ATKINS

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13/F Wharf T&T Centre
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Telephone (852) 2972 1000
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www.atkinsglobal.com

Your ref.
Our ref. 5126871/17.20/OC019/SO/el

Date: 30 September 2014

By Post and e-mail (Donald.Ip@lcwjv.com)

Leighton – Chun Wo Joint Venture
39/F Sun Hung Kai Centre
30 Harbour Road
Hong Kong

Attn: Mr. Donald Ip

Dear Mr. Ip,

Contract No. HY/2013/01
Hong Kong – Zhuhai – Macao Bridge
Hong Kong Boundary Crossing Facilities – Passenger Clearance Building
Certification of Spill Response Plan

Atkins China Ltd. certifies, in the capacity of Environmental Team Leader, that the Spill Response Plan dated 22 September 2014, in principle, conforms the requirements provided in Condition 2.7 of the Environmental Permit No. EP-353/2009/G.

Yours faithfully
for and on behalf of
Atkins China Ltd

Sharifah OR
Environmental Team Leader

cc.
1. AECOM – Mr. Darrel Kingan Fax.: 3468 2076

Ref.: HYDHZMBEEM00_0_2286L.14 03 October 2014

AECOM By Fax (3468 2076) and By Post
The Engineer's Representative
5 Ying Hei Road,
Tung Chung, Lantau
Hong Kong

Attention: Mr. Darrel Paul Kingan

Dear Sir,

Re: Agreement No. CE 48/2011 (EP)
Environmental Project Office for the
HZMB Hong Kong Link Road, HZMB Hong Kong Boundary Crossing Facilities, and Tuen Mun-Chek Lap Kok Link – Investigation

Contract No. HY/2013/01 – HZMB HKBCF – Passenger Clearance Building
Spill Response Plan (EP Condition 2.7)

Reference is made to the Spill Response Plan certified by the ET Leader (ET's ref.: "5126871/17.20/OC019/SO/el" dated 30 September 2014) and provided to us via e-mail on 30 September 2014.

We are pleased to inform you that we have no adverse comments on the captioned Plan. We write to verify the captioned submission in accordance with Condition 2.7 of the Environmental Permit No. EP-353/2009/G.

Thank you for your kind attention. Please do not hesitate to contact the undersigned or the ENPO Leader Mr. Y. H. Hui should you have any queries.

Yours sincerely,

Raymond Dai
Independent Environmental Checker

c.c. HyD – Mr. Matthew Fung (By Fax: 3188 6614)
HyD – Ms Lowell Chiu (By Fax: 3188 6614)
Atkins – Ms. Sharifah Or (By Fax: 2890 6343)
LCWJV – Mr. Donald Ip (By Fax: 3973 1188)

Internal: DY, YH, CL, ENPO Site

Q:\Projects\HYDHZMBEEM00\02_Proj_Mgt\02_Corr\HYDHZMBEEM00_0_2286L.14.doc

ENVIRON Hong Kong Limited 英環香港有限公司
Room 2403 Jubilee Centre, 18 Fenwick Street, Wan Chai, Hong Kong. Tel: 852 3465 2888 Fax: 852 3465 2899
www.environcorp.com

Leighton - Chun Wo
Joint Venture

Contract No. HY/2013/01

Hong Kong – Zhuhai – Macao Bridge

Hong Kong Boundary Crossing Facilities – Passenger Clearance Building

Spill Response Plan

Prepared by:

Donald Ip
Environmental Officer
22 September 2014

Approved by:

Iain Hubert
Project Director
22 September 2014

Certified by:

Sharifah Or
Environmental Team Leader
22 September 2014

Contents

1 Introduction

1.1 *Purpose*

The purpose of this Spill Response Plan is to detail the actions to be taken by Leighton Contractors (Asia) Limited and Chun Wo Construction & Co., Ltd Joint Venture (known as the JV) and its subcontractors and suppliers during construction of the Hong Kong– Zhuhai – Macao Bridge, Hong Kong Boundary Crossing Facilities – Passenger Clearance Building and associated works under Highways Department Contract number HY/2013/01 which is part of the Hong Kong – Zhuhai – Macao Bridge in the event of accidental spillage of oil or other hazardous chemicals from construction activities including vessels operating for the Project, with specific provisions for protecting marine ecology and the Chinese White Dolphins.

The preparation and implementation of this Spill Response Plan is a mandatory requirement under section 2.7 of the Environmental Permit no. EP-353/2009/G.

1.2 *Scope*

This Spill Response Plan applies to the activities of the JV during the construction of Contract HY/2013/01.

1.3 *Description of Works*

The works for HY/2013/01 comprise:

- Construction of Passenger Clearance Building (PCB) including architectural and builders works, structural steel roof and reinforced concrete frames, basement, piled foundations, aluminium roof, curtain wall facades, building services and electrical and mechanical works;
- Installation of District Cooling System including seawater cooling intake pumping station, seawater intake and discharge water pipelines work; Installation of Chilled water cooling pipelines system, heat exchanger and chilled pumping system;
- Construction of transport and associated facilities connecting to the PCB entailing the Emergency Vehicular Access, an at-grade mainland side drop-off area, an Hong Kong side elevated drop-off deck and 8 nos. of footbridge links;
- Construction of a public toilet, 6 nos. of C&ED observation booths, a generator set building and a refuse storage & material recovery chamber;
- Construction of a section of 70m common utilities enclosure and staff subway and civil provisions for associated electrical and mechanical works;
- Construction of drainage, sewerage, fresh water & flushing water supply and utilities & service works;
- Construction of civil provisions, including draw pits & ducting for Traffic Control and Surveillance System (TCSS) and Extra Low Voltage System (ELV);
- Construction of box culvert A;
- Construction of 2 nos. of vehicular bridge abutments at mainland side pickup area earthmound;
- Construction of geotechnical works including top up the existing earth mound from +11.5mPD to the finished level as stated in the Contract, reinforced earth slope and fill slopes and special backdrop manhole at mainland side pick up area earthmound;
- Landscape hardworks and softworks; and

- Other works which are shown on the Drawings or specified in the Specification or which may be ordered in accordance with the Contract.

The main scope of work of the Contract does not include marine construction or vessel operation related to construction works. However, the oversized construction materials will be transported by marine in Mid-2015.

The site location plan is shown in Appendix A.

2 Implementation of Spill Response Plan

2.1 *Emergency Response Team*

An emergency team shall be established for the Project to deal with spillage cases promptly. The list of the Emergency Response Team members is shown in **Table 1**.

Table 1: The Emergency Response Team Contact List

Name	Position	Telephone	E-mail
David Packwood	Emergency Team Leader	6113 4938	david.packwood@lcwjv.com
Alfred She	Deputy Emergency Team Leader	9835 5395	alfred.she@lcwjv.com
Dan Lam		9040 7118	dan.lam@lcwjv.com
Stephen Lam		9269 7883	stephen.lam@lcwjv.com
Paisan Taweesatidsatean		9759 1272	paisan.taweesatidsatean@lcwjv.com
Sam Lok		9460 1772	sam.lok@lcwjv.com
Raymond Wong	Emergency Safety Representative (Site Safety Manager)	6283 2293	raymond.wong@lcwjv.com
Donald Ip	Emergency Environmental Representative (Environmental Officer)	6461 8635	donald.ip@lcwjv.com
Choi Kwok Hang	Emergency Work Team Leader (Superintendent)	9864 4607	Nil
Chau Chi Fai	Emergency Work Team Member (Foremen)	9657 0762	Nil
Hui Hung Lun		6329 8405	Nil

2.2 *Roles Responsibilities*

Emergency Team Leader

- Coordinate of all emergency situations;
- Determine the seriousness of the cases to take appropriate responding actions;
- Deploy sufficient manpower and resource to handle the emergency situation;
- Lead the emergency team to carry out appropriate emergency measures to minimize impacts arising from spillage incidents;
- Inform the Emergency Safety/ Environmental Representatives, Emergency Work Team member and the ER as soon as possible in case of an spillage incidents;
- Ensure the staffs are well trained for emergency procedures.

Deputy Emergency Team Leader

- Assist the Emergency Team Leader to carry out his responsibilities in their area-in-charge.

Emergency Safety Representative (Site Safety Manager)

- Assist and advice the Emergency Team Leader in handling of spillage in terms of safety aspect;
- Ensure the whole emergency situations are handled in compliance with all safety procedures and regulation.

Emergency Environmental Representative (Environmental Officer)

- Assist and advice the Emergency Team Leader in handling of spillage in terms of environmental aspect;
- Ensure the whole emergency situations are handled in compliance with all environmental procedures and regulation.

Emergency Work Team Leader (Superintendent)

- Assist the Emergency Team Leader in site level including the mobilization of the plant/equipment/ materials to handle the spillage;
- Familiar with the emergency spill respond procedures;
- Ensure the spill kits and relevant personal protective equipment are in place and in good condition;
- Maintain the inventory of oil and hazardous chemical on site.

Emergency Work Team Member (Foremen)

- Follow the instruction made by the Emergency Work Team Leader;
- Familiar with the emergency spill respond procedures.

2.3 *General On-Site Practice*

In order to minimize the possibilities of accidental spillage of oil or other hazardous chemicals in the construction site and on vessel, the following general on site practices for handling the oil or other hazardous chemicals will be implemented on site as far as possible:

2.3.1 Storage

- The storage areas of oil/ hazardous chemicals should be located remote from the coast and any other water bodies as far as practicable;
- The oil/ hazardous chemicals containers should be placed within drip tray(s);
- Provide tightly closed lids so as to avoid leakage of oil/ hazardous chemicals;
- Stacking of the containers properly so as to prevent the falling of such containers;
- Label the storage containers and the chemical tanks according to the EPD's "Code of Practice on the Package, Labelling and Storage of Chemical Wastes Labelling";
- Provide adequate ventilation in the storage area as necessary;
- Prohibit open flames and smoking near the chemical storage and fuel storage areas;

- Inspected the storage area regularly to ensure compliance with Waste Disposal (Chemical Waste) (General) Regulation (Cap 354C) and Dangerous Goods Ordinance (Cap 295).
- Store large and heavy containers on the floor as far as possible and avoid storing these containers higher than 0.75m above the floor level (storage in vessel / barges are exclusive);
- Keep all chemical, chemical waste and fuel oil storage containers below eye level for easy inspection;
- Provide adequate space for safe and easy handling and inspection of the containers;
- Maintain an up-to-date log of all chemicals, chemical waste and fuel oil stored at site;
- Separate incompatible chemicals from one another;
- Keep the ingress to the chemical storage area locked and restrict access; and
- Provide a bucket of dry sand and a suitable fire extinguisher in the storage area.

2.3.2 Transportation

- Use a suitably sized container so as to avoid overfilling;
- Use pumps to transfer oil/ hazardous chemical instead of manually pouring them;
- Provide a containment structure able to hold any chemical or chemical waste that is accidentally spilled;
- Label the oil/ hazardous chemical containers suitably;
- Use suitable carrying equipment to transfer the oil/ hazardous chemical containers from one location to another;
- Only employ and use suitably licensed, trained and responsible chemical waste collection persons to carry out the transportation requirements.

2.4 *Spillage Control Materials*

2 sets of standard Spill Kits will be available on site. The standard Spill Kits includes items such as pads, pillow and Secondary Oil Containment (SOC). SOC is used to enclose the spillage area to contain the spillage spreading outside of the SOC. The pads and pillow are used for absorbing and removing the spillage within the SOC. The standard spill kit detail is shown in Appendix B.

An additional spill kit will be available with the Environmental Officer (EO).

2.5 *Inventory of Hazardous Chemical*

An inventory of the oil and hazardous chemicals that are stored on site will be recorded, maintained and updated regularly. The details, amounts and location of the materials will be recorded. The superintendent will responsible for maintaining such record on site.

2.6 *Spillage Response*

The spillage response shall be carried out to minimize the amount of oil or hazardous chemicals to the marine environment in case of spillage.

2.6.1 Spillage Contained on Vessel Deck or on Land

The following procedures shall be taken when there is a spillage contained on vessel deck or on land:

1) Immediately inform the Emergency Team of the spill incident;
2) Take all possible measures to reduce or stop the spillage source;

3) Confine the spillage by using sand/ cement/ absorptive materials with suitable personal protective equipment;
4) Clean up the confined spillage by using dry sand or sawdust;
5) The contaminated sand / sawdust / other materials shall be collected and put into black plastic bags and shall be clearly labelled as "chemical waste";
6) All collected chemical waste shall be placed in an area designated for chemical waste storage area.

2.6.2 Spillage into the Marine Environment

The main scope of work of the Contract does not include marine construction or vessel operation related to construction works. However, the oversized construction materials will be transported by vessel in mid-2015. The section is applied to such transportation and uncontrollable large spillage on main site area to the marine environment.

The handling procedures and notification system is separated into two scenarios, namely within the area of spillage of 100m^2 and over. At least 4 sets of standard Spill Kits will be available on site up to control marine spillage of up to 100m^2 in size. The standard Spill Kits includes items such as pads, pillow and Secondary Oil Containment (SOC). SOC is used to enclose the spillage area to contain the spillage spreading outside of the SOC. The pads and pillow are used for absorbing and removing the spillage within the SOC.

All the persons shall responsible for observing the spill and to report this immediately to their immediate supervisor who shall inform the Emergency Team Leader. A site agent in Emergency Team shall be assigned to lead a working team and to deploy the Spill Kits to the spillage site. Depending on the scale of the spillage area of 100m^2, there are two scenarios of spill response procedures to be applied.

Scenario 1 – Spillage area within 100m^2

- The Emergency Team Leader shall inform the parties such as Engineer's Representative (ER), Environmental Team (ET), Independent Environmental Checker (IEC) and the emergency team members;
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it;
- The Emergency Team who equip with suitable personal protective equipment to remove of any leaked chemical or chemical waste;
- The spillage area shall be contained by using secondary oil containment (SOC);
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC;
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item;
- The used spill kits will be treated, stored and disposed of as chemical waste according to the necessary procedures; and
- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

Scenario 2 – Spillage area exceed 100m^2

- The Emergency Team Leader shall inform all parties such as ER, ET, Highways Department (HyD), Independent Environmental Checker (IEC), Marine Department (MD), Fire Services Department (FSD), Agriculture, Fisheries and Conservation Department (AFCD), Environmental Protection Department (EPD) and the Project Emergency Team members immediately. The contacts of the other concerned parties are shown in **Table 2**.

- The weather forecast for the area will also be used to determine the likely direction of movement (if any) of the surface spill.
- The Emergency Team shall be responsible for organizing the manpower and resource to identify the spill source and stop or cease it.
- The Emergency Team who equip with suitable personal protective equipment to remove any leaked chemical or chemical waste.
- The spillage area shall be contained by using secondary oil containment (SOC).
- Pads and pillow of the spill kit shall be applied to absorb and remove the spillage within the SOC.
- The absorbent pads and pillows will be collected by disposal bags as part of the spill kits item.
- The used spill kits will be treated, stored and disposed of as chemical waste according to the necessary procedures.
- An incident report will be submitted to the ER, ET, IEC and ENPO within 2 working days.

Table 2: The Notification List of Other Concerned Parties

Contact	Telephone No.
Environmental Protection Department (Regional South Office)	2516 1718
Agriculture, Fisheries and Conservation Department	2150 6882
Marine Department (Maritime Rescue & Oil Spill) (24 hrs hotline)	2233 7801
Tung Chung Hospital (24 hrs hotline)	3467 7000
Fire Service Department (Tung Chung Fire Station)	2723 2233
Airport Authority (Integrated Airport Centre)	2910 1108
General Emergency Services	999
Labour Department	2717 1717
Engineer's Representative – Ernest Wong	6329 8428
Environmental Team Leader - Sharifah Or	2972 1802
Independent Environmental Checker – Raymond Dai	5158 8401

2.6.3 Protection of Sensitive Receptors

The information that is outlined within this section will become applicable if the area of a spill is estimated to be greater than 100m^2. In order to protect sensitive receivers within the vicinity of the HKBCF site during a spill of greater than 100m^2 the following steps will be taken:

i) The location of the spill relative to a sensitive water receivers such as water intakes and ecological sensitive receivers will be determined;

ii) Absorbent booms, or similar, will be deployed near to the receptors to protect sensitive marine receptors;

iii) The Contractor will immediately inform the relevant parties as outlined in Section 2.6 of this Plan;

iv) The on shift Foremen or Emergency Team Leader's delegates will employ all possible mitigation measures in order to isolate the spill and minimize any potential adverse effects to sensitive marine receptors.

v) Follow the procedures that are outlined in Appendix C;

vi) The Contractor, ER, ET and IEC will discuss and implement a suitable program of water sampling to monitor for any potential adverse effects to sensitive receptors.

2.7 *Dolphin Contingency Plan*

It is not known what specific impacts spill of diesel fuel, or other chemicals would have upon the Chinese White Dolphin (CWD) and its food supply. Given that these effects are unclear, a proactive approach will be used to isolate the CWDs from any spill response event that may take place during the marine transportation.

2.7.1 Initial Response

Observations from platform(s) as high as practicable will be used to determine the approximate size of a spill.

Whilst determining the size of the spill, it will be determined whether any CWDs are present in the vicinity of the spill.

The weather forecast for the area will also be used to determine the likely direction of movement (if any) of the surface spill. In addition the vessel traffic centre will be contacted to determine if any vessels may pass through the location of the spill.

A suitable course of action can then be decided upon once information such as the size of the spill, the proximity of any CWDs to the spills and the likelihood of the CWDs encountering the spill.

2.7.2 Efforts to Isolate Spill Areas from Chinese White Dolphins

The use of absorbent booms is an effective containment method for small spills within the marine environmental and will prevent the spread of a spill and thus help to minimize the potential for CWDs to come into contact with the spill. Deployment of such absorbent booms, together with teams of observers is considered to be an appropriate response to a small spill that can be cleaned up in the short term. The spill kits are available on each vessel that use for transportation.

2.8 *Training*

The onsite workforce will receive training from Environmental Officer or his delegate regarding the measures outlined in this Plan during the Site Specific Environmental Induction Training. The Environmental Officer or his delegate shall conduct Tool Box Talks with the site workers regarding this Plan quarterly. All site workers will be required to receive this training. A refreshment training for the Site Specific Environmental Induction Training is conducted bi-yearly.

Emergency drill will be conducted with the Emergency Response Team bi-yearly.

Appendix A
Site Location Plan

812500 E

813000 E

813500 E

820500 N

820000 N

819500 N

SKYCITY

GATE 2 TO BE CONSTRUCTED
WHEN HY/2013/02 CONTRACTOR
TAKE OVER PORTION 1

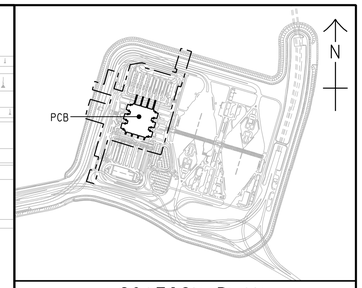
HAUL ROAD TO BE CONSTRUCTED
DIVERTED, MANAGED AND MAINTAINED
BY HY/2013/01 CONTRACT

C3

GATE TO BE CONSTRUCTED
BY CLP

MARINE LOADING AND UNLOADING
POINTS, EXACT LOCATION AND
EXTENT TO BE LIAISED AND
CONFIRMED WITH HY/2013/02
CONTRACTOR

GATE 1 TO BE CONSTRUCTED
AT THE COMMENCEMENT OF THE CONTRACT



LOCATION PLAN
SCALE 1 : 20000

NOTES:

1. COORDINATES ARE BASED ON HONG KONG METRIC GRID (1980) UNLESS OTHERWISE NOTED.
2. LEVELS ARE IN METRES RELATIVE TO HONG KONG PRINCIPAL DATUM (mPD) UNLESS OTHERWISE NOTED.
3. DIMENSIONS ARE IN METRES UNLESS OTHERWISE STATED.
4. SETTING OUT, DIMENSIONS, LEVELS, COORDINATES ARE TO BE CALCULATED BY THE CONTRACTOR. NO INFORMATION SHOULD BE SCALED PHYSICALLY OR ELECTRONICALLY FROM THE DRAWINGS OR FILES.
5. SITE ACCESS SHALL BE HARD PAVED WITH PROPER DRAINAGE PROVIDED. IT SHALL BE KEPT UNOBSTRUCTED AND UNDISRUPTED AT ALL TIMES.

LEGEND:

SITE BOUNDARY

7.3m CLEAR WIDTH CONSTRUCTION HAUL ROAD

INDICATIVE 20m WIDE VEHICULAR ACCESS BY RECLAMATION CONTRACT HY/2010/02

REV. 修訂	DESCRIPTION 內容摘要	D.G.	P.C. CHECKED 複核	DATE 日期
-	TENDER DRAWING	BWCW	SCI	SEP.13

路政署
HIGHWAYS DEPARTMENT
港珠澳大橋香港工程管理處
Hong Kong - Zhuhai - Macao Bridge Hong Kong Project Management Office

HONG KONG-ZHUHAI-MACAO BRIDGE
HONG KONG BOUNDARY CROSSING FACILITIES
- PASSENGER CLEARANCE BUILDING

SITE ACCESS

AECOM
Rogers Stirk Harbour + Partners
BURO HAPPOLD ATKINS ADI
Aedas

DRG.NO. 圖紙編號 60191048/C1/000/C00/1044

DESIGNED BY 設計 BWCW	CONTRACT NO. 合約編號 HY/2013/01	P. Dir. APPROVED 批准人 EMSC
DRAWN BY 繪圖 WSY	STATUS 階段	
SCALE 比例 A1 1 : 2500		
DIMENSIONS ARE IN 尺寸單位 METRES	© COPYRIGHT RESERVED 版權所有	

Plot File by : 2013/9/10 WANGSY

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Appendix B
Spill Kit Details

SKO95 Spill kit is suitable for handling large-scale (>100m^2) spill situation.

SPC Product Information

Item #: SKO95

Family: *KIT*
(Spill Kits)

KIT Family Product List

Product Image

SKO95 Description:
Tough, secure and highly visible, this top quality screw topped overpack drum meets UN and DOT specifications. For larger spill response. Contents: 110 - 15"x19" Pads; 12 - 3"x4' Socs; 8 - 3"x12' Socs; 8 - 17"x19" Pillows; 1 Pair Goggles; 1 Pair Nitrile Gloves; 10 - Disposal Bags; Emergency Response Handbook.

SKO95 Replaces:
AMI : 16310
CEP : CEP-SK95
IEP : OSSK-95
New Pig : KIT202
New Pig : KIT241
New Pig : KIT262
New Pig : KIT402
New Pig : KIT441
NPS : 350095
OilDri : L90943

UPC_Code: 66270615205
Type: oil only
Configuration: kit
Size:
Count: 1
Unit Of Sales: kit
Packaging: kit
Shipping Weight: 107 lbs
Absorbency: 75 gal/kit

Keywords:
kit, spill kit, drum, oil only

SKH55 spill kit is suitable for handling small-scale (<100m^2) spill situation.

SPC Product Information

Item #: SKH55

Family: *KIT*
(Spill Kits)

KIT Family Product List

Product Image

SKH55 Description:
Open and close this lever locked 55 gallon drum for fast response. Drum meets UN specifications. For medium spill response. Contents: 50 - 15"x19" Pads; 4 - 3"x12'Socs; 8 - 17"x19" Pillows; 1 Pair Goggles; 1 Pair Nitrile Gloves; 5 - Disposal Bags; Emergency Response Handbook.

SKH55 Replaces:
AMI : 16210
CEP : CEP-HAZSK30
CEP : CEP-HAZSK55
New Pig : KIT243
New Pig : KIT263
New Pig : KIT307-01
New Pig : KIT343
New Pig : KIT363
NPS : 250055

UPC_Code: 66270625206
Type: chemical
Configuration: kit
Size:
Count: 1
Unit Of Sales: kit
Packaging: kit
Shipping Weight: 52 lbs
Absorbency: 38 gal/kit

Keywords:
kit, spill kit, drum, chemical, hazardous, aggressive

Appendix C
Flow Diagram for Handling Spillage