

Permanent Aviation Fuel Facility (EP-262/2007/B)

Twenty-Ninth Monthly Environmental Monitoring and Audit Report – March 2009

17 April 2009

Environmental Resources Management

21/F Lincoln House
Taikoo Place, 979 King's Road
Island East, Hong Kong
Telephone 2271 3000
Facsimile 2723 5660

www.erm.com



Permanent Aviation Fuel Facility (EP-262/2007/B)
Twenty-Ninth Monthly Environmental Monitoring and Audit Report – March 2009


14 April 2009

Prepared by: Karen Lui/Craig A Reid

Document Code: 0018105_EM&AR_Mar 08_v0.doc

For and on behalf of
Environmental Resources Management

Approved by: Craig A Reid

Signed: 

Position: Environmental Team Leader

Date: 17 April 2009

This report has been prepared by Environmental Resources Management the trading name of 'ERM Hong-Kong, Limited', with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporating our General Terms and Conditions of Business and taking account of the resources devoted to it by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at their own risk.

CONTENTS

	EXECUTIVE SUMMARY	I
1	INTRODUCTION	1
1.1	PURPOSE OF THE REPORT	1
2	ENVIRONMENTAL STATUS	2
2.1	PROJECT AREA	2
2.2	ENVIRONMENTAL SENSITIVE RECEIVERS	2
2.3	MAJOR CONSTRUCTION ACTIVITIES	2
2.4	MONITORING SCHEDULE OF THE REPORTING MONTH	2
2.5	STATUS OF ENVIRONMENTAL APPROVAL DOCUMENTS	3
2.6	COMMUNITY LIAISON GROUP MEETING	5
2.7	SUMMARY OF NON-COMPLIANCE WITH THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS	5
2.8	SUMMARY OF ENVIRONMENTAL COMPLAINTS	5
2.9	SUMMARY OF ENVIRONMENTAL SUMMONS	6
3	ENVIRONMENTAL ISSUES AND ACTIONS	7
3.1	PREVIOUS ENVIRONMENTAL DEFICIENCIES AND FOLLOW-UP ACTIONS	7
3.2	IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS	8
4	ENVIRONMENTAL MONITORING	9
4.1	AIR AND NOISE	9
4.2	WATER QUALITY	9
4.3	POPS MONITORING	9
4.4	WASTE MANAGEMENT	9
4.5	CULTURAL HERITAGE	9
4.6	LANDSCAPE AND VISUAL	9
4.7	LAND CONTAMINATION, HAZARD TO LIFE AND FUEL SPILL RISK	9
4.8	ECOLOGY	10
4.9	EM&A MANUAL	10
4.10	BASELINE WATER QUALITY MONITORING	10
5	FUTURE KEY ISSUES	11
5.1	KEY ISSUES FOR THE NEXT MONTH	11
5.2	IMPACT PREDICTION FOR THE NEXT MONTH	11
5.3	WORKS AND MONITORING SCHEDULE FOR THE NEXT MONTH	11

LIST OF TABLES

Table 2.1	Summary of Works Undertaken During the Reporting Period
Table 2.2	Cumulative Quantity of Excavated Marine Sediments

Table 2.3 *Summary of Environmental Licensing, Notification and Permit Status*

LIST OF ANNEXES

- Annex A Project Location
- Annex B Water Quality and Ecological Sensitive Receivers
- Annex C Cumulative Complaints Statistics
- Annex D Implementation Programme of Mitigation Measures

EXECUTIVE SUMMARY

The construction works for the Permanent Aviation Fuel Facility resumed on 9 July 2007. This **twenty-ninth** monthly Environmental Monitoring and Audit (EM&A) report presents the EM&A work carried out during the period from **1 March to 31 March 2009** in accordance with the *EM&A Manual*.

Breaches of all Action and Limit Levels

No water quality monitoring was conducted (due to no dredging work) during the reporting period that required comparison against Action and Limit Levels.

Complaint Log

No environmental complaints were received during the reporting period.

Notifications of any Summons and Successful Prosecutions

No environmental summons or prosecutions were received in this reporting period.

Reporting Changes

There was no reporting changes in the reporting period.

Future Key Issues

- Dust release and suppression; and,
- Installation of subsea pipelines.

Leighton Contractors (Asia) Limited (LCAL) has appointed ERM-Hong Kong, Limited (ERM) as the Environmental Team (ET) to implement the Environmental Monitoring and Audit (EM&A) programme for the Permanent Aviation Fuel Facility (the Project) during construction works.

The construction works for PAFF commenced in November 2005 based upon the previous EIA (*EIAO Register Number AEIAR-062-2002*) conducted and the Environmental Permit *EP-139/2002* granted on the 28th August 2002. Due to minor changes to the detailed layout of the site and the site boundary, application for Variation to the Environmental Permit (VEP) (*VEP-133/2004*) was submitted to the Director of Environmental Protection (DEP) for approval. The variation to the EP (*EP-139/2002/A*) was granted by the EPD in February 2004.

The decision by the EPD to grant the above Environmental Permit was, however, subject to a Judicial Review. The Judicial Review sided in the favour of the DEP, as did the subsequent Judgement from the Court of Appeal from the High Court for Judicial Review in March 2005. However, the DEP's decision to grant the EP was quashed by the Judgement of the Court of Final Appeal of July 2006.

The construction works were stopped following the Judgement of the Court of Final Appeal of July 2006. As such, in order to continue with the construction of the project, the project went through the statutory procedures under the EIAO again with a new design in order to obtain an environmental permit. The revised EIA was submitted in 2007 and the environmental permit (*EP-262/2007*) was granted in May 2007. *EP-262/2007* has been amended to *EP-262/2007/A* and issued by the EPD on 30 November 2007. A further Variation to the Environmental Permit has been approved to allow dredging works to continue until March 2008. As such, *EP-262/2007/A* has been amended to *EP-262/2007/B* and issued by the EPD on 27 February 2008.

The construction works and EM&A requirements were resumed on 9th July 2007 following the latest requirements of the *EP-262/2007/B* and *EM&A Manual*. Details regarding the EM&A requirements and changes should refer to the updated *EM&A Manual*. For the marine works, all piling activities were completed before the previous suspension of construction works in 2006.

1.1

PURPOSE OF THE REPORT

This is the **twenty-ninth** EM&A Report which summarizes the monitoring results and audit findings for the EM&A programme during the reporting period from **1 March to 31 March 2009**.

2 ENVIRONMENTAL STATUS

2.1 PROJECT AREA

The project area is in Area 38 of Tuen Mun and the pipelines are located in Urmston Road between Tuen Mun Area 38 and Sha Chau. The site is illustrated in *Annex A*.

2.2 ENVIRONMENTAL SENSITIVE RECEIVERS

No air and noise sensitive receivers were identified close to the project area. However, water sensitive receivers and ecological sensitive receivers were identified in the EIA study, and are shown in *Annex B*.

2.3 MAJOR CONSTRUCTION ACTIVITIES

A summary of the major works undertaken in this reporting period is shown in *Table 2.1*. Marine dredging operations were completed on 23 January 2009. *Table 2.2* presents the cumulative quantity of excavated materials up to that date. Daily and cumulative dredging production rates are illustrated in *Figure 2.1*.

Table 2.1 Summary of Works Undertaken During the Reporting Period

Area	Works undertaken
Tuen Mun Area 38	Tank Farm, Roof Truss and Bund Wall Construction Permanent Drainage Construction Operational & Fire Services Buildings Construction Jetty Works (Non-piling)
Submarine Pipeline Route	Pipeline Installation Works from Jetty Area to Seawall at Tuen Mun Area 38

Table 2.2 Cumulative Quantity of Excavated Marine Sediments

Type of Excavated Materials	Cumulative Bulk Volume (m ³)
<i>From 17 December 2007 to 31 March 2008</i>	
Contaminated Mud	105,974
Uncontaminated Mud	97,815
<i>From 1 September 2008 to 23 January 2009</i>	
Contaminated Mud	0
Uncontaminated Mud	149,147

2.4 MONITORING SCHEDULE OF THE REPORTING MONTH

No water quality monitoring was conducted during the reporting period, hence presentation of the monitoring schedule is not applicable.

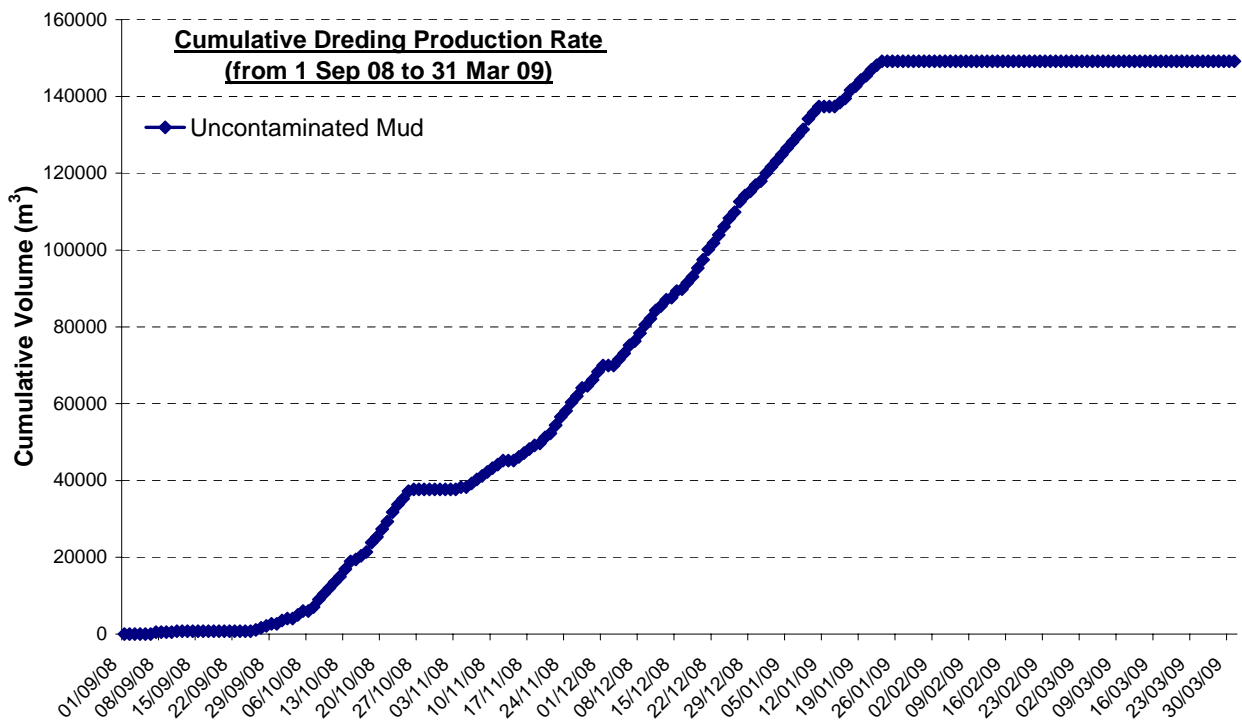
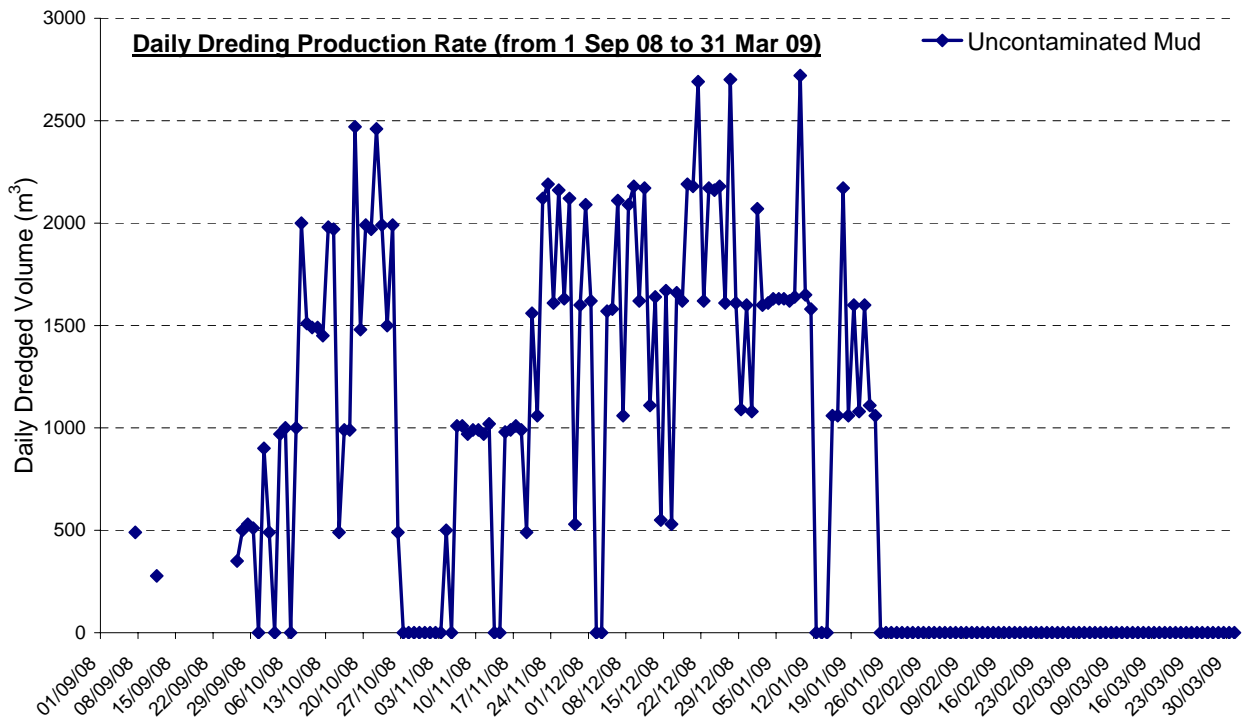


Figure 2.1 Daily and cumulative volumes (m³) of excavated materials from 1 September to 31 March 2009. Excavated materials contained uncontaminated mud only.



A summary of the relevant permits, licences, and/or notifications on environmental protection for this Project since July 2007 is presented in *Table 2.3*.

Table 2.3 Summary of Environmental Licensing, Notification and Permit Status

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
Environmental Permit	EP-262/2007/B	Throughout Project	Issued on 27 February 2008 (EP-262/2007/A on 30 November 2007, EP-262/2007 issued on 31 May 2007, EP-139/2002 originally granted on 28 August 2002 and EP-139/2002/A granted on 24 February 2004 were superseded)
Chemical Waste Producer Registration	WPN 5111-421-L2174-25	Throughout Project	Issued on 10 November 2005
Notification of Construction Works under Air Pollution Control (Construction Dust) Regulation	H2104/U1D/5542/DG/DH/PL	Throughout Project	Notification on 6 July 2007
Construction Noise Permit	GW-RW0676-07	21 December 2007 to 19 June 2008 (renewal application was in progress)	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans and generators
	GW-RW0677-07	21 December 2007 to 29 February 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0678-07	21 December 2007 to 18 June 2008	For marine jetty works including concrete pump derrick barges, hand-held grinders, generators, air compressors, boring machines, water pumps, tug boat, grout mixers and grout pumps

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	GW-RW0094-08	1 March to 31 March 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0312-08	04 July 2008 to 22 December 2008	For marine jetty works including concrete pump derrick barges, hand-held grinders, generators, air compressors, boring machines, water pumps, tug boat, grout mixers and grout pumps
	GW-RW0313-08	04 July 2008 to 19 December 2008	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans and generators
	GW-RW0373-08	1 August 2008 to 20 January 2009	For land-based works including air compressors, breakers, excavators, wheeled loaders, mobile cranes, concrete lorry mixers, hand-held pokers, bar benders/cutters, wood saws, grinders, submarine water pump, lorries with crane, dump trucks, rollers, ventilation fans, generators, stirrer, jet chisel, water jet machine and dehumidifier
	GW-RW0368-08	1 September to 30 November 2008	For marine dredging operation including grab dredger, tug boat, split hopper barge and motor sampan
	GW-RW0054-09	16 February 2009 to 5 August 2009	For land-based and marine works including passenger launch, winch, welding machine, grinder, generator, power pack, tug boat, crane, air compressor, roller, hoist and derrick barge
Marine Dumping Permit	EP/MD/08-064	13 December 2007 to 29 February 2008	For Type 1 - Open Sea Disposal

Permit/ Licenses/ Notification	Reference	Validity Period	Remarks
	EP/MD/08-065	13 December 2007 to 12 January 2008	For Type 1d & Type 2 marine disposal
	EP/MD/08-071	13 January 2008 to 12 February 2008	For Type 1d & Type 2 marine disposal
	EP/MD/08-090	3 March to 31 March 2008	For Type 1d & Type 2 marine disposal
	EP/MD/08-091	3 March to 31 March 2008	For Type 1 - Open Sea Disposal
	EP/MD/09-018	1 September to 30 September 2008	For Type 1d & Type 2 marine disposal
	EP/MD/09-032	1 October to 31 October 2008	For Type 1d & Type 2 marine disposal
	EP/MD/09-017	1 September to 30 November 2008	For Type 1 - Open Sea Disposal
	EP/MD/09-039	1 December 2008 to 31 January 2009	For Type 1 - Open Sea Disposal
Wastewater Discharge License	EP760/421/011399/1	15 March 2006 to 31 March 2011	Issued on 15 March 2006

2.6 COMMUNITY LIAISON GROUP MEETING

According to the EP requirements, a Community Liaison Group (CLG) shall be established within three months after commencement of construction of the Project. The major duty of the CLG is to advise on and monitor the proper design, construction and operation of the Project. The CLG comprises representatives from Airport Authority, members of Tuen Mun community and academics. During the reporting month, a meeting was organised by the CLG on 12 March 2009. The details of the CLG (including Membership and its Terms of Reference) can be found on the Project website (<http://www.paffhk.com>).

2.7 SUMMARY OF NON-COMPLIANCE WITH THE ENVIRONMENTAL QUALITY PERFORMANCE LIMITS

No environmental non-compliance was found during the reporting period.

2.8 SUMMARY OF ENVIRONMENTAL COMPLAINTS

No environmental complaints were received during the reporting period. A summary of environmental complaints since project commencement is presented in *Annex C*.

2.9

SUMMARY OF ENVIRONMENTAL SUMMONS

No summons was received in this reporting period. A summary of legal proceeding since project commencement is presented in *Annex C*.

3.1 PREVIOUS ENVIRONMENTAL DEFICIENCIES AND FOLLOW-UP ACTIONS

As no environmental complaint was received over the last reporting period, no follow-up action was required.

Site inspections were carried out by the ET on 4, 9, 16 and 26 March 2009. Overall, the site was in good orderly manner and no non-compliance was found. Environmental deficiencies and follow-up actions/mitigation measures were identified during the inspections, as follows:

Air Quality

- On 4 March 2009, the Contractor was reminded to water regularly on the unpaved areas as well as during sediment excavation to avoid dust generation.

Water Quality

- On 9 and 16 March 2009, stagnant water pools were observed inside chemical waste storage and around tank farm area. The Contractor was reminded to arrange *ad hoc* water clearance as necessary.
- On 26 March 2009, sediment plumes were observed in the seawall area near the operation building. The Contractor was reminded to clear sediment tanks and oil-water interceptor regularly to avoid runoff of turbid water.

Waste Management

- On 4, 16 and 26 March 2009, general and construction wastes such as wooden board were accumulated next to the temporary office without proper receptacle. The Contractor was reminded to replace bins for temporary storage as soon as possible.
- On 4 March 2009, one waste drum in the chemical waste storage was not labelled. The Contractor was recommended to label the containers with proper stickers with reference to the *Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes under the Waste Disposal Ordinance* (Cap. 354).
- On 4 March 2009, oil sheens were observed in the chemical storage areas. The Contractor was recommended to clear spillages and to provide suitable spillage control measures as soon as possible.
- On 9 March 2009, waste paper bin in the tank farm area was observed to be full. The Contractor was recommended to arrange collection of

general wastes by a licensed Contractor as soon as possible.

- On 26 March 2009, chemical and waste oil drums were found near operation building without secondary containment. The Contractor was reminded to replace drip trays as soon as possible.

With the exception of the above observations, the site was in a good orderly manner. The ET will keep track on the EM&A programme to ensure compliance of environmental requirements and the proper implementation of all necessary mitigation measures.

3.2

IMPLEMENTATION STATUS ON ENVIRONMENTAL PROTECTION REQUIREMENTS

The implementation status of environmental mitigation measures and requirements as stated in the *EIA Report, Environmental Permits* and *EM&A Manual* during the reporting period is summarized in *Annex D*.

4 ENVIRONMENTAL MONITORING

4.1 AIR AND NOISE

Air and Noise monitoring is not required for the project.

4.2 WATER QUALITY

No dredging activities were scheduled from 24 January 2009 onwards. Water quality monitoring was therefore not required for the reporting month.

4.3 POPs MONITORING

Persistent organic pollutants (POPs) monitoring was not required since there was no dredging operation during the reporting month.

4.4 WASTE MANAGEMENT

According to EP *Condition 3.3*, the Contractor's revised Waste Management Plan (Revision 5) (WMP), which has been certified by the ET and IEC, was submitted to the EPD on 5 November 2008.

4.5 CULTURAL HERITAGE

The *Watching Brief Report*, verified by the Independent Environmental Checker, was submitted to the EPD and AMO on 9 May 2008.

4.6 LANDSCAPE AND VISUAL

According to the *EIA report* and *EM&A Manual*, mitigation measures and site inspection are required during the landscaping/planting works. The berm/landscaping bund was rehabilitated by vegetation which was grown during the project suspension period.

The weekly site inspections included general audits on landscape and visual issues to ensure that the site was in orderly acceptable manner.

4.7 LAND CONTAMINATION, HAZARD TO LIFE AND FUEL SPILL RISK

The ET and IEC verified updated design audit plan was submitted to the EPD on 7 November 2007.

Weekly site inspection covered the waste management aspects which included measures to prevent land contamination by chemical wastes.

4.8 **ECOLOGY**

Dolphin Visual Monitoring

Dolphin visual monitoring was not required as no dredging works were scheduled for the reporting period.

4.9 **EM&A MANUAL**

The *EM&A Manual* for the Project has been updated by the ET to include the detailed arrangements of setting up a CLG, carrying out design audit, and monitoring of Persistent Organic Pollutants during construction of the Project. Further comments were received from the EPD on 16 January 2009 and the ET has revised the *Manual* which has been verified by the IEC on 27 March 2009.

4.10 **BASELINE WATER QUALITY MONITORING**

The *Final Baseline Monitoring Report* was submitted to the EPD on 20 February 2008 and placed under the EIAO register.

5 *FUTURE KEY ISSUES*

5.1 *KEY ISSUES FOR THE NEXT MONTH*

Key issue to be considered in the next month will be:

- Dust release and suppression; and,
- Installation of subsea pipelines.

5.2 *IMPACT PREDICTION FOR THE NEXT MONTH*

Provided that environmental mitigation measures including good on-site practises are properly implemented, it is not expected that unacceptable adverse impacts will arise.

5.3 *WORKS AND MONITORING SCHEDULE FOR THE NEXT MONTH*

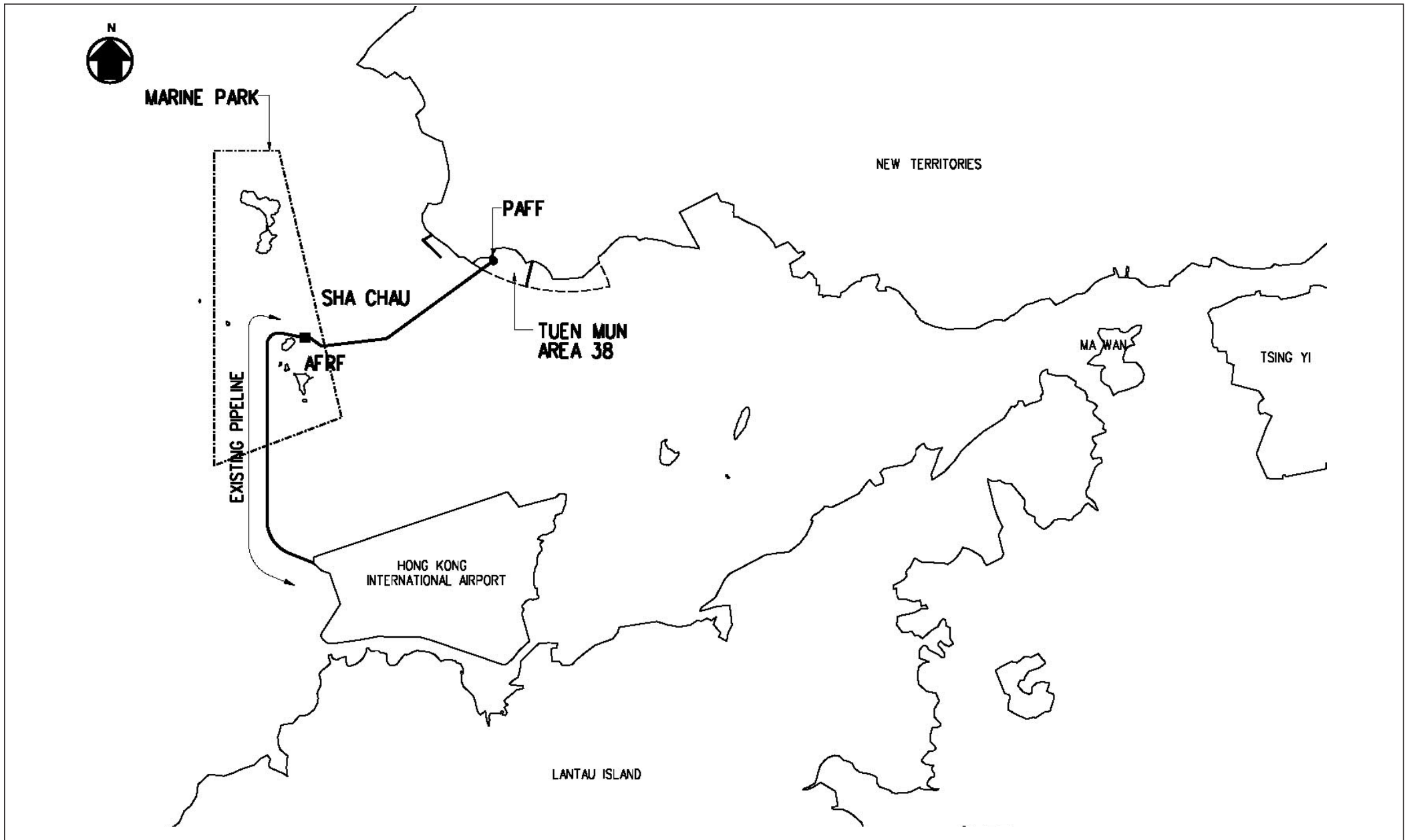
Work programme for the next month includes:

- pipeline installation works;
- jetty platform works (non-piling); and
- site works (construction works for tank farm, operational and fire services buildings, drainages, bund wall, security wall etc).

Weekly site inspections will be undertaken.

Annex A

Project Location



Annex A

Location of PAFF

FILE: 0018105bb1
DATE: 12/11/2007

Environmental
Resources
Management



Annex B

Water Quality Monitoring
Stations, Water Quality and
Ecological Sensitive
Receivers

