Construction Industry Council

Committee on Construction Safety

Meeting No. 002/16 of the Committee on Construction Safety (Com-CSY) was held on Wednesday, 29 June 2016 at 2:30pm at Meeting Room No. 1, CIC Headquarters, 15/F, Allied Kajima Building, 138 Gloucester Road, Wan Chai, Hong Kong.

Summary Notes of the Com-CSY Meeting No. 002/16:

Agenda Item	Paper	Major Resolutions/ Progress Highlights
2.1	CIC/CSY/R/001/16	Confirmation of the Progress Report
	(for discussion)	Members confirmed the Progress Report of the previous meeting held on 16 March 2016.
2.2	CIC/CSY/R/001/16	Matters Arising from the Previous Meeting
	(for discussion)	Agenda item 1.4 - The proposed list of Co-opted Members for the new Session was approved by
		Council Members at the CIC Meeting No. 002/16 scheduled on 29 April 2016.
		Agenda item 1.7 - The Safety Alert No. 001/16 - "Lorry-mounted Cranes Pre-use Checklist" was
		published on 22 June 2016 and email to Members on the same day.
		Agenda item 1.10 - Work Plan and Budget for 2016 & 2017 cum Implementation Plan of Report on
		"Building for a Better Future – Vision 2030" would be reported under Agenda item 2.11.
2.3	CIC/CSY/P/008/16	Amendments to the Terms of Reference of Com-CSY
	(for information)	Members took note of the amendments to the Terms of Reference of Com-CSY which included
		elements of Innovation, Technology and Research.
2.4	(Presentation)	Construction Safety Week 2016 and the Associated Activities
	(for information)	The 5 th Construction Safety Week (co-organised by CIC and DevB) was held from 25 to 27 May
		2016. The main theme was "Design for Safety" focusing on Temporary Works Design. It comprised
		of a Kick Off Ceremony cum Conference, Site Visits and Innovative Safety Initiative Award 2016

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		and Award Presentation Ceremony for the 22 nd Considerate Contractors Site Award Scheme
		(CCSAS). Over 600 people attended the Conference, over 1,000 people attended the CCSAS
		Ceremony and about 180 attendees joined 8 construction site visits. Over 10,000 download of a
		mobile app "Construction Safety App" since launched in 2015 and there were 24 media coverage of
		this event.
		Com-CSY Chairperson suggested promoting innovative safety methods with industry practitioners
		for enhancing safety in construction industry. CIC Secretariat would follow up on this suggestion.
2.5	CIC/CSY/P/009/16	Progress of the Task Force on Site Safety of Working in Lift Shaft
	(for information)	Two Task Force meetings were held on 10 June and 18 July 2016 respectively. The drafted
		Guidelines in bilingual version were almost comments by Task Force Members and target to be
		submitted to the next Com-CSY Meeting No. 003/16 for endorsement.
2.6	CIC/CSY/P/010/16 (for information)	Progress of the Task Force on Application of Innovative Design to Enhance Construction Safety
		Two trial runs for Rear RFID Sensing / Alarm System for Vehicles and three trial runs for the Safety
		Belt Engagement Sensing System were conducted by Hong Kong R&D Centre for Logistics and
		Supply Chain Management Enabling Technologies (LSCM) from May to June 2016. More trial runs
		would be arranged in summer holiday. Once the trial projects complete, CIC Secretariat and LSCM
		would explore to promote these devices in the market.
		After deliberations, it was agreed to invite LSCM to give a presentation on the progress in the next
		Com-CSY Meeting No. 003/16.
2.7	CIC/CSY/P/011/16	Progress of the Task Force on Work Safety of Repair, Maintenance, Alterations and Additions
	(for information)	(RMAA) Sites
		Task Force of RMAA (TF-RMA) Members were invited to give comments on the facilities for
		external inspection and maintenance of buildings.

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		The CIC Secretariat would revise a drafted "Guidelines on Work-above-ground Safety" to the
		TF-RMA Members for further comments.
		Development Bureau (DEVB) reported that they have instructed six works departments to include design for safety in the planning or early design stage of public works if the total amount of the project is HKD500 millions or above. Design for safety workshops would be co-organised with Occupational Safety and Health Council (OSHC) for project officers in 2016 year end.
		A Member questioned the reason of no legislation on using anchor points and reserving maintenance access road for enhancing safety of construction workers. Members discussed and agreed that legislation takes long time and would be the last resort.
		The Com-CSY Chairperson shared the practice of design for safety in Hong Kong Housing Authority (HKHA) since year 2010. A Member concerned the requirement to examine anchor points yearly by Registered Professional Engineer (RPE). For existing buildings, a Member suggested to consider inviting proprietor to install anchor points during Mandatory Building Inspection Scheme. However, from the point of view of contractor, a Member concerned the water leakage in anchor points and difficulty in maintenance in a long run. It is also known that the Buildings Department (BD) is collecting views from TF-RMA Members.
		After deliberations, TF-RMA Chairperson would hold a small group meeting to collect the views on using anchor points and reserving maintenance access road from relevant departments and organisations before next TF-RMA meeting. The Com-CSY Chairperson suggested to consider inviting representative from BD to present the progress in the next Com-CSY Meeting No. 003/16.

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		[Post Meeting Note: A small group meeting of TF-RMA with representatives from LD, BD, DEVB,
		Urban Renewal Authority, OSHC and HKHA was held on 29 July 2016.]
2.8	CIC/CSY/P/012/16	Revised Membership List & Terms of Reference of the restructured Task Force on Work
	(for endorsement)	Safety of Repair, Maintenance, Alterations and Additions (RMAA) Sites
		TF-RMA and its two Task Groups had been restructured into one Task Force. After deliberations,
		Members agreed the suggestion from HKHA to include a representative from the Hong Kong
		Association of Property Services Agents to be a Task Force Member. Members endorsed the revised
		Membership List and revised Terms of Reference of the restructured TF-RMA.
2.9	CIC/CSY/P/013/16	Construction Safety Poster No. 001/16 – "Use low voltage electrical hand tools and cordless
	(for endorsement)	electrical hand tools"
		Members endorsed in principle the Construction Safety Poster No. 001/16 with some minor
		amendment.
		[Post Meeting Note: Construction Safety Poster No. 001/16 was published on 15 July 2016 and
		attached in Annex A of this paper for information.]
2.10	CIC/CSY/P/014/16	Safety Alert No. 002/16 – "Safety Precaution for Zika Virus Infection"
	(for endorsement)	Members endorsed in principle the Safety Alert No. 002/16 with some minor amendment.
		[Post Meeting Note: Safety Alert No. 002/16 was published on 26 July 2016 and attached in Annex
		B of this paper for information.]
2.11	CIC/CSY/P/015/16	Progress update of the McKinsey Report follow up
	(for discussion)	In response to providing quantitative tools for private companies to understand and calculate the
		significance of safety risks to their businesses in recommendation No. 24 and evaluate existing
		Design for Construction Safety computer design tools available and issue complementary guidelines
		to facilitate local usage in recommendation No. 25 in McKinsey Report, a Member shared the

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		information of Prevention through Design (PtD) in United States. It was suggested to buy the Design
		for Construction Safety Toolbox and relevant PtD software to review.
		In recommendation No. 26 about to set up an industry award specifically for design buildability and safety, CIC Secretariat reported that CIC and DEVB would further discuss this award in Construction Safety Week 2017.
		The Com-CSY Chairperson suggested CIC Secretariat to arrange a small group meeting with Com-CSY members before the next Committee meeting to further discuss with relevant industry stakeholders on Mckinsey Report follow up items.
		[Post Meeting Note: A small group meeting with representatives from HKHA, DEVB, Labour Department (LD), OSHC, Hong Kong Construction Sub-Contractors Association (HKCSA) and Hong Kong Federation of Occupational Safety and Health Associations (HKFOSHA) was held on 21 July 2016 for discussion on recommendations in McKinsey Report.]
2.12	(Presentation) (for information)	Progress of the Safety Experience and Training Centre (SETC) for the Construction Industry SETC would be set up at Silver Card Training Workshop in Kwai Chung Training Centre (KCC). It would include interactive and innovation training, virtual reality experience and systematic learning experience. Besides, renovation at G/F, KCC would be done at the same time. CIC Secretariat would work closely with relevant departments and core group members of this project and provide regular updates.
2.13	(Presentation) (for information)	Experience Sharing for Benchmarking Visit to GermanyCIC Secretariat shared the experience on Benchmarking Visit to Germany. After the visit, the CICSecretariat suggested lifting industry in upgrading safety devices for cranes, exploring integratingcrane simulators into CIC training centres and avoiding unnecessary overload test to mobile cranes.

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		Details would be discussed in the Task Force on Safety of Lorry-mounted Cranes.
2.14		AOB
		(i) Safety Related Event Calendar
		A drafted safety related event calendar incorporated with government departments, associations and
		professionals was prepared by the CIC Secretariat. The calendar would be circulated to Members for
		updating.
		[Post Meeting Note: CIC Secretariat circulated the calendar to Members for updating by email on 12 July 2016.]
		(ii) Opening Ceremony of the "Experimental Learning on Site Safety 2016"
		An opening ceremony and the first training course of the Safety Training Scheme "Experimental
		Learning on Site Safety 2016" with Hong Kong Construction Association (HKCA) would be held on
		26 September 2016 at Noah's Ark of Ma Wan. Members were invited to attend.
		(iii) Suggestion on Maintenance of Marker Buoys
		A contractor sent a letter to Com-CSY Chairperson on 13 May 2016 to explain the marker buoys
		accident in May 2016 and give suggestion on maintenance of marker buoys. CIC replied a letter on
		17 May 2016. Members agreed to follow up by the Task Force on Site Safety Incidents.
		(iv) Suggestions on Maintenance Works in Existing Buildings
		The Hong Kong Federation of Trade Unions sent a letter to Com-CSY Chairperson to express
		concern and give suggestions on maintenance works in existing buildings on 15 June 2016. CIC
		replied a letter on 22 June 2016. Members agreed to follow up by TF-RMA.

CIC/CMT/P/041/16

(for discussion)

Agenda Item	Paper	Major Resolutions/ Progress Highlights
		(v) Amendments to the Operation Framework of CIC Research Fund
		Members took note the latest amendments to the operation framework of CIC Research Fund and
		were invited to suggest suitable research topics for discussion in the next Com-CSY Meeting No.
		003/16. Members agreed to nominate Ir Chan Chi-chiu to represent Com-CSY to review the research
		projects in the Task Force on Research.
		(vi) Evening Gathering for Hot Topics related to Construction Safety
		A Member suggested organising an evening gathering to share with industry stakeholders on hot
		topics related to construction safety quarterly. Com-CSY Chairperson would be invited to give
		sharing annually. Com-CSY Chairperson welcomed this suggestion and invited CIC Secretariat to explore the possibility in future.
		(vii) Follow up on Road Maintenance Works Accident
		A Member suggested CIC Secretariat to follow up on road maintenance works accident recently.
		DEVB reported that Highways Department was reviewing the "Code of Practice for the Lighting,
		Signing and Guarding of Road Works" and would issue within several months.
		[Post Meeting Note: Safety Alert No. 003/16 – "Road Maintenance Works Safety" was published on
		8 August 2016 and attached in Annex C of this paper for information. Moreover, CIC Secretariat
		would organise a CIC Seminar on Road Maintenance Works Safety on 29 Aug 2016.]

Remarks: The mentioned papers discussed at the Committee on Construction Safety and the full progress report can be made available to Council Members from the CIC Secretariat upon request.



CONSTRUCTION INDUSTRY COUNCIL 建造業議會 CIC/CMT/P/041/16 Use low voltage electrical hand tools and cordless electrical hand tools

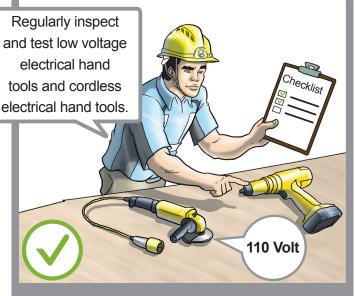
GOOD PRACTICES



Use low voltage (for example 110 Volt) electrical hand tools and cordless electrical hand tools to reduce the risk of electrocution. If you need to use 220 Volt electrical power tools, recommend to use a portable residual current device.



Using cordless electrical hand tools can minimise tripping accidents on site and improve housekeeping and productivity.



Low voltage electrical hand tools and cordless electrical hand tools should be inspected and tested regularly by a competent person.



Store electrical hand tools properly to maintain them in good condition.



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<u>CIC/CMT/P/041/16</u> <u>Annex B</u> Safety Precaution for Zika Virus Infection

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Zika virus infection is mainly transmitted to humans through the bite of an infected *Aedes* mosquito. To prevent Zika virus infection, persons responsible for construction sites and construction site workers should take the following anti-mosquito measures:

Persons responsible for construction sites should:

- Assign staff for the control and prevention of mosquitoes on site.
- Tidy up the construction site regularly, at least once a week and check for any accumulations of water.
- Remove all water collections and eliminate the source(s).
- Cover all containers that hold water to prevent mosquitoes from accessing the water.
- Fill up or wrap up the vertical poles of the bamboo to prevent accumulations of water.
- Dispose of objects that can contain water; such as empty lunch boxes, cans, disused articles and tyres; into covered container(s) and remove them from site regularly (at least once a week).
- Carry out larviciding at mosquito breeding sources or potential breeding grounds that are inaccessible or could not be eliminated.
- Install mosquito screens on windows and doors.
- Provide construction site workers with appropriate *DEET-containing insect repellent, especially when working in scrubby areas.
- Appoint professional pest control contractors to carry out mosquito control measures, such as fogging, whenever necessary.
- Regularly arrange toolbox training for construction site workers on the prevention of mosquitoes.
- Contact the district pest control offices or Pest Control Advisory Section of the Food and Environmental Hygiene Department on mosquito control or prevention on technical issues.

Construction workers should:

- Wear light-coloured and long-sleeved clothes and trousers.
- Apply *DEET-containing insect repellent on the clothes or skin according to label instructions.
- Avoid using fragrant cosmetics or skin care products during outdoor activities.
- Tidy up the construction site and check for any accumulations of water.
- · Remove all water collections and eliminate the sources.

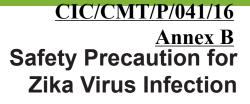


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- Change at least every week the water in flower vases and saucers of potted plants to prevent breeding of mosquitoes. The use of saucers should be avoided whenever possible.
- Cover all containers that hold water to prevent mosquito from accessing the water.
- Properly dispose of the articles that are able to contain water such as empty lunch boxes, cans and tyres.
- Avoid keeping used tyres on the site, or otherwise make large holes thereto to prevent water trapping if used tyres are adopted for particular purposes.

Staff working in sites on hills or slopes with scrub:

- Should wear light-coloured, long-sleeved clothes and long trousers.
- Should apply mosquito repellent (with *DEET as the active ingredient) on the clothes or skin according to the label instructions.
- Should kill and repel adult mosquitoes resting on the vegetation in the locale where work to be carried out by using "fumigators":
 - (i) Appoint professional pest control contractors to carry out "fumigation".
 - (ii) Assess the occupational safety and health risks arising from "fumigation" and implement all control measures effectively to minimise the risks.
 - (iii) Carry out the "fumigation" once the staff have reached the locale and before they start performing their work.
 - (iv) Carry out the "fumigation" in and on the periphery of the locale.
 - (v) Select those "fumigators" which only need adding water to the product for releasing the insecticide to kill or repel the mosquitoes
- Should be provided with a water based insecticide spray with knock-down effect for killing adult mosquitoes which may attack them when they are performing their work.
- Must not leave any article which may hold water on the work site.

Relevant Reference:

- For details, please visit the Centre for Health Protection website (http://www.chp.gov.hk/en/view_content/43086.html)
- 預防蚊蟲工具箱訓練教材 Architectural Services Department

*DEET - apart from DEET, insect repellents with other active ingredients, e.g. IR3535, Icaridin (also known as Picaridin), etc. are also available in the market. When using any insect repellent, contractors and site personnel should follow the label instructions and precautions.



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<u>CIC/CMT/P/041/16</u> <u>Annex B</u> Safety Precaution for Zika Virus Infection

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Appoint professional pest control Remove all water collections and contractor to carry out mosquito eliminate the source(s). control measures. Clear up the drainage Fill up or wrap up the vertical poles of the bamboo to prevent accumulations of water. channel to prevent clogging. 1 I

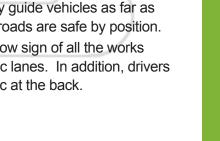


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CIC/CMT/P/041/16 Annex C **Road Maintenance Works Safety**

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Road maintenance works safety is a growing safety concern and challenge to the industry. If in the absence of suitable and detailed planning, organisation and implementation, particularly in the absence of a safe system of work (including risk assessment, hazard identification of works, development, implementation and monitoring of the safety control measures), it may lead to unsafe conditions to road maintenance workers as well as other road users. The following safety measures on road maintenance works will help reduce risks to those working on roadways and other road users.

As Contractors and Employers:

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General

- Strictly follow the requirements of Highways Department's "Code of Practice for the Lighting, Signing and Guarding of Road Works" (the Code).
- Erect relevant signs, road markings, barriers and road hazard warning lanterns with positions in compliance with the Code.
- Apply to the Highways Department for an expressway works permit for any road works on expressways.
- The traffic management devices must fulfil the standards described in Chapter 4 of the Code. All traffic signs and devices shall be maintained properly and cleaned regularly to ensure that they are clean, legible and in good working condition at all times. The surfaces of any traffic signs and reflective materials on any devices shall be smooth and free from creases. Any unsatisfactory signs or devices shall be replaced promptly.

Safe System of Works

- Appoint a competent person to conduct task-specific risk assessments in identifying all potential hazards including those related to road traffic and emergency situations, taking into account the nature of work, flow of traffic and movement of workers to-and-from the work area.
- Formulate safe work methods and procedures prior to the work with due regard to the results of risk assessments, and in line with relevant codes of practice and guidelines.

Warning Alert and Signal to Other Road Users

- As far as practicable, give advance warnings to alert road users about any emergency situations such as highway maintenance works (or road accidents ahead) through the display/ broadcasting systems.
- Adopt road diversion display and avoid arranging workers/ employees to physically guide vehicles as far as possible and ensure all workers/ employees who have to carry out their duties on roads are safe by position.
- Switch on the vehicle's hazard warning lights, the strobe lights and the flashing arrow sign of all the works vehicle(s) and the shadow vehicle to alert the oncoming vehicles to use other traffic lanes. In addition, drivers of the works vehicle(s) and the shadow vehicle shall pay attention to the road traffic at the back.



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Relevant Training and Personal Protective Equipment

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- Provide all workers/ employees with adequate information, instruction and training and ensure that they are conversant with the safe work procedures and safety measures.
- Provide all workers/ employees involving works on expressways with personal protective equipment as necessary such as safety helmet and reflective jackets, and ensuring their proper use of the equipment.

Communication, Monitoring and Control System

- Equip all the works vehicle(s) and the shadow vehicle with communication facilities in order to maintain effective communication among all related personnel.
- Develop and implement an effective monitoring and control system to ensure that the above safety measures are strictly followed, such as conducting site safety inspections by site foremen and safety officers/ safety supervisors of contractors.

Other Practical Tips

- As far as practicable, use automated machinery for laying/ retrieval of traffic cones so as to reduce workers' exposure to oncoming traffic.
- As far as practicable, avoid the works to be conducted during peak traffic hours.
- Place plant, equipment and tools as far away as practicable from the moving vehicles.
- Arrange the operation to be performed with the workers/ employees concerned facing oncoming traffic as far as possible.
- Depending on the traffic density and road conditions, seek assistance from the Police when setting up or subsequently removing a lane closure if necessary.

As Road Maintenance Works Supervisors and Workers:

Safety Notes

- Check the works vehicle(s), the shadow vehicle, the strobe lights, the truck mounted attenuator, the flashing arrow sign, the high intensity battery operated beacons, the low intensity battery operated lamps and the telecommunication equipment to ensure that they can function properly.
- Maintain the buffer distances between the works vehicle(s) and the shadow vehicle(s) according to Table
 A-1 of the Code and stop at pre-determined locations.
- Pay attention to the traffic conditions when staying on works vehicle(s) and ensure that it is safe before getting
 off the works vehicle(s).
- Face the direction of the oncoming traffic and pay attention to the traffic conditions when erecting warning signs, road hazard warning lanterns and traffic cones.
- Must wear proper personal protection equipment such as safety helmets and reflective jackets.



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<u>CIC/CMT/P/041/16</u> <u>Annex C</u> Road Maintenance Works Safety

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Road Maintenance Works on Expressways:

(i) The Use of Shadow Vehicle for Mobile Operations on Expressways

- When conducting mobile operations on expressways, shadow vehicles shall be used. Shadow vehicles
 must be equipped with suitable truck mounted attenuator, amber flashing beacons, flashing arrow signs
 and barricade signs. Please refer to Figure 1 for the equipment of a shadow vehicle. According to the
 speed limit of the road and mode of operation, the works vehicle and shadow vehicle need to maintain a
 proper buffer distance (Figure 2). The relevant requirement on buffer distance can be found in the Code.
- For road moving works at a bend or location with inadequate sightline distance, the shadow vehicle shall stay before the start of the bend or before the crest of a slope. The shadow vehicle shall also keep a distance of at most 100 metres from the works vehicle(s). When the length of a road section with inadequate sightline distance is longer than 100 metres, additional works vehicle(s) shall be provided between the shadow vehicle and the first works vehicle to prevent any vehicle bypassing the shadow vehicle from wedging-in the relevant road section inadvertently.
- Under the following circumstances, road mobile operation procedures on expressways shall not be carried out, except in emergencies:
 - (a) Work requiring works vehicle(s) to stop for more than 15 minutes;
 - (b) Inclement weather or poor visibility (such as dense fog); and
 - (c) Traffic flow is significantly affected.

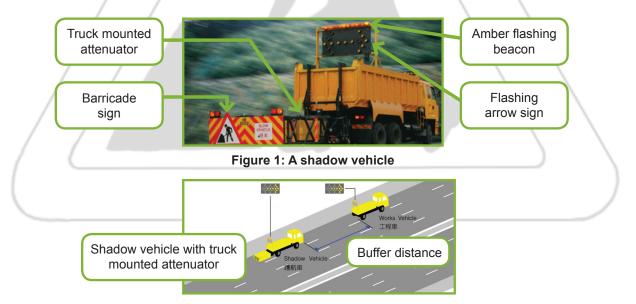


Figure 2: Works vehicle shall be escorted by a shadow vehicle



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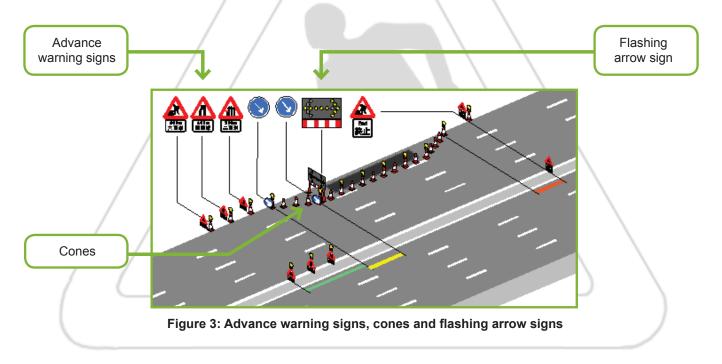


<u>CIC/CMT/P/041/16</u> <u>Annex C</u> Road Maintenance Works Safety

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(ii) Arrangements for Lane Closure on an Expressway

- The following figure shows the typical signs (including advance warning signs, cones and flashing arrow signs, etc.) to be used during lane closure on an expressway (see Figure 3), refer to Fig.B-1 to Fig.B-8 of the Code about the sign layouts for other lane closure on an expressway.
- The Code stipulates that, when carrying out maintenance works on expressways with lane closure, advance warning signs shall be displayed at least 600 metres in advance of the works area. Flashing arrow signs shall also be displayed where temporary diversion begins.
- The detailed display requirements of advance warning signs and cones can be found in the Code. A
 flashing arrow sign has a matrix of individual lights that can flash on and off in a predetermined manner to
 show signs such as "arrow to the right" or "arrow to the left". When there are stationary or slowly-moving
 works vehicles on an expressway, it must be used to warn drivers to take special care. The mounting
 height of flashing arrow sign should not be less than 3.3 metres in order to provide advance warning.



Reference Material:

 Code of Practice for the Lighting, Signing and Guarding of Road Works, Highways Department, Hong Kong Special Administrative Region (HKSAR)



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