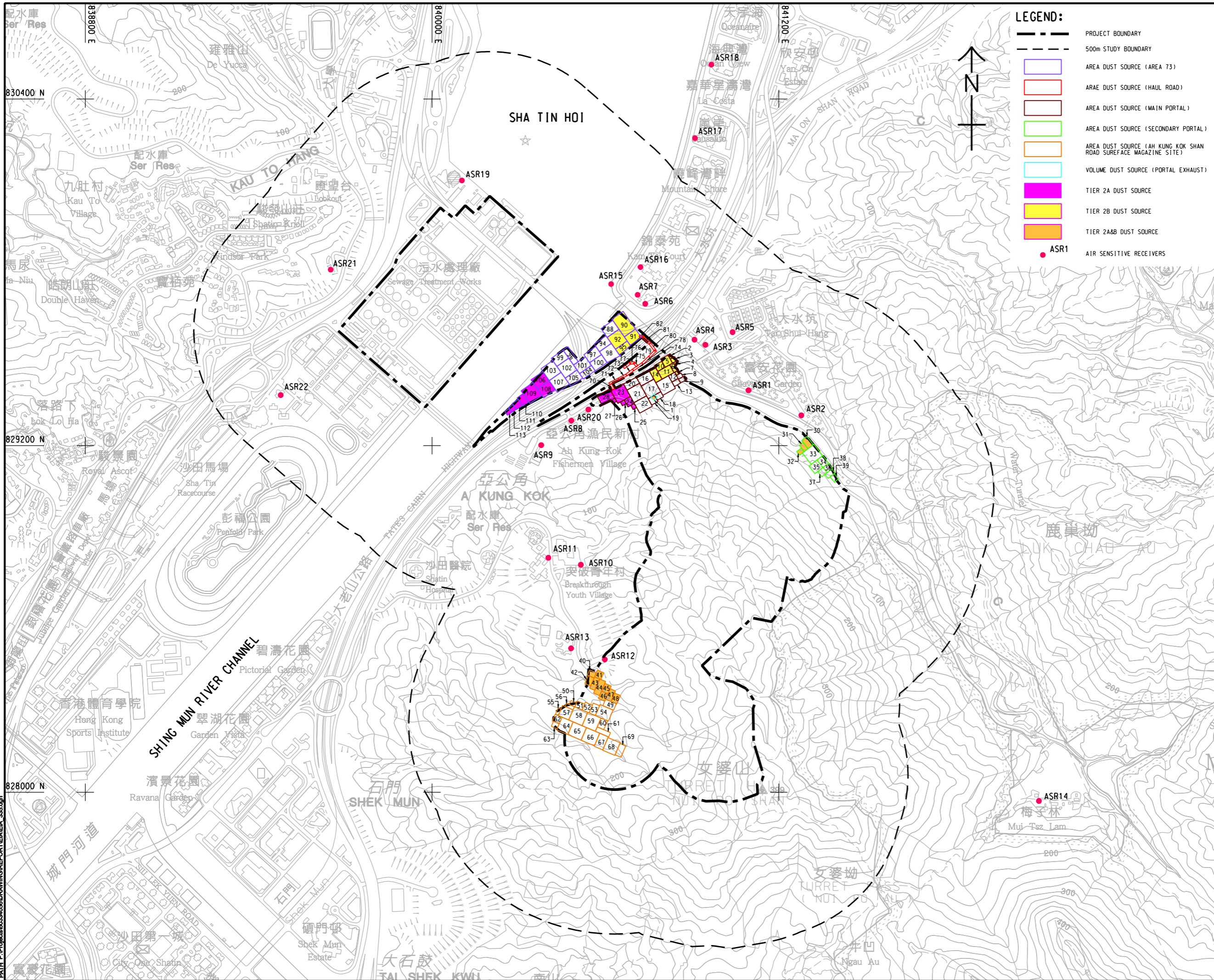








ISO A1 594mm x 841mm  
 Approved:  
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 Designer:  
 Project Management Initials:  
 Pld File by: PENGMW 20160221  
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**LEGEND:**

- PROJECT BOUNDARY
- 500m STUDY BOUNDARY
- AREA DUST SOURCE (AREA 73)
- AREA DUST SOURCE (HAUL ROAD)
- AREA DUST SOURCE (MAIN PORTAL)
- AREA DUST SOURCE (SECONDARY PORTAL)
- AREA DUST SOURCE (AH KUNG KOK SHAN ROAD SURFACE MAGAZINE SITE)
- VOLUME DUST SOURCE (PORTAL EXHAUST)
- TIER 2A DUST SOURCE
- TIER 2B DUST SOURCE
- TIER 2A&B DUST SOURCE
- ASR1
- AIR SENSITIVE RECEIVERS



**PROJECT**  
 項目  
**RELOCATION OF SHA TIN SEWAGE TREATMENT WORKS TO CAVERNS: CAVERNS AND SEWAGE TREATMENT WORKS - INVESTIGATION, DESIGN AND CONSTRUCTION**

**CLIENT**  
 業主  
 渠務署  
 Drainage Services Department

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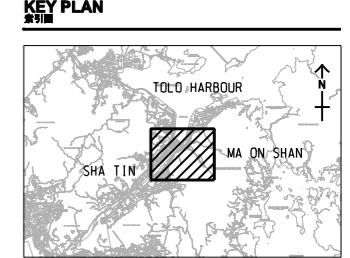
**ISSUE/REVISION**  
 修訂

No.	Date	Description	CHK.
A	JAN. 16	EIA	
-	SEP. 15	EIA (DRAFT)	

**STATUS**  
 階段

**SCALE**  
 比例  
 A3 1: 12000

**DIMENSION UNIT**  
 尺寸單位  
 METRES



**PROJECT NO.**  
 項目編號  
 60334056

**CONTRACT NO.**  
 合約編號  
 CE 30/2014 (DS)

**SHEET TITLE**  
 圖紙標題  
 LOCATION OF CONSTRUCTION DUST EMISSIONS SOURCE (CONSTRUCTION OF CSTW)

**SHEET NUMBER**  
 圖紙編號  
 60334056/EIA/3.35A

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**Appendix 3.02e Demolition of Existing STSTW - Calculation of Dust Emission Source**

**Demolition of Existing STSTW**

**Emission rates for Short-term Average Prediction (Tier 1)**

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks			
Construction Sites at Existing STSTW	Construction Activities Source ID: 1 - 83	Heavy Construction Area Source (g/m <sup>2</sup> /s)	2.075617E-04	2.594522E-05	TSP emission factor (Mg/hectare/month of activity)	2.69 from AP-42, S13.2.3, 1/95 ed.			
					Percentage area actively operating (%)	100 Full strength (Tier 1 Test)			
					% of dust suppression	87.5 Assuming watering eight times a day, reference to Kai Tak Development EIA Report			
					no. of operation hour (hr)	12 Assumed typical working hours of work site referenced in AP-42			
					Emission height (m)	0.5			
		Wind Erosion Area Source (g/m <sup>2</sup> /s)	9.81767E-05	1.22721E-05	RSP emission factor (Mg/hectare/month of activity)	1.27237	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4		
					% fraction of TSP	0.473			
					FSP emission factor (Mg/hectare/month of activity)	0.19368		from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4	
						% fraction of TSP			0.072
						TSP emission factor (Mg/hectare/yr)			0.85 AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)	100 Full strength (Tier 1 Test)								
Emission height (m)	0.5								
Wind Erosion Area Source (g/m <sup>2</sup> /s)	1.27489E-06	1.86806E-06	RSP emission factor (Mg/hectare/month of activity)	0.40205	from USEPA AP-42, Appendix B.2 Table 2.2 Category 3				
			% fraction of TSP	0.473					
			FSP emission factor (Mg/hectare/month of activity)	0.0612					
% fraction of TSP	0.072	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4							

**Emission rates for Short-term Average Prediction (Tier 2)**

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks			
Construction Sites at Main Portal	Construction Activities Source ID: 1 - 83	Heavy Construction Area Source (g/m <sup>2</sup> /s)	2.075617E-04	2.594522E-05	TSP emission factor (Mg/hectare/month of activity)	2.69 from AP-42, S13.2.3, 1/95 ed.			
					Percentage area actively operating (%)	100 Full strength (Tier 2 Test)			
					% of dust suppression	87.5 Assuming watering eight times a day, reference to Kai Tak Development EIA Report			
					no. of operation hour (hr)	12 Assumed typical working hours of work site referenced in AP-42			
					Emission height (m)	0.5			
		Wind Erosion Area Source (g/m <sup>2</sup> /s)	9.81767E-05	1.22721E-05	RSP emission factor (Mg/hectare/month of activity)	1.27237	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4		
					% fraction of TSP	0.473			
					FSP emission factor (Mg/hectare/month of activity)	0.19368		from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4	
						% fraction of TSP			0.072
						TSP emission factor (Mg/hectare/yr)			0.85 AP-42, 5th ed., Table 11.9.4
Percentage area actively operating (%)	100 Full strength (Tier 2 Test)								
Emission height (m)	0.5								
Wind Erosion Area Source (g/m <sup>2</sup> /s)	1.27489E-06	1.86806E-06	RSP emission factor (Mg/hectare/month of activity)	0.40205	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4				
			% fraction of TSP	0.473					
			FSP emission factor (Mg/hectare/month of activity)	0.0612					
% fraction of TSP	0.072	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4							

**Appendix 3.02e Demolition of Existing STSTW - Calculation of Dust Emission Source**  
**Demolition of Existing STSTW**

**Emission rates for Long-term Average Prediction (Annual)**

Location	Source	Emission Rates	(Unmitigated)	(Mitigated)	Parameters	Remarks	
Construction Sites at Main Portal	Construction Activities  Source ID: 1 - 83	Heavy Construction Area Source (g/m <sup>2</sup> /s)	2.075617E-05	2.594522E-06	TSP emission factor (Mg/hectare/month of activity)	2.69	from AP-42, S13.2.3, 1/95 ed.
					Percentage area actively operating (%)	10	Worst case assumption, refer to Justification of Percentage Active Works Area for Caverns for Relocation of STSTW
					% of dust suppression	87.5	Assuming watering eight times a day, reference to Kai Tak Development EIA Report
					no. of operation hour (hr)	12	Assumed typical working hours of work site referenced in AP-42
					Emission height (m)	0.5	
		Wind Erosion Area Source (g/m <sup>2</sup> /s)	9.81767E-06	1.22721E-06	RSP emission factor (Mg/hectare/month of activity)	1.27237	
					% fraction of TSP	0.473	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
					FSP emission factor (Mg/hectare/month of activity)	0.19368	
					% fraction of TSP	0.072	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4
					TSP emission factor (Mg/hectare/yr)	0.85	AP-42, 5th ed., Table 11.9.4
	2.695332E-07	1.27489E-07	Percentage area actively operating (%)	10	from engineer		
			Emission height (m)	0.5			
			RSP emission factor (Mg/hectare/month of activity)	0.40205			
			% fraction of TSP	0.473	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4		
			FSP emission factor (Mg/hectare/month of activity)	0.0612			
	1.94064E-08	0.072	from USEPA AP-42, 5th ed. 11/06 ed. S13.2.4				

## Appendix 3.02e Demolition of Existing STSTW - Calculations of Construction Dust Emission Rates

### Justification of Percentage Active Works Area for Caverns for Relocation of STSTW

Construction Peak Year = 2027  
 Total Area of for Works Area for Caverns = 280019 m<sup>2</sup>

#### A1450 Demolition of Existing STSTW

Plant	Percentage of Usage (%)	Plan Size			Area in term of Time of Usage (m <sup>2</sup> )
		B (m)	L (m)	No. of Item	
Excavator	100%	3.2	8	20	512
Excavator with rock breakers	100%	3.2	8	40	1024
Dump Truck	100%	2.4	10	40	960
Air compressor	100%	-	-	20	-
Generator	100%	-	-	20	-
Lorry	100%	2.4	10	20	480
Mobile Crane	100%	2.6	10	10	260
Cutter	100%	-	-	20	-
Pneumatic Breaker	100%	-	-	40	-
<b>A1450</b>		<b>Total:</b>			<b>3236</b>
		<b>Percentage of Usage Area to Works Area:</b>			<b>1.2%</b>

As a worst case assumption, all construction activities are assumed to be carried out at the same time

<b>Total Percentage of Usage Area to Works Area for CSTS</b>	<b>1.2%</b>
<b>Percentage adopted in Dust model for Short-term Assessment</b>	<b>20%</b>
<b>Percentage adopted in Dust model for Annual Assessment</b>	<b>10%</b>

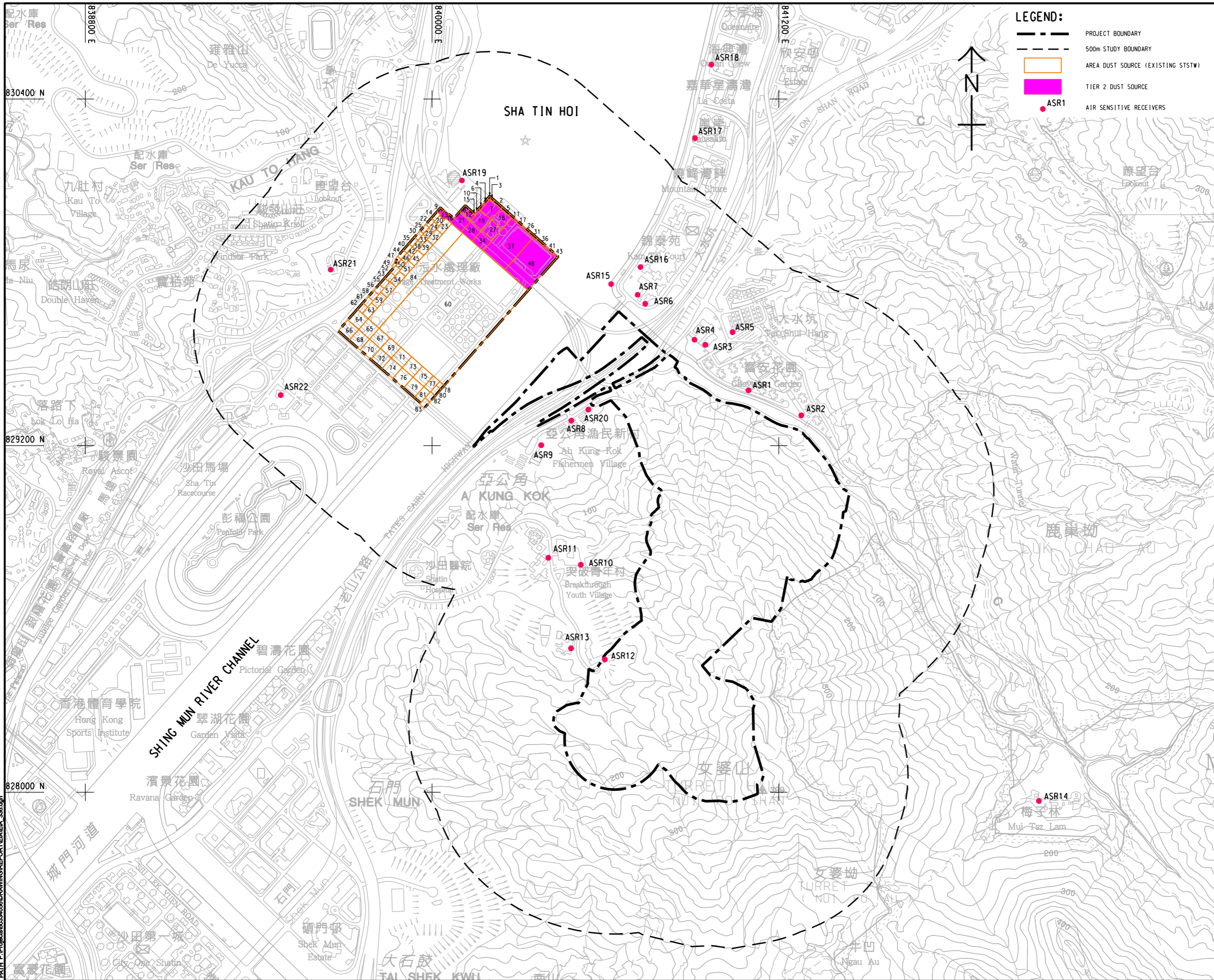








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**AECOM**

**PROJECT**  
 項目  
**RELOCATION OF SHA TIN SEWAGE TREATMENT WORKS TO CAVERNS: CAVERNS AND SEWAGE TREATMENT WORKS - INVESTIGATION, DESIGN AND CONSTRUCTION**

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**ISSUE/REVISION**  
 修訂

NO.	DATE	DESCRIPTION	CHK.
A	JAN. 16	EIA	
-	SEP. 15	EIA (DRAFT)	

**STATUS**  
 階段

**SCALE**  
 比例  
 A3 1: 12000

**DIMENSION UNIT**  
 尺寸單位  
 METRES

**KEY PLAN**  
 索引圖

**PROJECT NO.**  
 項目編號  
 60334056

**CONTRACT NO.**  
 合約編號  
 CE 30/2014 (DS)

**SHEET TITLE**  
 圖紙名稱  
 LOCATION OF CONSTRUCTION DUST EMISSION SOURCE (DEMOLITION OF EXISTING STSTW)

**SHEET NUMBER**  
 圖紙編號  
 60334056/EIA/3.36A

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