine-grained granite	+ 2.3 to 5 mPD
Siu Lam Portal *(382833/BV/SL/F011A)*	The proposed alignment is situated in a rocky hilly terrain next to Siu Lam Portal.	Fine-grained granite	+18 to 22 mPD
Pak Shek Hang *(382833/BV/SL/F009A, F010A)*	The proposed alignments are located along steep slopes near Pak Shek Hang Portal.	Fine-grained granite and Pleistocene and Holocene debris flow deposits	+16 to 28 mPD
Tuen Mun South *This study area is further divided into 9 areas, see **Figures 16a & b** for their general locations.*			
Yu Chui *(382833/BV/TMS/F040 & F041A)*	The proposed fresh water mains alignments are located along Tsing Lung Road and Yu Chui Street, between Gold Coast and Siu Lam.	Medium-grained granite; Holocene beach deposits and alluvium	+5.5 to 17.1 mPD
Gold Coast *(382833/BV/TMS/F038A , F039)*	The proposed fresh water mains alignments are located along Castle Peak Road (Castle Peak Bay Section and So Kwun Wat Section) and So Kwun Wat Road.	Mainly fill over marine sand and fill over Holocene beach depostis; small areas of medium-grained granite and Holocene beach deposits (So Kwun Wat Road)	+4.4 to 10.8 mPD
Castle Peak Bay *(382833/BV/TMS/F035A)*	The proposed alignment is situated along Tsing Yung Street next to the north of Cafeteria Old Beach.	Coarse-grained granite	+15 to 20 mPD
Sam Shing Hui *(382833/BV/TMS/F030A , F031, F032A & S07)*	The proposed fresh water mains alignments are located along Sam Shing Street, Castle Peak Road – Castle Peak Bay Section, Tuen Mun Road, Wing Fat Lane and Wah Fat Street. Some alignments are situated along steep slopes.	Fill over Holocene marine mud (Sam Shing Street); coarse-grained granite	+4.3 to 22.7 mPD
Tseng Tau Tsuen Sheung Tsuen	The proposed fresh water mains alignments are located along Castle Peak Road – Castle Peak	Fill over Holocene marine sand and beach deposits; coarse-grained granite;	+4.3 to 68.4 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
(382833/BV/TMS/F025A, F026 – F028, F029A)	Bay Section, Hin Fat Lane, Fraser Road, village footpaths within Tseng Tau Tsuen Sheung Tsuen and steep hill slopes leading to Tuen Mun No.2 Service Reservoir.	basalt; fine-to medium-grained granite	
Tseng Tau Tsuen Chung Tsuen *(382833/BV/TMS/F021A, F022, F023A & F024A, F025A, S003)*	The proposed fresh/ salt water mains alignments are located along Ho Pong Street, San Sau Street, Castle Peak Road – San Hui Section and village paths within Tseng Tau Tsuen Chung Tsuen and Leung Tin Tsuen.	Holocene alluvium; Pleistocene and Holocene debris flow deposits; fine-grained granite	+4.9 to 50 mPD
San Hui *(382833/BV/TMS/F001A -F004A & F005, F006A, S004, S005)*	The proposed fresh/ salt water mains alignments are located along major roads such as Tune Mun Road, Castle Peak Road – San Hui Section, San Wo Lane, Kin Shing Lane, Kin Wing Street, Choi Yee Bridge Road, Tune Mun Heung Sze Hui Road, Ho Pong Street, Tsun Wen Road, Tin Hau Road and cycle tracks along both sides of the river channel.	Fill over Holocene marine mud, fill over beach deposits, fill over marine sand.	+4.9 to 10.5 mPD
Shan King Estate *(382833/BV/TMS/F014-F016)*	The proposed fresh water mains alignments are located along Wong Yin Street and Yeung King Road next to Shan King Estate.	Undifferentiated tuff and tuffite (Wong Yin Street); Fill over Pleistocene and Holocene debris flow deposits and Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite (Yeung King Road)	+7.8 to 31 mPD
Tsing Shan Tsuen *(382833/BV/TMS/F017-F020)*	Tsing Shan Tsuen is situated in the lower hill slopes of Tsing Shan. The proposed fresh water mains alignments are located along access roads (Tsing Shan Monastery Path and Wan Shan Road), steep lower hill slopes, village footpaths and small stream.	Pleistocene and Holocene debris flow deposits; Pleistocene debris flow deposits; Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite	+14 to 67.2 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Lung Mun Oasis *(382833/BV/TMS/F009A, F010A, F011, F012A, F013, F042A, F043A)*	The proposed alignments are located along Lung Mun Road, Wong Chu Road and cycle tracks near Lung Mun Oasis.	Fill over marine mud, fill over marine sand, fill over Holocene beach deposits and a small area of Holocene raised beach deposits (Lung Mun Road)	+3.8 to 20 mPD
Tuen Mun Kau Hui *(382833/BV/TMS/F006A –F009A, S006)*	The proposed fresh/ salt water mains alignments are located along Tin Hau Road and the praya along the Tune Mun River Channel in Tune Mun Kau Hui.	Fill over Holocene marine mud; fill over Holocene beach deposits and fill over marine sand	+3.7 to 8.3 mPD
Lung Kwu Tan *This study area is further divided into 6 regions, see* ***Figure 17*** *for their general locations.*			
Butterfly Bay and Hung Lau *(382833/BV/LKT/F020A -F026A)*	The proposed fresh mains alignments are located along Tuen Tsing Lane, Lung Mun Road, cycle tracks adjacent to Lung Mun Road and northern part of Butterfly Beach Park area.	Fill over Holocene raised beach deposits (Butterfly Beach, southern part of Lung Mun Road, cycle tracks along Lung Mun Road); Fill over marine sand and fill over marine mud (Wu Shan Road); Holocene raised beach deposits (western part of Tuen Tsing Lane); fill over Holocene beach deposits (eastern part of Tuen Tsing Lane); Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite and a small area of Holocene alluvium (northern part of Lung Mun Road)	+5.2 to 7.7 mPD
Siu Lang Shui *(382833/BV/LKT/F010-F015 & F016A-F019A)*	The proposed fresh water mains alignments are located along Lung Mun Road, Mong Wing Street, Mong Tat Street, cycle tracks along Lung Mun Road and Siu Lang Shui Road at Siu Lang Shui.	Fill over Holocene marine sand, beach deposits and alluvium; fine-grained granite	+5.3 to 58 mPD
Tap Shek Kok (382833/BV/LKT/F006-F009)	The proposed fresh water mains alignments are located along Lung Mun Road at Tap Shek Kok. The road gradually slopes toward Lung Kwu Tan in the north.	Medium-grained granite and basalt	+11.3 to 50 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Lung Tsai *(382833/BV/LKT/F004-F005)*	The proposed fresh water mains alignments are located along village footpaths in the southern part of Lung Kwu Tan.	Medium-grained granite (southern end of Lung Kwu Tan Road); Holocene beach deposits, raised beach deposits and alluvium	+4.1 to 31.9 mPD
Sha Po Kong *(382833/BV/LKT/F002, F003)*	The proposed fresh water mains alignments are located along village footpaths in the middle part of Lung Kwu Tan.	Holocene beach deposits and raised beach deposits	+3.9 to 6.4 mPD
Pak Long & Nam Long *(382833/BV/LKT/F001-F002)*	The proposed fresh water mains alignments are located along village footpaths in the northern and north-eastern part of Lung Kwu Tan.	Holocene alluvium, beach deposits and raised beach deposits; Pleistocene and Holocene debris flow deposits	+4.8 to 10.5 mPD
Tuen Mun North *This study area is further divided into 18 regions, see* ***Figures 18 & 16b*** *for their general locations.*			
Fu Tei Sheung Tsuen *(382833/BV/TMN/F067A, F071A, F072A, F073 & F074; 382833/BV/TMS/S002)*	The proposed fresh/ salt water mains alignments are located along major roads such as Castle Peak Road – Lingnan Section, Fu Tei Road, King Sau Lane, village paths at Fu Tei Sheung Tsuen and Chung Wong Toi, and steep slopes leading to Fu Tei Sheung Tsuen Fresh Water Tank. Some of the alignments are located within the HKWW Tune Mun Treatment Works compound.	Fine-grained granite and Lok Ma Chau Formation, Mai Po Member, undivided, consisting of metasiltstone and phyllite, with metasandstone	+8.5 to 103.5 mPD
Tune Mun River Channel *(382833/BV/TMN/F051, F058A, F066, F067A, F068 & F069A; 382833/BV/TMS/S001)*	The proposed fresh water mains alignments are located along Tune Mun Road or causeway/ cycle tracks along Tune Mun River Channel.	Fill over Holocene alluvium and Holocene alluvium	+5.1 to 14.1 mPD
Fu Tei Ha Tsuen *(382833/BV/TMN/F060 & F061)*	The proposed fresh water mains alignments are located along village footpaths or abandoned fields within Fu Tei Ha Tsuen. Some alignments are situated next to a nullah.	Pleistocene terraced alluvium and debris flow deposits	+8.1 to 16 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Lam Tei Quarry *(382833/BV/TMN/F040A, F041A, F042-F046 & F054A)*	The proposed fresh water mains alignments are located along Fuk Hang Tsuen Road, village footpaths to the west of Lo Fu Hang, and steep slopes leading to the existing pipelines located adjacent to Hung Shui Hang Reservoir.	Fine-grained granite; Pleistocene debris flow deposits; Lok Ma Chau Formation, Mai Po Member, undivided, consisting of metasiltstone and phyllite, with metasandstone	+11.8 to 105 mPD
To Yuen Wai *(382833/BV/TMN/F051 & F052)*	The proposed fresh water mains alignments are located along village footpaths at To Yuen Wai and Tune Mun San Tsuen.	Pleistocene terraced alluvium	+6.9 to 13 mPD
Fuk Hang Tsuen *(382833/BV/TMN/F029, F038, F039, F040A, F053 & F054A)*	Fuk Hang Tsuen is situated between Tsoi Yuen Tsuen and To Yuen Wai. The proposed fresh water mains alignments are located along Fuk Hang Tsuen Road and village paths within Fuk Hang Tsuen.	Pleistocene terraced alluvium and debris flow deposits; Holocene alluvium	+9.2 to 22 mPD
Tsoi Yuen Tsuen *(382833/BV/TMN/F030, F031, F039 & F040A)*	The proposed fresh water mains alignments are located along Shun Tak Street and village paths within Tsoi Yuen Tsuen.	Pleistocene terraced alluvium and debris flow deposits; Holocene alluvium	+10.2 to 25.5 mPD
Nam Wai & Sun Fung Wai *(382833/BV/TMN/F021 & F030)*	The proposed fresh water mains alignments are located along village access roads and village footpaths within Sun Fung Wai and Nai Wai.	Pleistocene terraced alluvium and Holocene alluvium	+10.2 to 12.9 mPD
Sun Fung Wai New Village *(382833/BV/TMN/F013, F014 & F022A, F023A)*	Sun Fung Wai New Village is situated to the north of Sun Fung Wai. The proposed fresh water mains alignments are located along Shun Tak Street and village footpaths at Fun Wai New Village. Some alignments are situated next to a nullah.	Holocene alluvium and Pleistocene terraced alluvium	+12.7 to 14.8 mPD
Chung Uk Tsuen and Tan Kwai Tsuen *(382833/BV/TMN/F001, F002A, F003 – F005, F008 – F010, F014, F015A & F016)*	The proposed fresh water mains alignments are located along major roads such as Castle Peak Road – Hung Shui Kiu Section, Tin Ha Road, Kwong Tin Street and Tan Kwai Tsuen Road. Some alignments are situated along access roads of modern	Holocene alluvium; Pleistocene terraced alluvium and debris flow deposits	+9.7 to 30 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	residential complex and village footpaths within Chung Uk Tsuen and Tan Kwai Tsuen. A nullah is situated between Chung Uk Tsuen and Tan Kwai Tsuen.		
Kei Lun Wai *(382833/BV/TMN/F065A)*	Kei Lun Wai is situated near the original coastline of Castle Peak Bay. The proposed fresh water mains alignments are located along village footpaths within Kei Lun Wai.	Pleistocene debris flow deposits	+9.6 to 15.8 mPD
Siu Hang Tsuen and Po Tong Ha *(382833/BV/TMN/F047, F048, F055, F056, F062 & F063, F064)*	The proposed fresh water mains alignments are located along Tong Hang Road, village access roads and village paths within Siu Hang Tsuen and Po Tong Ha.	Pleistocene debris flow deposits and terraced alluvium; Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite; Holocene alluvium	+8 to 28 mPD
Tsz Tin Tsuen *(382833/BV/TMN/F033, F034, F048, F049 & F057)*	Tsz Tin Tsuen is situated between Po Tong Ha and San Hing Tsuen. The proposed fresh water mains alignments are located along village footpaths within Tsz Tin Tsuen.	Pleistocene debris flow deposits and terraced alluvium; Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite; Holocene alluvium	+5.2 to 23 mPD
San Hing Tsuen *(382833/BV/TMN/F035, F036, F050 & F051)*	The proposed fresh water mains alignments are located along Ng Lau Road, San Hing Road and village footpaths within San Hing Tsuen.	Pleistocene debris flow deposits	+6 to 12.6 mPD
Chung Shan *(382833/BV/TMN/F017, F024 – F026, F033 – F035)*	The proposed fresh water mains alignments are located existing footpaths and village access roads.	Pleistocene debris flow deposits and terraced alluvium; Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite; Holocene alluvium	+9.6 to 36 mPD
Tuen Tsz Wai *(382833/BV/TMN/F018, F019, F027, F028, F036, F037, F050 & F051)*	The proposed fresh water mains alignments are located along Castle Peak Road – Lam Tei Section and village footpaths within Tune Tsz Wai. Some alignments are located next to existing ponds and nullah.	Pleistocene debris flow deposits and terraced alluvium; Holocene alluvium	+5.6 to 12 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Tsing Chuen Wai *(382833/BV/TMN/F011, F012, F018 – F020 & F028)*	Kong Sham Western Highway is located in the north-east of Tsing Chuen Wai. The proposed fresh water mains alignments are located along village footpaths within Tsing Chuen Wai.	Pleistocene debris flow deposits and terraced alluvium; Holocene alluvium	+8.4 to 24.7 mPD
Yick Yuen Tsuen *(382833/BV/TMN/F006, F007, F012, F013, F020 & F021)*	The proposed fresh water mains alignments are located along village footpaths within Yick Yuen Tsuen. Some alignments are located next to the railway alignment.	Pleistocene terraced alluvium and Holocene alluvium	+8.7 to 12.2 mPD
Ping Shan *This study area is further divided into 10 regions; see* ***Figure 19*** *for their general locations.*			
Tin Sam *(382833/BV/PS/F013, F014, F016 & F017)*	The fresh water mains alignments are located along Tin Ha Road and village footpaths within Tin Sam. Tin Sam is situated near the West Rail alignment, between a nullah and Tin Ha Road	Pleistocene terraced alluvium and Holocene alluvium	+5.8 to 9.2 mPD
San Lee Uk Tsuen *(382833/BV/PS/F014, F015)*	The proposed fresh water mains alignments are located along village footpaths within San Lee Uk Tsuen. San Lee Uk Tsuen is situated in the north-east of Tin Sam, between Tin Ha Road and a nullah.	Pleistocene terraced alluvium	+6.9 to 8 mPD
San Sang Tsuen and San Sang San Tsuen *(382833/BV/PS/F007 –F F012)*	The proposed fresh water mains alignments are located along Tin Ha Road and village footpaths within San Sang Tsuen and San Sang San Tsuen. There are two hillocks situated in this study area. The topography gradually slopes up in an east to west direction.	Mainly Pleistocene debris flow deposits and Tuen Mun Formation, undivided, consisting of andesite with tuff and tuffite; small areas of Holocene alluvium and Pleistocene terraced alluvium	+5.7 to 29.2 mPD
Ha Tsuen *(382833/BV/PS/F005A & F006, F008)*	The proposed fresh water mains alignments are located along Tin Ha Road and village footpaths within Ha Tsuen Shi, San Uk Tsuen and Kau Lei Uk Tsuen.	Pleistocene alluvium and debris flow deposits	+4.4 to 6.4 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Tung Tau Tsuen *(382833/BV/PS/F001, F003A & F004)*	The proposed fresh water mains are mainly located along Tin Ying Road and adjacent area, cycle tracks within Tin Shui Estate. Some alignments are situated in a nullah.	Pleistocene terraced alluvium (area to the west of Tin Ying Road) and fill over Holocene marine mud	+4 to 8.7 mPD
Sha Chau Lei *(382833/BV/PS/F018)*	The proposed fresh water mains alignments are located along village footpaths within Sha Chau Lei. Sha Chau Lei is situated in the south of Ping Ha Road, with open storage to its west. A nullah is located immediately to its east of the village.	Pleistocene terraced alluvium and Holocene alluvium	+4.5 to 4.8 mPD
Shek Po Tsuen *(382833/BV/PS/F019)*	The proposed fresh water mains alignments are located along village footpaths within Shek Po Tsuen.	Pleistocene terraced alluvium	+4.8 to 5.6 mPD
Kiu Tau Wai and Hung Uk Tsuen *(382833/BV/PS/F020-F024 & F025A)*	The proposed fresh water mains alignments are located along village footpaths within Kiu Tau Wai and Hung Uk Tsuen, in the south-western part of Ping Shan next to small hillocks. Northern end of Kiu Tau Wai was situated on fill over former wet areas.	Fill over Pleistocene debris flow deposits and terraced alluvium; Lok Ma Chau Formation, Mai Po Member, undivided, consisting of metasiltstone and phylitte, with metasandstone; Pleistocene debris flow deposits	+3.6 to 12.5 mPD
Fui Sha Wai *(382833/BV/PS/F026A & F027)*	The proposed fresh water mains alignments are located along village footpaths within Fui Sha Wai.	Pleistocene terraced alluvium and Holocene alluvium	+7.7 to 8.7 mPD
Castle Peak Road (Hung Shui Kiu – Ping Shan) *(382833/BV/PS/F025A, F026A, F028A – F033A)*	The proposed fresh water mains are located on cycle tracks along Castle Peak Road – Ping Shan Section and Hung Shui Kiu Section.	Pleistocene terraced alluvium, fill over Holocene alluvium, Pleistocene debris flow deposits, Holocene alluvium; fine-grainted granite and Lok Ma Chau Formation: Mai Po Member, undivided, Metasiltstone and phyllite with metasandstone	+6.5 to 19 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Yuen Long *This study area is further divided into 7 regions; see* ***Figures 20a & b*** *for their general locations.*			
Wang Chau *(382833/BV/YL/F001A-F008A, F009 – F011, S001 – S008)*	The proposed fresh/ salt water mains alignments are located along major roads and footpaths within Yuen Long Industrial Estate surrounding Chu Wong Ling. Most of these alignments are situated on fill over former wet areas.	Fill over Holocene marine mud and fill over Holocene alluvium; and a small area of Pleistocene terraced alluvium and Holocene alluvium	+3.8 to 5 mPD
Shan Pui and Yuen Long Kau Hui *(382833/BV/YL/F013, F014, F015A, F016 & F017A-F019A)*	The proposed fresh water mains are located along major roads (Shan Pui Road and Long Yip Street) and village footpaths within Shan Pui Tsuen, Shan Pui Hung Tin Tsuen and Tung Tau Yuen. Most of these areas are situated on fill over former wet areas.	Holocene marine; Pleistocene debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Lok Ma Chau Formation, Mai Po Member, undivided, consisting of metasiltstone and phylitte, with metasandstone; Fill over Holocene marine mud	+2.9 to 5.8 mPD
Yuen Long Town Centre *(382833/BV/YL/F011, F012A, F021A, F022A, F029A)*	The proposed fresh water mains alignments are located along major roads such as Ping Shun Street, Kin Yeung Road, Cheong Shing Path, Chung Shing Path, Kau Yuk Road, Yuen Long Tai Yuk Road,. Most of these areas are situated on fill over former wet areas.	Mainly fill over Holocene alluvium and marine mud; a small area of fill over Holocene alluvium	+4 to 5.2 mPD
Sheung Yau Tin *(382833/BV/YL/F037 & F038)*	The proposed fresh water mains alignments are located along village footpaths, Yau Tin East Road, Yau Tin West Road and Yuen Long Highway, between Yuen Long Town Centre and Shap Pat Heung. Both Yau Tin East and Yau Tin West Roads are situated along a nullah.	Holocene alluvium and Pleistocene terraced alluvium	+4.9 to 14.5 mPD
Kong Tau Tsuen *(382833/BV/YL/F038 – F040 & F041A)*	The proposed fresh water mains alignments are located along village footpaths within Kong Tau Tsuen and Kong Tau San Tsuen. Some of the alignments are situated in a nullah or run along streams.	Holocene alluvium, Pleistocene terraced alluvium and debris flow deposits	+ 7.2 to 15.4mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Au Tau *(382833/BV/YL/F020, F031A-F036A, F042 & F053A-F055A)*	The proposed fresh water mains are located along major roads (Kam Tin Highway, Castle Peak Road – Tam Mi Section, Yau Shin Street and Tsing Long Highway) hill slopes of Ho Hok Shan, and village footpaths within Yeung Uk Tsuen. The southern alignments are connecting to the Au Tau Fresh Water Service Reservoir and Au Tau Pumping Station situated at Ho Hok Shan.	Pleistocene debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff (Ho Hok Shan) and a small area of Pleistocene terraced alluvium (western end of Yeung Uk Tsuen)	+5.7 to 66.5 mPD
Shung Shan San Tsuen *(382833/BV/YL/F043-F052)*	The proposed fresh water mains alignments are mainly located along village footpaths within Shung Shan San Tsuen. Some of the alignments are situated along very steep lower hill slopes.	Mainly Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff and Lok Ma Chau Formation, Mai Po Member, undivided, consisting of metasiltstone and phylitte, with metasandstone; and a small area of Holocene alluvium	+13.8 to 100 mPD
Kam Tin & Pat Heung South *This study area is further divided into 5 regions; see* ***Figure 21*** *for their general locations.*			
Kam Sheung Road *(382833/BV/KPS/F001-F003, F004A, F005A & F015-F021)*	The north-western fresh water mains alignment is located along the section of Kam Sheung Road running pass Ng Ka Tsuen, Tin Sam San Tsuen and Shek Wu Tong. The eastern alignment runs from Yuen Kong Tsuen to To Uk Tsuen, through Shui Tsan Tin, Lin Fa Tei, Lai Uk Tsuen and Tsang Uk Tsuen.	Holocene alluvium and Pleistocene terraced alluvium	+7 to 36 mPD
Pipeline between Shek Kong and Tai Wo *(382833/BV/KPS/F013 – F014, F020, F022 – F027)*	The proposed alignments are located along an existing pipe line running between Shek Kong and Tai Wo.	Pleistocene terraced alluvium, Pleistocene and Holocene debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff.	+19 to 86.5 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Kam Tin Road *(382833/BV/KPS/F008 & F009)*	The proposed fresh water mains alignments are located along Kam Tin Road near Shek Kong Barracks, to the north of Leung Uk Tsuen.	Holocene alluvium and Pleistocene terraced alluvium	+13 to 17 mPD
Wang Toi Shan *(382833/BV/KPS/F006, F007, F010 – F013)*	The proposed fresh water mains alignment is situated in the western end of Wang Toi Shan, through Wang Toi Shan Yau Uk Tsuen and Wang Toi Shan San Tsuen. The proposed alignments are located along village footpaths. Some of the alignments are situated next to a stream.	Holocene alluvium and Pleisotcene terraced alluvium	+18.5 to 23.4 mPD
Pat Heung Sheung Tsuen *(382833/BV/KPS/F035B, 36B)*	The proposed fresh water mains alignments are located along Kam Tin Road, to the north of Sheung Tsuen.	Holocene alluvium and Pleistocene terraced alluvium	+39.8 to 48.4 mPD
Kam Tin & Pat Heung North *This study area is further divided into 2 regions; see* ***Figure 22*** *for their general locations.*			
Fan Kam Road *(382833/BV/KPN/F001 – F009)*	The proposed alignments are located along/ adjacent to Fan Kam Road. Part of the alignment is located along an existing pipline.	Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Holocene alluvium; Pleistocene terraced alluvium; Pleistocene and Holocene debris flow deposits	+23 to 66 mPD
Kwu Tung *This study area is further divided into 5 regions; see* ***Figure 23*** *for their general locations.*			
Kwu Tung South *(382833/BV/KTG/F001, F003, F005 & F007)*	The proposed fresh water mains alignments are mainly located along lower hill slopes of Kei Lun Shan Au, except for the north-eastern part, which is situated on levelled and filled former farm land.	Mainly Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff (Ki Lun Shan Au); Holocene alluvium; Pleistocene and Holocene debris flow deposits and Pleistocene terraced alluvium	+10 to 20 mPD
Ngau Tei *(382833/BV/KTG/F002, F004 & F006)*	The proposed fresh water mains alignments are located mainly along Hang Tau Road and village paths in the western end	Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Holocene alluvium;	+8 to 18.5 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	of Ngau Tei next to River Beas.	Pleistocene and Holocene debris flow deposits	
Hang Tau Tai Po *(382833/BV/KTG/F005, F006)*	Hang Tau Tai Po is situated between Ngau Tei and Hang Tau, on the eastern river bank of River Beas. The proposed fresh water mains alignments are located along village footpaths and access roads.	Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Holocene alluvium; Pleistocene and Holocene debris flow deposits	+11 to 13 mPD
Hang Tau *(382833/BV/KTG/F008 – F010)*	The proposed fresh water mains alignments are located largely on existing village footpaths. Some of these alignments are situated next to existing ponds.	Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Holocene alluvium; Pleistocene and Holocene debris flow deposits and alluvium	+13 to 15.8 mPD
Fan Kam Road *(382833/BV/KTG/F011 – F017)*	The proposed alignments are located along Fan Kam Highway or adjacent areas between Ying Pun and Lin Tong Mei. Some of the alignments are located along existing pipelines or next to streams.	Holocene alluvium; Pleistocene terraced alluvium and debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff;	+26 to 35.2 mPD
Fanling *This study area is further divided into 8 regions; see* ***Figure 24*** *for their general locations.*			
Kiu Tau *(382833/BV/FL/F040 – F042)*	The proposed fresh water mains alignments are located along major roads (Fanling Highway, Tai Wo Service Road) and adjacent areas. Some of the alignments are located along existing pipelines or next to railway alignments.	leistocene terraced alluvium and debris flow deposits; Holocene alluvium Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff	+14.7 to 20.4 mPD
Tong Hang *(382833/BV/FL/F030 – F032, F034A, F035 & F038 – F039)*	The proposed fresh water mains alignments are located along Fanling Highway, Tai Wo Service Road, and Jockey Club Road near Ma Wat River and Wong Kong Shan. Some alignments are situated within the Tong Hang Fresh Water Service Reservoir compound located to the north of Tong Hang Tung Chuen.	Fill over Pleistocene terraced alluvium and Pleistocene terraced alluvium; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff	+15 to 85 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Wo Hop Shek Village *(382833/BV/FL/F030 – F033, F034A, F035A, F036, F037 & F038A)*	The proposed fresh water mains alignments are located mainly along village footpaths and Wo Hing Road.	Pleistocene terraced alluvium and debris flow deposits	+14.2 to 19 mPD
On Lok Tsuen and Fanling Hong Lok Park *(382833/BV/FL/F023, F025 – F029)*	The proposed fresh water mains alignments are located along major roads such as Sha Tau Kok Road – Lung Yeuk Tau, Yip Cheong Street, San Wan Road, and Jockey Club Road near Cheung Wah Estate. Part of the San Wan Road alignment is situated along the footpaths within the Fanling Hong Lok Park, of which are situated in the northern half of Wong Kong Shan.	Fill over Pleistocene terraced alluvium; Pleistocene debris flow deposits and Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff (Wong Kong Shan)	+12.1 to 17.2 mPD
Fan Ling Lau *(382833/BV/FL/F024 - F025)*	The proposed fresh water mains alignments are located along village access roads and village footpaths within Fan Ling Lau.	Pleistocene debris flow deposits and fill over Pleistocene terraced alluvium	+12 to 16 mPD
Fanling Highway (between Fanling Wai and Tong Hang) *(382833/BV/FL/F022, F023, F028, F033)*	The proposed alignments are located along Fanling Highway and adjacent to railway alignments.	Fill over Holocene alluvium and fill over Pleistocene terraced alluvium	+11 to 23 mPD
Luen Wo Hui *(382833/BV/FL/F006 – F008)*	The proposed alignments are located along cycle tracks of Ma Sik Road in the northern end of Luen Wo Hui.	Holocene alluvium and Pleistocene terraced alluvium	+11 to 12 mPD
Shek Wu Hui *(382833/BV/FL/F001 – F005, F012 & F020 – F021)*	The proposed fresh water mains alignments are located in the northern part of Shek Wu Hui, along footpaths adjacent to San Shing Avenue and Tsun Fu Street. Some of the alignments are located along cycle tracks adjacent to Jockey Club Road and within Choi Po Couort and Choi Yuen Road. The rest of the alignments are located along railway alignment or existing pipelines near San Wan Road.	Fill over Pleistocene terraced alluvium and fill over Holocene alluvium	+4.7 to 13.8 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Yin Kong *(382833/BV/FL/F009A)*	The proposed fresh water mains alignment is located along existing village footpaths located in the south-eastern part of Yin Kong, to the north of Fanling Highway.	Pleistocene debris flow deposits and terraced alluvium	+8 to 8.7 mPD
Castle Peak Road – Kwu Tung Section *(382833/BV/FL/F09A – F011A, F043A – F046A)*	The proposed alignments are located along Castle Peak Road – Kwu Tung Section (between Kwu Tung and Hong Kong Golf Club).	Holocene alluvium; Pleistocene terraced alluvium and debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff;	+6.8 to 10.9 mPD
Fan Kam Road *(382833/BV/FL/F013A, F014 – F019)*	The proposed alignments are located Fan Kam Road or adjacent areas. Some of the alignments are located along existing pipelines within the Hong Kong Golf Club.	Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Pleistocene terraced debris flow deposits; Holocene alluvium	+9 to 28.7 mPD
Sheung Shui *see* ***Figure 25*** *for their general locations.*			
Man Kam To *(382833/BV/SS/F001 – F004)*	The northern end fresh water mains alignment is located next to the Muk Wu Pumping Station. The southern alignments are located across or adjacent to Man Kam To Road near San Uk Ling.	Pleistocene terraced alluvium	+4.7 to 15 mPD
Sandy Ridge Cemetery and SW of Sha Ling *(382833/BV/SS/F005 – F012)*	The proposed alignments are mostly located along Man Kam To Road or adjacent areas along the eastern edge of Sandy Ridge Cemetery. Some of the alignments are located at Lo Wo Station Road, along existing pipelines, next to ponds or streams.	Holocene alluvium; Pleistocene debris flow deposits and terraced alluvium; Lok Ma Chau Formation, Tai Shek Mo Member, consisting of undivided metasandstone with metaconglomerate and phyllite; Lok Ma Chau Formation, Mai Po Member, consisting of undivided, phyllite, metasiltstone with metasandstone and graphite schist	+6 to 12.8 mPD
Man Kam To Road and Cheung Po Tau	The proposed fresh water mains alignments are located along Man Kam To Road and adjacent	Pleistocene debris flow deposits; Lok Ma Chau Formation, Mai Po Member,	+6.6 to 14.6 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
(382833/BV/SS/F011A, F019A, F024A, F025, F026A, F027A, F028A)	areas, or along steep slopes of Cheung Po Tau.	consisting of undivided, phyllite, metasiltstone with metasandstone and graphite schist	
River Indus and River Sublej *(382833/BV/SS/F012 – F019A)*	The western alignments are largely located along existing pipelines between the canalised River Indus/ River Sublej and the railway alignments. Some of the alignments are situated witin a pumping station compound. The eastern alignments are situated between Fu Tei Au Road and River Indus.	Fill over Holocene alluvium; Holocene alluvium; Pleistocene debris flow deposits; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff; Lok Ma Chau Formation, Mai Po Member, consisting of undivided, phyllite, metasiltstone with metasandstone and graphite schist	+3.7 to 9 mPD
Sheung Shui Wa Shan *(382833/BV/SS/F020 – F022)*	The proposed alignments are situated on footpaths to the north of Ng Tung River.	Holocene alluvium; Pleistocene debris flow deposits and terraced alluvium; Tai Mo Shan Formation, undivided, consisting of coarse ash crystal tuff;	+6.5 to 25.1 mPD
North of Sheung Shui Heung *(382833/BV/SS/F023A)*	The proposed alignment is located along Jockey Club Road between Sheung Shui Wai and Ng Tung Ho.	Holocene alluvium	+6.8 to 7.5 mPD
Sha Tau Kok *This study area is further divided into 12 regions; see* ***Figure 26*** *for their general locations.*			
Hung Leng & Wang Leng *(382833/BV/STK/F016A – F019A)*	Most of the proposed fresh water mains alignments are situated along Ping Che Road. One alignment is located along footpath, to the south-east of Wang Leng. The area is mainly occupied by temporary structures.	Pleistocene terraced alluvium	+12.8 to 16.1 mPD
Man Uk Pin *(382833/BV/STK/F013 & F014A)*	The historical village of Man Uk Pin is situated in lower hill slope to the east of Miu Keng. The proposed fresh water mains alignments are located along village footpaths and access road within Man Uk Pin.	Pleistocene and Holocene debris flow deposits and a small area of Pleistocene terraced alluvium	+26.6 to 33 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
Sheung Wo Hang *(382833/BV/STK/F012A)*	The proposed fresh water mains alignments are located along village footpaths (lower hill slopes) and access road (steep hill slopes) within Sheung Wo Hang.	Shing Mun Formation, undivided, fine ash to coarse ash tuffs, tuff-breccia and tuffite; Pleistocene and Holocene debris flow deposits and terraced alluvium	+11 to 24 mPD
Wo Tong Kong *(382833/BV/STK/F011)*	The proposed fresh water mains alignment is located along village footpath near a stream. The area is situated to the south of Ma Tseuk Leng and is mainly occupied by temporary structures.	Mainly Pleistocene debris flow deposits and a small area of Pleistocene terraced alluvium	+5.2 to 13 mPD
Lap Wo Tsuen *(382833/BV/STK/F009 - F010A)*	The proposed fresh water mains alignments are mainly located along village footpaths and adjacent areas.	Pleistocene debris flow deposits; Shing Mun Formation, undivided, consisting of fine ash to coarse ash tuffs, tuff-breccia and tuffite	+6.5 to 16.3 mPD
Pak Hok Lam *(382833/BV/STK/F010A)*	The proposed fresh water mains alignments are located along village footpaths within Yim Tso Ha at the foot of Pak Hok Lam.	Holocene estuarine and intertidal deposits consisting of mud and sand; a small area of Pleistocene terraced alluvium (northern end)	+3.8 to 4.7 mPD
Shek Chung Au *(382833/BV/STK/F008A)*	The proposed fresh water mains alignments are located along Sha Tau Kok Road – Shek Chung Au Section and adjacent areas near north-western Wu Shek Kok.	Pleistocene debris flow deposits and terraced alluvium	+4.9 to 9.7 mPD
Tong To Ping Tsuen and Tong To *(382833/BV/STK/F006 & F007)*	The proposed fresh water mains alignments are located along Sha Tau Kok Road – Shek Chung Au Section and its causeway and village footpaths within Tong To Ping Tsuen and Tong To.	Shing Mun Formation, undivided, consisting of fine ash to coarse ash tuffs, tuff-breccia and tuffite; Pleistocene debris flow deposits and terraced alluvium; Holocene alluvium	+10 to 24.7 mPD
San Tsuen *(382833/BV/STK/F005)*	The proposed fresh water mains alignments are located along village footpaths within San Tsuen, Nga Yiu Tau and Muk Min Tau. Some of these alignments are situated along Sha Tau Kok Road – Shek	Pleistocene debris flow deposits	+5 to 18.7 mPD

Areas of impact	Topographical description	Main geology	Approx. Elevation in metres
	Chung Au Section and its causeway.		
Tam Shui Hang *(382833/BV/STK/F003A & F004)*	The proposed fresh water mains are mostly located along access roads and village footpaths within Sheung Tam Shui Hang and Ha Tam Shui Hang. Some alignments are situated along Sha Tau Kok Road – Shek Chung Au Section.	Pleistocene debris flow deposits and terraced alluvium	+2.9 to 25.4 mPD
Tsoi Yuen Kok and Yim Liu Ha *(382833/BV/STK/F001A & F002)*	The proposed fresh water mains are located along Chi Ping Street, village footpaths within Tsoi Yuen Kok and Yim Liu Ha, in the north-eastern corner of Sha Tau Kok.	Fill over Holocene estuarine and intertidal deposits consisting of mud and sand; fill over Holocene beach deposits; Pleistocene terraced alluvium	+2.7 to 4 mPD

5.2 Archaeological Background

5.2.1 There are 40 known archaeological sites located within or in close vicinity of the project area (see ***Figure 27*** for approximate locations):

Table 2 List of known archaeological sites located within or in close proximity to the project areas

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Tseung Kwan O South	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Tseung Kwan O North					
(i) *Ho Chung Archaeological Site* The site was investigated by the Hong Kong University Archaeological Team in 1957 but nothing had been identified. The site was marked on the 1972 HK Archaeological Society Map as Site No. 68 but no further information was provided. Four survey visits to the valley areas were made between 1982 and 1984 as part of the Hong Kong Archaeological Survey, but nothing was found. The site was further investigated during the 1997-98 Territory-wide Survey. Historical and prehistoric material (Neolithic and Bronze Age) was recovered from an area just west of Hiram's Highway on the alluvial plain (Hunan Institute 1998). As the area was under threat because of a road widening project, a full scale excavation was carried out under the auspices of the AMO in 1999. More prehistoric materials had been recovered from the rescue excavation (AMO 2000). Finds and features dated to Late Neolithic, Tang/ Song and Ming/ Qing Dynasties were recovered from the rescue excavation. Surface finds dated to Bronze Age were also collected on the surface.	Near Wo Mei study area	N/A	N/A	√ (approx. 100m from Wo Mei alignment)	***Figure 28***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(ii) *Nam Wai Archaeological Site* An archaeological impact assessment was carried out in 2000 prior to road widening work and housing development. Prehistoric materials including a hard geometric pottery sherd, grill fragment, wasted pebble, grinder stone, polished stone fragment and a project tile point had been recovered from one of the test pit excavations located in the western valley area. Historical ceramic finds dated to Late Qing period were also recovered in the eastern valley area (AAL 2000). A former saltpan is located in front of the village. A small house development archaeological investigation was carried out in the southern end of the archaeological site but no cultural layers or archaeological materials were identified (Au 2001). Some of the 2002 auger hole testing was located within Nam Wai along the slope and alluvial plain. No archaeological materials were identified in this investigation (AMO 2002).	Near Wo Mei study area			√ (approx. 144m from Wo Mei alignment)	***Figure 29***
Sai Kung					
(i) *Ta Ho Tun Archaeological Site* The site was first identified in the 1997-98 Territory-wide Survey, with the discovery of a historical kiln dated to Ming/ Qing period and some associated surface finds including kiln debris, pottery and porcelain blue-and-white sherds (AMO 1998). 15 auger hole tests and 4 test pits were conducted in 2001 for the Ta Ho Tun Road improvement work and no significant cultural remains or finds were identified (AMO 2001). A historic stone lime kiln located in the northern part of Ta Ho Tun Ha Wai (6.8 m from the current alignment, ***Figure 30b***) was identified in May 2009 (B&V 2009).	Near Ta Ho Tun study area	√			***Figure 30a***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(ii) *Sha Ha Archaeological Site* The site was discovered in 1996 with the discovery of some artefacts near the parking area of the resort hotel. A comprehensive survey was conducted by the Hunan Provincial Institute of Cultural Relics and Archaeology as part of the Second Territory-Wide Survey in 1998. The survey revived rich cultural deposits at the site. A large scale rescue excavation covering over 3,000 square metres was carried out between 2001 and 2002 prior to the commencement of a road construction. The Sha Ha excavation is one of the largest archaeological projects in Hong Kong. Concurrent research projects involving different archaeological disciplines were also conducted. Major findings of the Sha Ha excavation included rich prehistoric cultural remains dating from about 5000 to 2000 years ago (Late Neolithic period and the Bronze Age), as well as artefacts of the Hang, Song and Ming dynasties. Prehistoric features discovered in Sha Ha included postholes, burials, pits and stone-tool workshop. Important artefacts such as a variety of prehistoric pottery vessels, stone tools and bronze implements were also unearthed in Sha Ha. The archaeological findings from Sha Ha have provided important data on the study of prehistoric settlement pattern and social structure of Hong Kong (AMO 2005).	Near Sha Kok Mei & Sha Ha study area and Muk Min Shan to Wong Chuk Wan study area	N/A	√ approx. 7m from Sha Kok Mei & Sha Ha alignment and approx. 5.4m from Muk Min Shan-Wong Chuk Wan (Tai Mong Tsai Road) alignment	N/A	*Figure 31*
Ma On Shan					
(i) *Wu Kai Sha Archaeological Site* The historical archaeological site was first identified as part of the Territory Wide Survey carried out during 1997 and 1998 by a team from the Shaanxi Institute. The findings included Southern Song to Qing Dynasty material recovered from field	Near Wu Kai Sha study area	N/A	√ (the Wu Kai Sha alignment is located along the edge of the	N/A	*Figure 32*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
scan, 1,100 auger tests and seven test pit excavations (Shaanxi Institute 1998). Similar material was also recovered in the same area during more recent investigations in 2008 (AAL 2009). A prehistoric sandbar site located in the south of To Tau Tsuen was identified during the 2000 CHIA undertaken for development in the Whitehead area (AAL 2001). Archaeological investigations associated with the Whitehead development in the area under fill have identified historical material from the Song, Ming, and Qing Periods (AAL 2005). Further excavations were conducted in 2008, which resulted in the discovery of Qing cultivation terraces, Ming-Qing tile dumps, Ming (or earlier) wall foundations, and a probably Ming Dynasty (or perhaps slightly earlier) kiln-oven structure (AAL 2008). Another 11 test pits were excavated within road alignments associated with the above developments. Ming Dynasty material was recorded in situ in a deep pit feature cut into debris flow deposits, which was identified during test pit excavations (AAL 2006). Subsequent archaeological investigations of the road corridor to the north-west of Wu Kai Sha Tsuen, comprising 8 test pits and 18 auger holes, confirmed the presence of an in situ Ming cultural horizon (HKIA 2008).			archaeological site boundary)		
(ii) *Sai O Archaeological Site* Sai O Archaeological Site was first identified by the Hong Kong Archaeological Society in 1976, with surface collection of one adze, one stone waste flake and a small piece of prehistoric stoneware with Double F pattern. It is reported that the adze was located '1 M in back of terrace' (Peacock & Nixon 1986). Several site visits including a careful surface examination in the areas indicated by the 1976 visit were undertaken by the AMO between 1982 and 1984. However, no artefacts or archaeological remains were found. According to the survey, most of the north-eastern part of the hill was destroyed presumably by a borrow area and 'it is unlikely that any in situ and undisturbed archaeological deposit will have survived the formation of the agricultural terraces, and the erosion of the hill slopes above' (Peacock & Nixon 1986).	Near SW Sai O study area			√ (approx. 260m from SW Sai O alignment)	*Figure 33*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Tai Po East	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Tai Po West					
(i) *Island House Archaeological Site* The site was identified in the 1960s with the discovery of several prehistoric surface finds such as stone adzes and geometric pottery sherds (Peacock & Nixon 1986). The archaeological survey conducted in 1983-85 registered Yuen Chau Tsai under the reference number 0701. Rogers and Ward (1976) provided a full discussion of the 53 adzes and 40 adze fragments, which had been found at the time of publication (Rogers *et al* 1998). Another archaeological survey including field walking, auger hole tests and test pit excavations was conducted in 1998. More prehistoric materials, from both surface and sub-surface, had been found ((Rogers *et al* 1998).	Island House	√			***Figure 34***
(ii) *Shek Kwu Lung Archaeological Site* The Site was identified during an archaeological investigation cum rescue excavation undertaken in 2002 prior to a sewerage project taken place at Shek Kwu Lung. The findings included Tang/ Song and Ming Dynasties and prehistoric materials recovered from 161 auger tests and 4 test pit excavations. The result indicated that it is a Tang/ Song hill slope site with the central part of Shek Kwu Lung Village as the centre of the site. No in situ prehistoric cultural layer was identified (AMO 2002).	Near Kam Shan study area		√ (Approx. 3.3m from Kam Shan alignment)		***Figure 35***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(iii) *Sun Tong Ha Tsuen Archaeological Site* Sun Tong Ha Tsuen Archaeological Site was first identified during the Territory-wide Survey – Tai Po District carried out by the Chinese University and Zhuhai Museum Team in 1998. Archaeological materials dated to Late Neolithic, Bronze Age and Song Dynasty were recovered from test pit excavations. Late Bronze Age hard pottery sherds with double F and net patterns were also collected during field scan. Most of the prehistoric materials identified were surface collection or recovered from disturbed layer (Chinese University and Zhuhai Museum 1998). In 2000, another archaeological survey was undertaken by the Hong Kong Archaeological Society in the Lam Tsuen Valley. A field scan and 11 test pit excavations were carried out in Sha Li Che area, in the western part of Sun Tong Ha Tsuen Archaeological Site. Archaeological materials dated to the Bronze Age and Qing Dynasty in the form of pottery and porcelain sherds were identified (HKAS 2002).	Near Tong Min Tsuen study area			√ (approx. 260m from Tong Min Tsuen alignment)	*Figure 36*
(iv) *She Shan Tsuen Archaeological Site* Surface collection dated to the Bronze Age, which included one large piece of hard pottery sherd with union jack pattern, two stone adzes and a fragment of stone adze or axe were collected in the She Shan Tsuen terrace during the 2000 Lam Tsuen Valley archaeological survey. Two subsequent test pit excavations were carried out in the north of She Shan Tsuen, however, no archaeological materials had been recovered (HKAS 2000).	Near Tong Min Tsuen study area			√ (approx. 222m from Tong Min Tsuen alignment)	*Figure 37*
(v) *Wai Tau Archaeological Site* Wai Tau Archaeological Site was identified pre-1930 by W. Schofield. Material findings at the site can be dated to the Late Bronze Age with hard geometric pottery sherds. Wai Tau is the one of the first 'inland' or 'non-coastal' Bronze Age site to be discovered and is located on a small raised area of Pleistocene terraced	Lam Kam Interchange study area	√			*Figure 38*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
alluvium with main geology of tuffs. The site is situated around elevations of 30 metres PD. Wai Tau Archaeological Site was found to be destroyed by highway construction works. Archaeological investigations in the mid-1980 (Peacock and Nixon 1986) and again in 1999 (AAL 1999) confirmed that in situ deposits no longer remained.					
(vi) Tai Po Kau Kiln *The historic kiln is located within the boundary of Tai Po Kau Nature Reserve.*	Near Lai Chi Hang study area			√ (approx. 57m from Lai Chi Hang alignment)	*Figure 39*
Fo Tan & Ma Liu Shui	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Sha Tin	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Tai Wai & Shing Mun Reservoir	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Tai Po Road & Lion Rock Tunnel	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Kwai Chung & Tsing Yi	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Tsuen Wan					
(i) *Chai Wan Kok Archaeological Site* The site was first identified by Heanley and Shellshear in the 1930s. Hard geometric sherds and one shouldered stone adze were collected from this site and are currently stored at the British Museum (Peacock & Nixon 1986).	Chai Wan Kok		√ (approx. 33m from Chai Wan Kok alignment)		***Figure 40***
Sham Tseng & Ma Wan					
(i) *Ma Wan Old Customs Station* Customs station was set up on the Ma Wan Island in Late Qing period and ceased from operation after the New Territories leased to the British. Two stone tablets with the inscription of "Kowloon Customs" and "Kowloon Customs leased seven English feet of land" are now displayed next to the Ma Wan Rural Committee Office (AMO web site).	Ma Wan Town & Ma Wan New Street Village	√			***Figure 41***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(ii) *Ma Wan Rock Inscription* Ma Wan Rock Inscription is a stone tablet with inscription of "Mui Wai" near the Ma Wan Rural Committee Office (AMO web site).	Near Ma Wan Town & Ma Wan New Street Village		√ (approx. 1m from Ma Wan Town & Ma Wan New Street Village alignment)		*Figure 42*
(iii) *Ma Wan Kiln* Four kilns were recorded on Ma Wan Island. Two kilns originally located at Tung Wan Tsai (one dated to Tang dynasty and the other one dated to Qing dynasty) were relocated to Ma Wan Park. The remaining two are located at To Tei Kung Kok and the north-east of the sheltered anchorage of Ma Wan Village (Archaeo-Engironments Ltd 2004).	One of the kilns is located near the Lau Fa Tsuen study area		√ (approx. 20.6m from Lau Fu Tsuen alignment)		*Figure 43*
Siu Lam					
(i) *Tai Lam Archaeological Site* Finds within the Tai Lam Archaeological site consist of stone flakes that may date to the Late Neolithic. These stone flakes were recovered on the slopes behind Wong Uk village during the territory wide survey undertaken in the late 1990's (Zhongshan University 1998).	Wong Uk, Wu Uk and Luen On San Tsuen study areas	√			*Figure 44*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Tuen Mun South					
(i) *Castle Peak Pottery Kiln* The kiln is located at 18 and half Milestone, Castle Peak Road, Tuen Mun. It is a 50-feet long old style dragon kiln constructed in the 1940s (AMO 2003).	Near Tseng Tau Tsuen Sheung Tsuen study area			√ (approx. 58m from Tseng Tau Tsuen Sheung Tsuen alignment)	***Figure 45***
(ii) *Shek Kok Tsui Archaeological Site* Surviving records indicated that the site was first discovered by Dr. S.M. Bard and Mrs. S. Tomlin in 1970s. Archaeological excavations were conducted in 1970-1971, 1978 and 1979. Fourteen trenches were excavated in the 1970-1971 excavation by P. Salmon, with the discovery of prehistoric coarseware (corded and geometric), pebble picks, polished stone implements, kiln furniture and structural remains dated to ca. 580 AD. The 1978 excavation (one trench) was conducted by Dr. S.M. Bard and H.A. Peters. Prehistoric coarse geometric sherds and a possible Tang lime kiln were found in the trench. A total of five trenches (one was an extension of the 1978 trench) were excavated in 1979 by H. Cameron. Prehistoric coarse geometric sherds, Tang lime kiln furniture and structural remains were identified. According to the 1984 site visit, archaeological deposit was totally disturbed by reclamation and construction, except for a previously unknown area in a low hill to the west of the site. Although a few prehistoric coarse corded sherds were observed on cultivated areas, all indications suggested that no significant *in situ* archaeological deposits remain (Peacock and Nixon 1986). The HKAS report also suggested that the site should be deleted from the list of SSAI's and no further action necessary (Peacock and Nixon 1986). Shek Kok Tsui area was investigated in the 1998 Territory-wide survey. Surveyed areas were located at Wu Shan Recreation Playground (two test pits and one auger hole test, no finds), Adventure	Hung Lau study area		√ (approx. 7m from Castle Peak Bay & Hung Lau alignment)		***Figure 46***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Park (1 test pit, no finds), Hung Lau (1 test pit, no finds) and Public Riding School (1 test pit, no finds). No cultural layers or archaeological materials were identified in this survey and the report suggested that the investigated areas have very low archaeological potential (Zhongshan University 1998).					
(iii) So Kwun Wat Perowne Barracks The So Kwun Wat Archaeological Site includes the Perowne Barrack Site excavated by the Antiquity and Monuments Office in 2003 where over 30 Ming Dynasty burials were unearthed (AMO 2003). The So Kwun Wat Archaeological Site is a complex site spread over a large area. Finds dating to late Ming and early Qing as well as Late Neolithic and even middle Neolithic, Bronze Age and Han Dynasty have been recorded in a multitude of investigations which have been undertaken mainly in the last five years.	Near Gold Coast study area		√ (approx. 11.5m from Gold Coast alignment)		*Figure 47*
(iv) So Kwun Wat Archaeological Site The So Kwun Wat Archaeological Site includes the Perowne Barrack Site excavated by the Antiquity and Monuments Office in 2003 where over 30 Ming Dynasty burials were unearthed (AMO 2003). The So Kwun Wat Archaeological Site is a complex site spread over a large area. Finds dating to late Ming and early Qing as well as Late Neolithic and even middle Neolithic, Bronze Age and Han Dynasty have been recorded in a multitude of investigations which have been undertaken mainly in the last five years.	Gold Coast & Pak Shek Hang study areas	√			*Figure 48*
Lung Kwu Tan					
(i) *Lung Kwu Tan Archaeological Site* Archaeological significance of the site was confirmed by both the First and Second Territory-wide Surveys. Abundant prehistoric cultural remains were recovered	Lung Tsai, Sha Po Kong, Pak Long & Nam Long study areas	√			*Figure 49*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
from a series of rescue excavations carried out in Lung Kwu Tan since the 1990s (AMO web site).					
Tuen Mun North					
(i) *Fu Tei Ha Archaeological Site* This site was identified during the 1998 Territory Wide Survey in the Tuen Mun-Tsuen Wan district carried out by the Zhongshan University. Historical materials in the form of tiles, pottery and porcelain sherds dating from the Song to Ming/ Qing dynasties were recovered from the test pits located near a farm in Fu Tei Ha Tsuen (Zhongshan University 1998).	Fu Tei Ha Tsuen study area	√			***Figure 50***
(ii) *Kei Lun Wai Archaeological Site* This site was identified during the 1998 Territory Wide Survey in the Tuen Mun-Tsuen Wan district carried out by the Zhongshan University. Ming and Qing archaeological materials as well as modern burial fill were identified (Zhongshan University 1998).	Kei Lun Wai and Tsz Tin Tsuen	√			***Figure 51***
(iii) *Siu Hang Tsuen Archaeological Site* This site was identified during the 1998 Territory Wide Survey in the Tuen Mun-Tsuen Wan district carried out by the Zhongshan University. In situ historical materials in the form of tiles and pottery sherds dating from the Song/ Ming/ Qing periods were recovered. A piece of Late Neolithic soft pottery sherd was also found. The survey has revealed that a Song/ Ming settlement site with Siu Hang Tsuen is present (Zhongshan University 1998).	Siu Hang Tsuen and Po Tong Ha	√			***Figure 52***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(iv) *San Hing Tsuen Archaeological Site* This site was identified during the 1998 Territory Wide Survey in the Tuen Mun-Tsuen Wan district carried out by the Zhongshan University. Historical materials in the form of tiles and porcelain sherds dating from the Song to Ming dynasties were recovered in the test pits excavations (Zhongshan University 1998). A subsequent rescue excavation was conducted in the same year prior to the construction of a small village house. The result further confirmed that Song and Ming deposits are present in the site (Zhongshan University 1998). Another archaeological survey was carried out in 2003 for a small house construction project. Archaeological materials dated to Ming and Qing dynasties were recovered in the test pit excavations and auger hole tests. Song dynasty artefacts were also collected on surface in the San Hing Tsuen area (Horizon Asia 2003).	San Hing Tsuen (western part)	√			***Figure 53***
(v) *Tuen Tsz Wai Archaeological Site* The site was first identified as part of the 1997-1998 Territory-wide Survey during which Song and Ming material was identified (Zhongshan University 1998). Historical materials and features in the form of ash pit, tiles, pottery and porcelain sherds dating from the Song to Qing dynasties were recovered (Zhongshan University 1998).	Tuen Tsz Wai	√			***Figure 54***
(vi) *Tsing Chuen Wai Archaeological Site* The site was first identified as part of the 1997-1998 Territory wide survey by a team headed by archaeologists from the Zhongshan University. Material dating from the Ming Dynasty was identified at the site (Zhongshan University 1998). Another archaeological survey was carried out for the Deep Bay Link project in 2000, Song Materials were identified. A large amount of Ming tiles and blue-and-	Tsing Chuen Wai	√			***Figure 55***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
white porcelain sherds were recovered in 2002 for a subsequent Deep Bay Link project. A survey-cum-rescue excavation including 40 auger hole tests and 5 test pit excavations was conducted in 2003 prior to the commencement of the Deep Bay Link construction work. Cultural layer and rubbish pit dated to the Song/Yuan period was identified (Horizon Asia 2003).					
(vii) *Nai Wai Archaeological Site* This site was identified during the 1998 Territory Wide Survey in the Tuen Mun-Tsuen Wan district carried out by the Zhongshan University. Historical materials in the form of pottery sherds dating from the Song to Qing dynasties were recovered in test pits excavated on abandoned land to the north east of Nai Wai/ Sun Fung Wai (Zhongshan University 1998). Several archaeological investigations including the excavation of a kiln have been carried out in this area between 2001 and 2002. The kiln was constructed in Late Ming and was abandoned in Late Qing (AMO 2001).	Nai Wai and Sun Fung Wai	√			*Figure 56*
Ping Shan					
(i) *Tung Tau Tsuen Archaeological Site* Tung Tau Tsuen Archaeological Site was identified by the Antiquities and Monuments Office as a 'historic village site' during a site visit (date unknown) (Peacock & Nixon 1986). Further surveys have been carried out in the area. Structural remains had been observed during a site visit on 11.11.1982 as part of the Hong Kong Archaeological Survey (Peacock & Nixon 1986). The site was included as one of the re-investigation areas in the 1997 Hong Kong Territory Wide Survey – Yuen Long District (AMO files), however, no materials had been recorded. Archaeological materials were found during a survey for Road Widening Work on Ping Ha Road (AMO files, 1998). The findings indicated that early Ming to Late Qing (14th to late 19th Centuries) *in situ* materials and Ming period	Near Tung Tau Tsuen study area			√ (approx. 113m from Tung Tau Tsuen alignment)	*Figure 57*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
structural remains were found in the area of Tung Tau Tsuen, especially in the north-western part of the hillock at the rear of Tung Tau Tsuen. A Ming red sand stone post with an inscribed date of 1475 was recovered earlier in this area by a local villager during cultivation. All of these findings indicated that this could be a Ming Dynasty settlement (AMO files, 1998). In 2000, another survey carried out for Sewage Treatment Works in Sha Chau Lei, San Wai and Tung Tau Tsuen recovered further in situ Ming materials such as green glazed pottery sherds and tiles within the Tung Tau Tsuen area (HKIA 2000).					
(ii) *Sheung Cheung Wai Archaeological Site* The archaeological site is located in Ping Shan, with Sheung Cheung Wai included in the central part of the site and two other historical villages of Hang Tau Tsuen and Hang Mei Tsuen along its south-east corner. The village itself is a traditional walled village of Ping Shan Heung with a history of over 200 years and it is a branch of the Hang Tau Tsuen of the Ping Shan Tang clan. An archaeological survey was carried out for a storm water drainage construction project in Sheung Cheung Wai in 2001. According to the findings, remains of former village house foundations and archaeological materials such as one piece of ink stone and 80 pottery/ porcelain sherds including Ming Dynasty Wun Yiu sherds were recovered from the test pits located in Tsz Tong Hom to the north-east of Sheung Cheung Wai. The report also suggested that although Sheung Cheung Wai Archaeological Site is insignificant, further survey should be carried out in this area as Tsz Tong Hom could be a former Ming Dynasty village existing before the establishment of Sheung Cheung Wai (Au 2001).	Near Kiu Tau Wai & Hung Uk Tsuen study area			√ (approx. 111m from Kiu Tau Wai & Hung Uk Tsuen alignment)	*Figure 58*
Kam Tin & Pat Heung South					
(i) *Shui Lau Tin Archaeological Site* The site was identified in 1999 during an archaeological investigation carried out	Near Kam Sheung Road (Shui Tsan Tin) study area		√ (part of the Kam Sheung		*Figure 59*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
for a sewerage project. Some Song celadon sherds and tiles were collected during the field scan (HKIA 2000).			Road alignment near Shui Tsan Tin is located along the archaeological site boundary)		
(ii) *Lin Fa Tei Archaeological Site* The site was identified in 1999 during an archaeological investigation for a drainage project. Wooden remains dated to Song or earlier were recovered from a test pit (HKIA 2000).	Near Kam Sheung Road (Lin Fa Tei) study area		√ (approx. 100m from Kam Sheung Road alignment)		*Figure 60*
(iii) Pat Heung Sheung Tsuen Archaeological Site The site was identified in 1999 during an archaeological investigation carried out along Kam Tin Road. The survey conducted test pits and auger holes along the length of Kam Tin Road. The testing revealed a large quantity of Song Dynasty material in the vicinity of the Pat Heung Temple and based upon the findings of the survey, the report postulated that the material recovered indicated that the area contained a Song period residential site. As the extent of the area containing archaeological material could not be determined at the time of the survey, an area around the tested sections in the vicinity of the Pat Heung Temple was marked as the "Pat Heung Sheung Tsuen Archaeological Site". No other areas containing archaeological material were identified in the survey (HKIA 2000).	Pat Heung Sheung Tsuen study area	√			*Figure 61*

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Kam Tin & Pat Heung North	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Kwu Tung	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Fanling	No known archaeological sites are situated within or in close proximity to this study area.	N/A	N/A	N/A	N/A
Yuen Long					
(i) *Yuen Leng Archaeological Site* The site was first identified during the Yuen Long Areas 13, 14 Investigation in 1998 (AMO 1998). In-situ cultural deposits and archaeological materials including several stone net weights and geometric soft pottery sherds, which dated to the late Neolithic were recovered in the terraced fields of the Yuen Leng hillock.	Near Kong Tau Tsuen study area			√ (approx. 211m from Kong Tau Tsuen alignment)	***Figure 62***
Sheung Shui					
(i) *Muk Wu Nga Yiu Kilns*	Near Muk Wu Pumping Station			√ (approx. 300m	***Figure 63***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
Four kilns in the Muk Wu Nga Yiu area were first recorded in 2000 during the Shenzhen River Regulation Project (HKIA 2001). Three of the kilns were located in Nga Yiu Tsuen and one in Muk Wu Nga Yiu Tsuen. These kilns date back to approximately 100 years ago and were used for brick and tile production (HKIA 2001).				from Muk Wu Pumping Station alignment)	
Sha Tau Kok					
(i) *Hung Leng Archaeological Site* Hung Leng Archaeological Site (Late Neolithic and Bronze Age material) was identified on hill slopes (Cat and Kitten Hill) to the northeast of Hung Leng at an elevation of between 30 and 40 metres PD. There are no detailed accounts of the site although it has been postulated that it may have contained burials at a lakeside setting (Peacock & Nixon 1986).	Wang Leng	√			***Figure 64***
(ii) *Sha Tau Kok Shek Kiu Tau Archaeological Site* The site was first recorded during the Second Territory-wide survey. Surface finds of net pattern pottery sherds were collected in low-lying fields at Shek Kiu Tau. However, no finds were identified in the auger hole test conducted at Wo Hang Tai Tong (Shenzhen Museum 1998). Two field investigations were conducted in 2000. The first investigation (two auger hole tests and two test pits) discovered prehistoric cultural remains and ceramic sherds of Song and Ming periods. It was suggested that the site was a possible prehistoric hill-slope site (AMO 2000). The second investigation (two test pits) revealed similar stratigraphy to that of the First Re-investigation, with the discovery of four sherds of Song Dynasty Longquan celadon, two sherds of Ming pottery and eight sherds of Ming Dynasty glazed pottery and cloth-pattern tile fragments (AMO 2000).	Lap Wo Tsuen Pak Hok Lam (Yim Tso Ha) Shek Kiu Tau	√			***Figure 65***

Known Archaeological Site (AS)	Location	Within boundary of AS	<= 50m from AS	50 to 300m from AS	Figure No.
(iii) *Pok Tau Ha Old Lime Kiln* The Study Area at Wu Shek Kok is located in close proximity to the Pok Tau Ha Old Lime Kiln. The historical lime kiln was recorded by an archaeological survey in 2001.	Near Pok Tau Ha study area			√ (approx. 172m from Pak Hok Lam/ Yim Tso Ha alignment)	*Figure 66*
(iv) *Sha Tau Kok San Tsuen* The site was first identified during the 1998 Territory-wide Survey, with the discovery of Qing dynasty materials (Shenzhen Museum 1998). Field investigations in 2000 revealed that the site contained rich prehistoric cultural deposits including Warring States hard pottery sherds and Late Neolithic stone implements (Au 2000). An excavation was conducted in the centre of the archaeological site in San Tsuen in 2001 prior to a small village house construction. Four cultural layers (Early Neolithic, Mid Neolithic, Late Neolithic and Bronze Age), as well as a large number of stone artefacts, and features including 3 postholes, 2 pits and traces of stone working areas were identified (Mok 2001).	San Tsuen, Muk Min Tau and Nga Yiu Tau	√			*Figure 67*

5.3 Existing Impacts

5.3.1 The existing impacts can be summarised as nullah, paths, major and minor road construction, utility provisions (such as sewerage, telephone lines, electricity, etc.), residential development and development of public spaces. The areas of proposed impacts are mostly under concrete.

6. ASSESSMENT OF ARCHAEOLOGICAL POTENTIAL

6.1.1 Most of the proposed works for this project are water mains replacement work. In general, the impacts from such water mains replacement work are relatively shallow compared to sewerage groundworks. According to the general specifications provided by the Water Services Department, the estimated depth and width of groundworks for this project measure between c.45cm x 45cm and c.60cm x 60cm, depending on the position of other utilities. Although the estimated impacts are relatively shallow, archaeological deposits might still be directly impacted by such groundworks, especially in areas where near-surface archaeological deposits were recorded.

6.1.2 Most of the proposed alignments have disturbance by previous utility groundworks. Some alignments are located within the boundaries of archaeological sites with known potential for archaeological deposits. As well, some areas are located in historical villages with limited impacts from utilities and a dearth of existing information from archaeological testing. Archaeological watching brief during the construction phase will therefore be proposed for such areas.

6.1.3 Due to the nature of the proposed rehabilitation work, there will be no impacts on archaeological deposits since it will only involve laying a new pipe within the existing water main trunk i.e only the disturbed areas will be excavated. No further action will be recommended for such rehabilitation work.

6.1.4 The assessment of archaeological potential for each area will be provided in the following section.

7. SCOPE OF THE RECOMMENDED ARCHAEOLOGICAL WORKS

7.1.1 The desk-based study identified some areas within the project boundary requiring archaeological watching brief during the construction phase. In accordance with the requirements of the Antiquities and Monuments Ordinance the works have to be undertaken by a professional archaeologist who has to apply for licence for excavate and search for Antiquities. The granting of such licence by the Antiquity Authority may take up to 8 weeks after submission of the application form and the required information. A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.

7.1.2 The AMO should be consulted on the requirements and specifications on the watching briefs in the process of preparing contract documents to engage construction consultant or contractor.

7.1.3 In case archaeological deposit is identified in the course of the watching brief, AMO's advice should be sought immediately on whether an archaeological excavation is required to salvage cultural remains underground. If affirmative, the engaged archaeologist who possesses the excavation licence for the watching brief of the subject site should carry out archaeological excavation to preserve cultural remains by record. Sufficient time and

resources should be allowed for the archaeologist to conduct the excavation.

7.1.4 A summary showing the assessment of archaeological potential in the above areas of proposed impact as well as the work scope is presented in **Table 3**:

Table 3 Summary for the assessment of archaeological potential within project areas

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Tseung Kwan O South An aerial photograph taken in 1964 showing the general view of this study area is shown in ***Figure 68a*** (Lands Dept. 2007)***;*** ***Figure 68b shows the geological map of this study area*** .			
Siu Chik Sha *(382833/BV/TKS/F027 – F030)*	No archaeological potential	The alignments are either situated on fill or colluvium comprising mainly of gravel and rock fragments. There is also extensive disturbance from previous utility groundworks along this major road.	No further action
Tiu Keng Leng and Mau Wu Tsai *(382833/BV/TKS/F019A – F023A)*	No archaeological potential	The proposed alignments are situated along steep slopes or on rocky soil. Some alignments are located along major road with disturbance from previous utility groundworks.	No further action
Hong Sing Garden *(382833/BV/TKS/F016 – F018; S001 – S003A)*	No archaeological potential	The proposed alignments are situated along steep slopes or on rocky soil. Some alignments are located along major roads with disturbance from previous utility groundworks.	No further action
Ma Yau Tong & Tsui Lam *(382833/BV/TKS/F010 - F016A)*	Very low to no archaeological potential	The proposed alignments are situated in a hilly terrain along steep slopes or on rocky soil. Although Ma Yau Tong is a historical village, the village is fairly built-upon. The proposed alignments are located along major road (Anderson Road) and village footpaths with disturbance from utilities.	No further action
Hang Hau Village *(382833/BV/TKS/F009. S004A-S007A)*	No archaeological potential	The proposed alignments are situated along steep slopes or rocky soil. Some alignments are located along major roads with disturbance from previous utility groundworks.	No further action
Silverstrand *(382833/BV/TKS/F008)*	No archaeological potential	The proposed alignments are situated along steep slopes or rocky soil. Some alignments are located along major roads with disturbance from previous utility groundworks.	No further action
Tsuen Kwan O North A 1937 map showing the study area can be found in ***Figure 69*** (Empson 1992).			
Fei Ngo Shan *(382833/BV/TKN/*	No archaeological potential	The proposed alignments are located along very steep slopes or along existing roads (Fei Ngo Shan Road and Clear	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
F007A, F008 – F010)		Water Bay Road) with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	
Southern end of Hiram's Highway *(382833/BV/TKN/F002 & F003)*	No archaeological potential	The proposed alignments are located along very steep slopes or along major road (Hiram's Highway) with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Wo Mei *(382833/BV/TKN/F001)*	No archaeological potential	Although this study area is situated in close proximity to both Ho Chung and Nam Wai Archaeological Sites, the alignment is located at a major road (Hiram's Highway) with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Sai Kung An aerial photograph taken in 2007 showing the general view of this study area is shown in ***Figure 70*** (GEO).			
Ta Ho Tun *(382833/BV/SK/F030 – F033)*	Some archaeological potential	This study area is located within Ta Ho Tun Archaeological Site with known archaeological potential. Most of the proposed alignments are located on existing footpaths with extensive disturbance from previous utility groundworks or along rocky steep slopes. A historic stone lime kiln was identified in the northern part of Ta Ho Tun Ha Wai. The kiln will not be directly affected by the proposed works. However, it is situated approximately 6.8 m from the nearest alignment and may be indirectly affected by the proposed works (indirect impacts arising from ground borne vibration have the potential to damage the structure of the kiln).	Mitigation for the kiln remains will be required as follows; Prior to the Construction Phase a condition survey should be conducted on the structural remains. The condition survey report should include recommendations for vibration monitoring (and any additional protective measures) if necessary. The condition survey report should be submitted to AMO for approval. During the construction Phase a buffer zone of 5 metres (marked out by temporary fencing) should be provided to separate the kiln structures and the works areas.

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
			The contractor will be responsible for the implementation of the condition survey. The detailed requirements for condition survey and provision of buffer zone can be found in Appendix III
Sai Kung Tuk to Kap Pin Long *(382833/BV/SK/F018 – F023, F037A)*	No archaeological potential	The proposed alignments are located on existing paths with extensive disturbance from utilities. Some are situated along rocky steep slopes or on reclaimed land (The Man Nin Street alignment and part of the Po Tung Road alignment).	No further action
Sha Kok Mei and Sha Ha *(382833/BV/SK/F017)*	Low archaeological potential	Although the area is in close proximity to Sha Ha Archaeological Site, the proposed alignments are located far away from the areas where Late Neolithic to Early Bronze Age finds were recovered during the 2002 Sha Ha Rescue Excavation (AMO 2005). As well, the proposed alignments are located on existing footpaths with extensive disturbance from previous utilities (including sewerage pipes). Moreover, some of the proposed alignments are located next to a stream.	No further action
Nam Shan *(382833/BV/SK/F016)*	No archaeological potential	Although Nam Shan, Wo Tong Kong and San Uk are historical villages, the proposed alignments will be located entirely on existing paths with extensive disturbance from utilities.	No further action
Muk Min Shan to Long Keng *(382833/BV/SK/F005 – F011, F013A, F014 & F015)*	No archaeological potential	Although the southern alignments are located in close proximity to Sha Ha Archaeological Sites, they are situated along major roads with extensive disturbance from previous utility groundworks and road construction/ maintenance works. In addition, the 2003 archaeological investigation carried out in nearby areas indicated no significant archaeological material or deposits (HKIA 2003). The rest of the alignments are mainly situated along roads/path along steep slopes.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Shui Long Wo *(382833/BV/SK/F001-F002)*	No archaeological potential	The water mains alignments are mostly located along rocky hill slopes. Some of the alignments are located along Sai Sha Road, or within the pumping station compound and country park management centre	No further action
Tai Mong Tsai Road *(382833/BV/SK/F036A)*	No archaeological potential	The proposed alignment is situated in a rocky area beside Tai Mong Tsai Road with disturbance from road construction/ maintenance works.	No further action
Ma On Shan ***Figure 71*** shows the geological map of this study area.			
SW of Sai O *(382833/BV/MOS/F004)*	No archaeological potential	The proposed alignments are located within Sai O Pumping Station compound. In addition, based on previous geological ground investigation, fill up to 2m was recorded.	No further action
Cheung Muk Tau *(382833/BV/MOS/F003)*	No archaeological potential	The area lies on solid geology consisting of sandstone and siltstone. The proposed alignments are located on existing paved paths, which have already been severely impacted by existing utilities.	No further action
Wu Kai Sha *(382833/BV/MOS/F001 A & F002A)*	No archaeological potential	Although the proposed alignment is located next to Wu Kai Sha Archaeological Site, it is situated on marine sand. Based on previous geological ground investigation, fill up to 2m was recorded in the Wu Kai Sha study area.	No further action
Tai Po East An aerial photograph taken in 1979 showing the general view of this study area is shown in ***Figure 72*** (GEO).			
Tai Mei Tuk *(382833/BV/TPE/F012 – F014)*	No archaeological potential	The proposed alignments are either located along major roads (Ting Kok Road and Bride's Pool Road) or within the existing Holiday Bungalows compound with extensive disturbance from previous utility (including sewerage pipes) and construction groundworks. Some alignments are situated along very steep slopes with thin soil cover.	No further action
Shuen Wan *(382833/BV/TPEF005 – F011)*	No archaeological potential	The proposed alignments are mainly situated on solid geology of granodiorite and the area near the hillock of Sha Lan is completely built up (Beverly Hills). Original landform and landscape have	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		been severely modified by new housing development. The proposed alignments are located on existing paved paths or major roads, which have already been impacted by utility works (sewerage pipes). In addition, some of the alignments are situated on fill over marine sand.	
Wong Yue Tan *(382833/BV/TPE/F004)*	No archaeological potential	The area is in general very low-lying. Most of the proposed alignments are located on existing footpaths with disturbance from previous utility groundworks. In addition, Wong Yue Tan was one of the twelve Shuen Wan villages included in the 1997-98 Territory-wide survey (Tai Po District). According to the report, only a small amount of modern pottery sherds were collected in the Shuen Wan study area near Wai Ha and Ha Tei Ha Tsuen (CUHK & Zhuhai Museum 1998).	No further action
Casa Marina *(382833/BV/TPE/F001 – F003)*	No archaeological potential	The general area lies on solid geology. All of the proposed alignments are situated along major roads or access road with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Tai Po West Aerial photograph taken in 1949 showing the eastern part of this study area can be found in ***Figure 73***. Another recent aerial photograph taken in1991 showing the western part of the study area is shown in ***Figure 74.***			
Lai Chi Hang *(382833/BV/TPW/F038 – F040)*	No archaeological potential	The proposed alignments are located along existing footpaths in a hilly area on crystal tuff with hornblende of Yim Tin Tsai Formation.	No further action
Tai Po Kau *(382833/BV/TPW/F036 & F037)*	No archaeological potential	The proposed alignments are located on existing roads/footpaths with disturbance from previous utility groundworks and road construction/ maintenance works. Some of the alignments are situated along very steep slopes in a hilly area.	No further action
Wong Yi Au *(382833/BV/TPW/F034 & F035)*	No archaeological potential	Ha Wong Yi Au is fairly built-up and occupied by many new village houses. The proposed alignments are located on existing paved paths with severe impacts from utility works. Sheung Wong Yi Au is less built-up, but the area in general is	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		hilly, rocky and steep.	
Shan Tong New Village *(382833/BV/TPW/F032 & F033 & S014)*	No archaeological potential	The village is located on cut and terraced lower hill slopes. In addition, the proposed alignments are situated along existing footpaths or access road with disturbance from previous utility groundworks.	No further action
Ma Wo *(382833/BV/TPW/F031)*	No archaeological potential	This modern village is mainly situated on granodiorite. Ma Wo area (especially lower hill slopes) has been severed as a burial ground. A number of burial grounds can be found within the village. The proposed alignments are either situated along existing roads or footpaths with disturbance from previous utility groundworks, or located along steep slopes.	No further action
Care Village *(382833/BV/TPW/F029 & F030)*	No archaeological potential	This modern village is mainly situated on solid geology. The former coastline is now occupied by the MTR railway. Some of the alignments are located along Yong Yi Road and Tai Po Road. The continuing construction, improvement and maintenance of the road/ railway would have also resulted in major impacts to archaeological deposits. Moreover, some of the alignments are located next to a stream.	No further action
Island House *(382833/BV/F027 & F028*	Low archaeological potential	Although the eastern end of the proposed alignments is situated within the boundary of Island House Archaeological Site, the area is occupied by engineered slopes and staircase. As well, it is believed that the large number of surface finds (stone adzes and adze fragments) collected in the 1980s came from the foreshore on the north-west corner of the island (Rogers *et al* 1998). No significant archaeological material or cultural layers were identified in the two subsequent archaeological surveys carried out in 1998 (Rogers *et al* 1998 and CUHK & Zhuhai 1998). The rest of the alignments are situated on fill over former wet areas or within the footprint of a nullah with no archaeological potential.	No further action
Tai Wo & Fu Shin *(382833/BV/TPW/F019 – F025, S005 – S008)*	No archaeological potential	The proposed alignments are situated on fill over former wet area consisting of marine sand	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Tai Po Industrial Estate *(382833/BV/TPW/F026, S001 – S004)*	No archaeological potential	Most of the proposed alignments are situated on fill over former wet area consisting of marine sand; The rest of the alignments are located along major roads or at the edge of an existing pumping station compound next to a river.	No further action
Tai Po Market *(382833/BV/TPW/S009, S015A)*	No archaeological potential	The proposed alignments are either situated on fill over marine sand or along major roads with extensive disturbance.	No further action
Kam Shan *(382833/BV/TPW/F017 & F018, S010 – S011)*	Very low archaeological potential	Although this study area is situated next to Shek Kwu Lung Archaeological Site, the proposed alignments are located along Kam Shan Road, Shek Lin Road and village paths with disturbance from previous utility groundworks (including sewerage pipes) and road construction/ maintenance works.	No further action
Shek Kwu Lung *(382833/BV/TPW/F017)*	No archaeological potential	Although the proposed alignments are located in close proximity to Shek Kwu Lung Archaeological Site, the geology and topography of the current study area are different from that of the known archaeological site. The proposed alignments are situated on granodiorite along hill slopes.	No further action
Pun Chun Yuen *(382833/BV/TPW/S012 – S013)*	No archaeological potential	The proposed alignments are located along major roads or within an existing pumping station compound.	No further action
Tai Po Tau *(382833/BV/TPW/F010 - F013)*	No archaeological potential	Although Tai Po Tau is a historical village located along the original western coast of Tai Po Hoi, the area is entirely built-up and the surrounding landscape has been dramatically altered due to the development of Tai Po town. In addition, the proposed alignments are located along existing footpaths or major roads with extensive disturbance from previous utility groundworks or road construction/ maintenance works. One section of the alignment is situated at the causeway of Lam Tsuen River.	No further action
Mui Shue Hang *(382833/BV/TPW/F010, F014 & F015)*	No archaeological potential	The proposed alignments are situated at steep slopes/ engineered slopes and levelled hilltop on granodiorite. Part of the alignment is located along Lam Tsuen River.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Tong Min Tsuen *(382833/BV/TPW/F016)*	No archaeological potential	A field scan was undertaken by the Chinese University and Zhuhai Museum Team in Tong Min Tsuen during the 1997-98 Territory-wide Survey. Blue-and-white porcelain sherds were collected at Tong Min Tsuen area (CUHK & Zhuhai Museum 1998). However, the proposed alignments are located entirely on existing paths and access road, with extensive disturbance by previous utility groundworks.	No further action
Near Lam Kam Interchange *(382833/BV/TPW/F007- & F010)*	Very low archaeological potential	The proposed alignments are mostly located along major roads near Lam Kam Interchange (Tai Po Road and Hong Lok Yuen Road), with extensive disturbance from previous utility groundworks and road construction/ maintenance works. Although parts of the alignments are located along the western lower hill slopes within the boundary of Wai Tau Archaeological Site, previous archaeological investigation in nearby areas found no *in situ* archaeological deposits, but a small number of surface finds were identified (Peacock 1988). In addition, the report highlighted the presence of patches of exposed decomposed bedrock which, together with the negative findings, were taken as an indication that surviving sub-surface archaeological deposits were unlikely to exist (Peacock 1988).	No further action
Fanling Highway *(382833/BV/TPW/F001 – F007)*	No archaeological potential	The proposed alignments are located along/ adjacent to major road (Fanling Highway), with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Fo Tan & Ma Liu Shui An aerial photograph taken in 1963 showing the general view of this study area (***Figure 75***).			
Ma Liu Shui *(382833/BV/FT/F001 & F002)*	No archaeological potential	The proposed alignment is situated on major road (Tai Po Road) with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Fo Tan *(382833/BV/FT/F003 – F007, F008A, F009A, F010-12, F013A, F014, F015 &*	No archaeological potential	Most alignments are situated on fill over former wet areas. Some are located in rocky area with thin soil cover.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
382833/BV/ST/S001, S002)			
Ho Wo Che to Pai Tau Hang *(382833/BV/FT/F016 – F021)*	No archaeological potential	Most alignments are situated along very steep slopes of hilly terrains.	No further action
Lek Yuen *(382833/BV/TWS/F025 & 382833/BV/ST/S003-4, S018)*	No archaeological potential	The proposed alignments are situated on modern fill.	No further action
Sha Tin An aerial photograph taken in 1964 showing the study area of Sha Tin (***Figure 76***) (Lands Dept. 2007).			
Ah Kung Kok *(382833/BV/ST/F001 – F005)*	No archaeological potential	The proposed alignments are either situated on fill over former wet area or along very steep slopes consisting of granite.	No further action
Shek Mun *(382833/BV/ST/ F006 – F008)*	No archaeological potential	The entire area is situated on reclaimed land of former Sha Tin Hoi	No further action
Tai Shek Kwu *(382833/BV/ST/F009 & F010)*	No archaeological potential	The proposed alignment is situated on fill over former wet area.	No further action
Wong Nai Tau to Nam Shan *(382833/BV/ST/ F012 & F014))*	No archaeological potential	Most of the proposed alignments are located at village footpaths along steep slopes with disturbance from previous utility groundworks (including sewerage pipes).	No further action
Kwong Lam Court *(382833/BV/ST/F017)*	No archaeological potential	The proposed alignments are mostly located either along steep hill slopes or village access road with extensive disturbance from previous utility groundworks.	No further action
Chap Wai Kon *(382833/BV/ST/F015 & F016)*	No archaeological potential	Area is completely built-up and surrounding area has been heavily modified. The proposed alignments are located on existing paths, which have already been severely impacted by previous utility groundworks (including sewerage pipes).	No further action
City One Shatin *(382833/BV/ST/S005A)*	No archaeological potential	The proposed alignment is situated on modern reclaimed land	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Yuen Chau Kok *(382833/BV/ST/S010, S014, S015 & S017)*	No archaeological potential	The proposed alignments are situated on modern reclaimed land	No further action
Sha Tin Road *(382833/BV/ST/F018-F020, F021A)*	No archaeological potential	The proposed alignments are located along major road with extensive disturbance from previous utility groundworks and road construction/ maintenance works. Parts of the alignments are situated on reclaimed land.	No further action
Sha Tin Tau *(382833/BV/ST/F022A)*	No archaeological potential	The proposed alignments are located along village footpaths with extensive disturbance from previous utility groundworks.	No further action
Pai Tau New Village *(382833/BV/ST/F023A-F024A)*	No archaeological potential	The proposed alignments are located along existing footpaths with some disturbance from utilities. Some of the alignments are located next to streams, steep slopes or steps.	No further action
Tai Wai & Shing Mun Reservoir An aerial photograph taken in 1964 showing the study area of Tai Wai (***Figure 77***) (Lands Dept. 2007).			
To Fung Shan *(382833/BV/TWS/F021 – F024)*	No archaeological potential	The proposed alignments are located along very steep slopes on granite.	No further action
Heung Fan Liu and Pak Tin *(382833/BV/TWS/F004 – F010)*	No archaeological potential	The proposed alignments are situated largely along very steep slopes on granite.	No further action
Tai Wai *(382833/BV/TWS/F011, 382833/BV/ST/S019 – S021)*	No archaeological potential	The proposed alignments are largely situated on fill over former wet areas. Some are located along major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Sha Tin Heights *(382833/BV/TWS/F012 & F013)*	No archaeological potential	The proposed alignments are located along very steep slopes on granite.	No further action
Hung Mui Kuk *(382833/BV/TWS/F015A, F016-17, F018A,*	No archaeological potential	Northern part of this study area is situated on fill over alluvial deposits associated with the Shing Mun River prior to canalisation. The rest of the alignments	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
F019, F020,F026A-27A; 382833/BV/ST/S022 – S024)		are located along major roads or village footpaths with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	
Pak Shek *(382833/BV/TWS/F014 A, F028A-31A; 382833/BV/ST/S025-028)*	No archaeological potential	The proposed alignments are located are located along major roads with extensive disturbance from previous utility groundworks. Parts of the alignments are alos situated on fill over former wet area.	No further action
Shing Mun Reservoir *(382833/BV/TWS/F001-F003)*	No archaeological potential	The proposed alignments are located along very steep slopes with thin soil cover.	No further action
Tai Po Road & Lion Rock Tunnel			
Kowloon Bywash Reservoir *(382833/BV/TPR/F001, F002 & F004A-008A)*	No archaeological potential	The proposed alignments are situated along very steep slopes on granite.	No further action
Lion Rock Tunnel *(382833/BV/TPR/F003)*	No archaeological potential	The proposed alignment is situated mainly on granite, along the existing Lion Rock tunnel.	No further action
Kwai Chung & Tsing Yi A 1939-40 map showing the study area of Kwai Chung before the reclamation of Gin Drinkers Bay (***Figure 78***).			
Butterfly Valley *(382833/BV/KT/F055A, F056 – F057)*	No archaeological potential	The proposed alignments are either situated along rocky steep slopes, major road (Tsing Sha Highway), or within the Lai Chi Kok 400kv Substation compound next to a nullah on granite.	No further action
Lai King *(382833/BV/KT/F043 – F044, F047 – F049, F051, F052 & F054)*	No archaeological potential	The proposed alignments are situated along steep slopes or major roads with disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Kau Wa Keng *(382833/BV/KT/F040 – F041, F045, F046A, F049 & F050, F089A)*	Low archaeological potential	Although Kau Wa Keng is an historical village established in the 18th century, based on the latest utility plans, most of the alignments follow paths previously disturbed by utility groundworks. The upper (northern) part of the village, where there are fewer utilities recorded, was terraced into the lower hill-slopes, which	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		would have impacted upon any archaeological resources in those areas. The rest of the alignments are located along steep slopes (mostly adjacent to existing pipelines) or within existing pumping station/ service reservoir compounds.	
Ha Kwai Chung *(382833/BV/KT/F024 – F025, F026A – F027A, F028 – F039; S008, S009A, S010 – S013)*	No archaeological potential	The proposed alignments are either located along rocky steep hill slopes or major roads (e.g. Tai Wo Interchange) with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works. Some of the alignments are situated on fill over former wet area.	No further action
Kwai Tsing Container Terminals *(382833/BV/KT/F042, S028 – S029, S031 – S032)*	No archaeological potential	The proposed alignments are situated on modern reclamation.	No further action
Kwai Hing *(382833/BV/KT/F002, F003A, F004, F005, F006A, F011A, F012A, F013, F014A, F018 – F020; 382833/BV/TW/S020, S021, S030, S033 – S035)*	No archaeological potential	This study area is partially situated in the original coastline before the reclamation of Gin Drinker's Bay. One or more sites with a large number of prehistoric quartz discs and pottery sherds were discovered on/ behind beach sites in Gin Drinkers Bay by Heanley, Shellshear and Schofield in the 1930s (Peacock & Nixon 1986). According to the Hong Kong Archaeological Survey, the site was totally destroyed by reclamation and construction works (Peacock & Nixon 1986). In addition, the proposed alignments are located along major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Kwai Fong *(382833/BV/KT/F007-F010, F015-F017, F021, F022, F023A, S001 – S005 & 382833/BV/TW/F045A, & F048A-F050A, S013, S015, S017A – S019A, S031, S032)*	No archaeological potential	This study area is partially situated in the original coastline before the reclamation of Gin Drinker's Bay. One or more sites with a large number of prehistoric quartz discs and pottery sherds were discovered on/ behind beach sites in Gin Drinkers Bay by Heanley, Shellshear and Schofield in the 1930s (Peacock & Nixon 1986). According to the Hong Kong Archaeological Survey, the site was totally destroyed by reclamation and	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		construction works (Peacock & Nixon 1986). In addition, the proposed alignments are located along major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	
Fung Shue Wo *(382833/BV/F058, KT/S015A, S016A, S017)*	No archaeological potential	All alignments are situated on modern fill or major roads with extensive disturbance from utilities/ road works.	No further action
Near Cheung Hong Estate *(382833/BV/KT/F059-F064, F071 – F076; S018 – S020, S021, S022A, S023, S024, S025A)*	No archaeological potential	The proposed alignments are either situated on modern fill over wet areas, rocky steep slopes or along major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Sai Tso Wan *(382833/BV/KT/F065-F070)*	No archaeological potential	The proposed alignments are situated along major roads on both volcanic and intrusive igneous rocks. There is extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action
Tsing Yi Road *(382833/BV/KT/F078 – F088)*	No archaeological potential	The alignments are located along major road (Tsing Yi Road) with extensive disturbance from previous utilites, road cosntruciton/ maintenance works. Parts of the alignments are situated on fill over wet area.	No further action
Tsuen Wan A 1939-40 map showing the study area of Tsuen Wan before the reclamation along the coast (***Figure 78***).			
On Yam *(382833/BV/TW/F038-F040, S027 – S029)*	No archaeological potential	The area is in general very rocky. The proposed alignments are located along major roads in a built-up area. There is extensive disturbance from previous utility groundworks or road construction/ maintenance works. Some of the alignments are situated along very steep slopes. In addition, a small area is situated on artificial fill.	No further action
Lei Muk Shue	No archaeological potential	The area is in general very rocky. The proposed alignments are located along	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
(382833/BV/TW/F022A, F023 – F028, S022 – S026)		major roads in built-up areas. There is extensive disturbance from previous utility groundworks or road construction/ maintenance works. Some alignments are situated along steep slopes. In addition, a small area is situated on artificial fill.	
Lo Wai *(382833/BV/TW/F003A & F004-F006)*	No archaeological potential	Lo Wai is situated in a hilly and rocky area. All of the proposed alignments are located on existing footpaths with extensive disturbance from previous utility groundworks or along steep slopes.	No further action
Sai Lau Kok & Pak Tin Pa *382833/BV/TW/S005)*	No archaeological potential	The alignments are located along terraced hill slopes and with disturbance from previous utilities.	No further action
Tai Wo Hau *(382833/BV/TW/F018-F021, F028, F031A-F032A, F033, F034A , F035, F036A, F037)*	No archaeological potential	All of the proposed alignments are situated along major roads in built-up areas with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works, or situated along rocky steep slopes.	No further action
Fuk Loi Estate to Ham Tin *(382833/BV/TW/F014, F015, F016A, F017, F029, F030A, F031A, F041A, F042A; S004, S006A, S007, S008A, S009B, S012A)*	No archaeological potential	This study area is situated mostly on fill over former wet area. In addition, the proposed alignments are located along major roads in a built-up area with extensive disturbance from previous utility groundworks (including sewerage pipes) and road construction/ maintenance works.	No further action
Sha Tsui *(382833/BV/TW/F042A, F043, F044A, F046 & F047; S012A, S016)*	No archaeological potential	Most of the proposed alignments are situated on fill over former wet area or along major road (Texaco Road) with extensive disturbance from previous utilitites or road works.	No further action
Clague Garden Estate *(382833/BV/TW/S003)*	No archaeological potential	The proposed alignments are situated on recent reclamation.	No further action
Chai Wan Kok *(382833/BV/TW/F007 & F008A, F012 – F013; S001, S002A)*	No archaeological potential	Although this study area is located in close proximity to Chai Wan Kok Archaeological Site, the geology and topography are different from that of the archaeological site. The prehistoric finds collected from this site possibly came from the hillock near the Tang clan	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		ancestral grave (Peacock & Nixon 1986). The proposed alignments are located either along major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) and road construction/ maintenance works, or along rocky steep slopes to the north-west of Chai Wan Kok Archaeological Site. Moreover, some alignments are situated on fill over former wet area.	
Yau Kom Tau *(382833/BV/TW/ F09B, F011)*	No archaeological potential	The proposed alignments are located along rocky steep slopes next to existing pipelines.	No further action
Sham Tseng & Ma Wan			
Lau Fa Tsuen *(382833/BV/SMW/F008)*	No archaeological potential	Although the Ma Wan Kiln is situated in close proximity to this study area, some of the proposed alignments are located in low-lying area next to the bay. The rest of the alignments are situated along existing footpaths with disturbance from previous utility groundworks. As well, some of the alignments are located next to a nullah and the Lantau Link.	No further action
Tai Yuk Road *(382833/BV/SMW/ F007A)*	Low archaeological potential	Although this study area is located in close proximity to some identified monuments, the proposed alignments are located along village footpaths with disturbance from previous utility groundworks.	No further action
Ma Wan Town and Ma Wan New Street Village *(382833/BV/SMW/F006)*	Some archaeological potential	Two identified archaeoloigcal items, namely the Ma Wan Old Customs Station and the Ma Wan Rock Inscription are located in close proximity to the proposed works, some mitigation measures are recommended. The rest of the proposed alignments are located along village footpaths with disturbance from previous utility groundworks.	For the Ma Wan Old Customs Station: Archaeological Site, archaeological watching brief during the construction phase is recommended (Figure 88g); For the Ma Wan Rock Inscription: During the Construction Phase a buffer zone (minimum of 2 metre or as large as site restrictions

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
			allow) should be set up and no groundworks should be allowed within this buffer zone (Figure 88h).
Ma Wan Fishermen's Village 382833/BV/SMW/F006	No archaeological potential	The area is in general very rocky. The proposed alignments are located along very steep slopes or steeps.	No further action
Sham Tseng *(382833/BV/SMW/F001 A, F002 & F003)*	No archaeological potential	According to the Hong Kong Archaeological Survey report, a pair of Six Dynasties burial jars were recovered from the house foundations on the slopes to the south-west of the Sham Tseng coastline in 1978 (Peacock & Nixon 1986). However, the report also mentioned that the original coastline was totally built upon and the hill slopes at the back of the valley were also extensively modified for residential development (Peacock & Nixon 1986). In addition, the proposed alignments are located along major roads (e.g. Tune Mun Road and Castle Peak Road) or village footpaths with extensive disturbance from previous utility groundworks (including sewerage pipes) and road construction/ maintenance works.	No further action
Yuen Tun Tsuen *(382833/BV/SMW/F005)*	No archaeological potential	According to the Hong Kong Archaeological Survey, prehistoric pottery sherds were identified in Tsing Lung Tau by Heanley and Shellshear in the 1930s. The report concluded that the site was totally destroyed by dramatic erosion, site formation and development works (Peacock & Nixon 1986). The proposed alignments are located along major roads or village footpaths with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Siu Lam A 1929-45 map showing this study area before the canalisation of the stream at Tai Lam Chung valley can be found in ***Figure 79***.			
Wu Uk *(382833/BV/SL/F008)*	Low archaeological potential	This study area is situated within the boundary of Tai Lam Archaeological Site. Ming/ Qing period archaeological materials as well as prehistoric polished stone and stone flint were recovered during the 1998 Territory-wide survey in	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		area to the north-east of Tin Hau Temple (Zhongshan University 1998). Another investigation was carried out in 2000 in the area north of Wu Uk. The results indicated that the area was largely covered in concrete, the lower foot hills were tested and contained *in situ* decomposing bedrock and hill wash (AAL 2000). Nearby area was also tested in 2003 for the Tune Mun Road Project. The results from the field scan, auger tests and four test pit excavations showed that no significant finds or cultural layers were present. One piece of Tang dynasty sherd was recovered from a test pit. No interpretation of the extent could be made on the basis of a single sherd (AAL 2003). However, the proposed alignments are all located along existing footpaths with disturbance from previous utility groundworks.	
Luen On San Tsuen (E) *(382833/BV/SL/F006 & F003A)*	No archaeological potential	Although the eastern end of this study area is situated along the boundary of Tai Lam Archaeological Site, the area is in general low-lying. Most of the alignments are located on fill over former wet area and some of the alignments are located next to a stream.	No further action
Wong Uk *(382833/BV/SL/F006& F007)*	Low archaeological potential	This study area is situated within the boundary of Tai Lam Archaeological Site. Two test pit excavations were carried out in the south and south-east of Wong Uk Tsuen. Ming/ Qing period archaeological materials as well as prehistoric polished stone and stone flint were recovered during the 1998 Territory-wide survey (Zhongshan University 1998). Modern materials including plastic fragment and building debris were found in the north of Wong Uk Tsuen and the open storage area during an archaeological impact assessment carried out in 2000 (AAL 2000). However, the proposed alignments are located along footpaths with disturbance from utility groundworks.	No further action
Tai Lam Chung Tsuen *(382833/BV/SL/F001, F003A & F004)*	Very low archaeological potential	This study area is located approximately 220m to the north of Tai Lam Archaeological Site. Previous archaeological testing including	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		auger hole tests and test pit excavation had been carried out in the area located between Tai Lam Chung Road and the nullah. Result of the investigation confirmed that no archaeological deposits were present and the river bank section showed an artificial raising of the river banks by fill (AAL 2000). In addition, all of the proposed alignments are located along Tai Lam Chung Road or village footpaths with disturbance from previous utility groundworks.	
Luen On San Tsuen (W) *(382833/BV/SL/F003A)*	No archaeological potential	Previous archaeological testing was carried out in the western section of Luen On San Tsuen in 1999 for the Tuen Mun Sewerage – Eastern Coastal Sewerage Extension project. A total of 28 auger hole tests and 1 test pit excavation were conducted and the results indicated little soil deposits on the lower hill slopes or bare rock on the surface in the area to the north of Castle Peak Road; middle section was confirmed as having low archaeological potential of artificial raising of the bank by fill; some of the alignments in the northern section are located on former ponds or steep slopes (AAL 2000). In addition, the area located near the nullah is very low-lying and was partially covered by existing or filled ponds.	No further action
Siu Lam Portal *(382833/BV/SL/F011A)*	No archaeological potential	The area in general is very rocky and the alignment is located along very steep slopes.	No further action
Pak Shek Hang *(382833/BV/SL/F009A, F010A)*	Very low archaeological potential	Although the proposed alignments are partially situated within the boundary of So Kwun Wat Archaeological Site, most of the alignments are located in rocky area along steep slopes. In addition, the major archaeological findings are situated in the valley area.	No further action
Tuen Mun South An aerial photograph taken in 1964 showing the study area of Tuen Mun South (***Figure 80***) (Lands Dept. 2007).			
Yu Chui *(382833/BV/TMS/F040 & F041A)*	No archaeological potential	The proposed alignments are located along major roads with extensive disturbance from utility groundworks or road construction/ maintenance works.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Gold Coast *(382833/BV/TMS/F038 A, F039)*	No archaeological potential	Although So Kwun Tan is partially situated within So Kwun Wat Archaeological and in close proximity to So Kwun Wat Perowne Barracks Archaeological Site, the alignments located in that area are either situated on fill over former wet area or located along major roads with extensive disturbance from utility groundworks or road construction/ maintenance works.	No further action
Castle Peak Bay *(382833/BV/TMS/F035 A)*	No archaeological potential	The area is in general very rocky and the proposed alignment is located along major road with extensive disturbance from previous utilities or road works.	No further action
Sam Shing Hui *(382833/BV/TMS/F030 A, F031, F032A & S07)*	No archaeological potential	According to the Hong Kong Archaeological Survey, prehistoric remains were identified in Sam Shing Hui area. However, the site had disappeared due to extensive reclamation and construction (Peacock & Nixon 1986). The proposed alignments are located along major roads with extensive disturbance from utility groundworks or road construction/ maintenance works. Moreover, some of the alignments are situated on reclaimed land.	No further action
Tseng Tau Tsuen Sheung Tsuen *(382833/BV/TMS/F025 A, F026 – F028, F029A)*	No archaeological potential	The modern Castle Peak Pottery Kiln is situated near Hin Fat Lane, approximately 58m to the south-west of this study area. The area is in general rocky with thin soil bed. The proposed alignments are located along major roads with extensive disturbance from utility groundworks or road construction/ maintenance works. Moreover, some of the alignments are situated on fill over former wet area.	No further action
Tseng Tau Tsuen Chung Tsuen *(382833/BV/TMS/F021 A, F022, F023A & F024A, F025A, S003)*	No archaeological potential	The area has been heavily modified since the development of Tune Mun New Town. The proposed alignments are located on major roads and footpaths with extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action
San Hui *(382833/BV/TMS/F001 A-F004A & F005, F006A, S005, S005)*	No archaeological potential	This study area is situated on reclaimed land. In addition, the proposed alignments are located on major roads and footpaths with extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Shan King Estate *(382833/BV/TMS/F014-F016)*	No archaeological potential	The area is in general rocky with thin soil bed. All of the proposed alignments are located on major roads with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
Tsing Shan Tsuen *(382833/BV/TMS/F017-F020)*	No archaeological potential	The development of Tune Mun New Town since the 1970s had changed the landscape around Tsing Shan Tsuen. The land to the east of Tsing Shan Tsuen was reclaimed during the development of Tune Mun New Town in the 1970s. Extensive burial area is located in the western part of the village along the hill slopes. The proposed alignments are located on existing paths or steep slopes.	No further action
Lung Mun Oasis *(382833/BV/TMS/F009A, F010A, F011, F012A, F013, F042A, F043A)*	Very low archaeological potential	Although this study area is situated in close proximity to Shek Kok Tsui Archaeological Site, the proposed alignments are either situated on fill over wet area or along major roads with extensive disturbance from previous utilities/ road works. In addition, no cultural layers or archaeological materials were identified in previous archaeological investigation carried out in nearby area in 1998 (Zhongshan University 1998)	No further action
Tuen Mun Kau Hui *(382833/BV/TMS/F006A –F009A, S006)*	No archaeological potential	The area has been heavily modified since the development of Tune Mun New Town. The proposed alignments are situated on reclaimed land.	No further action
Lung Kwu Tan			
Butterfly Bay and Hung Lau *(382833/BV/LKT/F020A-F026A)*	Very low archaeological potential	Although this study area is situated in close proximity to Shek Kok Tsui Archaeological Site, the area has been heavily modified since the development of Tune Mun New Town (***Figure 80***). The original coastline and raised beach deposits located at Butterfly Beach and near Wu Shan Recreation Playground were built upon and are mostly covered by fill. The proposed alignments are mostly located along major roads such as Lung Mun Road, Tuen Tsing Lane and Wu Shan Road with extensive disturbance from previous utility groundworks or road construction/ maintenance works. Previous archaeological investigation in	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		the form of test pitting was carried out in Hung Lau, Wu Shan Recreation Playground and nearby area in 1998. No archaeological findings were recorded (Zhongshan University 1998).	
Siu Lang Shui *(382833/BV/LKT/F010-F015 & F016A-F019A)*	No archaeological potential	The original coastline in southern Tuen Mun has been heavily modified with a series of reclamation. A landfill is located at Siu Lang Shui/ Pillar Point area. The proposed alignment is situated along major roads with extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action
Tap Shek Kok (382833/BV/LKT/F006-F010)	No archaeological potential	The original coastline in southern Tuen Mun has been heavily modified with a series of reclamation. A power station and coal depot were constructed at Tap Shek Kok. The proposed alignments are situated along Lung Mun Road with extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action
Lung Tsai *(382833/BV/LKT/F003-F005)*	Some archaeological potential	Previous archaeological investigation (including a series of rescue excavations) confirmed that Lung Kwu Tan Archaeological Site contained abundant prehistoric remains.	Archaeological watching brief during the construction phase (Figure 81a); As Lung Kwu Tan is an important archaeological site, a qualified archaeologist should take a full coverage approach (instead of selective and sampling approach) to monitor the excavation work within the extent of the watching brief. A watching brief proposal prepared by the qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
			alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Sha Po Kong *(382833/BV/LKT/F003)*	Some archaeological potential	Previous archaeological investigation (including a series of rescue excavations) confirmed that Lung Kwu Tan Archaeological Site contained abundant prehistoric remains.	Archaeological watching brief during the construction phase (Figure 81b); As Lung Kwu Tan is an important archaeological site, a qualified archaeologist should take a full coverage approach (instead of selective and sampling approach) to monitor the excavation work within the extent of the watching brief. A watching brief proposal prepared by the qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Pak Long & Nam Long *(382833/BV/LKT/F001-F003)*	Some archaeological potential	Previous archaeological investigation (including a series of rescue excavations) confirmed that Lung Kwu Tan Archaeological Site contained abundant prehistoric remains.	Archaeological watching brief during the construction phase (Figures 81b & c); As Lung Kwu Tan is an important

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
			archaeological site, a qualified archaeologist should take a full coverage approach (instead of selective and sampling approach) to monitor the excavation work within the extent of the watching brief. A watching brief proposal prepared by the qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Tuen Mun North			
Fu Tei Sheung Tsuen *(382833/BV/TMN/F067A, F071A, F072A, F073 & F074; 382833/BV/TMS/S002)*	No archaeological potential	The area is in general very rocky with thin soil bed. Some of the alignments are located along roads with extensive disturbance from previous utility groundworks or road construction/ maintenance works. Most of the alignments are located along very steep slopes.	No further action
Tune Mun River Channel *(382833/BV/TMN/F051, F058A, F066, F067A, F068 & F069A; 382833/BV/TMS/S001)*	No archaeological potential	The area is largely situated on fill over former wet area. The proposed alignments are located along Tune Mun Road or causeway/ cycle tracks along Tune Mun River Channel.	No further action
Fu Tei Ha Tsuen *(382833/BV/TMN/F060 & F061)*	Some archaeological potential	This study area is largely situated within the boundary of Fu Tei Ha Archaeological Site. Eastern part of the site was investigated for the Deep Bay	Archaeological watching brief during the construction phase

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		Link project in 2001. The area where archaeological deposits were originally discovered was found to have been severely disturbed between the time of its original identification and the survey for the Deep Bay Link project. A test pit was undertaken to determine if any archaeological remains survived. The result confirmed that the site had been totally destroyed, with no archaeological material or cultural layers and the profiles of auger tests and face cuts showed only sterile deposits under the surface or disturbed layer. A stone tool was also collected near a river to the south of the archaeological site (HKIA 2001). The current alignment is mainly located along abandoned fields or village footpaths in the western part of the site with no previous testing. A small section of the alignment is situated next to the nullah/stream without archaeological potential.	(area without disturbance from previous sewerage groundworks) (Figure 82) A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Lam Tei Quarry *(382833/BV/TMN/F040 A, F041A, F042-F046 & F054A)*	No archaeological potential	Most of the alignments are situated along very steep slopes, steeps, access road, adjacent to streams/ existing pipelines, or within the existing fresh water reservoir compound.	No further action
To Yuen Wai *(382833/BV/TMN/F051 & F052)*	Low archaeological potential	The village is currently occupied mostly by new/ rebuilt village houses. The alignments are located along village footpaths with disturbance from previous utility groundworks. The area is also characterised as a low-lying flood plain subject to overland flow and periodic or regular inundation.	No further action
Fuk Hang Tsuen *(382833/BV/TMN/F029, F038, F039, F040A, F053 & F054A)*	No archaeological potential	This study area was investigated in 2001 for the Deep Bay Link Project. No significant archaeological findings were identified (HKIA 2001). The proposed alignments are located along village access road or footpaths with extensive disturbance from utilities (including sewerage pipes) or road works, especially the alignments located along Fuk Hang Tsuen Road and the sections located next to Yuen Long Highway and Deep Bay Link.	No further action
Tsoi Yuen Tsuen	Low archaeological	Although this study area is situated in close proximity to Nai Wai	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
(382833/BV/TMN/F030, F031, F039 & F040A)	potential	Archaeological Site, the southern edge of this study area was extensively disturbed by the Deep Bay Link project. In addition, the proposed alignments are located along village access road or footpaths with some disturbance from utilities.	
Nai Wai & Sun Fung Wai *(382833/BV/TMN/F021 & F030)*	Some archaeological potential	This study area is situated within the boundary of Nai Wai Archaeological Site. The proposed alignments will be largely located on existing paths, with some disturbance from previous utility groundworks. A late Ming kiln was identified in the south-western part of the archaeological site in 2001 (AMO 2001). The kiln will not be directly affected by the proposed works. However, it is situated approximately 1m from the nearest alignment and may be indirectly affected by the proposed works. Areas located within the boundary of the archaeological site and without disturbance from previous utilities are recommended for archaeological watching brief during the construction phase. In addition, during the construction phase, a buffer zone should be set up for the kiln. The location of the kiln and preliminary areas requiring watching brief are highlighted in Figure 83. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information. Mitigation for the historic kiln will be required as follows; During the Construction Phase a buffer zone minimum of 1 metre or as large as site restrictions allow) should be set up and no groundworks should be allowed within this buffer zone.
Sun Fung Wai New Village *(382833/BV/TMN/F013, F014 & F022A, F023A)*	Low archaeological potential	Although this study area is situated in close proximity to Nai Wai Archaeological Site, the proposed alignments are largely located on existing paths with disturbance from previous utility groundworks, especially along Shun Tak Street. Some alignments are situated next to a nullah.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Chung Uk Tsuen and Tan Kwai Tsuen *(382833/BV/TMN/F001, F002A, F003 – F005, F008 – F010, F014, F015A & F016)*	No archaeological potential	Although this study area is located in close proximity to the Nai Wai Archaeological Site, there is extensive disturbance by previous utility groundworks, especially along major roads (e.g. Castle Peak Road). In addition, previous archaeological investigation carried out in this area indicated negative findings (Zhongshan University 1998).	No further action
Kei Lun Wai *(382833/BV/TMN/F065 A)*	Some archaeological potential	This study area is situated within the boundary of Kei Lun Wai Archaeological Site. The proposed alignments are located on existing paths, with some disturbance from previous utility groundworks. Areas located within the boundary of the archaeological site and without disturbance from previous utilities are recommended for archaeological watching brief during the construction phase. The preliminary areas requiring watching brief are highlighted in Figure 84a. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Siu Hang Tsuen and Po Tong Ha *(382833/BV/TMN/F047, F048, F055, F056, F062 & F063, F064)*	Some archaeological potential	This study area is partially situated within the boundary of Siu Hang Tsuen Archaeological Site. The proposed alignments are located on existing paths, with some disturbance from previous utility groundworks. Areas located within the boundary of the archaeological site and without disturbance from previous utilities are recommended for archaeological watching brief during the construction phase. The preliminary areas requiring watching brief are highlighted in Figures 84b & c. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-	Archaeological watching brief during the construction phase A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		date information regarding utilities disturbance (especially that from proposed sewerage works).	watching brief, proposed frequency of monitoring and other necessary information.
Tsz Tin Tsuen *(382833/BV/TMN/F033, F034, F048, F049 & F057)*	Some archaeological potential	The south-eastern part of this study area is situated within the boundary of Kei Lun Wai Archaeological Site. The north-eastern part of this study area is characterised as a low-lying flood plain subject to overland flow and periodic or regular inundation. This was confirmed by the 1998 investigation, which high water table was recorded (Zhungshan University 1998). The 1998 Territory-wide survey (including 2 test pit excavations and 10 auger hole tests) revealed that no archaeological deposits were present (Zhungshan University 1998). An archaeological impact assessment carried out in 2000 along the nullah identified some Song to Ming surface finds, however, no cultural layer was recorded (HKIA 2000). The proposed alignments are located on existing paths, with some disturbance from previous utility groundworks. It is noted that an archaeological investigation located within the current study area will be commenced in the near future under another project. No archaeological watching brief will be therefore required if the current proposed works are scheduled after the complete of the latter arcaehological investigation.	No further action
San Hing Tsuen *(382833/BV/TMN/F035, F036, F050 & F051)*	Some archaeological potential	The western part of this study area is situated within the boundary of San Hing Tsuen Archaeological Site. As well, San Hing Tsuen is a traditional historical village, with some potential for historical deposits. Some alignments are located along access roads and footpaths with some disturbance from previous utility groundworks. Areas located within the boundary of the archaeological site and without disturbance from previous utilities are recommended for archaeological	Archaeological watching brief during the construction phase A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence.

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		watching brief during the construction phase. The preliminary areas requiring watching brief are highlighted in Figures 84e & f. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Chung Shan *(382833/BV/TMN/F017, F024 – F026, F033 – F035)*	Very low archaeological potential	Although the eastern edge of this study area is situated along the boundary of San Hing Tsuen Archaeological Site, the alignments are located along access road with disturbance from previous utility groundworks and road construction/ maintenance works. The western part of this study area is very rocky and steep.	No further action
Tuen Tsz Wai *(382833/BV/TMN/ F027, F028, F036, F037, F050 & F051)*	Some archaeological potential	This study area is partially situated within the boundary of Tuen Tsz Wai Archaeological Site. It is believed that Tuen Tsz Wai is the oldest village established by the To Clan in Tuen Mun and is said to have a history of over 700 years (Liu 2003). Most of the proposed alignments are located along major roads (e.g. Castle Peak Road) with disturbance from utilities or road construction/ maintenance works. Areas located within the boundary of the archaeological site and without disturbance from previous utilities are recommended for archaeological watching brief during the construction phase. The preliminary areas requiring watching brief are highlighted in Figure 84g. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Tsing Chuen Wai *(382833/BV/TMN/F011, F012, F018 – F020 & F028)*	Some archaeological potential	This study area is partially situated within the boundary of Tsing Chuen Wai Archaeological Site. Archaeological materials dated to the Ming Dynasty were recovered in previous testing in the north of the main village (Zhong Shan University 1998). Tsing Chuen Wai is	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		said to be established not later than Ming Dynasty (Horizon 2003). The proposed alignments are located along footpaths with some disturbance from utilities groundworks (including the alignment located within the boundary of the archaeological site). Some of the alignments are located in areas which have been extensively disturbed by the Deep Bay Link project.	
Yick Yuen Tsuen *(382833/BV/TMN/F006, F007, F012, F013, F020 & F021)*	No archaeological potential	Previous investigation carried out in this modern village revealed no archaeological findings (Zhongshan University 1998). Proposed sewer alignments are located on existing footpaths with extensive disturbance from previous utility groundworks. Some alignments are located next to the railway alignment.	No further action
Ping Shan Coastline and tidal inlets of Deep Bay used to reach all the way to Ha Tsuen (***Figure 85*** – 1898 map).			
Tin Sam *(382833/BV/PS/F013, F014, F016 & F017)*	Low archaeological potential	Previous archaeological investigation in the form of auger hole testing was carried out in an area located to the west of Tin Sam. No archaeological material was found (AAL 1999). The proposed alignments are located along major road (Tin Ha Road), village footpaths or railway alignment with extensive disturbance from previous utility groundworks or construction/ maintenance works.	No further action
San Lee Uk Tsuen *(382833/BV/PS/F014, F015)*	No archaeological potential	The proposed alignments are situated on existing footpaths with disturbance from previous utility groundworks. In addition, previous testing in San Lee Uk Tsuen area indicated a wet sterile alluvial sequence and a seasonal water table level of 60cm below the surface. No archaeological material was found (AAL 1999).	No further action
San Sang Tsuen and San Sang San Tsuen *(382833/BV/PS/F007 – F F012)*	Low archaeological potential	This study area was investigated in 1999 and 2001. Fieldwalking and auger hole testing results revealed no significant findings (AAL 1999, HKIA 2001). The proposed alignments are located along footpaths with some disturbance from utilities.	No further action
Ha Tsuen *(382833/BV/PS/F005A*	Low archaeological potential	Although Ha Tsuen is a historical village, the proposed alignments are all located along village paths or adjacent to major road with extensive disturbance from	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
& F006, F008)		previous utility groundworks. Previous archaeological testing was carried out in the western part of San Uk Tsuen. Archaeological material dated to Ming and Qing periods were recovered but they were probably secondary deposits (HKIA 2002).	
Tung Tau Tsuen *Tung Tau Tsuen* *(382833/BV/PS/F001, F003A & F004)*	No archaeological potential	Although this study area is located next to Tung Tau Tsuen Archaeological Site, the proposed alignments are located on reclaimed land, across existing nullah, or along filled ponds.	No further action
Sha Chau Lei *(382833/BV/PS/F018)*	No archaeological potential	This modern village is located next to former streams in an area characterised as a low-lying flood plain subject to overland flow and periodic or regular inundation.	No further action
Shek Po Tsuen *(382833/BV/PS/F019)*	Low archaeological potential	Although Shek Po Tsuen is a historical village, all of the proposed alignments are situated along the narrow footpaths within the village. There is extensive disturbance from utility groundworks.	No further action
Kiu Tau Wai and Hung Uk Tsuen *(382833/BV/PS/F020-F024 & F025A)*	Low archaeological potential	Although both villages are historical villages, the northern end of this study area is situated on fill over former wet area with no archaeological potential. Alignments located along the eastern end of this study area are running along former streams (now as canalised nullah). The rest of the alignments are located along narrow village footpaths with Kiu Tau Wai and Hung Uk Tsuen, with extensive disturbance from utility groundworks.	No further action
Fui Sha Wai *(382833/BV/PS/F026A & F027)*	Low archaeological potential	Although Fui Sha Wai is a historical village, all of the proposed alignments are situated along the narrow footpaths within the village. There is extensive disturbance from utility groundworks.	No further action
Castle Peak Road (Hung Shui Kiu – Ping Shan) *(382833/BV/PS/F025A, F026A, F028A – F033A)*	No archaeological potential	The proposed alignments are located along major road (Castle Peak Road) with extensive disturbance from previous utility groundworks and road construction/ maintenance works. Some areas are situated on fill over former wet area.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Yuen Long Coastline and tidal inlets of Deep Bay used to reach all the way to Yuen Long Kau Hui (***Figure 85*** – 1898 map).			
Wang Chau *(382833/BV/YL/F001A-F008A, F009 – F011, S001 – S008)*	No archaeological potential	Most of these alignments are situated on fill over former wet areas and the proposed alignments are located along major roads with extensive disturbance.	No further action
Shan Pui and Yuen Long Kau Hui *(382833/BV/YL/F013, F014, F015A, F016 & F017A-F019A)*	No archaeological potential	Most of these areas are situated on fill over former wet areas and the proposed alignments are located along major roads with extensive disturbance.	No further action
Yuen Long Town Centre *(382833/BV/YL/F011, F012A, F021A, F022A, F029A)*	No archaeological potential	The proposed alignments are situated on fill over former wet areas.	No further action
Sheung Yau Tin *(382833/BV/YL/F037 & F038)*	No archaeological potential	The proposed alignments are located along major roads or in close proximity to nullah and highway.	No further action
Kong Tau Tsuen *(382833/BV/YL/F038 – F040 & F041A)*	Low archaeological potential	The nearby identified archaeological deposits (Yuen Leng Archaeological Site) are located on a small hillock to the south-east of this study area. The proposed alignments are located along footpaths with disturbance from utilities. Some of the alignments are located along a nullah or streams.	No further action
Au Tau *(382833/BV/YL/F020, F031A-F036A, F042 & F053A-F055A)*	No archaeological potential	Most of the proposed alignments are located along major roads or village footpaths with extensive disturbance from utility groundworks or road construction/ maintenance works. Some of the alignments are situated at steep slopes and within the footprint of existing service reservoir.	No further action
Shung Shan San Tsuen *(382833/BV/YL/F043-F052)*	No archaeological potential	The area is in general very hilly and rocky. Some of the alignments are situated along very steep lower hill slopes.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Kam Tin & Pat Heung South			
Kam Sheung Road *(382833/BV/KPS/F001-F003, F004A, F005A & F015-F021)*	No archaeological potential	Although this study area is situated in close proximity to Shui Lau Tin and Lin Fa Tei archaeological sites, the proposed alignment is situated within the footprint of Kam Sheung Road with extensive disturbance from utility groundworks, road construction and maintenance works.	No further action
Pipeline between Shek Kong and Tai Wo *(382833/BV/KPS/F013 – F014, F020, F022 – F027)*	No archaeological potential	The proposed alignments are located along an existing pipe line running between Shek Kong and Tai Wo. Part of the alignment runs across nullah or steep slopes.	No further action
Kam Tin Road (382833/BV/KPS/F008 & F009)	No archaeological potential	Although this study area is situated in close proximity to Shui Lau Tin and Lin Fa Tei archaeological sites, the proposed alignment is situated within the footprint of Kam Tin Road with extensive disturbance from utility groundworks, road construction and maintenance works.	No further action
Wang Toi Shan *(382833/BV/KPS/F006, F007, F010 – F013)*	Low archaeological potential	The area in general is evaluated as having some archaeological potential. Several archaeological sites of similar topographical and geological settings were identified in nearby areas in Kam Tin/ Pat Heung. In addition, there is the potential of historic deposits associated with the Tang clan historical villages located in Wang Toi Shan. No previous archaeological testing was carried out in this area. Having said that, all of the proposed alignments are located along existing pipe lines. In addition, one alignment located at Wang Toi Shan Shan Tsuen is above ground and some others are located adjacent to nullah/ streams or Kam Tin Road/ Fan Kam Road with no archaeological potential.	No further action
Pat Heung Sheung Tsuen	Low archaeological potential	Although this study area is located within the boundary of Pat Heung Sheung Tsuen Archaeological Site, all of the proposed alignments are located along the footprint of Kam Tin Road with extensive disturbance from previous utility groundworks or road construction/ maintenance works.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Kam Tin & Pat Heung North			
Fan Kam Road *(382833/BV/KPN/F001 – F009)*	No archaeological potential	The area is in general very hilly. The proposed alignments are located along or adjacent to Fan Kam Road. Some of the alignments are located along an existing pipline or next to streams/nullah.	No further action
Kwu Tung			
Kwu Tung South *(382833/BV/KTG/F001, F003, F005 & F007)*	No archaeological potential	The northern part of this study area was severely disturbed by site formation (***Figure 86*** – Google Earth 2009). The rest of the alignments are located next to the canalised River Beas or along existing footpaths with disturbance from utilities.	No further action
Ngau Tei *(382833/BV/KTG/F002, F004 & F006)*	No archaeological potential	The proposed alignments are mainly located along major access road (Hang Tau Road) and adjacent area. Hang Tau Road was investigated in 2002 prior to its improvement and widening work. No archaeological features or cultural layers but some sherds dated to Song and Qing dynasties were identified from the field scan, auger hole testing and test pitting (ERM 2002).	No further action
Hang Tau Tai Po *(382833/BV/KTG/F005, F006)*	Very low archaeological potential	This study area is situated next to the canalised River Beas. The proposed alignments are located along major access road and village paths with disturbance from utilities.	No further action
Hang Tau *(382833/BV/KTG/F008 – F010)*	Low archaeological potential	This study area is mostly occupied by new village houses. The proposed alignments are located along village paths with disturbance from utilities or next to existing ponds.	No further action
Fan Kam Road *(382833/BV/KTG/F011 – F017)*	No archaeological potential	The proposed alignments are either located along major road (Fan Kam Road) with extensive disturbance from previous utility groundworks and road construction/ maintenance works or located along existing pipelines. Some of the alignments are situated next to a river (Tam Shui Hang).	No further action
Fanling			
Kiu Tau *(382833/BV/FL/F040 – F042)*	No archaeological potential	The proposed alignments are located along major roads (such as Fanling Highway) with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		Some of the alignments are located next to railway alignments.	
Tong Hang *(382833/BV/FL/F030 – F032, F034A, F035 & F038 – F039)*	No archaeological potential	The proposed alignments are located along major roads with extensive disturbance from previous utility groundworks and road construction/ maintenance works. Some of the alignments are located along existing pipelines or within the footprints of a service reservoir compound constructed on steep hill slopes.	No further action
Wo Hop Shek Village *(382833/BV/FL/F030 – F033, F034A, F035A, F036, F037 & F038A)*	No archaeological potential	The proposed alignments are mostly located along Wo Hing road or village footpaths with extensive disturbance from previous utility groundworks (including sewerage pipes) or road construction/ maintenance works.	No further action
On Lok Tsuen and Fanling Hong Lok Park *(382833/BV/FL/F023, F025 – F029)*	No archaeological potential	The proposed alignments are located along major roads with extensive disturbance from utility groundworks and road construction/ maintenance works. Some of the alignments are located within a park, with disturbance from site formation work associated with the construction of the park. As well, some of the alignments are located on fill over former wet area.	No further action
Fan Leng Lau *(382833/BV/FL/F024 – F029)*	Very low archaeological potential	Although Fan Leng Lau is a historical village, the study area is entirely built-upon and some area is situated on fill. The proposed alignments are located adjacent to major road (Jockey Club Road), village access road or along narrow village footpaths with extensive disturbance from utility groundworks (including sewerage pipes) or road construction/ maintenance works. In 2001, an archaeological investigation including field scan and auger tesing was carried out on a small hillock located near the village. Blue-and-white porcelain sherds and tiles dated to Ming/Qing period, as well as a possibly Ming/Qing cultural layer were identified (HKIA 2002). According to the AMO, a subsequent archaeological watching brief was undertaken within the village area during the construction phase of a sewerage project. No significant finds were identified.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Fanling Highway (between Fanling Wai and Tong Hang) *(382833/BV/FL/F022, F023, F028, F033)*	No archaeological potential	The proposed alignments are situated on fill along major road (Fanling Highway) and next to railway alignments.	No further action
Luen Wo Hui *(382833/BV/FL/F006 – F008)*	No archaeological potential	The proposed alignments are located along major road with extensive disturbance from utilities and road works.	No further action
Shek Wu Hui *Shek Wu Hui* *(382833/BV/FL/F001 – F005, F012 & F020 – F021)*	No archaeological potential	The proposed alignments are situated on fill over former wet area.	No further action
Yin Kong *(382833/BV/FL/F009A)*	Low archaeological potential	An archaeological investigation (fieldscan, auger hole testing and test pitting) was carried out in Yin Kong in 2001. Archaeological material from Tang to Qing periods was collected from the fieldscan. Two pieces of Song celadon sherds and some Qing dynasty sherds were also recovered from the two test pit excavations. The report suggested that no ancient human occupation was situated in this area but the recent village established since mid-Qing (ERM 2002).	No further action
Castle Peak Road – Kwu Tung Section *(382833/BV/FL/F09A – F011A, F043A – F046A)*	No archaeological potential	The proposed alignments are located along major road (Castle Peak Road) with extensive disturbance from utility groundworks and road construction/ maintenance works.	No further action
Fan Kam Road *(382833/BV/FL/F013A, F014 – F019)*	No archaeological potential	The proposed alignments are located along major road (Fan Kam Road) or adjacent areas with extensive disturbance from utility groundworks and road construction/ maintenance works. Some of the alignments are located along existing pipelines within the Hong Kong Golf Club.	No further action
Sheung Shui			
Man Kam To	Very low archaeological	The northern alignments are located between Muk Wu Pumping Station and a	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
(382833/BV/SS/F001 – F004)	potential	stream; The rest of the alignments are located along Man Kam To Road or adjacent areas next to existing pipe lines. Some of the alignments run across an existing nullah.	
Sandy Ridge Cemetery and SW of Sha Ling *(382833/BV/SS/F005 – F012)*	No archaeological potential	The proposed alignments are mainly located along Lo Wo Station Road, Sha Ling Road, Man Kam To Road and adjacent areas with disturbance from utilities or road works. Most of the alignments are located along existing pipe lines. Some of the alignments run across existing nullah, next to ponds, or along steep slopes. Parts of the alignments are situated within the footprints of Sheung Shui Treatment Plant.	No further action
Man Kam To Road and Cheung Po Tau *(382833/BV/SS/F011A, F019A, F024A, F025, F026A, F027A, F028A)*	No archaeological potential	The proposed fresh water mains alignments are located along Man Kam To Road and adjacent areas with disturbance from utilities or road works, or along steep slopes of Cheung Po Tau.	No further action
River Indus and River Sublej *(382833/BV/SS/F012 – F019A)*	No archaeological potential	Most of the alignments are located next to/ across the canalised rivers. Some of the alignments are situated on fill or along major road/ existing pipe lines with disturbance from utilities or road works.	No further action
Sheung Shui Wa Shan *(382833/BV/SS/F020 – F022)*	Very low archaeological potential	Although the study are is situated in the vicinity of Sheung Shui Wa Shan Archaeological Site (c.580m north of the archaeological site), the area is mainly situated on floodplain near River Indus or in rocky areas.	No further action
North of Sheung Shui Heung *(382833/BV/SS/F023A)*	Very low archaeological potential	The proposed alignments are located in close proximity to the canalised River Indus. In addition, the area is classified as floodplain subject to overland flow and regular inundation.	No further action

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
Sha Tau Kok ***Figure 87*** shows the geological map of this study area.			
Hung Leng & Wang Leng *(382833/BV/STK/F016A – F019A)*	Low archaeological potential	Although this study area is partially situated within the boundary of Hung Leng Archaeological Site, previous archaeological investigations carried out in this area all revealed negative findings (Shenzhen Museum 1998, ERM 2002). In addition, most of the proposed are located along major road (Ping Che Road) with extensive disturbance from previous utilities or road works.	No further action
Man Uk Pin *(382833/BV/STK/F013 & F014A)*	Some archaeological potential	Man Uk Pin is a historical village with the potential for historical deposits. Limited disturbance from utility works were recorded in this area (only limited information is available at this stage regarding previous utility works). The preliminary areas requiring watching brief are highlighted in Figure 88a. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase (areas without disturbance from previous groundworks) A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Sheung Wo Hang *(382833/BV/STK/F012A)*	Some archaeological potential	Sheung Wo Hang is a historical village with the potential for historical deposits. It was said that this village was established in the 1680s (North District Board 1994). Limited disturbance from utility works were recorded in this area. The preliminary areas requiring watching brief are highlighted in Figure 88b. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief	Archaeological watching brief during the construction phase (areas without disturbance from previous groundworks) A watching brief proposal prepared by a qualified

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Wo Tong Kong *(382833/BV/STK/F011)*	Some archaeological potential	This study area is situated in close proximity to Sha Tau Kok Shek Kiu Tau Archaeological Site and near Wo Hang Tai Long, where Bronze Age material was collected in previous fieldscan (Shenzhen Museum 1998). Limited information from archaeological testing of this area is available and there is no disturbance from previous utility groundworks. The preliminary areas requiring watching brief are highlighted in Figure 88c. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase (areas without disturbance from previous groundworks) A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Lap Wo Tsuen *(382833/BV/STK/F009 - F010A)*	Some archaeological potential	This study area is located within the boundary of Sha Tau Kok Shek Kiu Tau Archaeological Site with known archaeological potential. Prehistoric and Song-Ming pottery were identified in the two archaeological investigations carried out in nearby areas in 2001 (AMO 2001). Some of the proposed alignments are	Archaeological watching brief during the construction phase (areas without disturbance from previous groundworks)

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
		located along village footpaths with disturbance from utilities. The preliminary areas requiring watching brief are highlighted in Figure 88d. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Pak Hok Lam *(382833/BV/STK/F010A)*	Low archaeological potential	This study area is situated within the boundary of Sha Tau Kok Shek Kiu Tau Archaeological Site with known archaeological potential. As well, Yim Tso Ha is an historical village with the potential for historical deposits. Pok Tau Ha Old Lime Kiln was located on a small island to the immediate south-east of Yim Tso Ha. However, the area is located in a relatively low-lying coastal location, no further action is recommended.	No further action
Shek Chung Au *(382833/BV/STK/F008A)*	No archaeological potential	The proposed alignments are located along Sha Tau Kok Road and adjacent access road with extensive disturbance from previous utility groundworks and road construction/ maintenance works.	No further action
Tong To Ping Tsuen and Tong To *(382833/BV/STK/F006 & F007)*	Low archaeological potential	These villages are situated in a hilly area. Although Tong To is historical villages, all of the proposed sewer alignments are located on existing concrete footpaths with extensive disturbance (especially the alignment located along Sha Tau Kok Road). In addition, no cultural layers or archaeological materials were identified in previous archaeological testing (three auger hole tests were conducted in Tong To by the Shenzhen Museum team for the 1998 Territory-wide survey) (Shenzhen Museum 1998).	No further action
San Tsuen	Some archaeological	This study area is located within the boundary of Sha Tau Kok San Tsuen	Archaeological watching brief

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
(382833/BV/STK/F005)	potential	Archaeological Site with known archaeological potential. However, the alignment located along Sha Tau Kok Road has been extensively disturbed by previous utility groundworks and road construction/ maintenance works. The preliminary areas requiring watching brief are highlighted in Figure 88e. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	during the construction phase (areas without disturbance from previous groundworks) A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary information.
Tam Shui Hang *(382833/BV/STK/F003A & F004)*	Some archaeological potential	The alignment located along Sha Tau Kok Road has been extensively disturbed by previous utility groundworks and road construction/ maintenance works. However, some of the proposed alignments are situated on terraced alluvium with limited disturbance from previous utility groundworks. Tam Shui Hang is also an historical village with the potential for historical deposits. Limited information from archaeological testing of this area is available (one auger hole was conducted in Ha Tam Shui Hang in 1998 during the Territory-wide survey and no cultural layers or archaeological materials were identified) (Shenzhen Museum 1998). The preliminary areas requiring watching brief are highlighted in Figure 88f. It should be noted that the final scope will need to be updated prior to the commencement of such watching brief work in order .to reflect the most up-to-date information regarding utilities disturbance (especially that from proposed sewerage works).	Archaeological watching brief during the construction phase (areas without disturbance from previous groundworks) A watching brief proposal prepared by a qualified archaeologist shall be submitted to AMO for agreement prior to applying for excavation licence. The proposal should include the latest project area and alignments, further review to refine the exact scope of watching brief, proposed frequency of monitoring and other necessary

Areas of impact	Archaeological Potential	Assessment of Potential	Recommendations
			information.
Tsoi Yuen Kok and Yim Liu Ha *(382833/BV/STK/F001A & F002)*	No archaeological potential	This study area is mostly located on fill over former wet area. Previous investigation in Tsoi Yuen Kok revealed that the area was severely disturbed by site formation work (Shenzhen Museum 1998).	No further action

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