

1. Existing and Planned works for Improving Water Quality of NYMTTS

1.1 Collection of information

Relevant information on the odour issues and measures to improve the water quality of NYMTTS has been obtained from review of the following documents available from the internet:

- Review of West Kowloon and Tsuen Wan Sewerage Master Plans – Feasibility Study¹ (hereafter as “*EPD Feasibility Study, 2010*”);
- Official Record of Proceedings – the Legislative Council meeting on 15 December 2010² (hereafter as “*LegCo Record, 2010*”); and
- Environmental Impact Assessment (EIA) Report for Kai Tak Development³ (Register No.: AEIAR-130/2009), approved in March 2009 (hereafter as “*Kai Tak Development EIA*”).

In addition, the Government’s existing/planned improvement works for NYMTTS were also collected through recent communications with the following Government Departments:

- Environmental Protection Department (EPD) – Sewerage Infrastructure Group (SIG);
- Drainage Services Department (DSD);
- Marine Department (MD); and
- Civil Engineering and Development Department (CEDD) – Ports Work Division (PWD).

Copies of the correspondences from the above Government Departments are attached in **Appendix A**.

Based on the reviewed and collected information, the existing and planned improvement works are summarized below.

1.2 Existing works

1.2.1 Installation of Dry weather flow interceptors

Since 2004, the Government has installed six dry weather flow interceptors (DWFI) in the stormwater drainage system along the upstream area of NYMTTS (*LegCo Record, 2010*). These DWFI serve to intercept polluted flow in dry seasons and to convey the flow to the sewerage system for proper treatment.

¹ http://www.epd.gov.hk/epd/english/environmentinhk/water/study/rpts/twwk_final_rpt.html

² <http://www.legco.gov.hk/yr10-11/english/counmtg/hansard/cm1215-translate-e.pdf>

³ http://www.epd.gov.hk/eia/register/report/eiareport/eia_1572008/index.html

1.2.2 On-going inspection of private building sewers

Regular inspections are being conducted by EPD to identify any misconnections of private building sewers to stormwater drains resulting in the discharge of foul water into the NYMTTS, and measures are being taken to rectify the misconnections. Follow-up and enforcement actions have been stepped up by EPD jointly with the Buildings Department and with the assistance of District Offices to tackle the illegal connection and discharge cases (*LegCo Record, 2010*).

1.2.3 Regular desilting works

Starting from 2011, DSD has increased the desilting of the Cherry Street Box Culvert outlet from two times to three times per year, after completion of the *EPD Feasibility Study, 2010*. Besides, according to information provided by DSD (**Appendix A**), regular monitoring of silt levels within the box culverts that discharge into the NYMTTS is being conducted by DSD, and desilting works will be carried out by DSD when silt is accumulated beyond the threshold level.

1.2.4 Maintenance dredging

To ensure the safety of Yau Ma Tei Fairway, maintenance dredging of the seabed of NYMTTS is initiated by MD based on their regular hydrographic surveys, since siltation on the NYMTTS seabed also affects the safety of the fairway (*LegCo record, 2010*). The programme of maintenance dredging in the NYMTTS is advised by MD, while the PWD of CEDD carries out the maintenance dredging at the request of MD.

According to the information provided by CEDD (**Appendix A**), the PWD of CEDD has completed maintenance dredging of the north-eastern part of NYMTTS, near Cherry St Box Culvert between February and April 2011 at MD's request for navigation safety. About 26,000 m³ of sediment was dredged. Based on the reply from MD (**Appendix A**), no further maintenance dredging was planned for NYMTTS in 2011 and 2012.

1.3 Planned works

In the *EPD Feasibility Study, 2010*, the following short term and long term measures have been proposed to address the adequacy of the sewerage and pollution of the stormwater drainage system in West Kowloon:

Short Term

- Sewer upgrade;
- Rectification of identified expedient connections;
- Provision of odour removal system, as a pilot scheme at Cherry Street Box Culvert;
- Desilting of sediment at the box culverts;
- Provision of internal lining at sewer crossings;
- Provision of a DWFI at Austin Road West;
- Improvement of existing DWFI's;
- Provision of temporary sewage collection system for unsewered areas;

- Pilot scheme of the proposed DWFI at the outlet of the Cherry Street Box Culvert (located at the northern outfall of NYMTTS); and
- Pilot scheme of biofilm streamer system at DSD Container Port Road Maintenance Port of Cheung Sha Wan.

Long Term

- Replacement of 150mm diameter sewers to 225mm diameter sewers;
- Provision of sewers at unsewered areas; and
- Redevelopment of old residential areas.

The cost estimates of the proposed measures for West Kowloon are summarized as follows:

Sewer Improvement Works*	Capital Cost (HK\$ million)
• Sewer condition improvement works	0.9
• Sewer capacity improvement works	59.2
• Provision of internal lining at sewer crossings	6.7
Pollution Mitigation Measures	
• Improvement works to DWFIs with mechanical float valves	70.7
• Provision of Austin Road West DWFI	3.16
• DWFI at outlet of Cherry Street Box Culvert (NYMTTS) – Pilot Scheme	346
• Biofilm Streamer System Pilot Scheme	15.7
• Catalytic Activated Carbon (CAC) Odour Removal System at Cherry Street Box Culvert	12.9
Provision of Sewers at Unsewered Areas	
• West Kowloon	68.1

*Note: 150mm sewer replacement in West Kowloon is to be implemented alongside the West Kowloon redevelopment programme.

Source: EPD, 2010. *Review of West Kowloon and Tsuen Wan Sewerage Master Plans – Feasibility Study*

As reviewed in **Sections 1.2.2** and **1.2.3**, the above short term measures of rectifying any identified expedient connections and desilting of sediments at the box culverts upstream of NYMTTS have been in-progress.

Based on the information provided by the SIG of EPD and the recent update in May 2012 (**Appendix A**), the proposed works including the installation of a DWFI at Cherry Street Box Culvert and upgrading/improvement of the existing DWFIs upstream of the NYMTTS have been included in the Capital Works Resources Allocation Exercise (RAE) in 2012 for bidding funds and their programme for implementation is subject to the results of RAE.

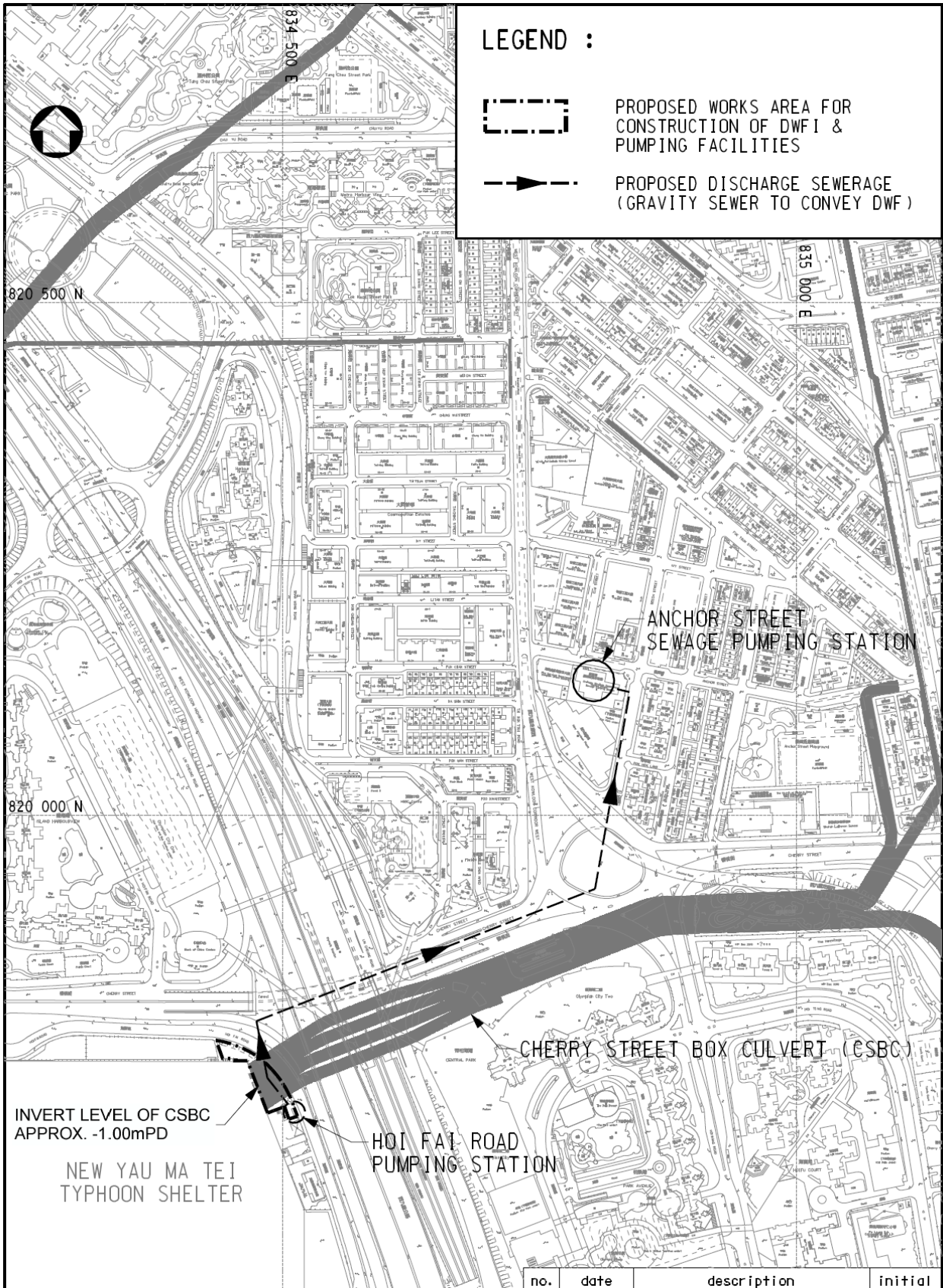
As one of the short term measures recommended in the *EPD Feasibility Study, 2010*, DSD has recently opened a tender, namely, “Agreement No. CE 1/2012 (DS) Construction of Dry Weather Flow Interceptor at Cherry Street Box Culvert and Other Works – Investigation, Design and Construction”, which involves

September 2012

P:\Hong Kong\INF\Projects2\255962 WKCD Development Plan\07 Documents\Environmental Working Folder\02 Deliverables\EIA Report\Appendices\Ch 3 Air\Draft submission - Apr 2013\Appendix 3.36\App 3.36.doc

constructing a new DWFI at the outlet of the Cherry Street Box Culvert as illustrated in **Figure 1**. According to the tender document, the tentative programme of the project is as follows:

- To commence the project in August 2012;
- Construction work of the project to start in January 2014; and
- Project to be completed by August 2018



LEGEND :



PROPOSED WORKS AREA FOR CONSTRUCTION OF DWFI & PUMPING FACILITIES



PROPOSED DISCHARGE SEWER (GRAVITY SEWER TO CONVEY DWF)

INVERT LEVEL OF CSBC APPROX. -1.00MPD
NEW YAU MA TEI TYPHOON SHELTER

HOI FAI ROAD PUMPING STATION

ANCHOR STREET SEWAGE PUMPING STATION

CHERRY STREET BOX CULVERT (CSBC)

no.	date	description	initial
drawn	W. Y. HUI	date	drawing no.
checked	C. M. LEUNG	date	DCM/2011/031
approved	T. O. WOO	date	COPYRIGHT RESERVED
office	CONSULTANTS MANAGEMENT DIVISION		DRAINAGE SERVICES DEPARTMENT GOVERNMENT OF THE HONG KONG SPECIAL ADMINISTRATIVE REGION
drawing title	CONSTRUCTION OF DRY WEATHER FLOW INTERCEPTOR (DWFI) AT CHERRY STREET BOX CULVERT (CSBC) Figure 1		
scale		1 : 5000	

Appendix A

Copies of Correspondences from Relevant Government Departments

本署檔號
OUR REF: () in EP20/08/56C/A4
來函檔號
YOUR REF: KMY/SHC/SB/EC/T255962/07.02/L0274
電話
TEL NO.: 3107 8255
圖文傳真
FAX NO.: 2519 0572
網址:
HOMEPAGE : <http://www.epd.gov.hk>

**Environmental Protection Department
Water Policy Division
Sewerage Infrastructure Group**



環境保護署
水質政策科
排污基建組

香港灣仔
皇后大道東 183 號
合和中心 34 樓

34/F Hopewell Centre,
183 Queen's Road East,
Wanchai, Hong Kong.

23 May 2012

Mott MacDonald
20/F., Two Landmark East,
100 How Ming Street,
Kwun Tong, Kowloon.
(Attn: Mr. Stephen Bingham)

Dear Sir,

**Project Consultancy Study for West Kowloon Cultural District –
Development Plan
Request for Information**

I am referring to your letter dated 14th May 2012 requesting updated timetable and progress of the ongoing and planned projects outlined in your letter.

As you pointed out in your letter, the study "Review of West Kowloon and Tsuen Wan Sewerage Master Plans – Feasibility Study" recommended a series of measures targeting to improve the water quality and the associated odour problems within the New Yau Ma Tei Typhoon. These proposed measures include the installation of a Dry Weather Flow Interceptor (DWFI) at Cherry Street Box Culvert and the upgrading/improvement of existing DWFI's upstream of the NYMTTS. At this very moment, I could only tell you that we just start up the IDC consultancy study for the DWFI at Cherry Street Box Culvert and for the rest of the proposed works related to NYMTTS will be included in this year Capital Works Resources Allocation Exercise (RAE) bidding for funds and hence, their programme for implementation are uncertain at this stage pending on the results of the RAE.

Regarding information about the ongoing works related to misconnections, I trust our Regional Office colleagues will be in a better position to brief you on this.

	To	Action	Inform	Copy	Sign	Date
1	SB				SB	25/5/2012
2	Ericching					
Rec'd		25 MAY 2012				
3						
4						
File No.						

Yours faithfully,

(Samuel W. TANG)

Sewerage Infrastructure Group
for Director of Environmental Protection

c.c.
EPD/RO(W) (Attn: Eric Cheung)
EPD/MAG (Attn: Ms. Sally Fung)

本署編號
OUR REF: () in EP20/08/56C/A4
來函編號
YOUR REF:
電話
TEL NO.: 3107 8255
圖文傳真
FAX NO.: 2519 0572
網址:
HOMEPAGE: <http://www.epd.gov.hk>

**Environmental Protection Department
Water Policy Division
Sewerage Infrastructure Group**

34/F Hopewell Centre,
183 Queen's Road East,
Wanchai, Hong Kong.



環境保護署
水質政策科
排污基建組

香港灣仔
皇后大道東 183 號
合和中心 34 樓

6 October 2011

Mott MacDonald
20/F., Two Landmark East,
100 How Ming Street,
Kwun Tong, Kowloon.
(Attn: Mr. Stephen Bingham)

	To	Act	Copy	Sign	Date
1	SB				
2	Eching	Make App			2/10/11
3	OWong				6/10/11 - Done
4					
Rec'd					
File No.					

Dear Sir,

**Project Consultancy Study for West Kowloon Cultural District -
Development Plan
Potential Odour Impact from New Yau Ma Tei Typhoon Shelter
Request for Information**

I am referring to your letter dated 22nd September 2011 requesting information on any existing or planned projects and/or programmes for upgrading drainage system to improve effluent quality in the West Kowloon area.

As you may be aware of the study "Review of West Kowloon and Tsuen Wan Sewerage Master Plans - Feasibility Study", which recommended a series of measures targeting to improve the water quality and the associated odour problems within the New Yau Ma Tei Typhoon. These proposed measures include the installation of a Dry Weather Flow Interceptor (DWFI) at Cherry Street Box Culvert and the upgrading/improvement of existing DWFIs upstream of the NYMTTS. At this very moment, I could only tell you that these planned works have been included in this year Capital Works Resources Allocation Exercise (RAE) bidding for funds and their programme for implementation are uncertain at this stage pending on the results of the RAE.

Regarding information about any existing projects, I trust DSD colleagues will be in a better position to brief you on this.

Yours faithfully,

(Samuel W. TANG)

Sewerage Infrastructure Group
for Director of Environmental Protection

c.c.
DSD (Attn: CE/MS)
EPD/MAG (Attn: Ms. Sally Fung)

Ching, Eric

From: Tsang, Floria
Sent: 07 October 2011 10:59
To: Ching, Eric; Chan, Dulcie
Cc: wkcd@mottmac.com.hk
Subject: FW: Fw: Project Consultancy Study for West Kowloon Cultural District- Development Plan_Potential Odour Impact from New Yau Ma Tei Typhoon Shelter

Dear Eric,

Please kindly refers to the email below for the reply from CEDD.

Regards,
 Floria

From: paulykma@cedd.gov.hk [mailto:paulykma@cedd.gov.hk]
Sent: Friday, October 07, 2011 10:57 AM
To: Tsang, Floria
Cc: windsorwcheng@cedd.gov.hk; lplam@cedd.gov.hk; samtam@cedd.gov.hk
Subject: 轉寄: Fw: Project Consultancy Study for West Kowloon Cultural District- Development Plan_Potential Odour Impact from New Yau Ma Tei Typhoon Shelter

Ms. Tsang,

Mr. Windsor Cheng of Kowloon Development Office has forwarded your e-mail below to the Port Works Division for reply.

The programme of maintenance dredging in the New Yau Ma Tei Typhoon Shelter (NYMTTS) should be advised by Marine Department. The Port Works Division of CEDD carries out the maintenance dredging at the request of Marine Department (MD).

For your information, in Feb- Apr 2011 the Port Works Division has completed maintenance dredging of the north-eastern part of NYMTTS (i.e.area 33-35) at MD's request for navigation safety. Around 26,000 cu.m was dredged.

Paul Ma
 Port Works Division
 CEDD

----- Forwarded by PAUL YUK KEI MA/CEDD/HKSARG on 07/10/2011 10:48 -----

WINDSOR WUN CHEE CHENG/CEDD/HKSARG

03/10/2011 11:46

To PAUL YUK KEI MA/CEDD/HKSARG@CEDD
 cc William LP LAM/CEDD/HKSARG@CEDD
 JOE HUNG PING YIP/CEDD/HKSARG@CEDD
 Subject 轉寄: Fw: Project Consultancy Study for West Kowloon Cultural District-

18/11/2011

Development Plan_Potential Odour Impact from New Yau Ma Tei Typhoon Shelter

EDMS No.: Doc. Src.:

----- Forwarded by JOE HUNG PING YIP/CEDD/HKSARG on 03/10/2011 11:39 -----

"Tsang, Floria"
<Floria.Tsang@mottmac.com.hk>

03/10/2011 11:36

To "kl_wong@mardep.gov.hk" <kl_wong@mardep.gov.hk>

"joeyip@cedd.gov.hk" <joeyip@cedd.gov.hk>

cc "nheung@hab.gov.hk" <nheung@hab.gov.hk>

"yc.ng@wkcd.hk" <yc.ng@wkcd.hk>

'Andrew Lau' <andrew.lau@wkcd.hk>

"swsfung@epd.gov.hk" <swsfung@epd.gov.hk>

"Ching, Eric" <Eric.Ching@mottmac.com.hk>

"wkcd@mottmac.com.hk" <wkcd@mottmac.com.hk>

Subject Project Consultancy Study for West Kowloon Cultural District- Development Plan_Potential Odour Impact from New Yau Ma Tei Typhoon Shelter

EDMS No.: Doc. Src.:

Dear Sir,

We have been engaged by the West Kowloon Cultural District Authority (WKCD) to undertake the Project Consultancy Study on developing the Conceptual Plan of West Kowloon Cultural District (WKCD) into a detailed Development Plan. As part of the Study, we are required to assess the environmental acceptability of the Development Plan.

Please kindly find the attached letter (our ref KMY/ SHC/SB/EC/T255962/07.02/L0142) regarding the Potential Odour Impact from New Yau Ma Tei Typhoon Shelter for details. The attached figure illustrating the 35 grids covered in our odour sampling work.

The hard copy of the letter and the attachment have been sent out to you in parallel.

Thanks for your attention.

Yours faithfully,
 Floria Tsang

Mott MacDonald Hong Kong Limited
 20/Floor, Two Landmark East
 100 How Ming Street
 Kwun Tong
 Kowloon
 Direct: 2585-8408

Email: floria.tsang@mottmac.com.hk [附件檔 "Letter of Potential Odour Impact from New Yau Ma Tei Typhoon Shelter.pdf" 已被 PAUL YUK KEI MA/CEDD/HKSARG 刪除] [附件檔 "L-0142 Attachment FIG 3-8.pdf" 已被 PAUL YUK KEI MA/CEDD/HKSARG 刪除]

18/11/2011



Drainage Services Department
Mainland South Division
 15/F, Kowloon Government Offices,
 405 Nathan Road, Kowloon

渠務署
 九龍及新界南渠務部
 九龍彌敦道 405 號
 九龍政府合署 15 樓

本署檔號 Our Ref. : (215623) in MS 12/WKR/1/0
 來函檔號 Your Ref : KMY/SHC/SB/EC/T255962/07.02/L0134
 電話 Telephone : (852) 2300 1581
 圖文傳真 Fax : (852) 2771 9640

By Fax: 2827 1823 ✓

11 October 2011

Mott MacDonald,
 20/F Two Landmark East,
 100 How Ming Street,
 Kwun Tong,
 Kowloon, Hong Kong
 (Attn: Mr. Stephen Bingham)

Dear Sirs,

**Project Consultancy Study for West Kowloon Cultural District -
 Development Plan
Potential Odour Impact from New Yau Ma Tei Typhoon Shelter**

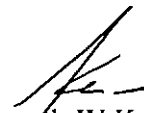
Request for Information

I refer to your above-quoted letter requesting information on any existing or planned projects and/or programme for upgrading drainage system to improve effluent quality in the West Kowloon area. Also, I refer to the reply from the Director of Environmental Protection dated 6 October 2011 advising you on the planned works to improve the water quality and associated odour problems within the New Yau Ma Tei Typhoon Shelter (NYMTTS).

As regards existing works to improve the effluent quality in NYMTTS, I advise that this Division has programmed to carry out desilting at the discharge outlet of the Cherry Street Box Culvert 3 times per year. Also, we are regularly monitoring the silt levels within the box culverts that discharge into the subject typhoon shelter, and desilting works will be carried out when silt is accumulated beyond the threshold level.

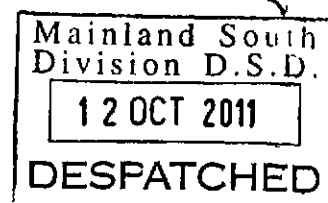
In addition, please note that the circular drain located at Grid No. 1 in Figure 3.8 enclosed in your above-quoted letter is not DSD facility. We have no information on this circular drain.

Yours faithfully,


 (Kenneth W K MOK)
 for Chief Engineer/Mainland South
 Drainage Services Department

c.c. DEP (Attn: Mr. Samuel W. TANG) – fax: 2519 0572

Internal SE/MS5, E/K8 – by eDMS





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MARINE DEPARTMENT
HARBOUR BUILDING
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TELEX NO. 64553
ANSWERBACK MARHQ HX

YOUR REF.: KMY/SHC/SB/EC/T255962/07.02/L0142

網站 WEB SITE : <http://www.mardep.gov.hk>

本處檔號 OUR REF.: (30) in PA/S 492/37/3 (2)

電話號碼 TEL. NO.: 2852 4453

圖文傳真 FAX NO.: 2581 1765

By Fax : 2827 1823

Mott MacDonald Hong Kong Limited
20/F Two Landmark East
100 How Ming Street
Kwun Tong
Kowloon
Hong Kong

Attn.: Mr. Stephen Bingham

Project Delivery Department			
File:			
Date:	13 OCT 2011		
Urgent			
Title:	Action	Info	File
EDPD			
HPD			
HPPC			
HTS		✓	
SEE			
SA			✓

13 October 2011

Dear Sir,

**Project Consultancy Study for West Kowloon Cultural District
- Development Plan
Potential Odour Impact from New Yau Ma Tei Typhoon Shelter**

I refer to your letter dated 3 October 2011 on the captioned subject.

Please be informed that according to our maintenance dredging programme, no programme/project is planned for the New Yau Ma Tei Typhoon Shelter in 2011 and 2012.

Yours faithfully,

(K.L. WONG)

Senior Marine Officer/Planning & Development (2)
for Director of Marine

c.c. CEDD (Attn : Mr. YIP Hung Ping, Joe) Fax : 2301 1277
WKDA (Attn : Mr. Y.C. NG) Fax : 2895 0016
(Attn : Mr. Andrew LAU)

同心協力，促進卓越海事服務
We are One in Promoting Excellence in Marine Services