

Experience sharing of cases involving road works carried out within restricted hours

Louis CHAN

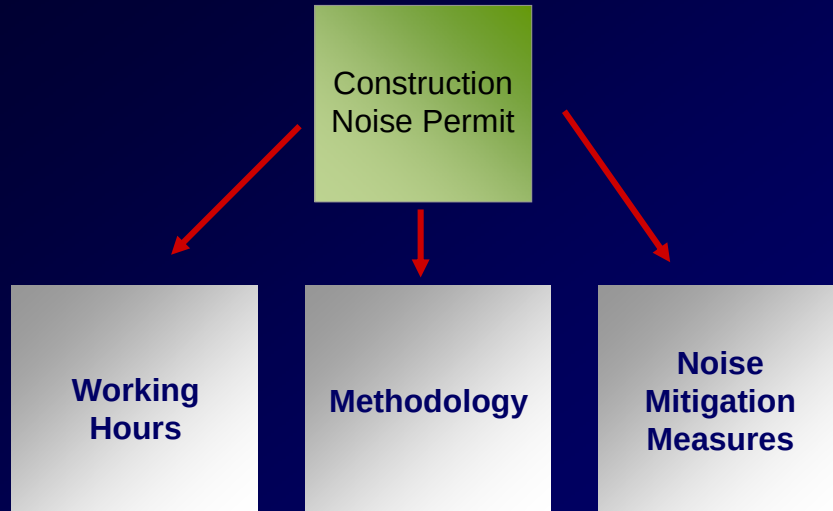


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Introduction



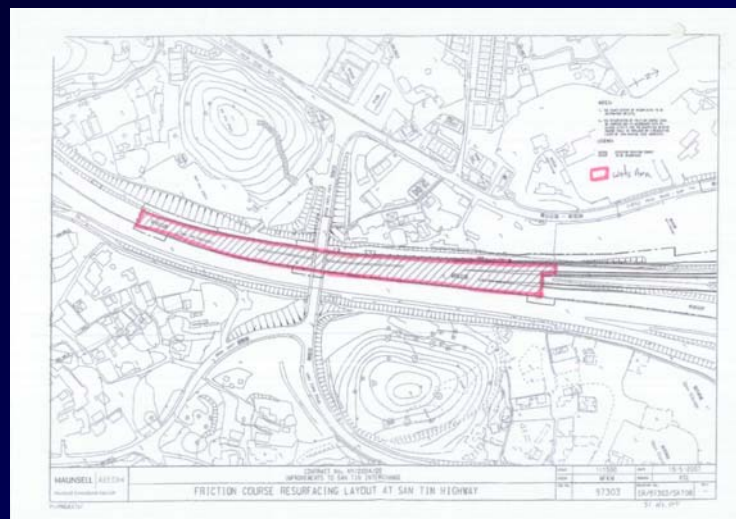
Case 1

Mid-night road resurfacing works

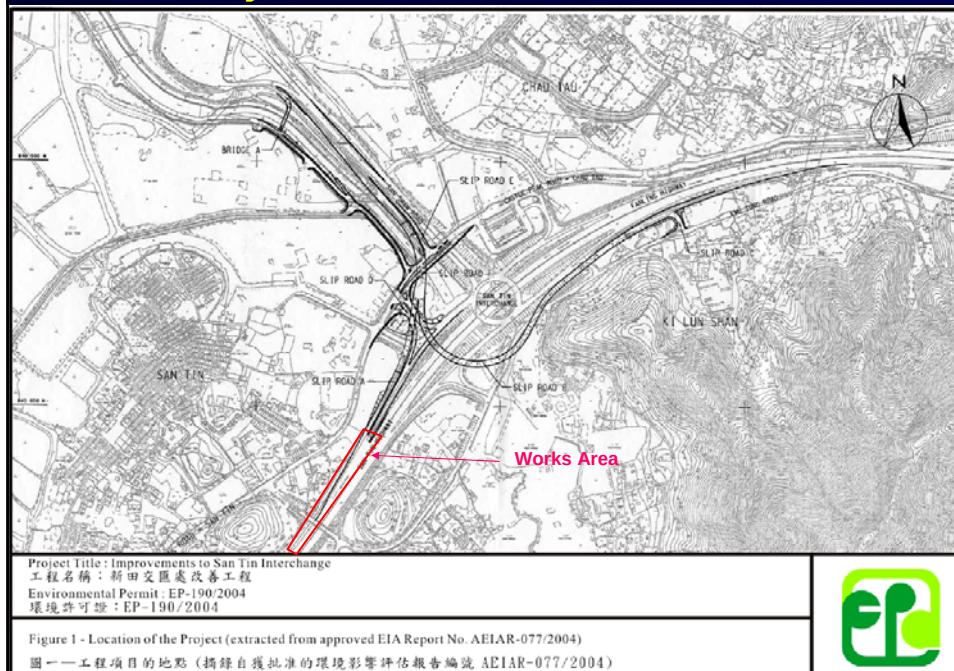
Resurfacing works

- New flyovers near San Tin Interchange were opened to cross-boundary goods vehicles in May 2007.
- Resurfacing was needed to remove obsolete road markings.
- TMLG meeting identified a need to close traffic lanes in stages at mid night in order to carry out the works.
- Road milling had to be conducted after 2300hrs.

Works Area



The Project and Works Area



Supporting documents on Proposed Working Hours

Contract No. HS/2004/99
Improvements to San Tin Interchange
Notes of TMLG Meeting No. 25

TMLG meeting minutes

Drawing Nos. 946, 947, 948 and 949 resurfacing on San Tin Highway at night time in order to remove the obsolete roadmarkings.

proposed to commence at 00:00hrs.

- HKPF considered the traffic volume heavy to close down two out of a total of four lanes on San Tin Highway.
- agreed to further divide the imp two sub-stages. The first sub-stage will commence at 00:00hrs. The second sub-stage will commence at 00:00hrs, commencing at 00:00hrs removed before 06:00hrs.
- so prepare revised drawing (with closure clearly marked thereon) for endorsement by TMLG members.

TD's Comment on revised TTA

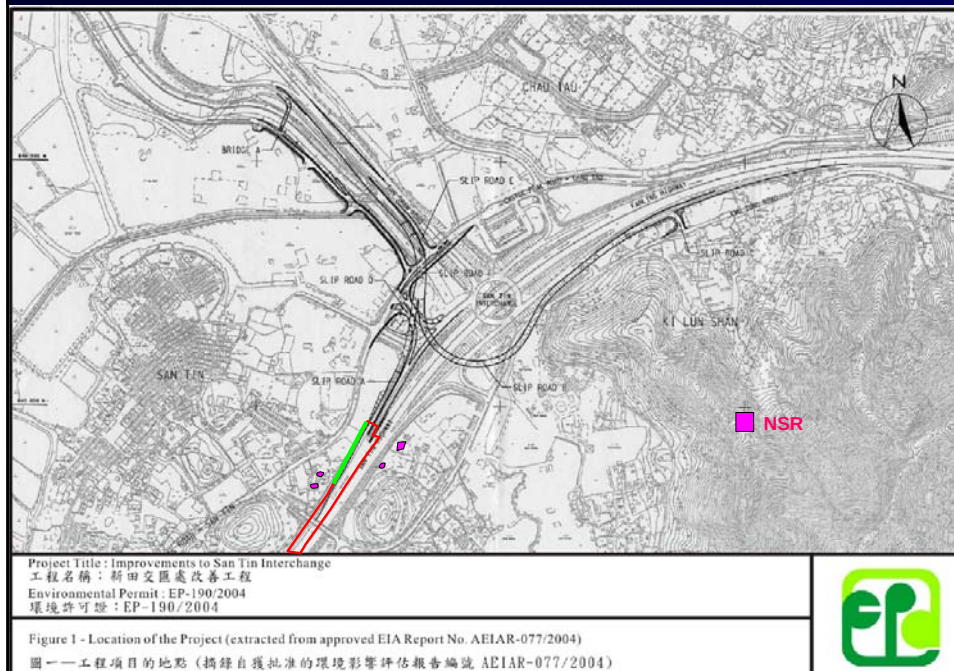
I have no comment.

18/07/2007 15:40

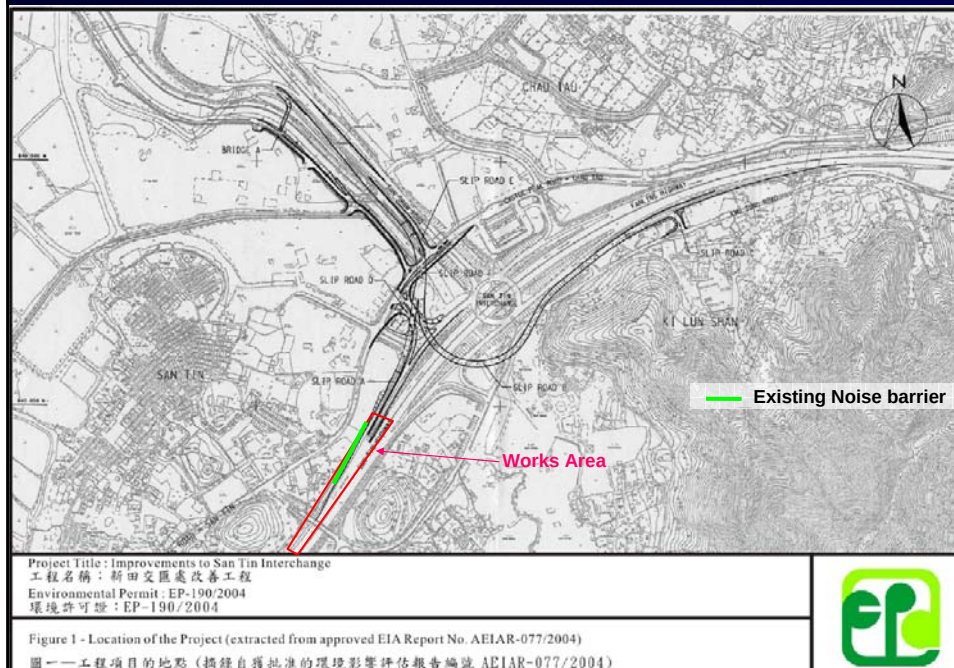
HKPF's Comment on revised TTA

Dear [redacted]
 We spoke. No adverse comment from my side. Thank you.
 BR
 RMO E&C T NTN

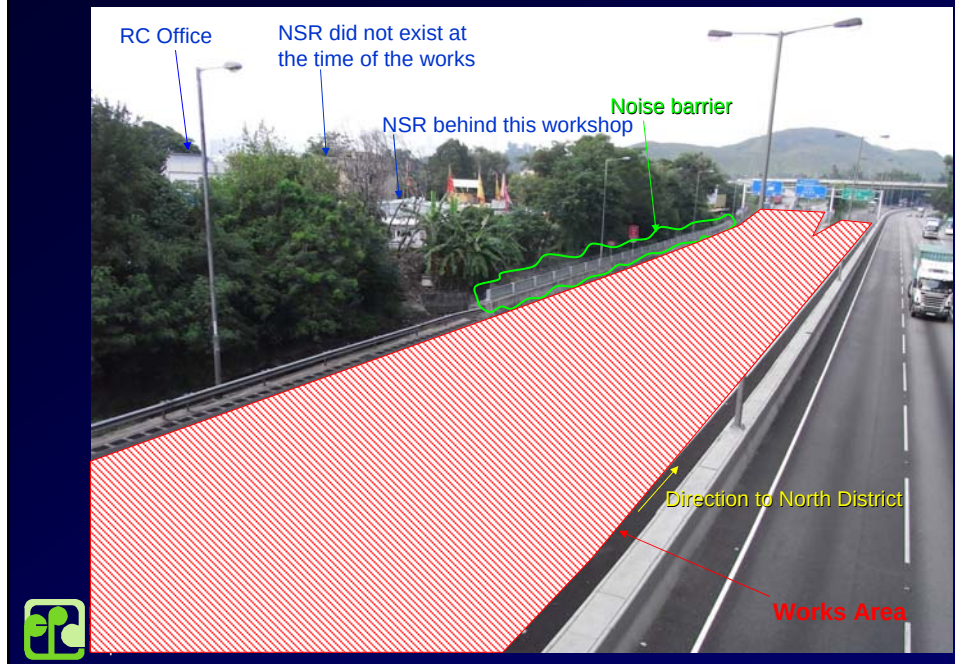
Noise Sensitive Receivers near the Works Area



Noise Barrier near Works Area

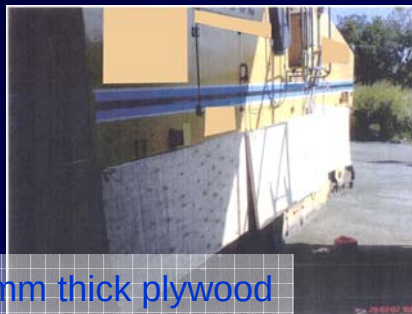


1. Roadside noise barriers close to the nearest NSRs



Measures to Minimize Noise Impact

1. Noise panels attached to noisy PME



Noise panels made of 10mm thick plywood and 50mm thick sound absorbing lining



Environmental Protection Department

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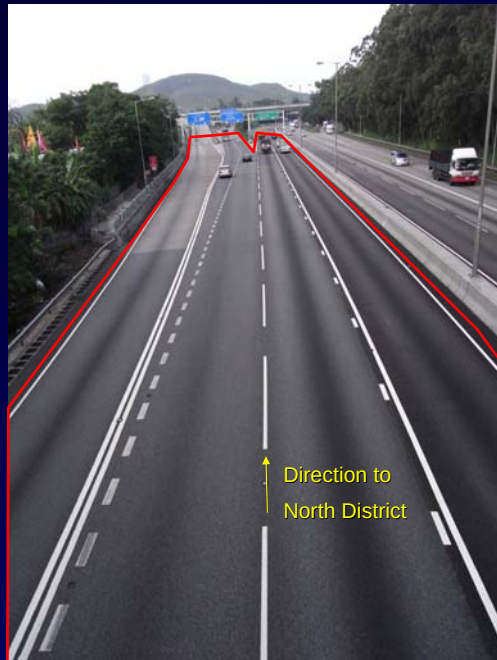
2. Noisy Breaking Operation Avoided



Environmental Protection Department

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No manhole cover within works area



Keys to the Successful Application

- Submission
 - supporting documents from traffic authorities
 - noisy breaking operation avoided
 - practicable noise mitigation measures proposed
 - existing roadside noise barrier, which helped minimizing noise impact, identified to EPD
- Clarified queries with EPD RO staff before making submission

Results

- No non-compliance of CNP conditions reported
- No complaint received
- Works completed as planned

Lessons Learnt

- Noisy breaking process for resurfacing works could be avoided with careful works planning
- Simple modification to PME may produce noticeable noise reduction effect
- Apply only necessary equipment in the CNP application (CNP may be cancelled if information provided in application was misleading)

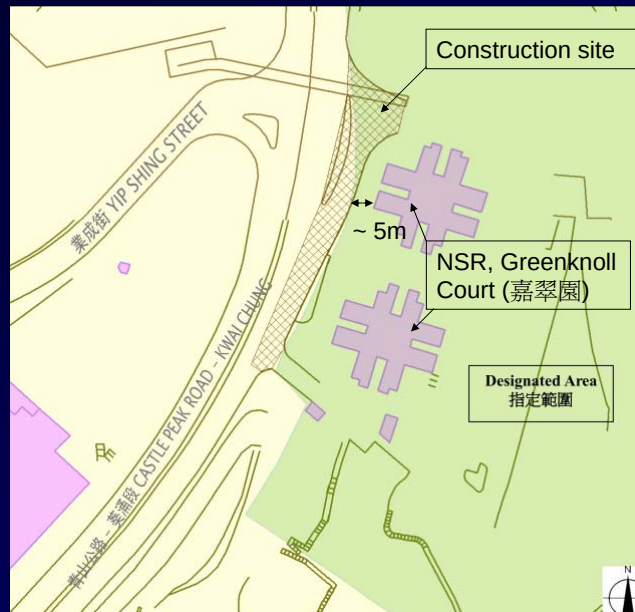
Case 2

Day-time works during public holidays

CNP for Road Resurfacing Works

- Site & scope of work: Resurfacing of Castle Peak Road – Kwai Chung
- Noise Levels at NSR can be over 90 dB(A) without mitigation
- CNP granted under special provisions due to unavoidable constraints on working hours

Site plan



Site at Castle Peak Road – Kwai Chung



Site at Castle Peak Road – Kwai Chung



Environmental
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Department

PME & PCW involved

Group A	Road miller, Dump truck with grab
Group B	Mini road miller, Dump truck with grab
Group C	Portable generator, Handheld electric breakers
Group D	Asphalt paver, Dump truck, Road roller, Roller vibratory
Group E	Portable generator, Concrete saw
Group F	Portable generator, Coring machine
Group G	Road sweeper, Dump truck with grab
Group H	Portable generator
PCW002	Loading, unloading or handling of rubble



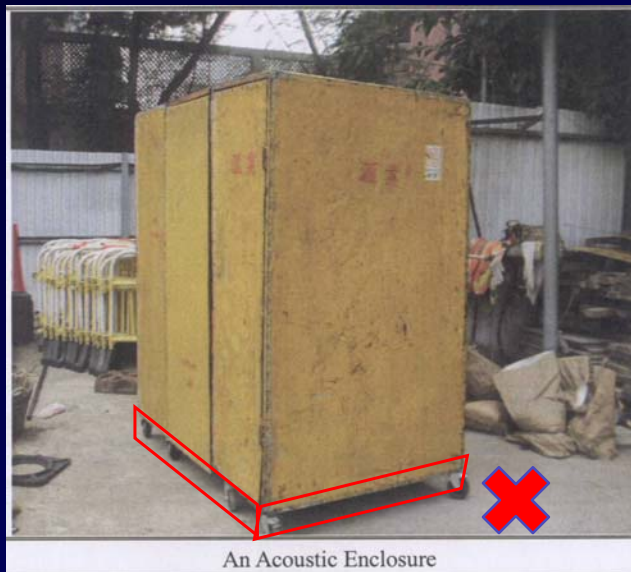
Environmental
Protection
Department

Support of the CNP Application

- Provided supporting documents
 - TMLG meeting notes with the attendance of representatives from HyD, TD, Police & Contractor (Shun Yuen)
 - Police RMO & TD's advice recommending the work to be carried out during daytime of public holiday
- Proposed quiet practices to minimize noise impact, e.g. noise enclosure, electric breaker, etc.



Noise enclosure



Specific CNP Conditions

- **Permitted working hours:**
 - General holiday: 09:00 – 19:00 hours
 - Only three 10-hour working time periods (09:00 – 19:00 hours) during the validity period
- **Only one group of the PME at a time;**
- **Noise enclosure for noisy PME, i.e. hand-held breakers, concrete saw, coring machine, etc;**
- **Noise mitigation measures for paver, miller, road roller, vibratory roller, etc;**



Lesson learnt on good practices

- Contractor sought agreement from the nearby NSR (i.e. Greenknoll Court 嘉翠園) & bus operators on working hours and traffic arrangement
- Prior discussion and agreement in TMLG among HyD, TD, Police & Contractor (Shun Yuen)
- Confined the working hours to daytime of general holiday, and avoided night-time work
- Implemented practical on-site measures in accordance with CNP conditions to minimize noise impact
- Good planning & liaison resulted in zero complaints



Extract from TMLG meeting notes (1)

Date/Time : 5 January 2011 / 2:30 P.M.

Venue : 8/F., Monkong Government Offices, Luen Wan St., Kln.

Present :

Transport Department (TD)	PTO	Mr. Y K Wong
Hong Kong Police Force (HKPF)	S/SGT	Mr. Tommy Yuen
Highways Department (HyD)	ME/KT	Mr. K K Hung
	ME/TW	Mr. K P Chui
	MSIOW/KT	Mr. H A Hung
	MSIOW/TW	Mr. K K Chan
	MIOW/TW	Mr. S W Li
Shun Yuen Construction Ltd (SY)	Technical Manager(Traffic Management)	Mr. K S Cheung, David
	Site Agent	Mr. P B Wong, Ben
	Site Agent	Mr. K M Wong



Extract from TMLG meeting notes (2)

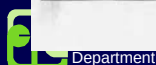
3.0 Details

- 3.1 Item 1 : **Castle Peak Road-Kwai Chung from L/P FB0828 – FB4304 (opposite Greenknoll Court)**
 Plan ID 1014772
 Staging of TTA 1

It was discussed in previous TMLG meeting on 21 Sept 2010.

- Proposed working time **0900-1900 in Sunday and public holiday** was agreed before.
- But SY were requested to (1) seek comment from Greenknoll Court (GC), bus companies; (2) provide a clearer TTA sketch.

SY said that a site meeting had been conducted amongst GC/HyD/SY after last TMLG meeting and subsequent with close liaison between GC/SY until their satisfactory to our arrangement.



Example of CNP Cancellation

- WSD project in Jordan Road
- TMLG advised only nightwork permitted
- Day time road closure was implemented
- CNP cancelled



Case 3

Intensive works within long public holidays and subsequent maintenance



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Scope of Works

- **Laying of Low Noise Road Surface**
 - 420m (3 lanes uphill)
 - 220m (2 lanes downhill)
- **Maintenance of low noise road surface & anti-skid road surface**



Site Constraints

- **Heavy Traffic Flow**
- **Difficult to arrange lane closure**
 - Major route connecting the district and urban areas
 - Numerous and frequent public transport services
 - ☒ **Lane closure in weekdays' morning/evening**
 - ⇒ **Confined to within 0030 to 0530 hours for most of the works**
- **Nearest Noise Sensitive Receivers 80m away**
- **Anti-skid surface requires frequent maintenance**



Work Progress

- **Laying of Low Noise Road Surface**
 - Phase 1 of 3 lanes uphill
 - 25-28 December 2008 (Christmas)
 - Phase 2 of 3 lanes uphill
 - 10-13 April 2009 (Easter)
 - Phase 3 of 2 lanes downhill
 - 25-27 December 2010 (Christmas)
- **Regular maintenance of low noise road surface & anti-skid road surface**



Preparatory Works

- **Traffic Impact Assessment**
- **Liaison with District Council**
- **Meetings with Police, Transport Department, Highways Department, Tunnel Company and EPD**
- **Study all possible work options**
- **Devise methodology to allow noisy works in day-time**
- **Customize noise mitigation measures for equipment**



Features of the CNPs

- About 30 CNPs issued in the last 3 years
- Only 1 CNP valid in any one day
- CNP validity period from 3 days to 6 months
- Permitted working hours
 - round-the-clock for long holiday works
 - mid-night (eg. 0030 to 0530 hours) for maintenance
 - day-time in holidays
- A few complaints received
- Works carried out on schedule



Noise Mitigation Measures

- Baffle/ Moveable Noise Barrier
 - Single for NSR on 1 side
 - Twin for NSR on both side



Noise Mitigation Measures

- Noise Enclosure
 - For noisy PME such as breaker



Other Practical Measures

- Noise Enclosure
 - Modular design to facilitate change in length and width to fit different work site area



Other Practical Measures

- **Noise Enclosure**
 - Fixed type to provide full coverage of working area



Successful Keys

- Prepare in advance
 - Allow sufficient time (days, weeks or months)
- Liaise with stakeholders
 - NSR, DC, Departments, etc
- Arrange works in good order
 - Timing, methodology, types of equipment, noise reduction measures
- Narrow down the scope
 - Break down complicated project into individual tasks
 - Specific area, duration, work nature

Thank You

