

Agreement No. SP 05/2012 Environmental Audit for Sewerage Works at Pik Shui Sun Tsuen

Monthly Environmental Audit Report No. 37 –
December 2016

January 2017

20/F AIA Kowloon Tower
Landmark East
100 How Ming Street
Kwun Tong
Kowloon
Hong Kong

T +852 2828 5757
F +852 2827 1823
mottmac.hk



Agreement No. SP 05/2012 Environmental Audit for Sewerage Works at Pik Shui Sun Tsuen

Monthly Environmental Audit Report No. 37 –
December 2016

January 2017

**Pursuant to Condition 2.2 of Environmental Permit No. EP-435/
2011/A, this Monthly Environmental Audit Report has been
reviewed and certified by the Independent Checker (IC)**

Certified by:



Gary Chow

Independent Checker

Mott MacDonald Hong Kong Limited

Date

15 January 2017



Contents

| | |
|--|----------|
| Executive summary | 1 |
| 1 Environmental Status during the reporting month | 2 |
| 1.1 Construction Programme | 2 |
| 1.2 Key Issues for the reporting month | 2 |
| 1.3 Project Organisation | 2 |
| 1.4 Environmental Mitigation Measures – Implementation Status | 2 |
| 2 Environmental Site Inspection | 3 |
| 2.1 Site Inspection | 3 |
| 2.2 Advice on the Solid and Liquid Waste Management Status | 3 |
| 2.3 Status of Environmental Licenses and Permits | 3 |
| 3 Report on Complaints, Notifications of Summons and Successful Prosecutions | 5 |
| 3.1 Record on Environmental Complaints Received | 5 |
| 3.2 Record on Notifications of Summons and Successful Prosecution | 5 |
| 3.3 Review of Reasons for and Implications of Non-compliance, Complaints, Summons and Prosecutions | 5 |
| 3.4 Follow-up Actions Taken | 5 |
| 4 Future Key Issues | 6 |
| 4.1 Major Site Works for the Coming Month(s) | 6 |
| 4.2 Key Issues for the Coming Month | 6 |
| 5 Conclusion and Recommendation | 7 |
| 5.1 Conclusion | 7 |
| 5.2 Recommendations | 7 |

Appendices

- A. Tentative Construction Programme
- B. Project Organization
- C. Environmental Mitigation Measures – Implementation Status



D. Waste Flow Table

E. Cumulative Statistics on Complaints, Notifications, of Summons and Successful Prosecutions



Executive summary

On 3 May 2013, Mott MacDonald Hong Kong Limited (MMHK) was commissioned by the Drainage Services Department (DSD) under Agreement No. SP 05/2012 to undertake the Independent Checker (IC) services for the Sewerage Works at Pik Shui Sun Tsuen (The Project).

The Environmental Permit (EP) No. EP- 435/2011 for the “Sewerage Works at Pik Shui Sun Tsuen” was granted by the Environmental Protection Department (EPD) on 20 December 2011. The construction works was carried out Welcome Construction Co Ltd. (the Contractor), commenced on 26 August 2013.

In accordance with Section 5.1 and 5.3 of the Brief for the Project and Condition 2.2 of the EP, a Monthly Environmental Audit Report shall be prepared and submitted at monthly intervals to confirm in writing the full implementation of the mitigation measures recommended in the Project Profile (PP) (Register No. PP- 454/ 2011) during and upon completion of the construction works.

When construction of the sewerage works at Pik Shui Sun Tsuen commenced, objections from the local residents were encountered. Therefore, the sewerage works were temporarily suspended. DSD arranged meetings with the local residents and tried to resolve the objections. However, there were still majority amongst the local residents showing their objections to the proposed works in a meeting held on 18 January 2014. In March 2014, DSD and the client office SIG of EPD decided to curtail the proposed sewerage works at Pik Shui Sun Tsuen from the construction contract.

Regarding the sewerage work on University Road, some sewer alignments were revised subject to actual condition. Therefore, DSD submitted the application for variation of environmental permit for the sewerage works at Pik Shui Sun Tsuen to EPD on 16 July 2014 and the amended Environmental Permit (No. EP-435/2011/A) was issued by EPD to DSD on 29 July 2014.

This is the 37th Monthly Environmental Audit Report covering the period from 1 December 2016 and 31 December 2016 (the reporting month).



1 Environmental Status during the reporting month

1.1 Construction Programme

The construction work programme of the Project is provided in [Appendix A](#). A layout plan of the Project is provided in Figure 1.1.

1.2 Key Issues for the reporting month

- Pipe laying works at the verge of the footpath of University Road.

1.3 Project Organisation

The organisation chart and lines of communication with respect to the on-site environmental management structure together with the contact information of the key personnel are shown in [Appendix B](#).

1.4 Environmental Mitigation Measures – Implementation Status

The environmental site audit was conducted on 15 December 2016 during this reporting month. The checklist of implementation status of the environmental mitigation measures is provided in [Appendix C](#).



2 Environmental Site Inspection

2.1 Site Inspection

The environmental site audit was conducted on 15 December 2016 during this reporting month. All observations have been recorded in the site inspection checklist and passed to the Contractor together with the appropriate recommended mitigation measures where necessary. The key observations from site inspection and associated recommendations are summarized in **Table 2-1**.

Table 2-1: Summary of Site Inspections and Recommendations

| Inspection date | Key Observations and Recommendations (Date) | Close-out (Date) |
|-----------------|---|-----------------------|
| 23 Nov 16 | Tree protection zone has been setup however the construction material should not be laid on tree protection zone | Closed (15 Dec 16) |
| 23 Nov 16 | Opening was observed on the drip tray. The contractor shall ensure any opening of the drip tray is sealed to avoid any leakage. | Closed (15 Dec 16) |
| 15 Dec 16 | The contractor shall provide tree protection zone for the retained tree. | On-going |
| 15 Dec 16 | The contractor was reminded to provide spill kit (e.g. oil absorbent) on site for emergency use. (Reminder) | On-going |

2.2 Advice on the Solid and Liquid Waste Management Status

The Contractor has been applied for a bill account for disposal. No waste was disposed of in this reporting month.

The waste flow table is present in [Appendix D](#).

2.3 Status of Environmental Licenses and Permits

The environmental permits, licenses, and/or notifications on environmental protection for this Project which were valid during the period is summarised in **Table 2-2**.

Table 2-2: Status of Environmental Submissions, Licenses and Permits

| Statutory Reference | Description | Permit /Reference No. | Status |
|---------------------|--|-----------------------|--------|
| EIAO | Environmental Permit | EP- 435/2011 | Valid |
| APCO | Notification of Construction Work under APCO | 355015 | Valid |
| WPCO | Discharge License | WT00016437-2013 | Valid |
| | Discharge License | WT00016957-2013 | Valid |
| WDO | Bill Account for disposal | 7016760 | Valid |

Legend: EIAO – Environmental Impact Assessment Ordinance
APCO – Air Pollution Control Ordinance
WPCO – Water Pollution Control Ordinance



WDO – Waste Disposal Ordinance



3 Report on Complaints, Notifications of Summons and Successful Prosecutions

3.1 Record on Environmental Complaints Received

No environmental complaint was received this month. The cumulative statistics on complaints were provided in [Appendix E](#).

3.2 Record on Notifications of Summons and Successful Prosecution

No notifications of summons or successful prosecution were received this month. The cumulative statistics on notifications of summons and successful prosecutions were provided in [Appendix E](#).

3.3 Review of Reasons for and Implications of Non-compliance, Complaints, Summons and Prosecutions

Not applicable.

3.4 Follow-up Actions Taken

Not applicable.



4 Future Key Issues

4.1 Major Site Works for the Coming Month(s)

The major site works scheduled to be commissioned in the coming month include:

- Pipe laying works and construction of manholes at the verge of the footpath of University Road

4.2 Key Issues for the Coming Month

- Generation of dust from construction and demolition works;
- Noise impact from operating equipment and machinery on-site;
- Generation of site surface runoffs and wastewater from activities on-site;
- Management of stockpiles and slopes, particularly on rainy days;
- Sorting, recycling, storage and disposal of general refuse and construction waste; and
- Management of chemicals and avoidance of oil spillage on-site.



5 Conclusion and Recommendation

5.1 Conclusion

Site audit was conducted on 15 December 2016. Recommendations on remedial actions were given to the Contractors for the deficiencies identified during the site audit.

No complaint, notification of summons and prosecution was received in the reporting month.

5.2 Recommendations

The Contractor was reminded to maintain noise, air quality, water quality and waste management mitigation measures and also continuously implements all environmental mitigation measures in accordance with the PP.



Appendices

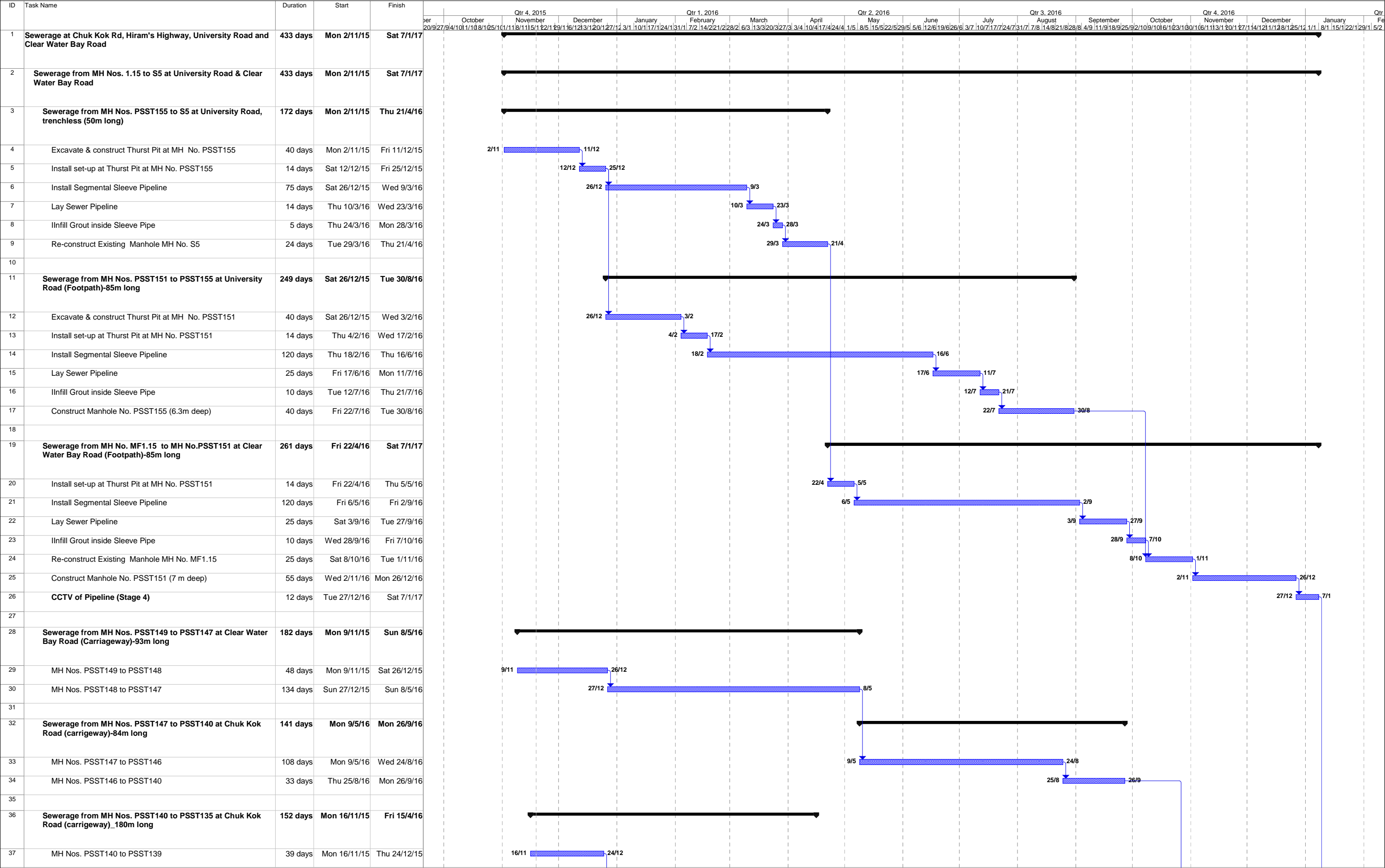
- A. Tentative Construction Programme
- B. Project Organization
- C. Environmental Mitigation Measures – Implementation Status
- D. Waste Flow Table
- E. Cumulative Statistics on Complaints, Notifications, of Summons and Successful Prosecutions



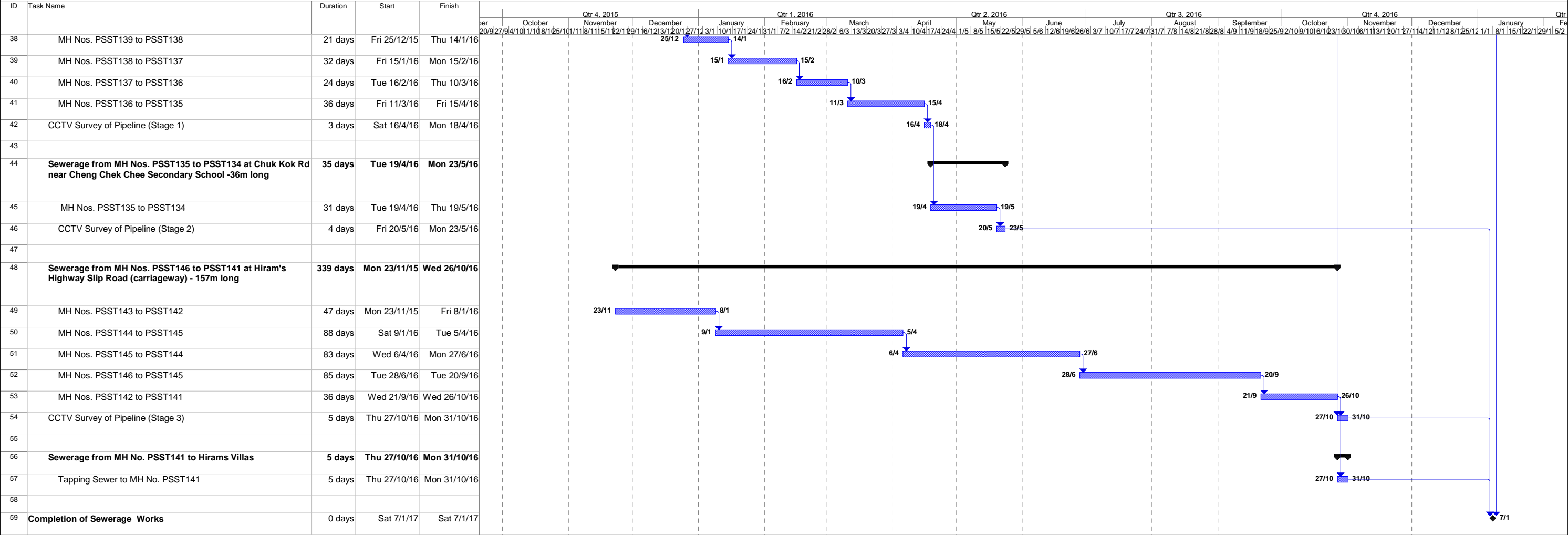
A. Tentative Construction Programme



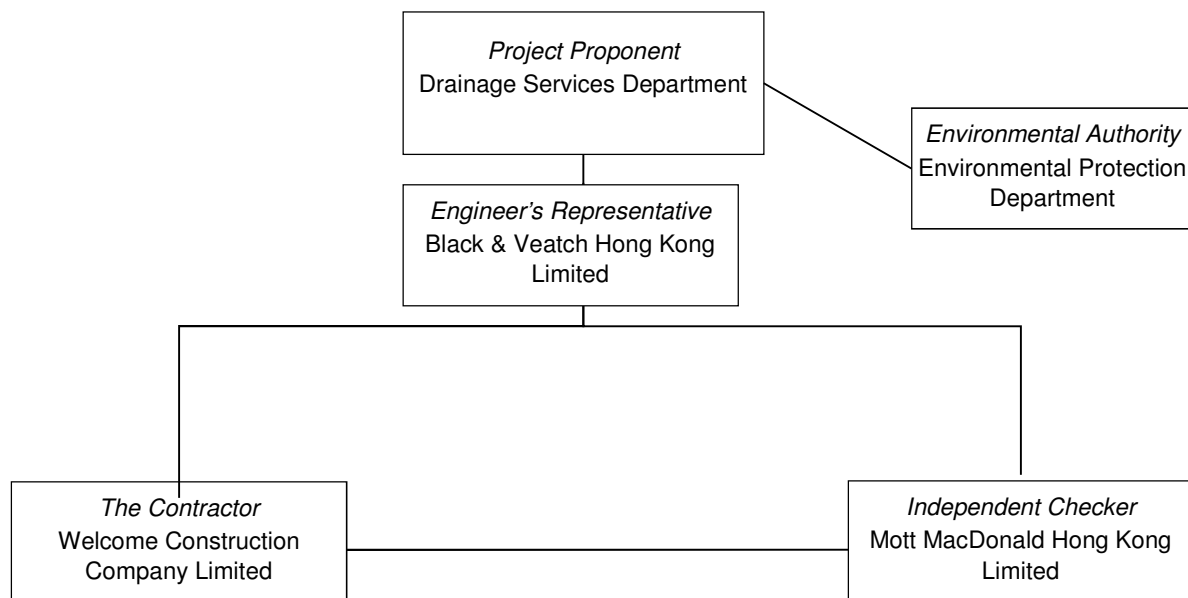
Welcome Constuction Co Ltd.
Contract No. DC/2012/06
Sewerage at Clear Water Bay Road, Pik Shui Sun Tsuen and West of Sai Kung Town
Detailed Program for Sewage Works at Clear Water Bay Road, University Road, Chuk Kok Road & Hiram's Highway (Rev. 3)



Welcome Constuction Co Ltd.
Contract No. DC/2012/06
Sewerage at Clear Water Bay Road, Pik Shui Sun Tsuen and West of Sai Kung Town
Detailed Program for Sewage Works at Clear Water Bay Road, University Road, Chuk Kok Road & Hiram's Highway (Rev. 3)



B. Project Organization



| Company / Department | Position | Name | Telephone / mobile |
|--------------------------------------|---------------------------|----------------|--------------------|
| Drainage Services Department | Project Proponent | Mr Justin Wan | 2594 7581 |
| Black & Veatch Hong Kong Limited | Engineer's Representative | Mr Eugene Chan | 6075 8606 |
| Mott MacDonald Hong Kong Ltd. | Independent Checker | Mr Gary Chow | 2828 5874 |
| Welcome Construction Company Limited | Site Agent | Mr Frankie Lui | 60217973 |
| Welcome Construction Company Limited | Environmental Officer | Legend Lam | 27998137 |



C. Environmental Mitigation Measures – Implementation Status

Table C1: Construction Noise – Recommended Mitigation Measures

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|--|-----------------------|
| *5.2.6 | <ul style="list-style-type: none"> Only well-maintained plant should be operated on-site and plant should be serviced regularly during the construction works. | ✓ |
| | <ul style="list-style-type: none"> Machines and plant that may be in intermittent use should be shut down between work periods or should be throttled down to a minimum. | ✓ |
| | <ul style="list-style-type: none"> Plant known to emit noise strongly in one direction, should, where possible, be orientated to direct noise away from nearby NSRs. | ✓ |
| | <ul style="list-style-type: none"> Silencers or mufflers on construction equipment should be utilised and should be properly maintained during the construction works. | ✓ |
| | <ul style="list-style-type: none"> Mobile plant should be sited as far away from NSRs as possible. | ✓ |
| *5.2.2, 5.2.6 | <ul style="list-style-type: none"> Use of temporary noise barrier, mobile barrier | N/A |
| *5.2.6 | <ul style="list-style-type: none"> Material stockpiles and other structures should be effectively utilised, where practicable, to screen noise from on-site construction activities | ✓ |
| *5.2.6 | <ul style="list-style-type: none"> Noisy construction activities such as road breaking, should be scheduled to less sensitive hours during the day | N/A |
| *5.2.6 | <ul style="list-style-type: none"> Liaise with the affected noise sensitive receivers on the anticipated construction activities, possible impacts, expected duration and communication channel with the project office. | N/A |
| *5.2.1, *Table 6.1 | <ul style="list-style-type: none"> Adoption of quiet powered mechanical equipment (QPME) during construction | ✓ |
| *5.2.4, ^2.3 | <ul style="list-style-type: none"> For the sewer works located less than 15 m away from Cheng Chek Chee Secondary School, construction works can only be conducted after school hours or during school breaks. For the sewer works located between 15 m – 30 m away from the School, the contractor should liaise with the school and/or the Examination Authority to ascertain the exact dates and times of all examination periods and to avoid noisy construction activities during these periods. | N/A |

Table C2: Air Quality – Recommended Mitigation Measures

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|--|-----------------------|
| *5.2.8, ^1.2 | <ul style="list-style-type: none"> Comply with the control measures in the Air Pollution Control (Construction dust) Ordinance. | ✓ |
| *5.2.8 | <ul style="list-style-type: none"> Excavated dusty materials should be covered by impervious sheeting or sprayed with water to keep the entire surface wet. | ✓ |
| *5.2.8 | <ul style="list-style-type: none"> Use of regular watering, with complete coverage, to reduce dust emissions from exposed site surfaces and unpaved roads, particularly during dry weather. | ✓ |



Table C3: Water Quality – Recommended Mitigation Measures

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|---|-----------------------|
| *5.2.10, | <ul style="list-style-type: none"> Follow the guidelines in ProPECC PN 1/94 "Construction Site Drainage". | ✓ |
| * Table 6.1 | <ul style="list-style-type: none"> Silt removal facilities should be provided according to the guidelines stipulated in EPD's ProPECC PN 1/94. Cover open stockpiles of construction materials with tarpaulin or similar fabric during rainstorms. | N/A ✓ |
| ProPECC PN 1/94 | <ul style="list-style-type: none"> Water to be pumped out from trenches or foundation excavations shall be discharged into storm drains via silt removal facilities. | ✓ |
| ProPECC PN 1/94 | <ul style="list-style-type: none"> Wash-water should have sand and silt settled out and removed at least on a weekly basis to ensure efficiency of process. | ✓ |
| ProPECC PN 1/94 | <ul style="list-style-type: none"> Oils and fuels should be stored in designated areas, and the fuel tanks and storage areas should have locks and be sited on sealed areas, within bunds of a capacity equal to 110% of the storage capacity of the largest tank. | ✓ |

Table C4: Waste Management – Recommended Mitigation Measures

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|---|-----------------------|
| *5.2.12, | <ul style="list-style-type: none"> Sort all C&D materials and waste into different categories for reuse on site, recycling and disposal at designated public fill reception facilities or landfills. | N/A |
| *Table 6.1 | <ul style="list-style-type: none"> C&D material and excavated materials should be reused on-site as fill material as far as possible. Disposal of C&D materials should be managed through the trip ticket system for disposal of C&D materials. | ✓ ✓ |
| *5.2.12 | <ul style="list-style-type: none"> All Chemical waste should be handled, stored and disposed of in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. | ✓ |

Table C5: Landscape and Visual Impact – Recommended Mitigation Measures

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|--|----------------------------------|
| *5.2.14, | <ul style="list-style-type: none"> Retain and protect existing trees near works site. | ✓ |
| *Table 6.2 | <ul style="list-style-type: none"> Erect site hoarding compatible with the surrounding environment for the pumping station works area Maintain site cleanliness and tidiness in accordance with the requirements stipulated in DEVB TCW No. 8/2010. Properly manage construction waste in the works area. Minimize the number and size of temporary works area. Promptly reinstate each section of the trench upon completion of the sewer works. Control of night-time security lightning to minimize night-time glare to nearby village. | N/A ✓ ✓ ✓ N/A N/A |



Table C6: Others

| * PP / ^ EP ref: | Recommended measures | Implementation Status |
|---------------------|--|-----------------------|
| ^1.5 | <ul style="list-style-type: none"> A copy of the valid Environmental Permit shall be displayed conspicuously on the Project site(s) at all vehicular site entrances/exits or at a convenient location for public information at all times. The most updated information about the Permit, including any amended Permit, shall be displayed at such locations. If the Permit Holder surrenders a part or whole of the Permit, the notice he send to the Director shall also be displayed at the same locations as the original Permit. The suspended, varied or cancelled Permit shall be removed from display at the Project site(s). | ✓ |
| n/a | <ul style="list-style-type: none"> The required licenses should be obtained by the Contractor (including CNP (if any), WPCO license, etc.) | ✓ |
| Legend: | <ul style="list-style-type: none"> ✓ Implemented x Not implemented P Partially implemented N/A Not applicable N/O Not observed | |



D. Waste Flow Table

Contract No.: DC/ 2012/06

Monthly Summary Waste Flow Table for December 2016

| Month | Actual Quantities of Inert C&D Materials Generated Monthly | | | | | | Actual Quantities of C&D Wastes Generated Monthly | | | | |
|-----------|--|-------------------------------------|------------------------|--------------------------|-------------------------|---------------|---|----------------------------|-----------------------|----------------|-----------------------------|
| | Total Quantity Generated | Hard Rock and Large Broken Concrete | Reused in the Contract | Reused in other Projects | Disposed as Public Fill | Imported Fill | Metals | Paper/ cardboard packaging | Plastics (see Note 3) | Chemical Waste | Others, e.g. general refuse |
| | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000m³) | (in '000 kg) | (in '000kg) | (in '000kg) | (in '000kg) | (in '000m³) |
| Yr 2013 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Yr 2014 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Yr 2015 | 0.032 | 0.000 | 0.000 | 0.000 | 0.032 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 |
| Jan | 0.100 | 0.000 | 0.000 | 0.000 | 0.100 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Feb | 0.081 | 0.000 | 0.000 | 0.000 | 0.081 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Mar | 0.109 | 0.000 | 0.000 | 0.000 | 0.109 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Apr | 0.077 | 0.000 | 0.000 | 0.000 | 0.077 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| May | 0.047 | 0.000 | 0.000 | 0.000 | 0.047 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Jun | 0.037 | 0.000 | 0.000 | 0.000 | 0.037 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Sub-total | 0.451 | 0.000 | 0.000 | 0.000 | 0.451 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.006 |
| July | 0.074 | 0.000 | 0.000 | 0.000 | 0.074 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Aug | 0.097 | 0.000 | 0.000 | 0.000 | 0.097 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Sep | 0.019 | 0.000 | 0.000 | 0.000 | 0.019 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Oct | 0.010 | 0.000 | 0.000 | 0.000 | 0.010 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Nov | 0.006 | 0.000 | 0.000 | 0.000 | 0.006 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| Dec | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.001 |
| total | 0.657 | 0.000 | 0.000 | 0.000 | 0.657 | 0.000 | 0.000 | 0.000 | 0.000 | 0.000 | 0.012 |

E. Cumulative Statistics on Complaints, Notifications, of Summons and Successful Prosecutions

Cumulative statistics for complaints, notifications of summons and successful prosecutions for the Project account for period starting from the date of commencement of construction works (i.e. 26 August 2013) to the end of the reporting month and are summarized in the **Table E1** below.

Table E1: Statistics for complaints, notifications of summons and successful prosecutions

| Reporting Period | Cumulative Statistics | | |
|---|-----------------------|--------------------------|-------------------------|
| | Complaints | Notifications of Summons | Successful Prosecutions |
| This reporting period | 0 | 0 | 0 |
| From 26 August 2013 to end of the reporting month | 0 | 0 | 0 |



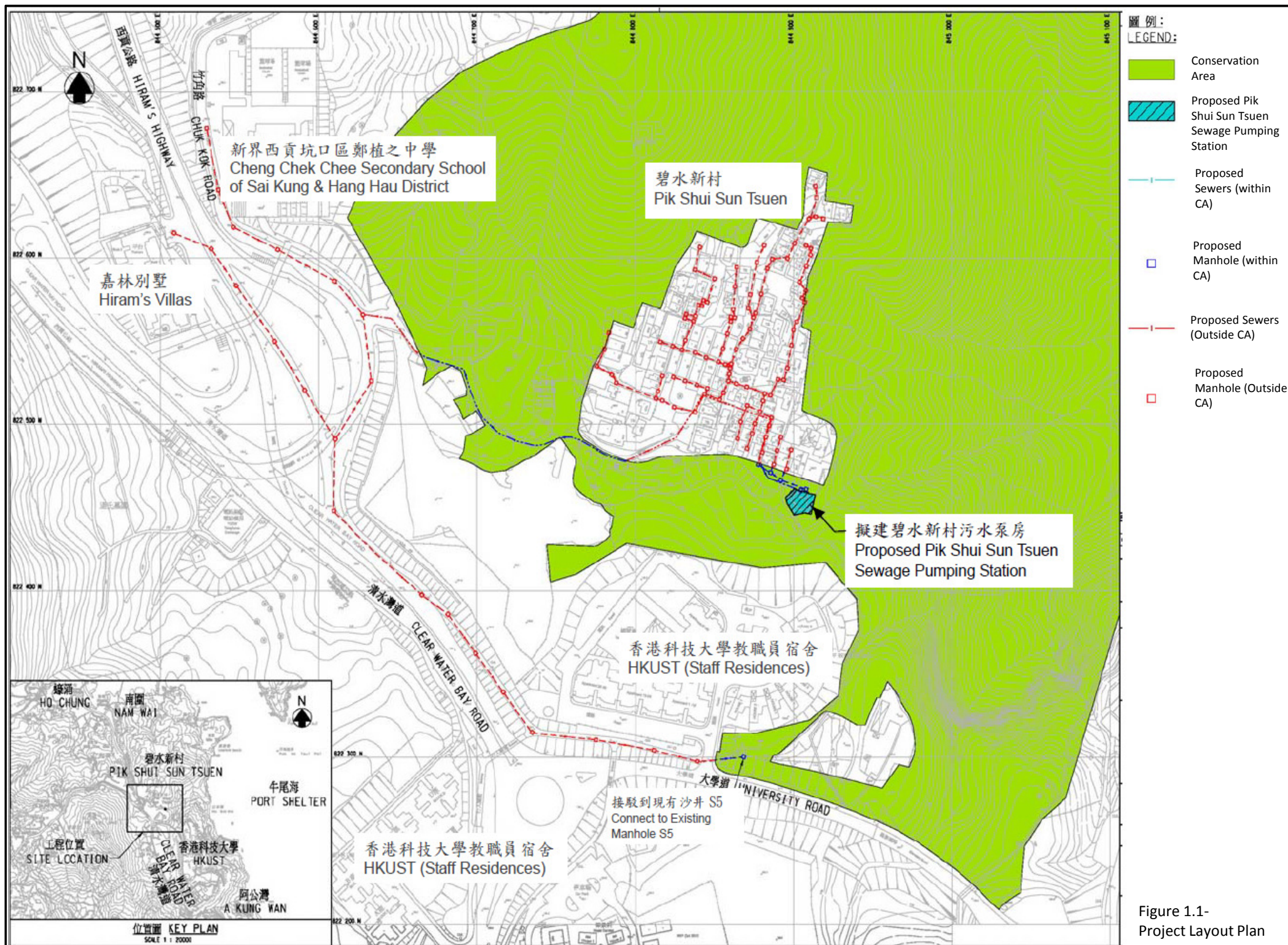


Figure 1.1-
Project Layout Plan