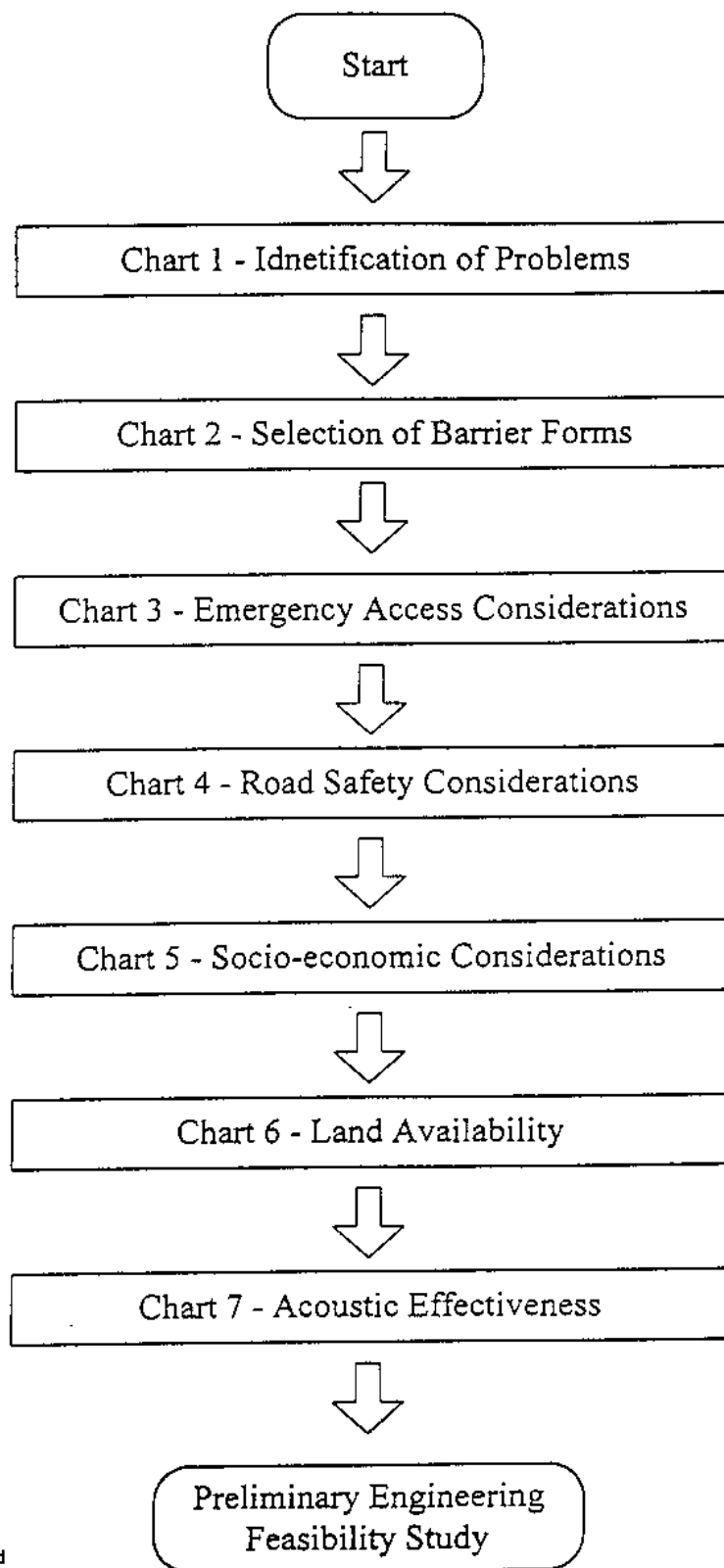


## Figures

## Simplified Assessment Procedures



M15698\simply.vsd

**Maunsell**

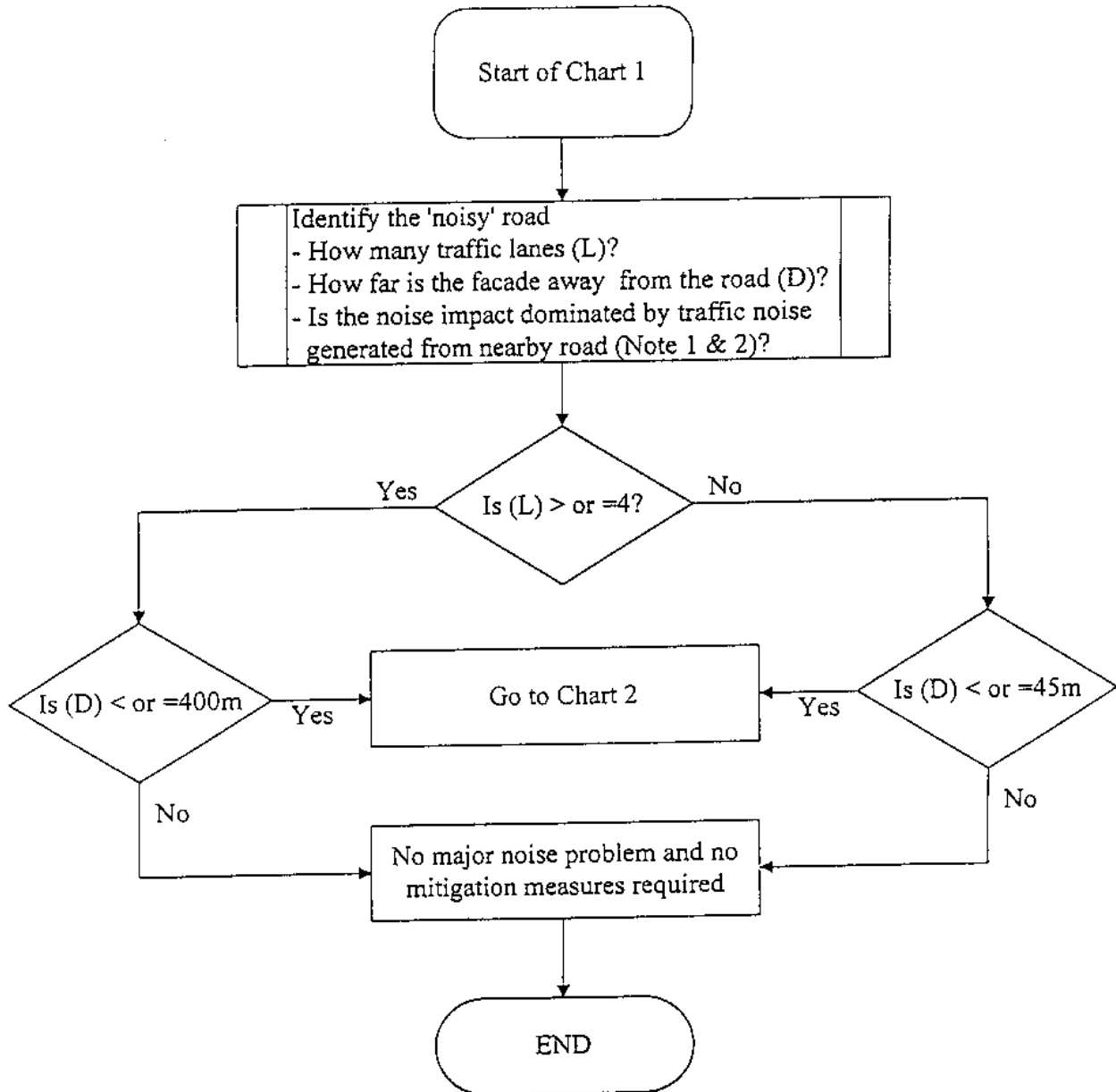
TITLE

Simplified Assessment Procedures

MAUNSELL ENVIRONMENTAL  
MANAGEMENT CONSULTANTS LTD

PROJECT NO	M15698	DATE	Dec. 1998
DESIGNED CHECKED	Wendy Tao	DRAWING NO	Figure 2.1

Chart 1 - Identification of Problems



Note 1: If the noise impact is dominated by traffic noise generated from other roads i.e. roads other than the one under investigation, no practical scheme should be provided for the road under investigation.

Note 2: Noise impacts from other roads are considered predominant if the following conditions apply:

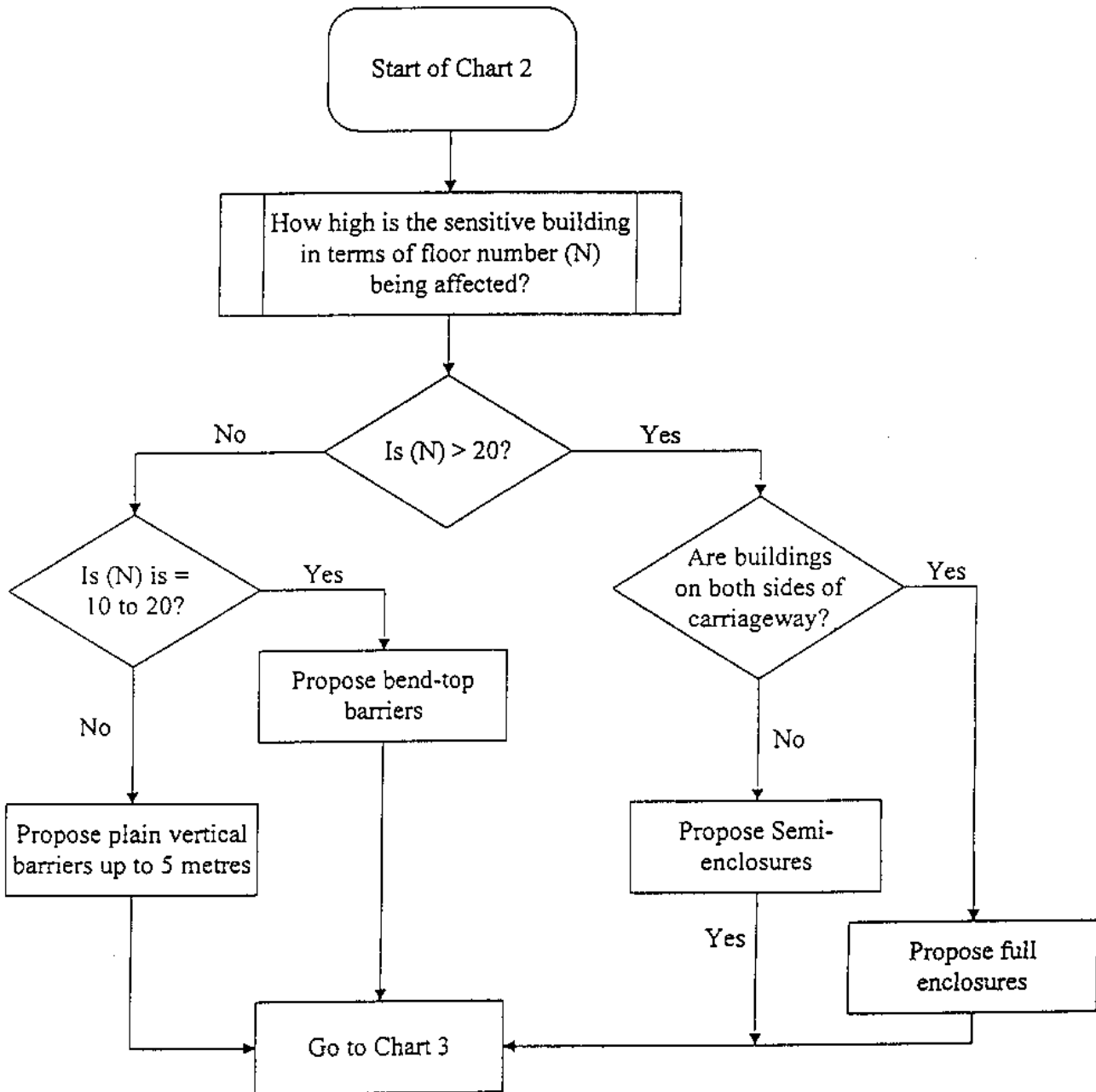
- (a) Case 1: Other road has more or equal number of traffic lanes  
The road is 50% closer to the receiver than the road under investigation, while the angle of view of the road is no less than 50%.
- (b) Case 2: Other road has 50% lesser number of traffic lanes  
The road is more than 80% closer to the receiver while the angle of view of the road is similar.

M15698/chart1.vsd

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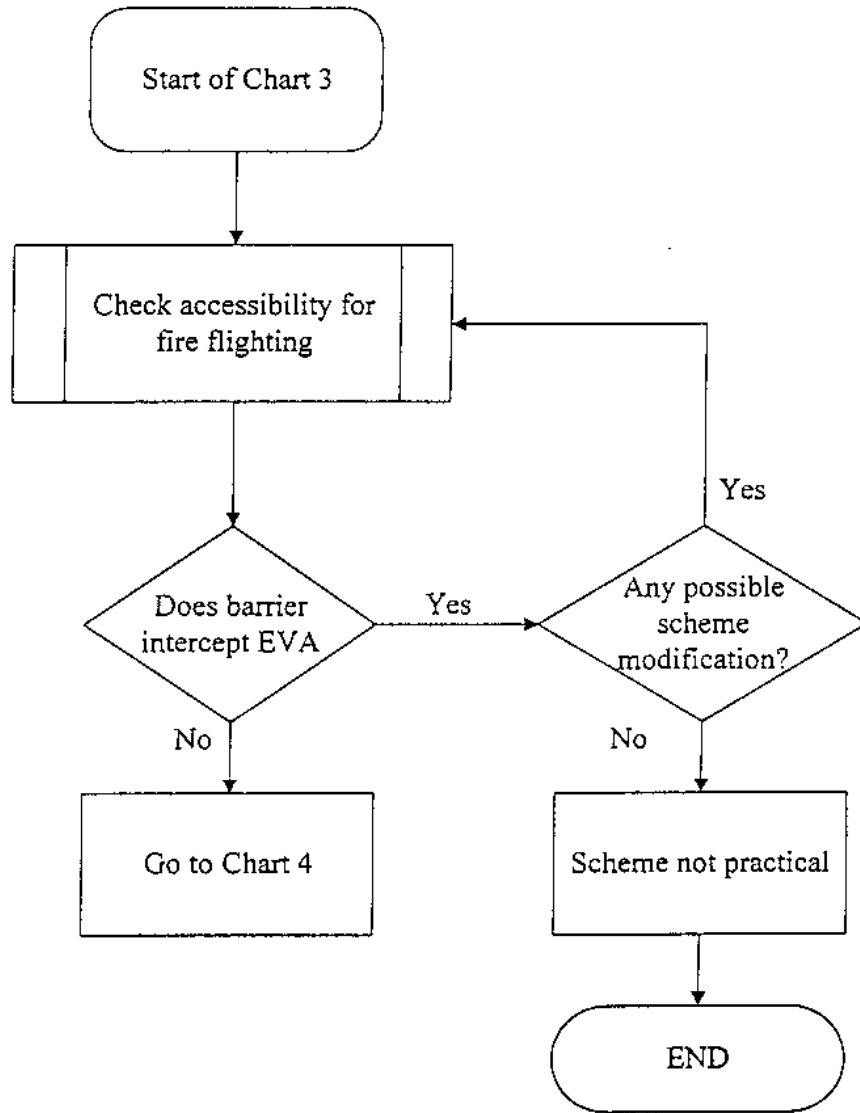
	TITLE	MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD			
	Chart 1 - Identification of Problems	PROJECT NO	M15698	DATE	Dec. 1998
		DESIGNED/ CHECKED	Wendy Tao	DRAWING NO	Figure 2.2

Chart 2 - Selection of Barrier Forms



M15698/chart2.vsd

### Chart 3 - Emergency Access Considerations

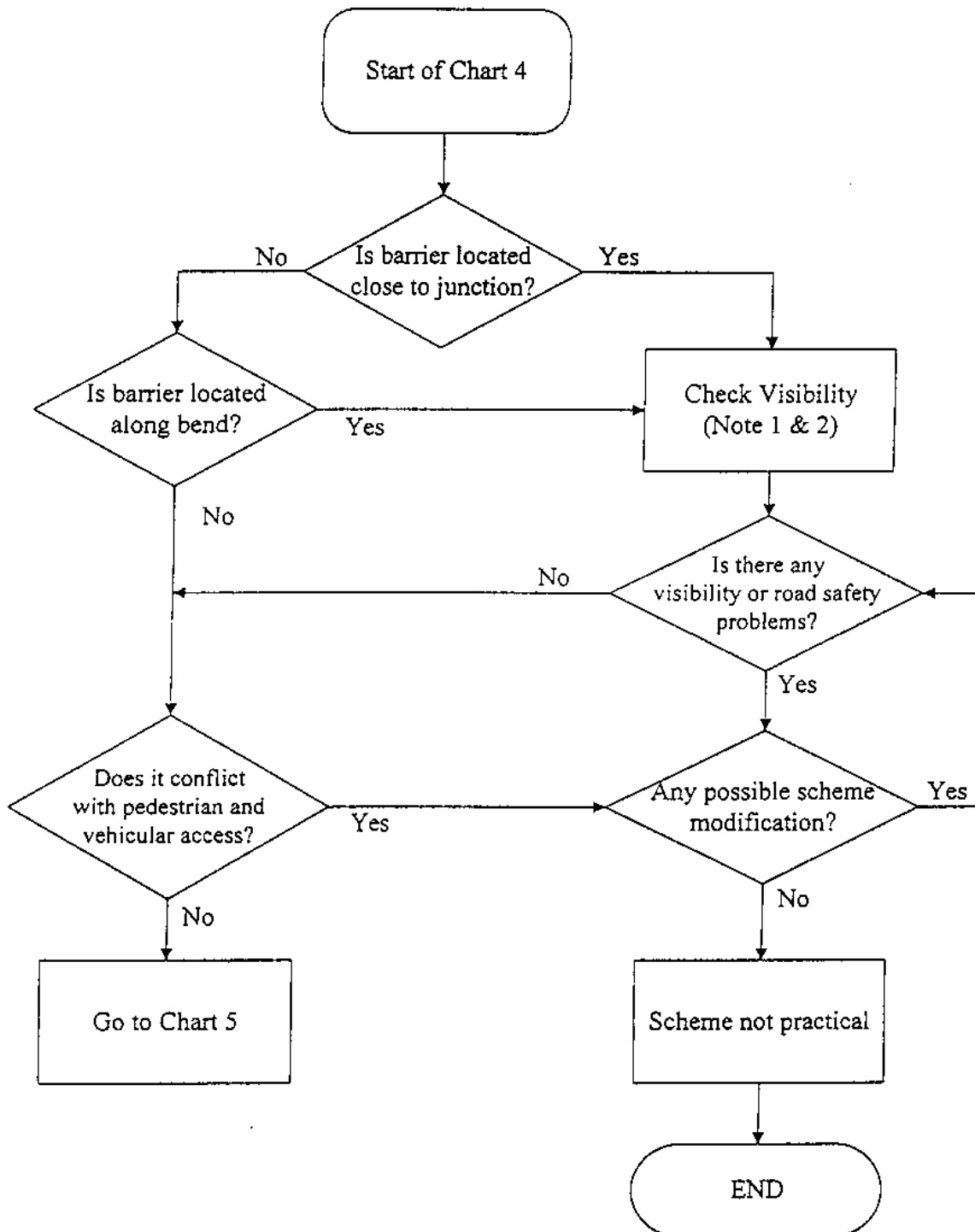


M15698/chart3.vsd

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TITLE	MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD			
	PROJECT NO	M15698	DATE	Dec. 1998
	DESIGNED/ CHECKED	Wendy Tao	DRAWING NO	Figure 2.4
Chart 3 - Emergency Access Considerations				

Chart 4 - Road Safety Considerations

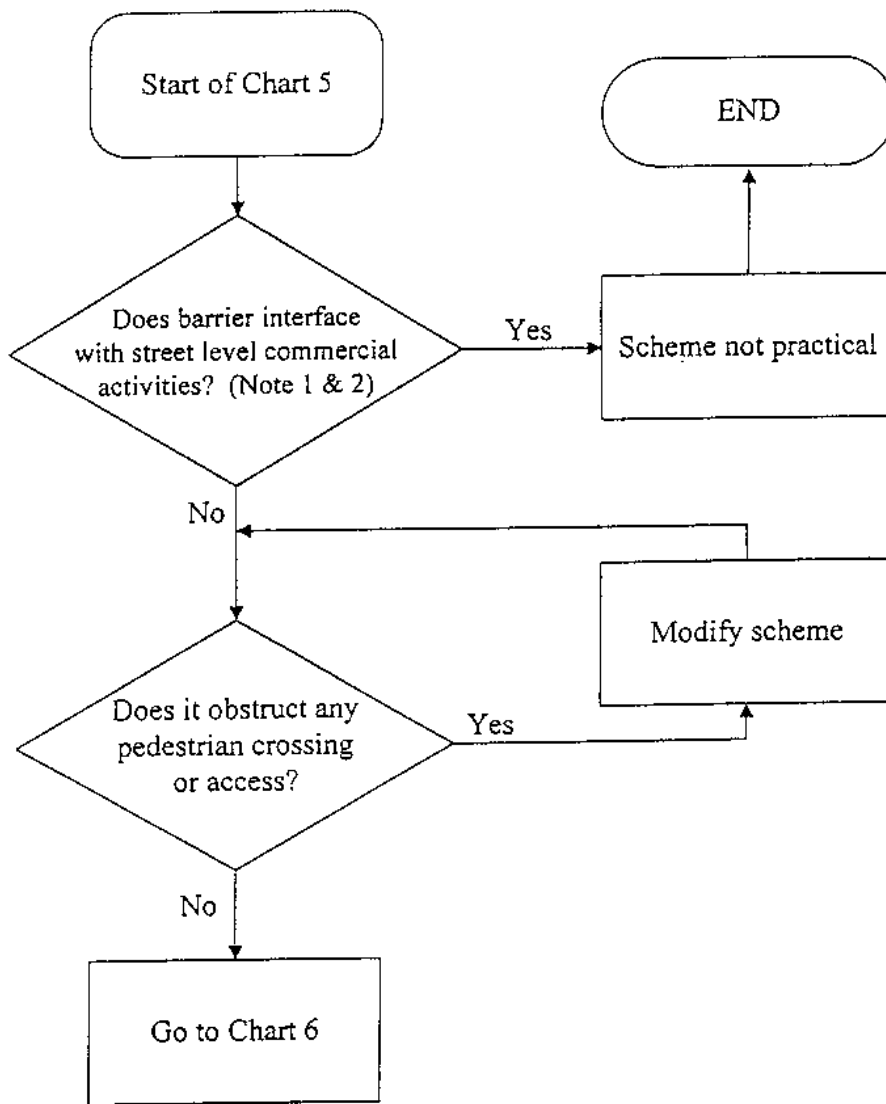


Note 1: See Figures 9 to 13 for sightline requirements.

Note 2: It is considered impracticable to install barriers within 15m of the "Give Way" line of a roundabout.

M15698/chart4.vsd

## Chart 5 - Socio-economic Considerations



Note 1: Street level commercial activities include all shops, restaurant, cinemas, etc.

Note 2: Street level commercial activities are considered to be seriously interfered when the clearance between the affected shops, restaurant, cinemas, etc and the identified barrier is less than 10 metres.

M15698/chart5.vsd

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TITLE

Chart 5 - Socio-economic Considerations

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PROJECT NO

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DATE

Dec. 1998

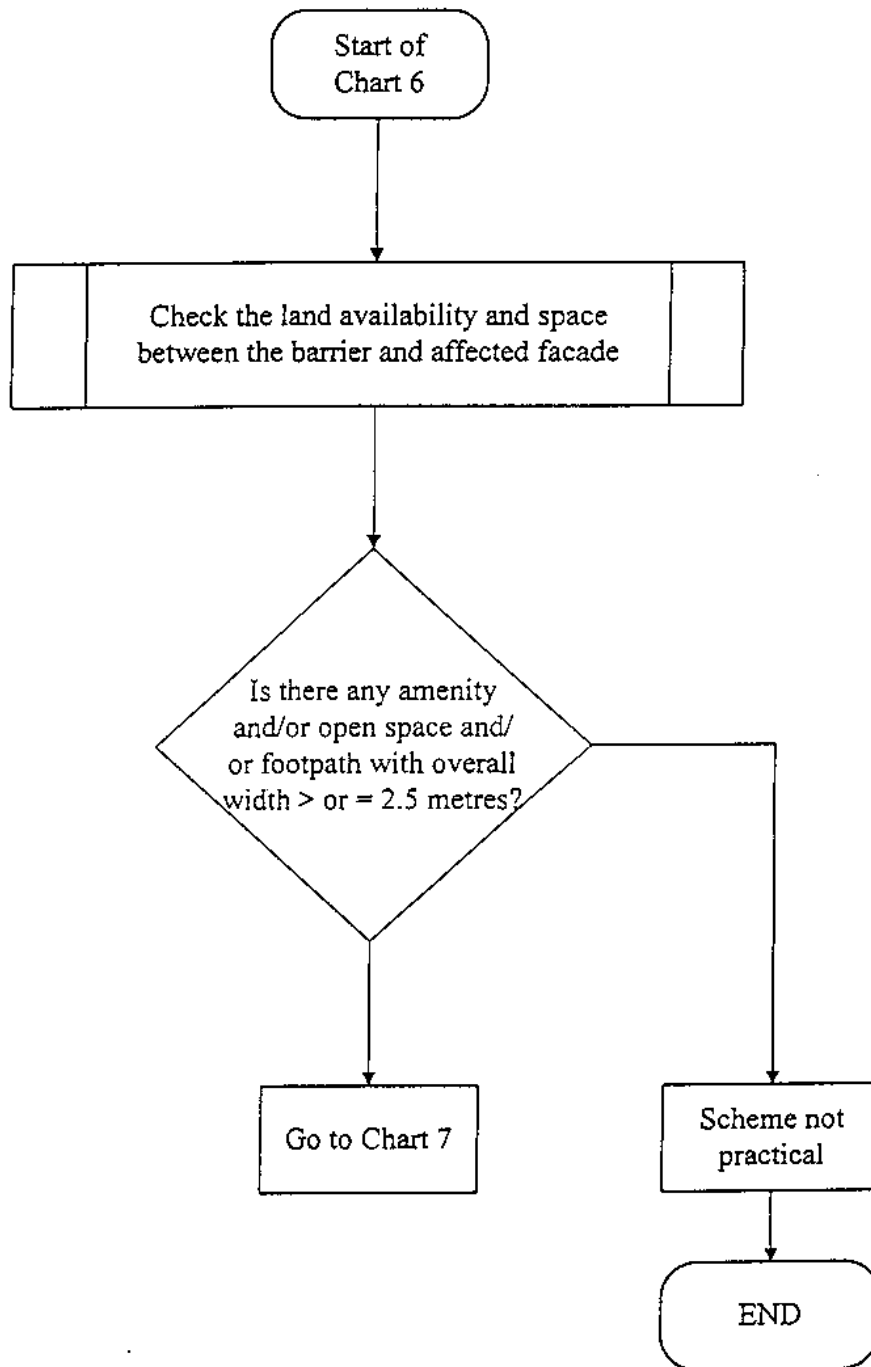
DESIGNED/  
CHECKED

Wendy Tao

DRAWING NO

Figure 2.6

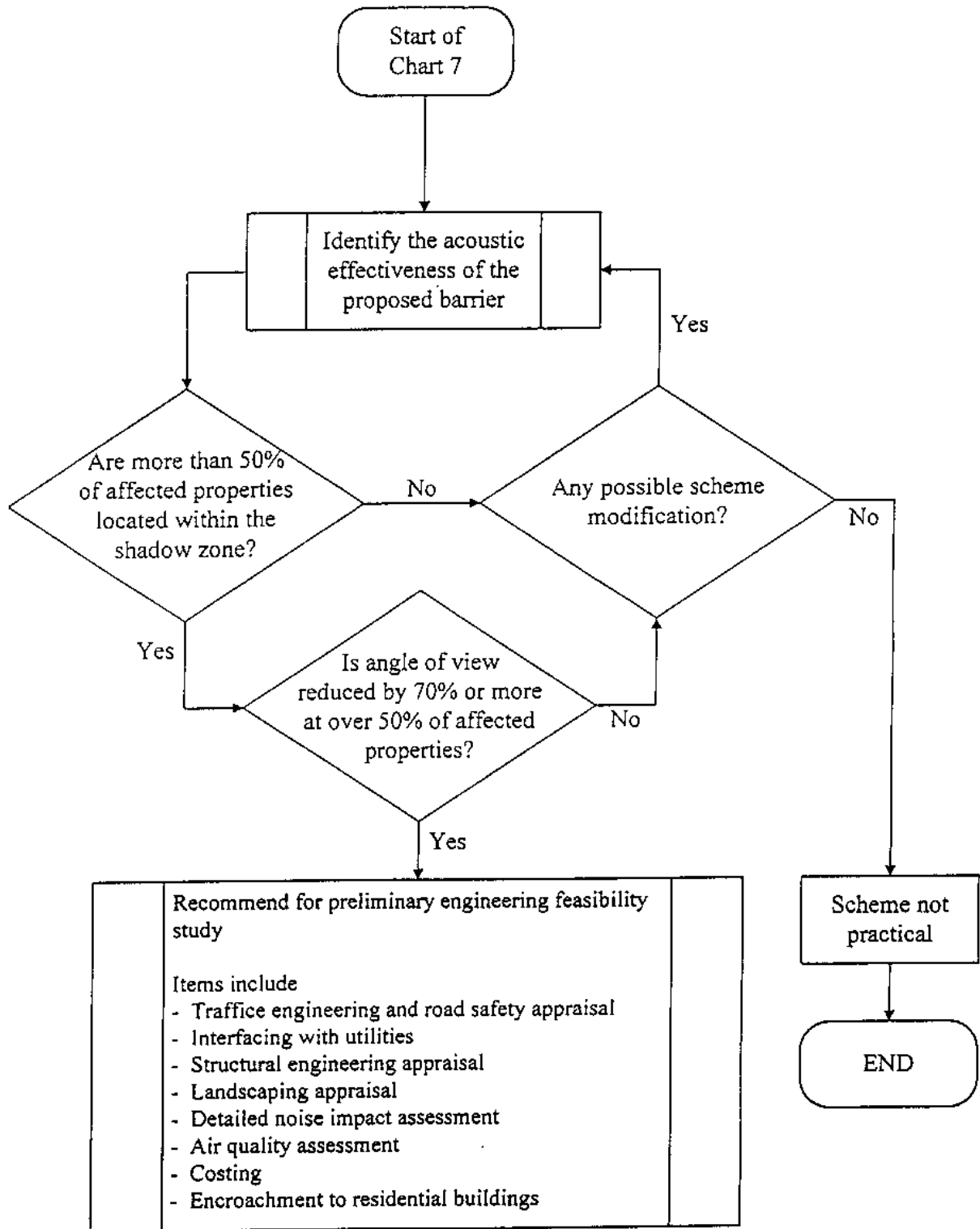
## Chart 6 - Land Availability



M15698\land.vsd

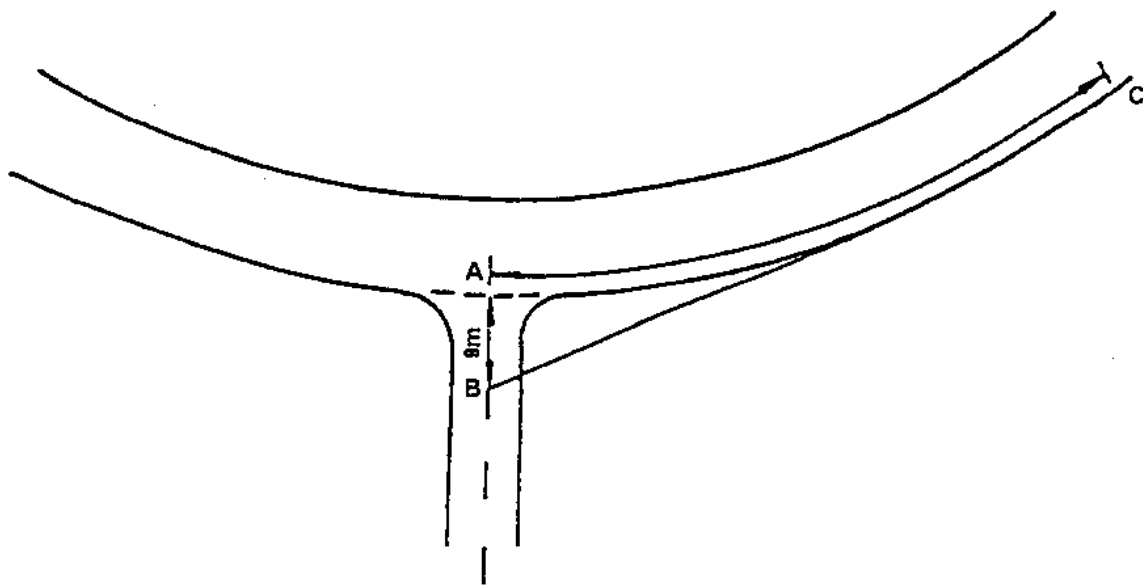


**Chart 7 - Acoustic Effectiveness**



M15698\acoustic.vsd

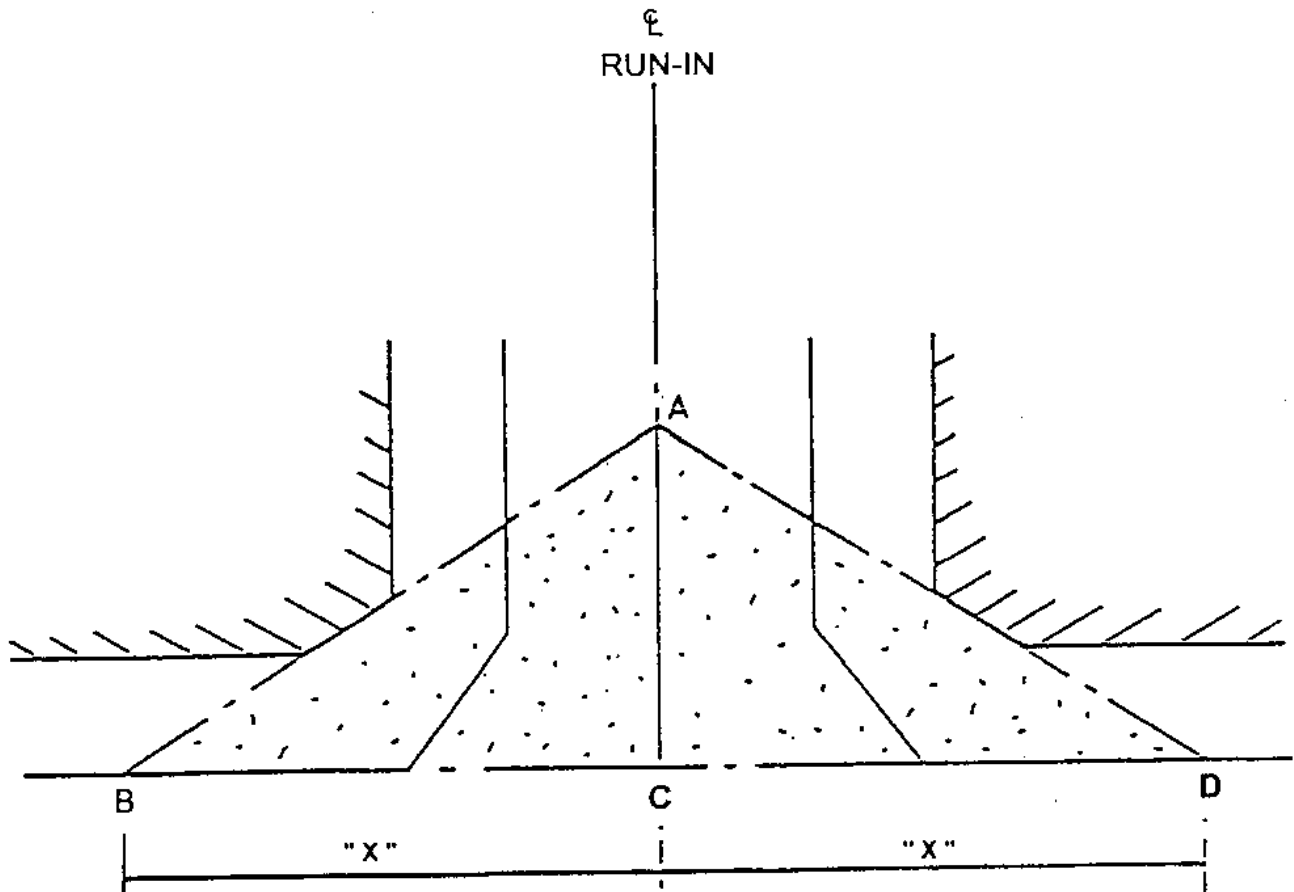
	TITLE	MAUNSELL ENVIRONMENTAL MANAGEMENT CONSULTANTS LTD			
	Chart 7 - Acoustic Effectiveness	PROJECT NO	M15698	DATE	Dec. 1998
		DESIGNED/ CHECKED	Wendy Tao	DRAWING NO	Figure 2.8



DESIGN SPEED OF MAJOR ROAD (kph)	120	100	85	70	60	50
DISTANCE AC (m)	300	225	165	125	95	70

**Notes**

- (a) The visibility should be available between points 1.05m above the road level and provided by means of a visibility splay whose area is defined by lines joining the points A, B and C as shown in Diagram No. 4.3.8.1 of T.P.D.M.2.4.
- (b) For roads within estates and other local roads of minor nature or experiencing low speeds the distance AC above relating to the 50 km/h design speed may be reduced to 50m.
- (c) In difficult situations the dimension AB may be reduced to 4.5m and in exceptional circumstances 2m but the distance AC as recommended above should always be provided. If AB is greater than 15m high minor road approach speeds can be expected and this situation should receive special consideration. (The dimensions of lines AB and AC also govern the need for "stop" control as opposed to "give away" control).



**Notes**

- (a) Visibility from a run-in should be obtainable between points 1.05m above the road and run-in level over the area described by ABCD in Diagrams 3.6.3.4 of T.P.D.M. V.2.3.
- (i) AC is a line 4.5m in length measured along the centre line of the run-in from the continuation of the nearer edge of the carriageway of the road to which the run-in has access, and
- (ii) BC and CD, are "x"m in length, and "x" is in accordance with the following table and is measured along the nearer edge of the road to which the run-in has access.

Length of Visibility Lie "x"

<u>Design Speed of Main Road (km/h)</u>	<u>x(m)</u>
80 or over	150
70	130
60	120
50	60

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Visibility Area at Run-ins

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PROJECT NO	M15698	DATE	Dec. 1998
DESIGNED/ CHECKED	Wendy Tao	DRAWING NO	Figure 2.10

(a) Visibility distance are related to the design speed of the road as shown in the following table

Visibility Distances at Grade  
Separated Interchanges

<u>Design Speed (km/h)</u>	<u>Desirable Minimum (m)</u>	<u>Absolute Minimum (m)</u>
120	300	225
100	225	165
85	165	125
70	125	95
60	95	70
50	70	50
40	50	40
30	40	30

M15698/table.vsd

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Grade Separated Interchange

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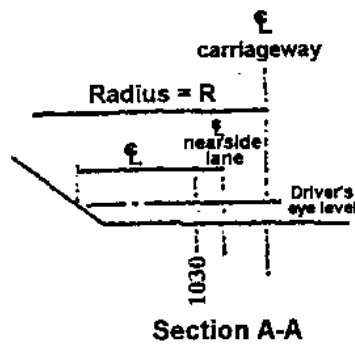
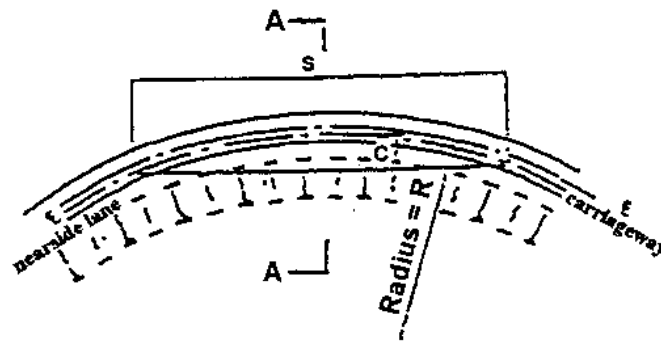
PROJECT NO	M15698	DATE	Dec. 1998
DESIGNED CHECKED	Wendy Tao	DRAWING NO	Figure 2.11

Notes

- (a) The following table shows the sight distance that should be provided on the approaches to junctions or accesses. Sight distance should be measured between a minimum drivers' eye height of 1.05m, to an object height of 1.05m, both above the centre line of each lane. It follows that junctions and accesses should not be provided on sharp curves, where extensive widening of verges, cutting and bridge structures would be required to provide the required visibility. For lower speed Urban Roads, where there are little or no restrictions on pedestrians and accesses, the sight distances shown in the table should be provided throughout the road.

Sight Distance

Design Speed (km/h)	Desirable Minimum (m)	Absolute Minimum (m)
120	300	225
100	225	165
85	165	125
70	125	95
60	95	70



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TITLE

Sight Distance

MAUNSELL ENVIRONMENTAL  
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PROJECT NO

M15698

DATE

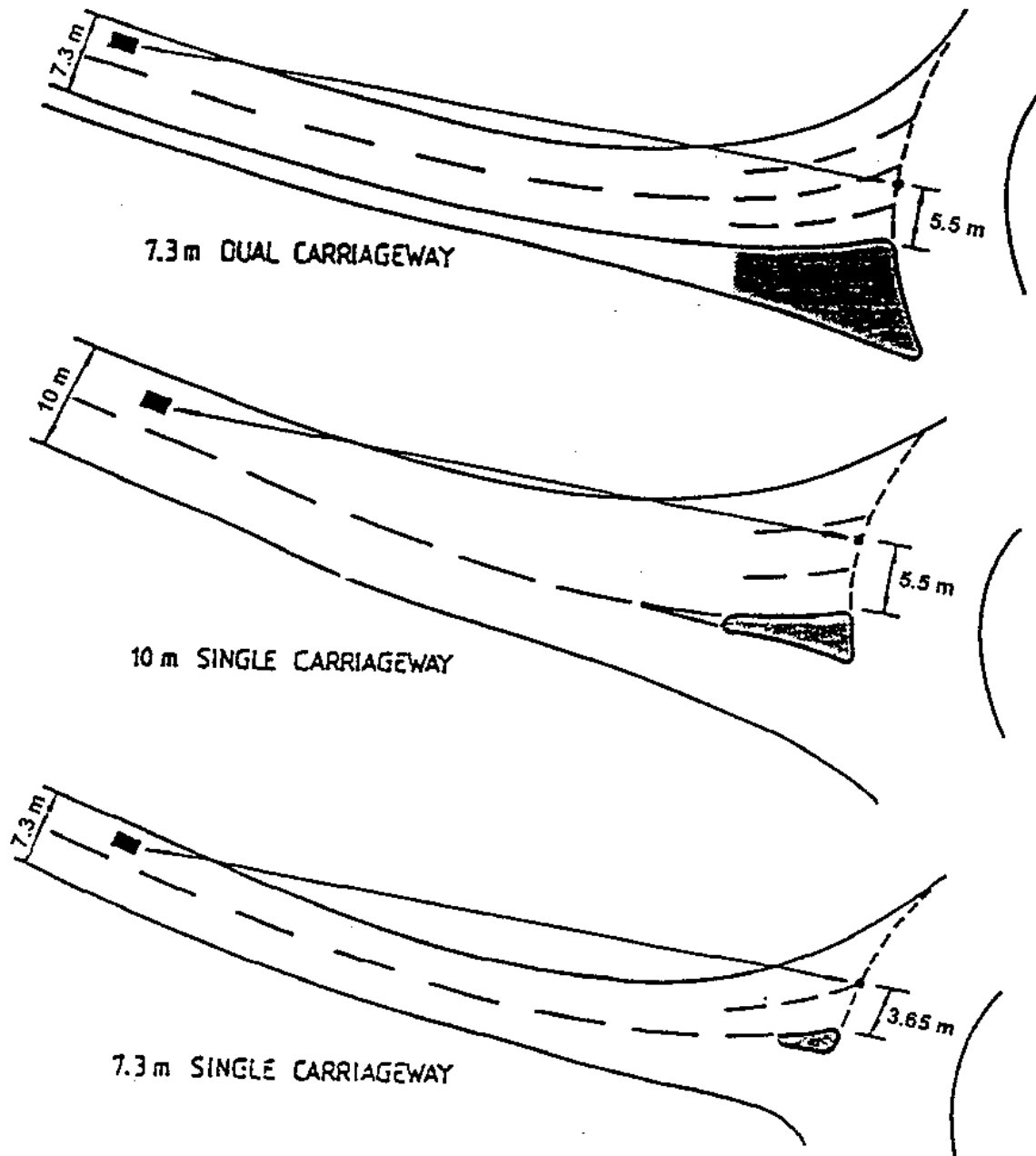
Dec. 1998

DESIGNED  
CHECKED

Wendy Tao

DRAWING NO

Figure 2.12



#### Notes

- Visibility distance should be measured between a driver's eye height of 1.05m and an object height of 1.05m, both measured from the centre line of each lane.
- The forward visibility at the approach to a roundabout shall not be less than that shown below. The visibility distance should be measured to the "Give Way" line as shown in Diagram 4.5.11.1 of T.P.D.M.V. 2.4.

#### Sight Distance

Design Speed (km/h)	100	85	70	60	50
Desirable Minimum (m)	225	165	125	95	70
Absolute Minimum (m)	165	125	95	70	50

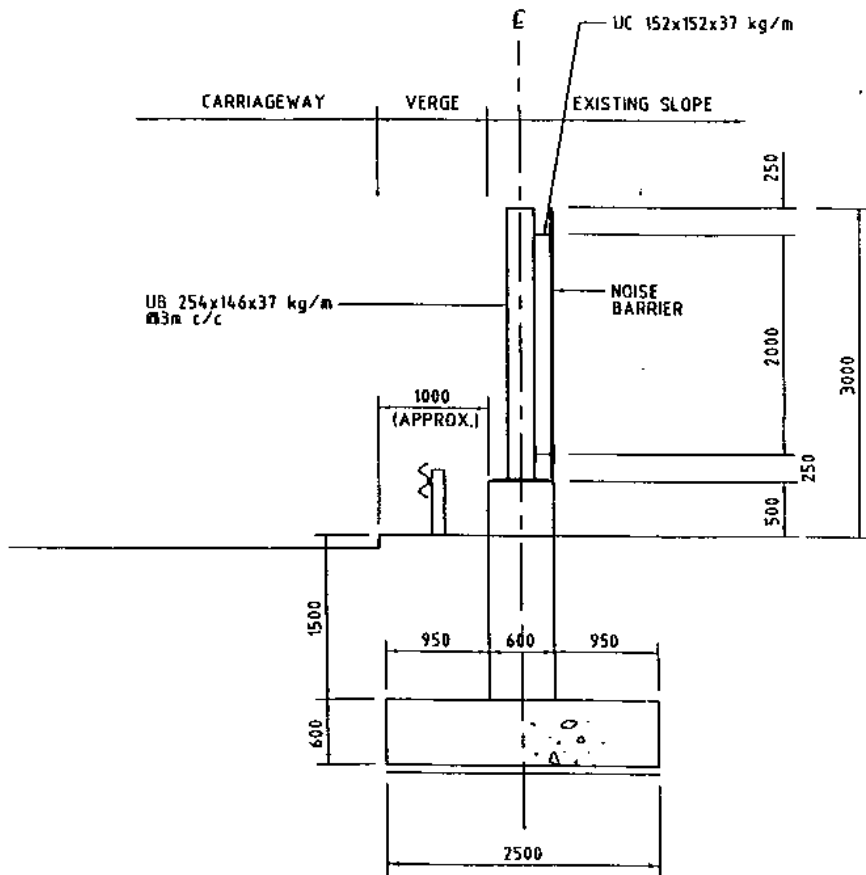
**Maunsell**

TITLE

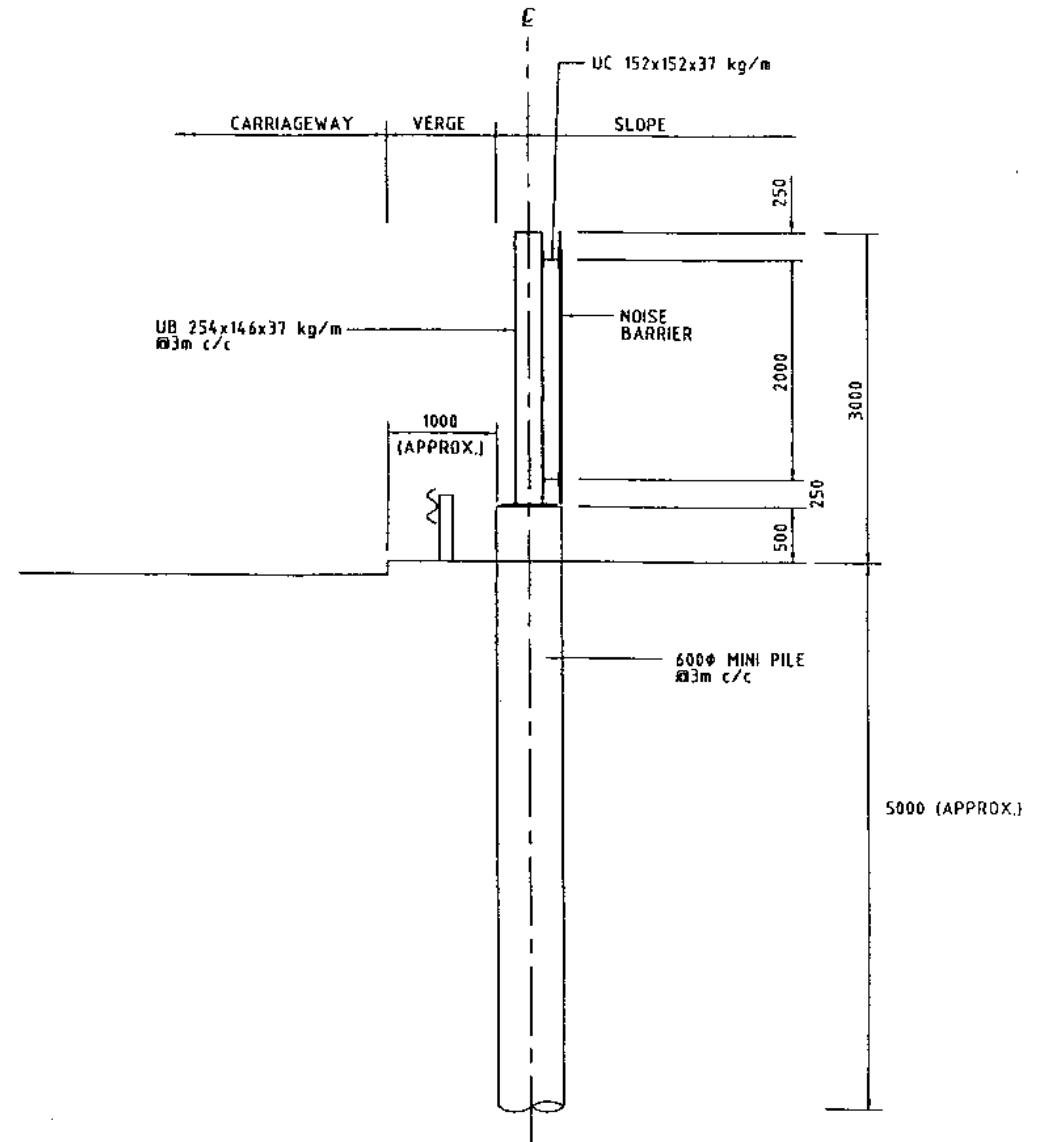
Visibility at Roundabout

MAUNSELL ENVIRONMENTAL  
MANAGEMENT CONSULTANTS LTD

PROJECT NO	M15698	DATE	Dec. 1998
DESIGNED/ CHECKED	Wendy Tao	DRAWING NO	Figure 2.13



3-METRE VERTICAL BARRIER  
ON SPREAD FOOTING



3-METRE VERTICAL BARRIER  
ON PILE

Project A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS

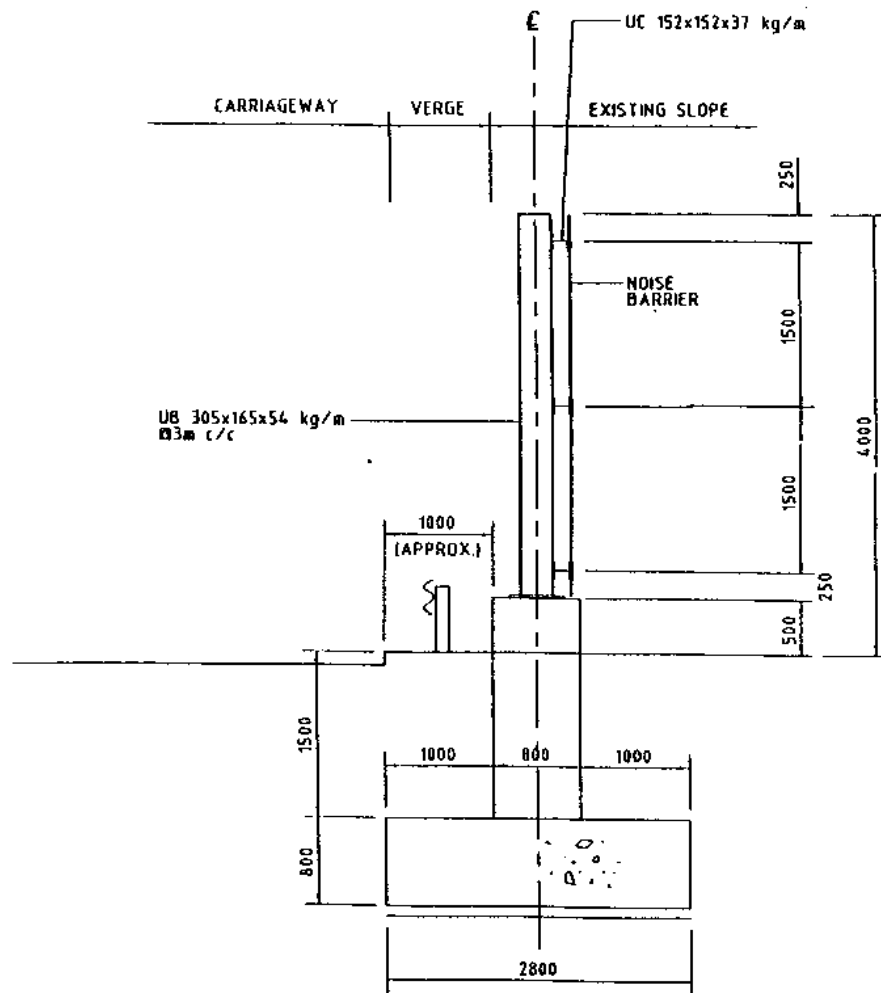
Title TYPICAL 3-METRE VERTICAL BARRIER

Figure 2.14

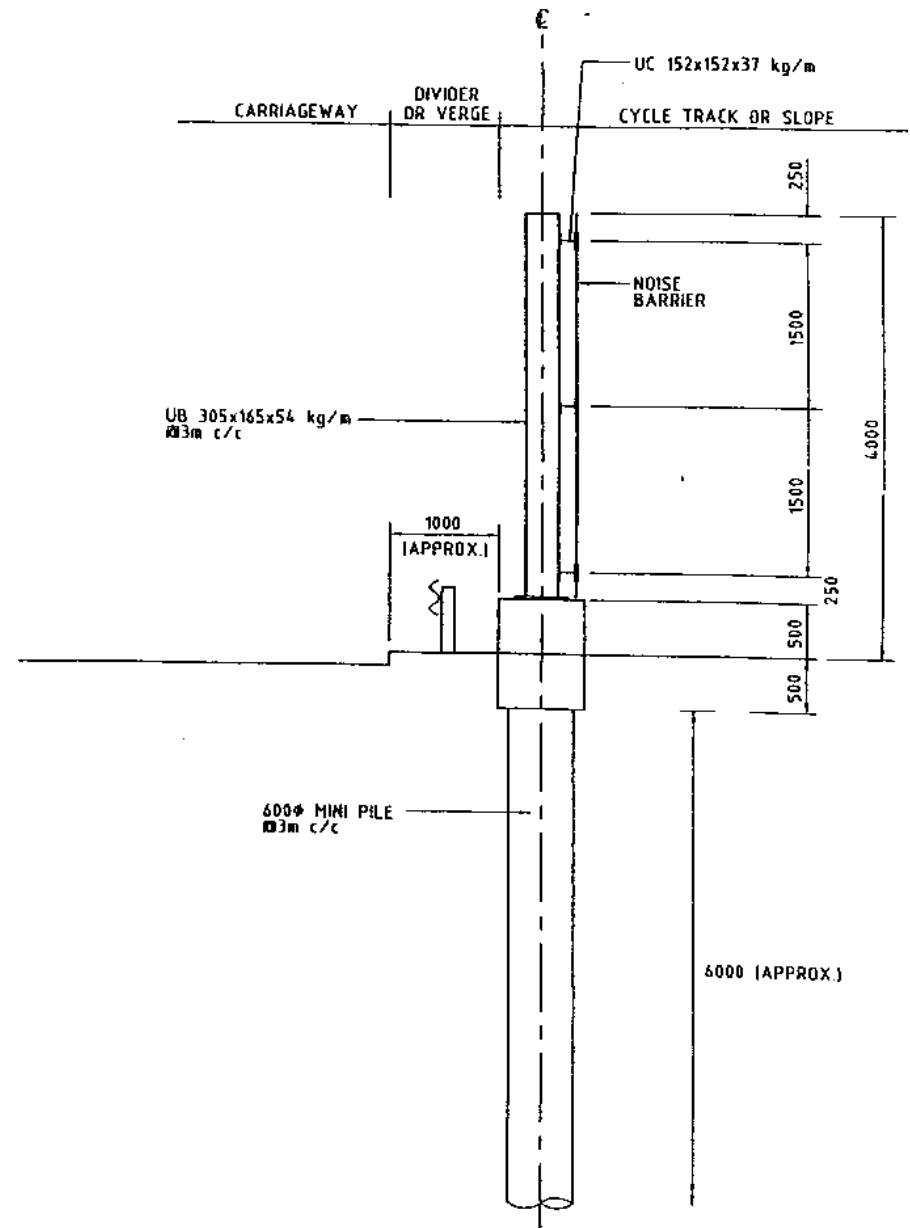
Scale N. T. S.

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4-METRE VERTICAL BARRIER  
ON SPREAD FOOTING



4-METRE VERTICAL BARRIER  
ON PILE

Project A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS

Title TYPICAL 4-METRE VERTICAL BARRIER

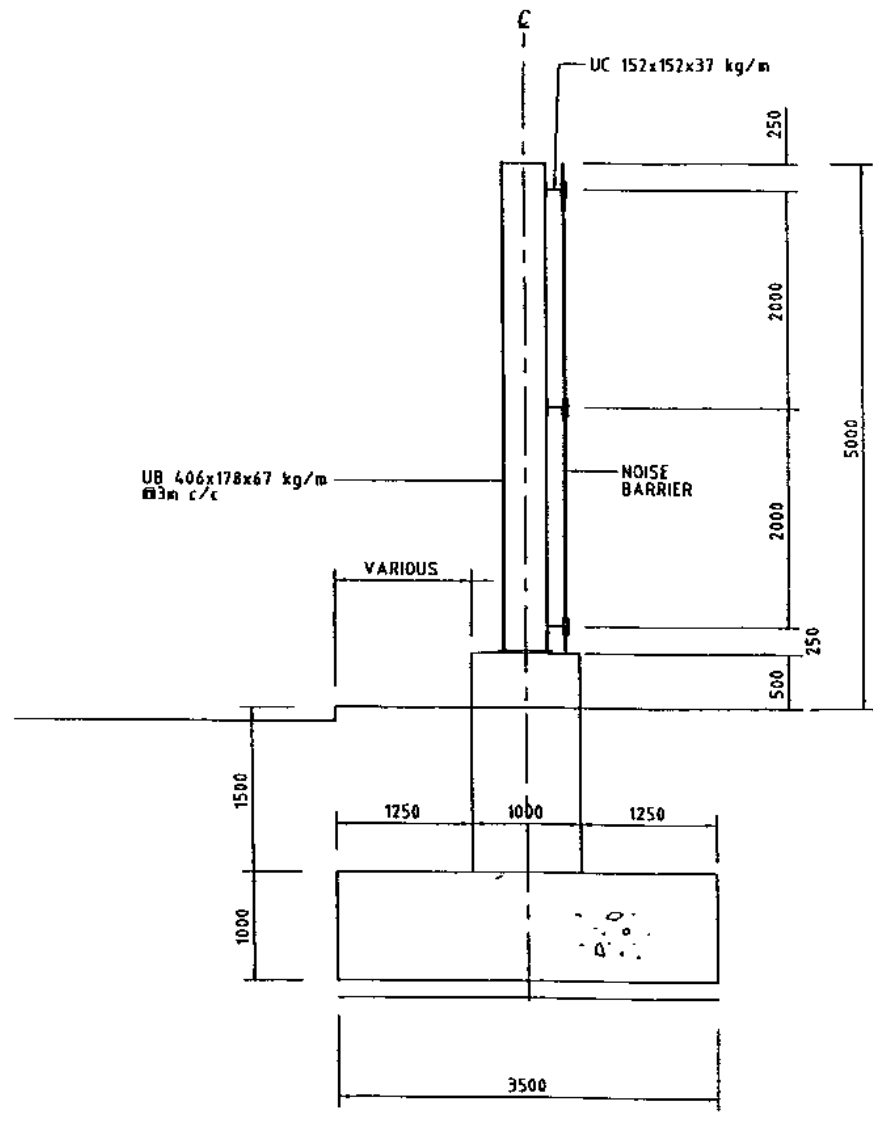
Figure 2.15

Scale N. T. S.

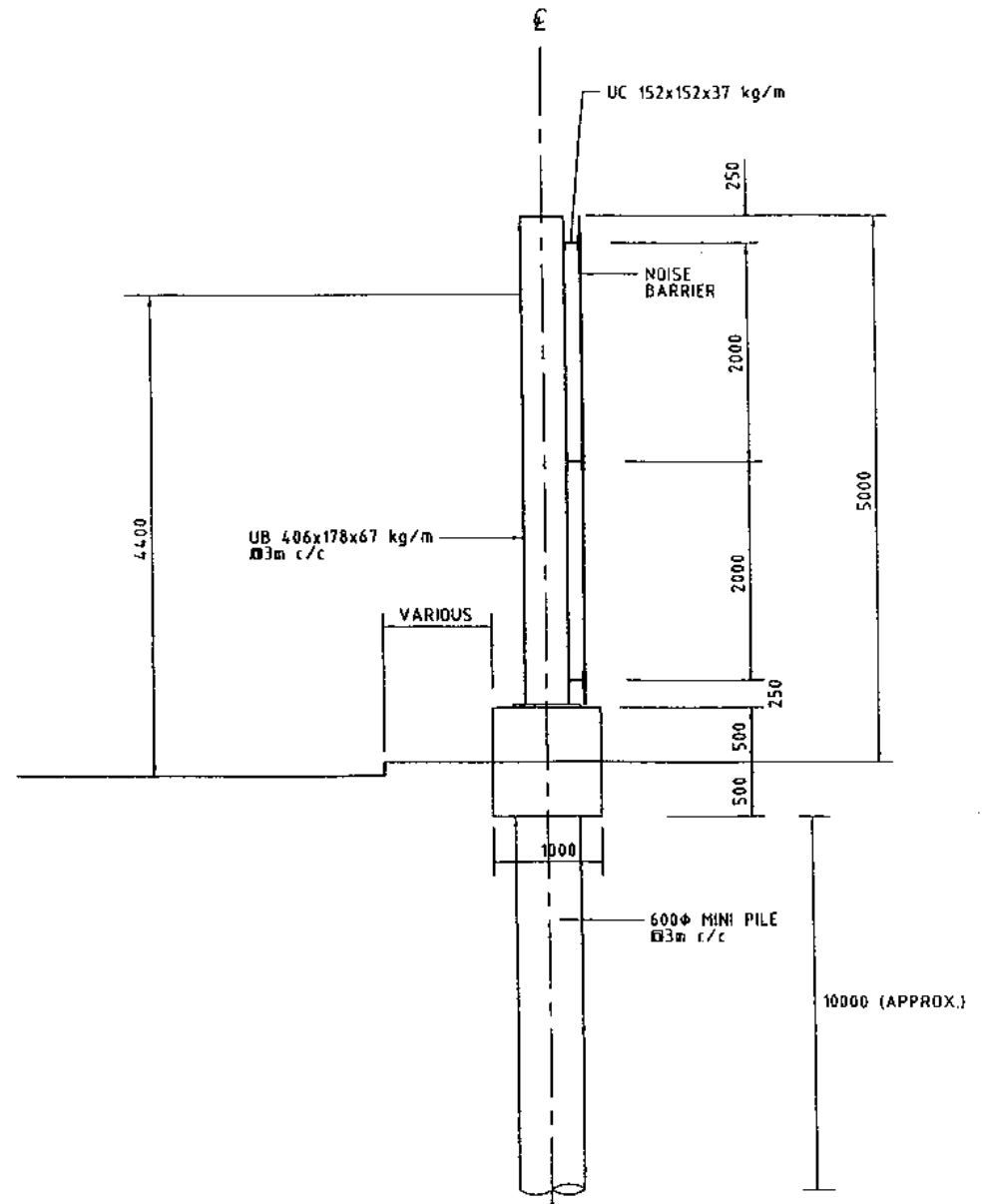
Date FEBRUARY 1999

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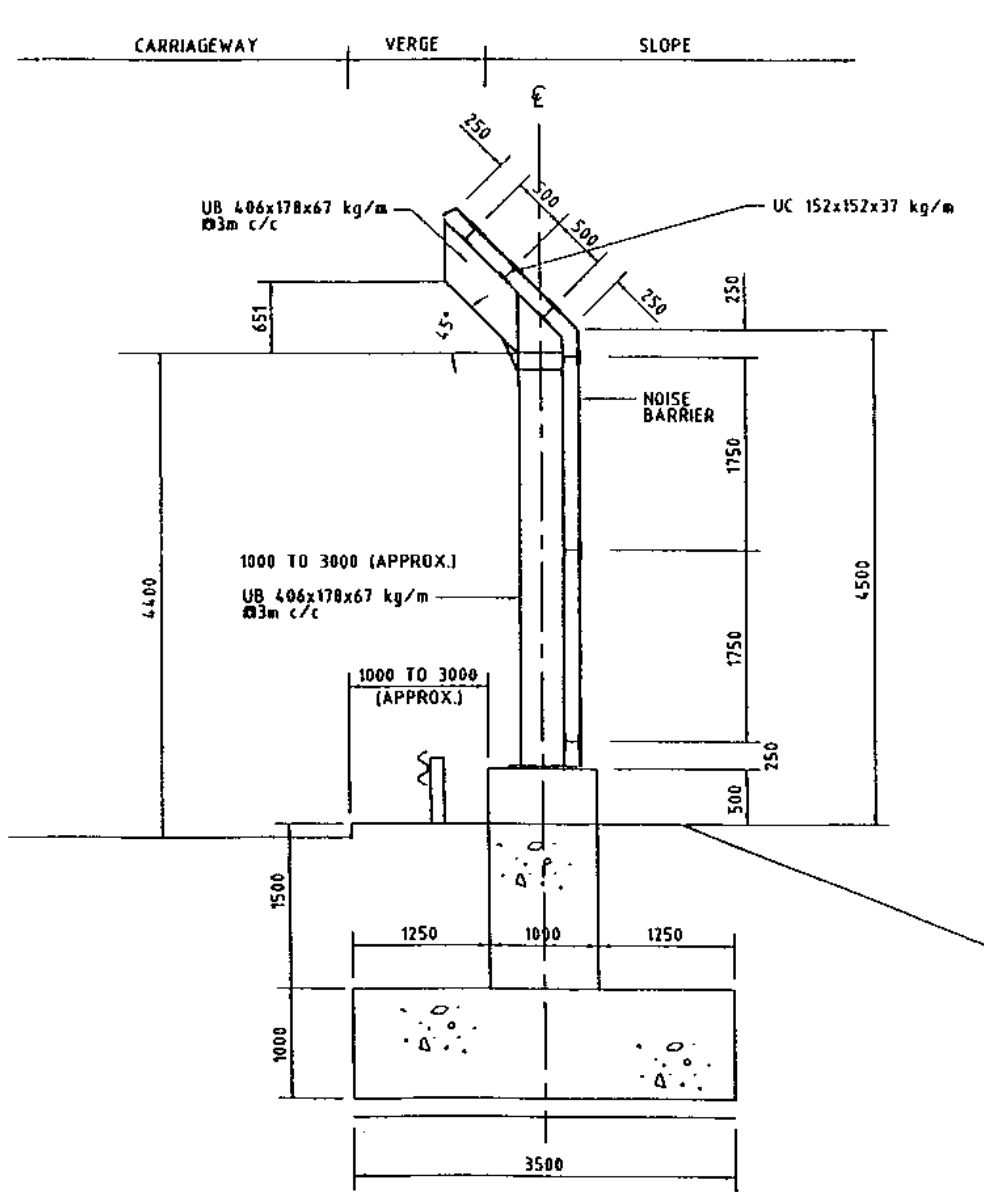


5-METRE VERTICAL BARRIER  
ON SPREAD FOOTING

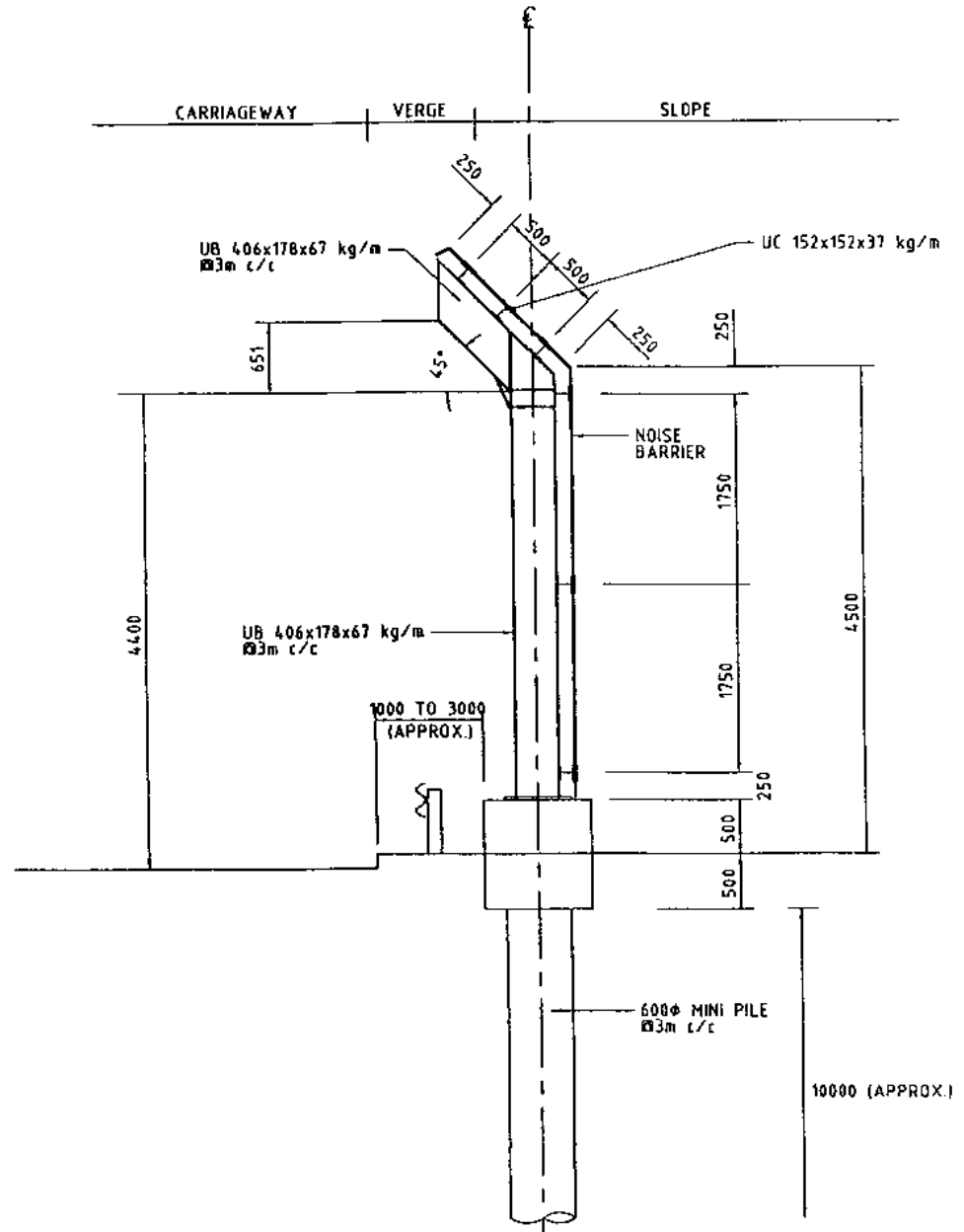


5-METRE VERTICAL BARRIER  
ON PILE

Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS	Figure	2.16	
		Scale	N. T. S.	
Title	TYPICAL 5-METRE VERTICAL BARRIER	Date	FEBRUARY 1999	



CANTILEVERED BARRIER (TYPE A) (5.6m)  
ON SPREAD FOOTING

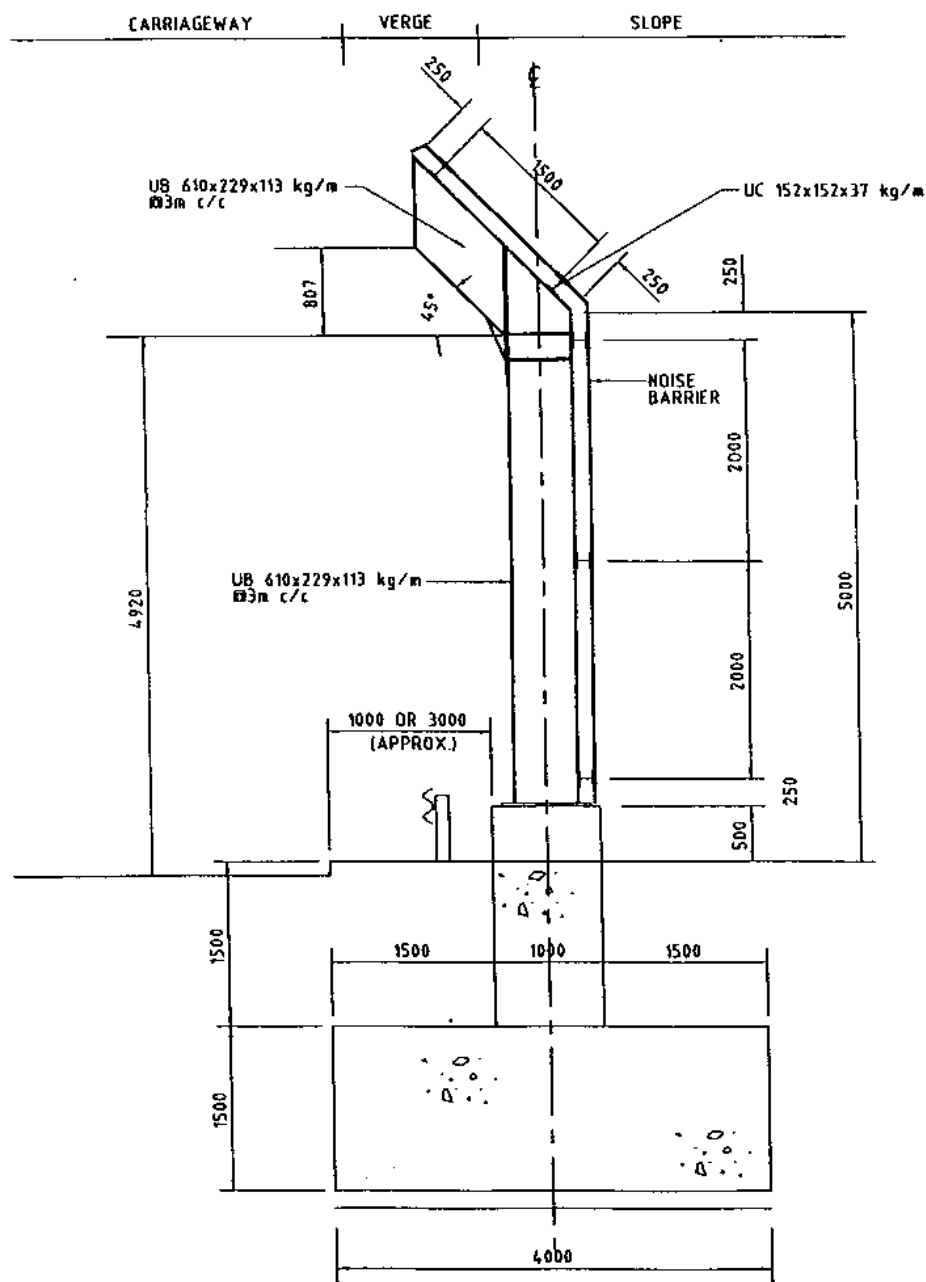


CANTILEVERED BARRIER (TYPE A) (5.6m)  
ON PILE

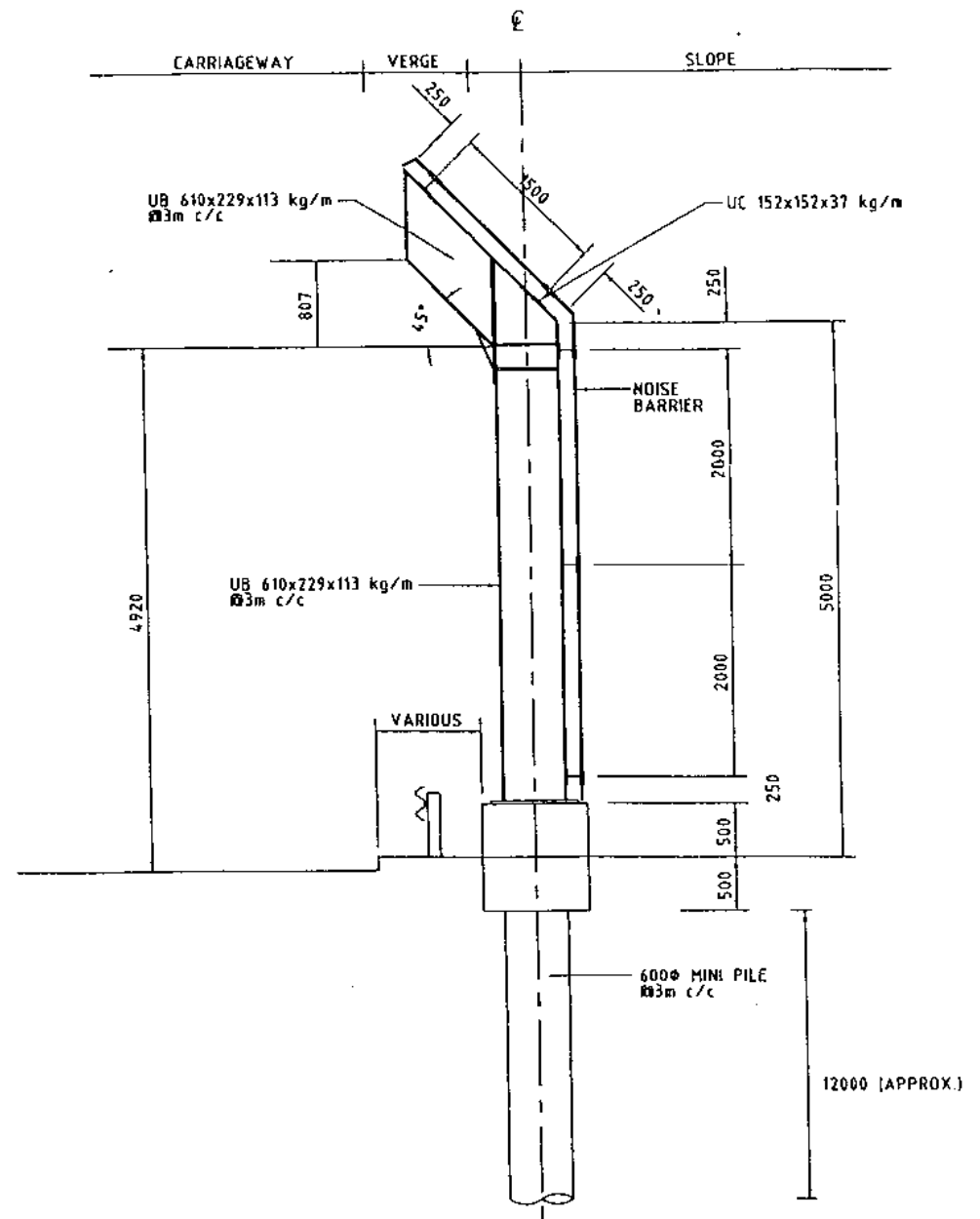
Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS
Title	TYPICAL CANTILEVERED BARRIER (TYPE A)

Figure	2.17
Scale	N. T. S.
Date	FEBRUARY 1999

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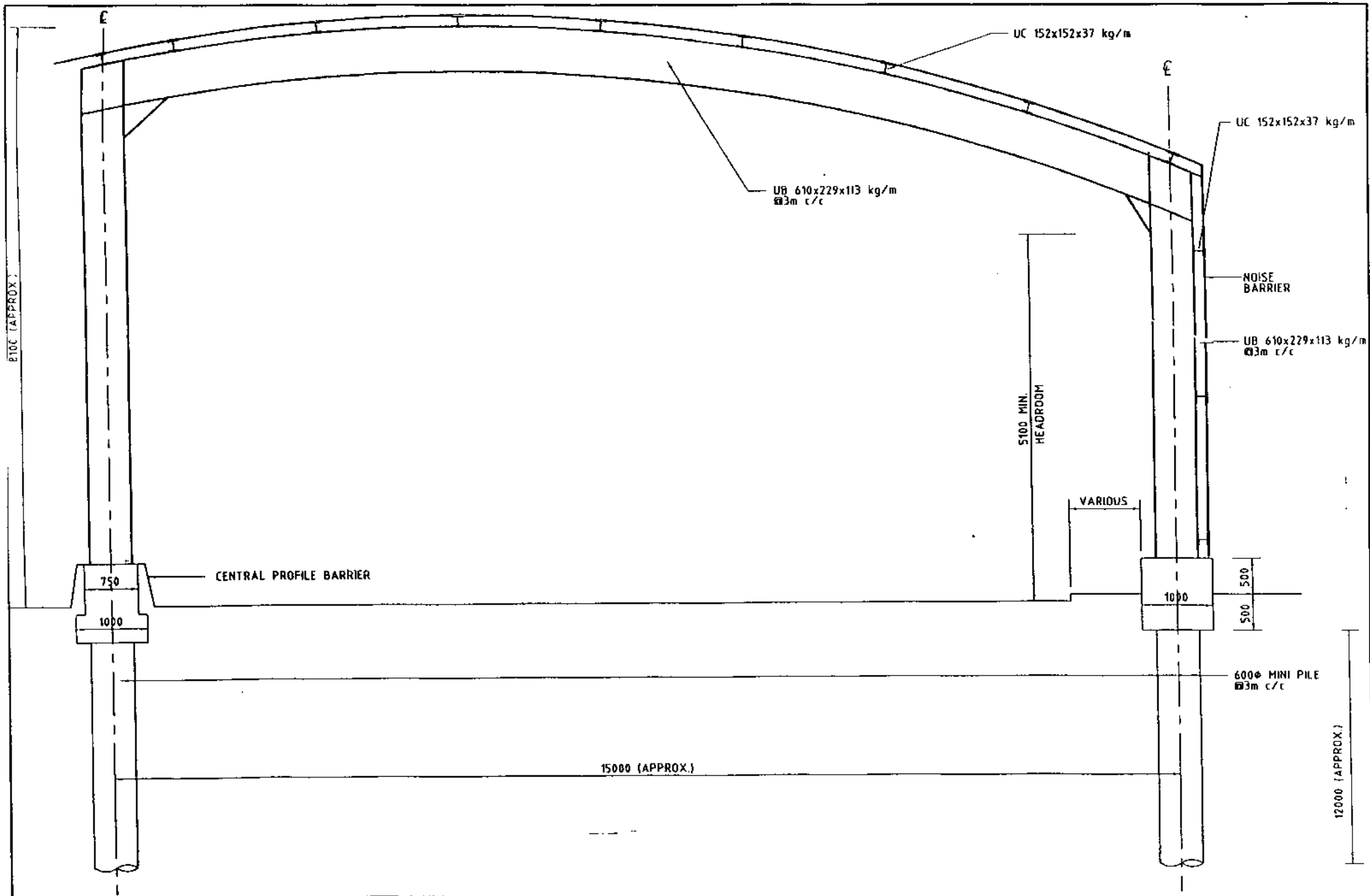
CANTILEVERED BARRIER (TYPE B) (6.4m)  
ON SPREAD FOOTING



CANTILEVERED BARRIER (TYPE B) (6.4m)  
ON PILE

Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS	Figure	2.18
		Scale	N. T. S.
Title	TYPICAL CANTILEVERED BARRIER (TYPE B)	Date	FEBRUARY 1999

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Project A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS

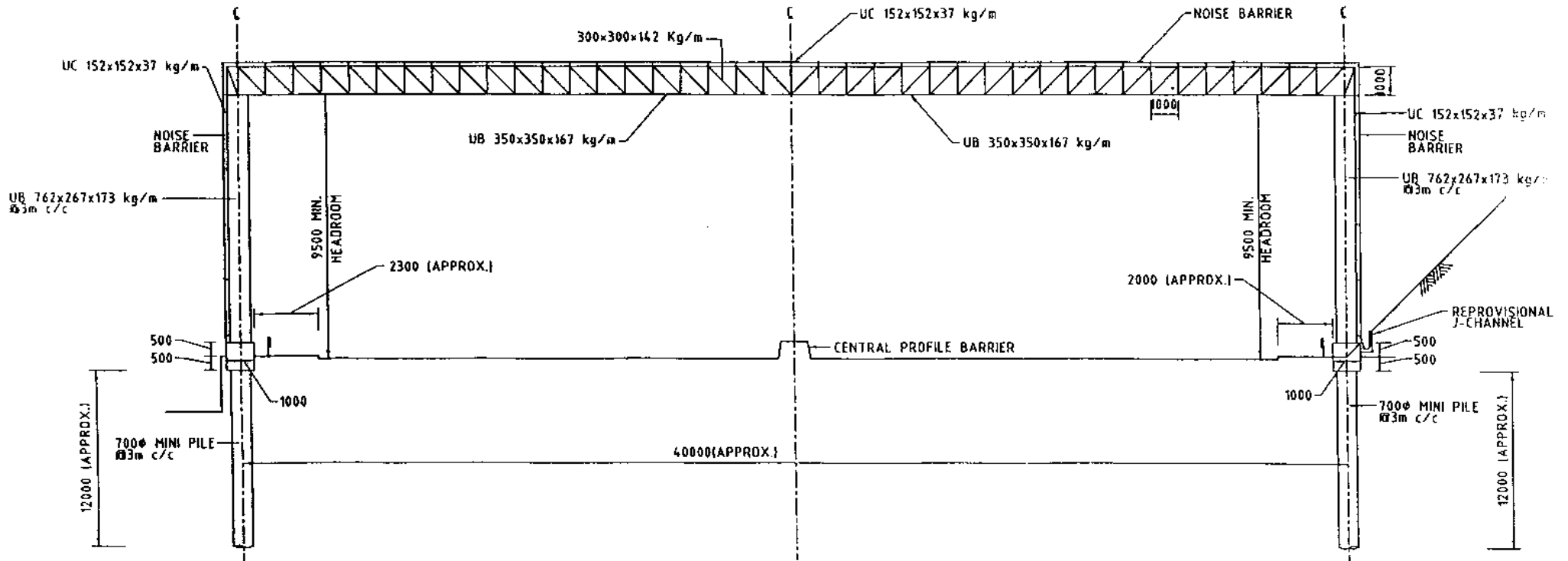
Title TYPICAL SEMI-ENCLOSURE

Figure 2.19

Scale N. T. S.

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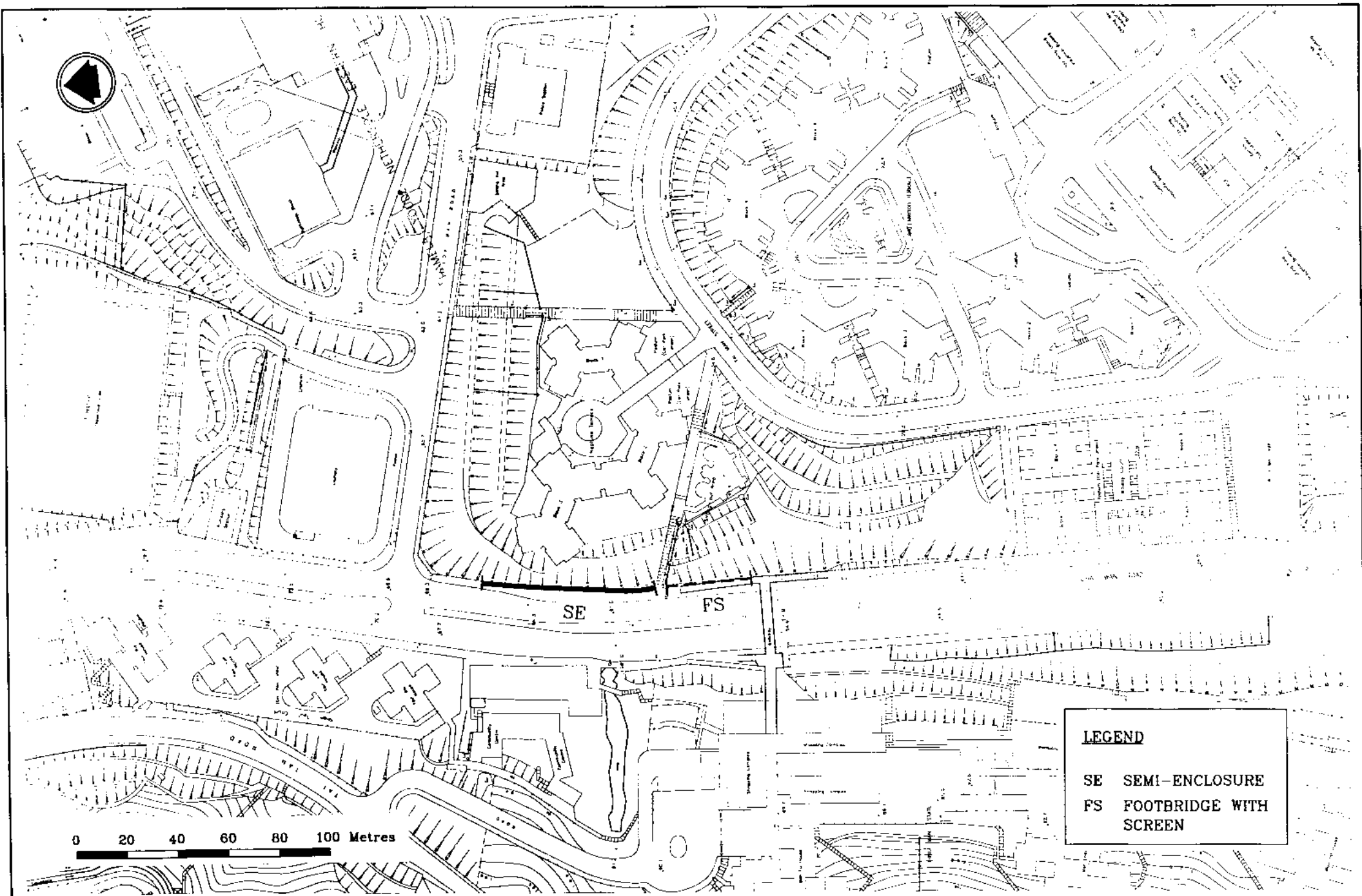
Title TYPICAL FULL ENCLOSURE

Figure 2.20

Scale N. T. S.

Date FEBRUARY 1999

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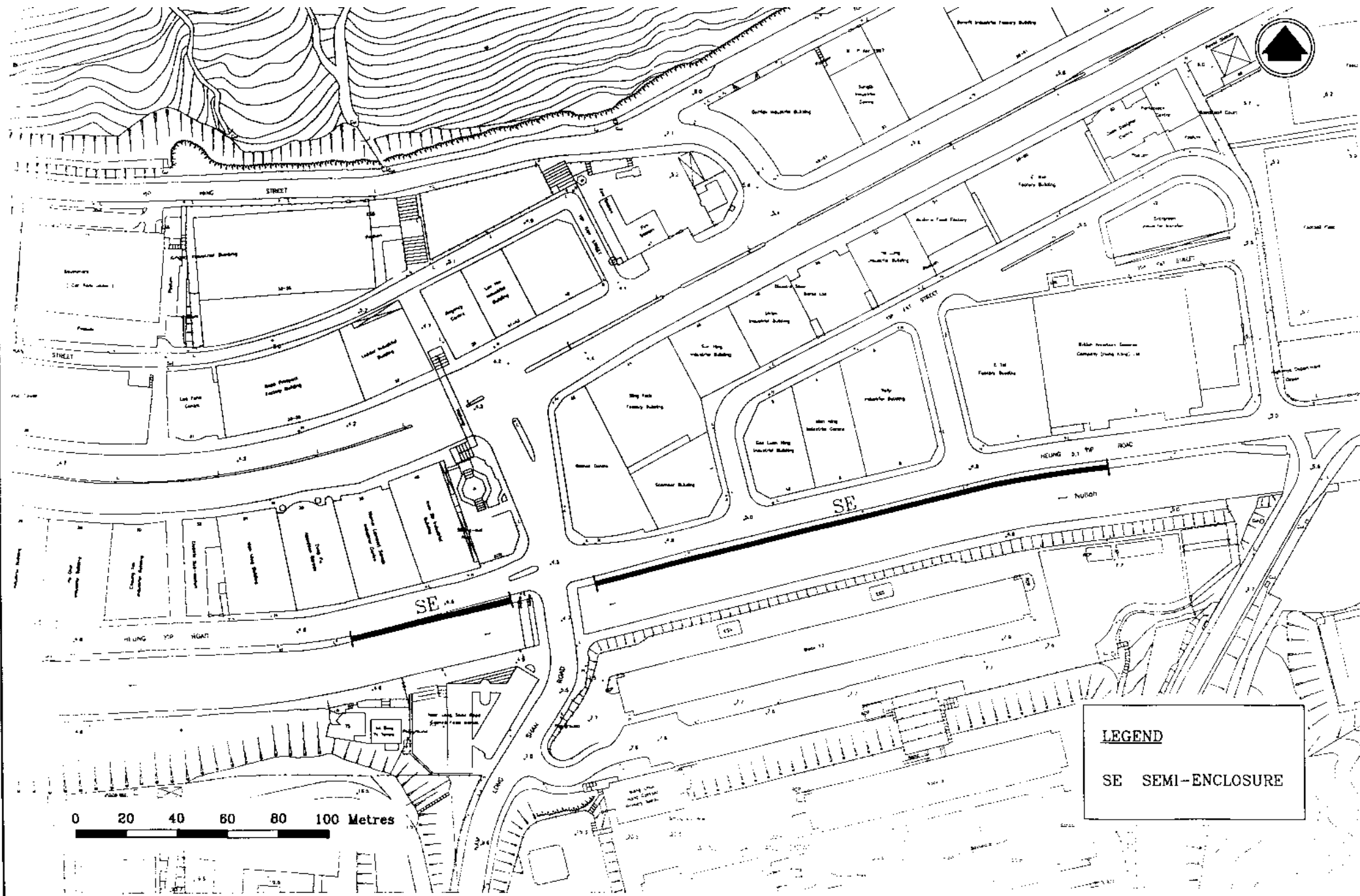
Title PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - CHAI WAN ROAD

Figure 3.1

Scale AS SHOWN

Date FEBRUARY 1999

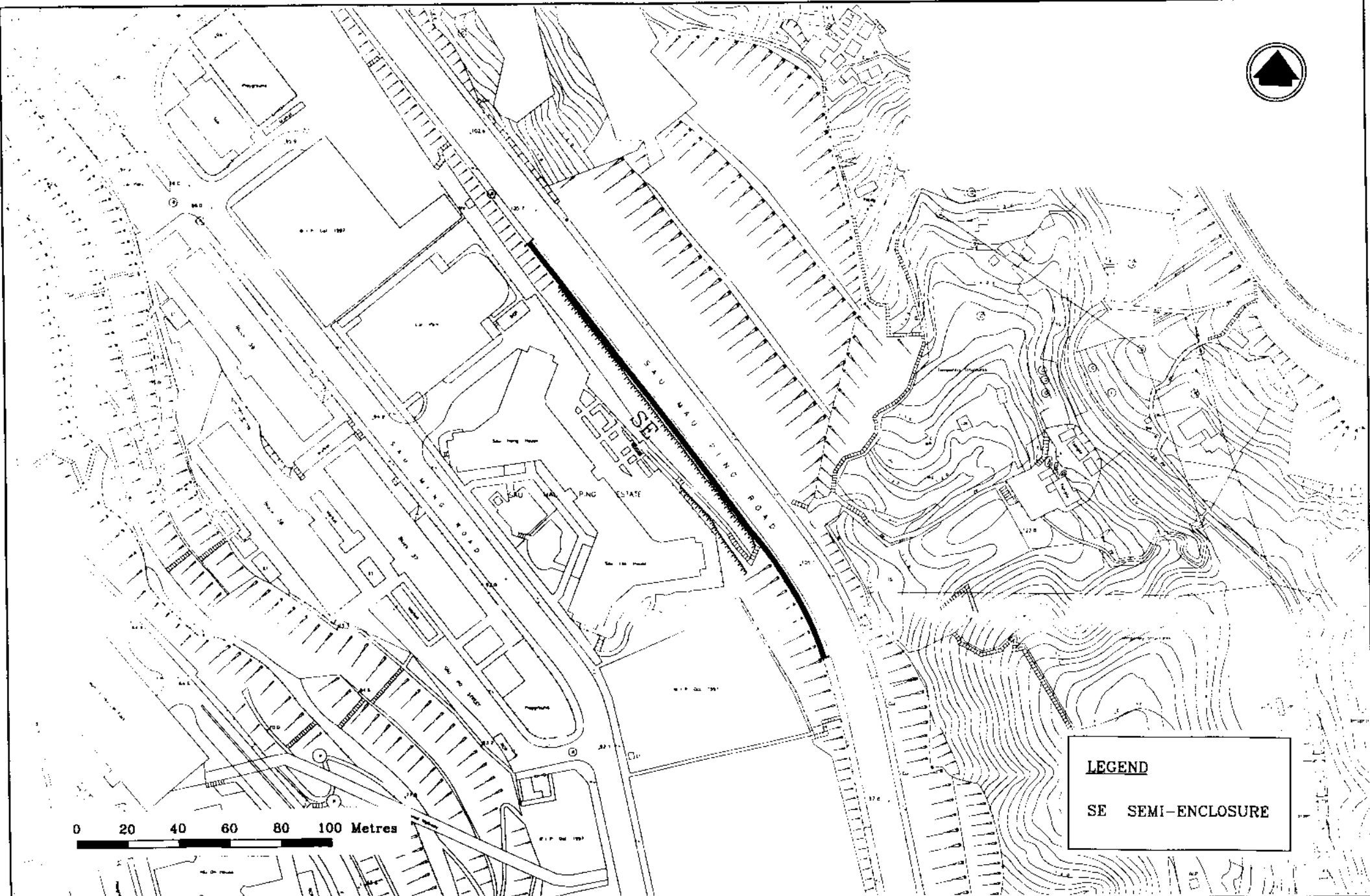
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Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS
Title	PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - HEUNG YIP ROAD

Figure	3.2
Scale	AS SHOWN
Date	FEBRUARY 1999

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**LEGEND**

SE SEMI-ENCLOSURE

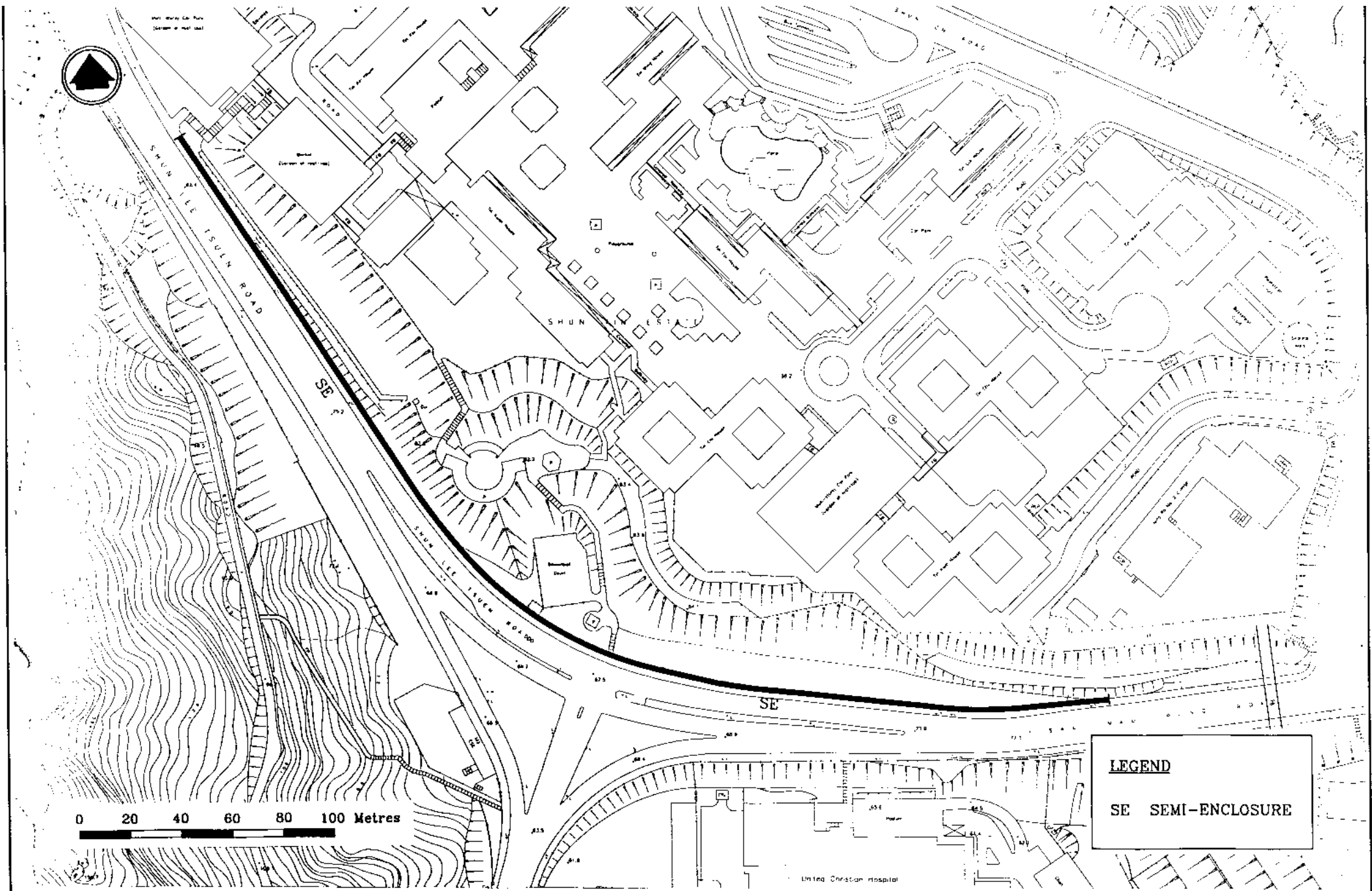
0 20 40 60 80 100 Metres

Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS
Title	PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - SAU MAU PING ROAD

Figure	3.3
Scale	AS SHOWN
Date	FEBRUARY 1999

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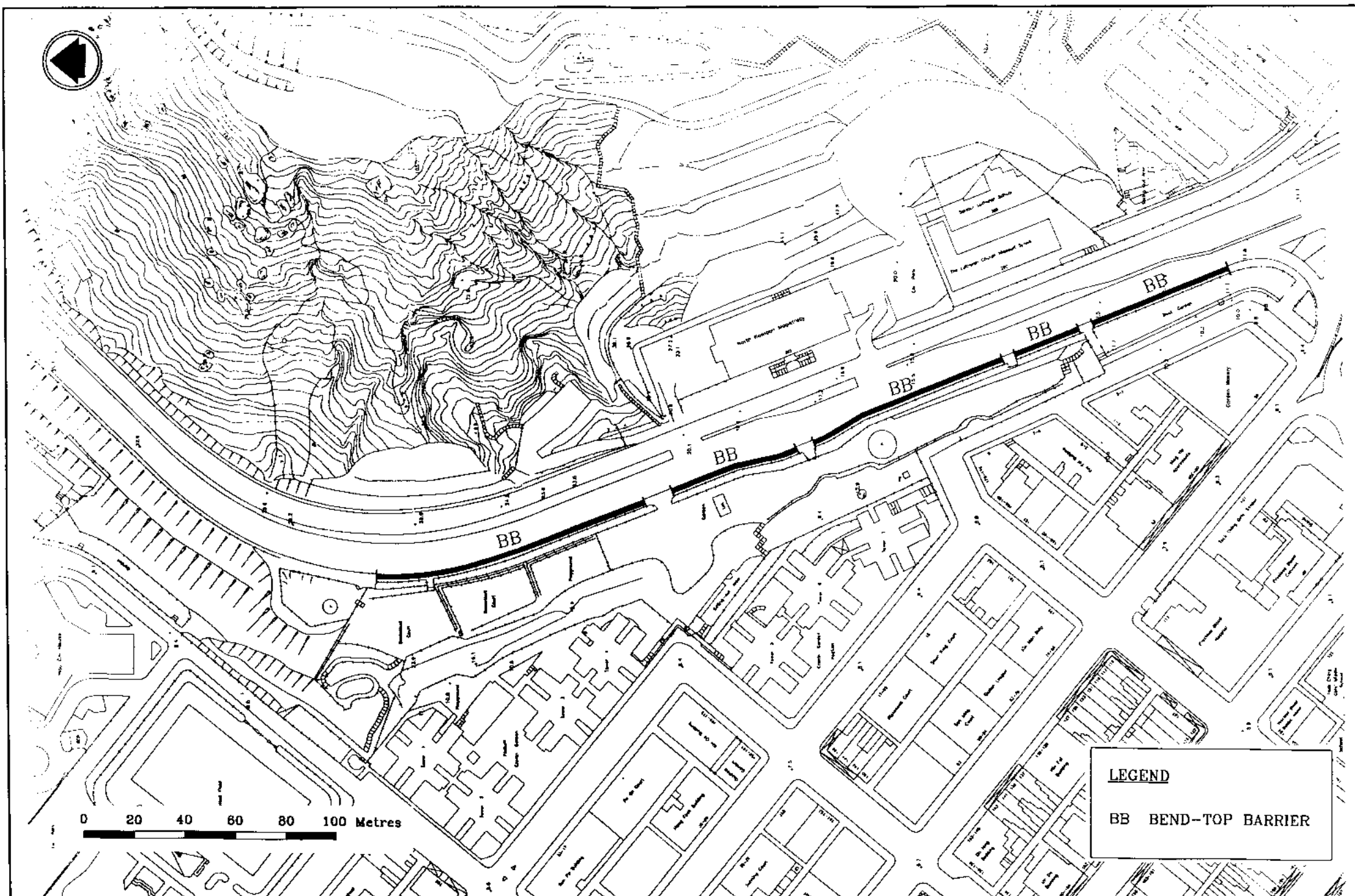


Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS
Title	PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - SAU MAU PING ROAD & SHUN LEE TSUEN ROAD

Figure	3.4
Scale	AS SHOWN
Date	FEBRUARY 1999

**LEGEND**  
SE SEMI-ENCLOSURE

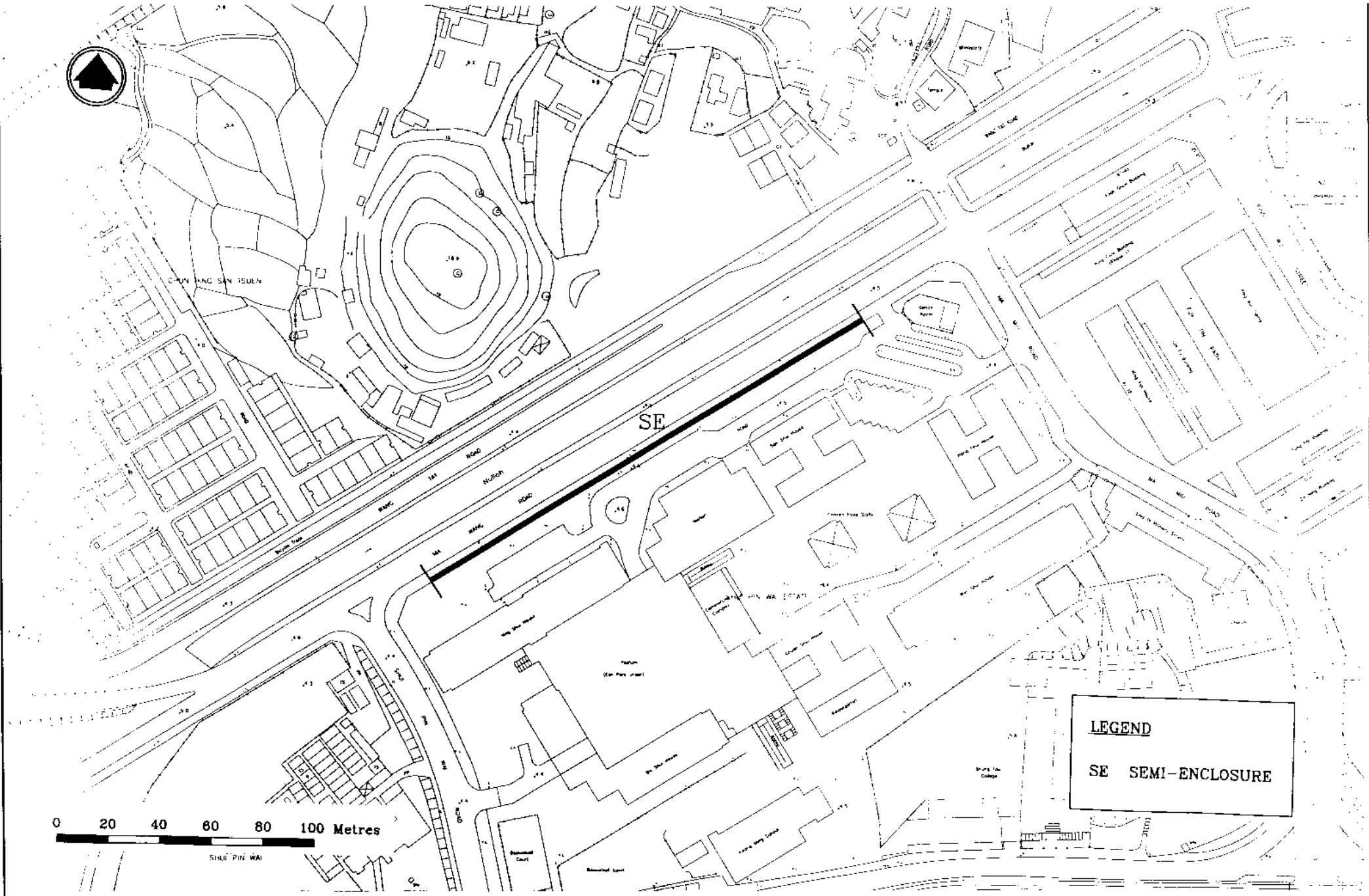
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 Title PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - TAI PO ROAD

Figure 3.5  
 Scale AS SHOWN  
 Date FEBRUARY 1999

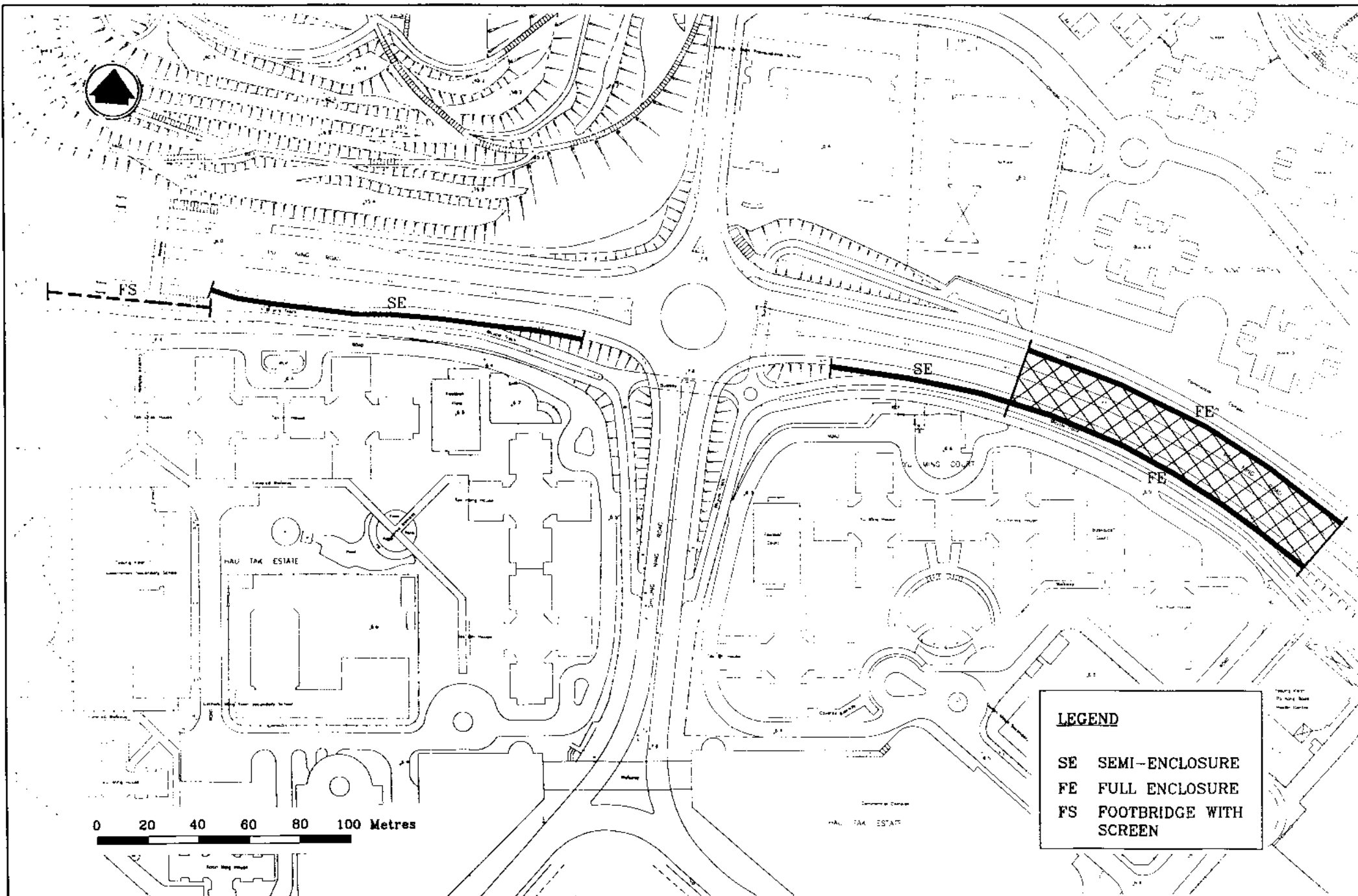
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Project	A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS
Title	PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - MA WANG ROAD

Figure	3.6
Scale	AS SHOWN
Date	FEBRUARY 1999

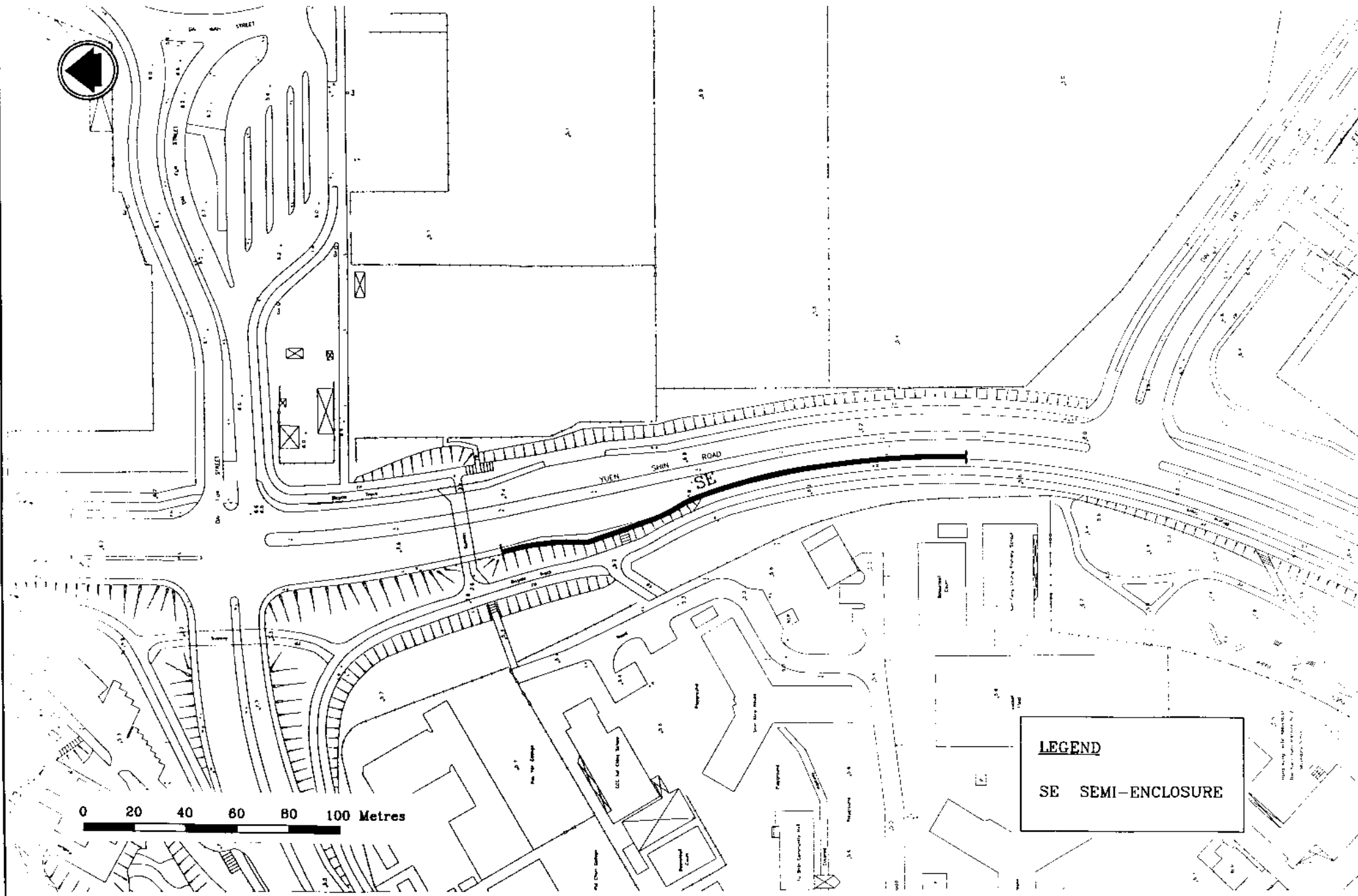
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Project A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS  
 Title PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - PO NING ROAD

Figure 3.7  
 Scale AS SHOWN  
 Date FEBRUARY 1999

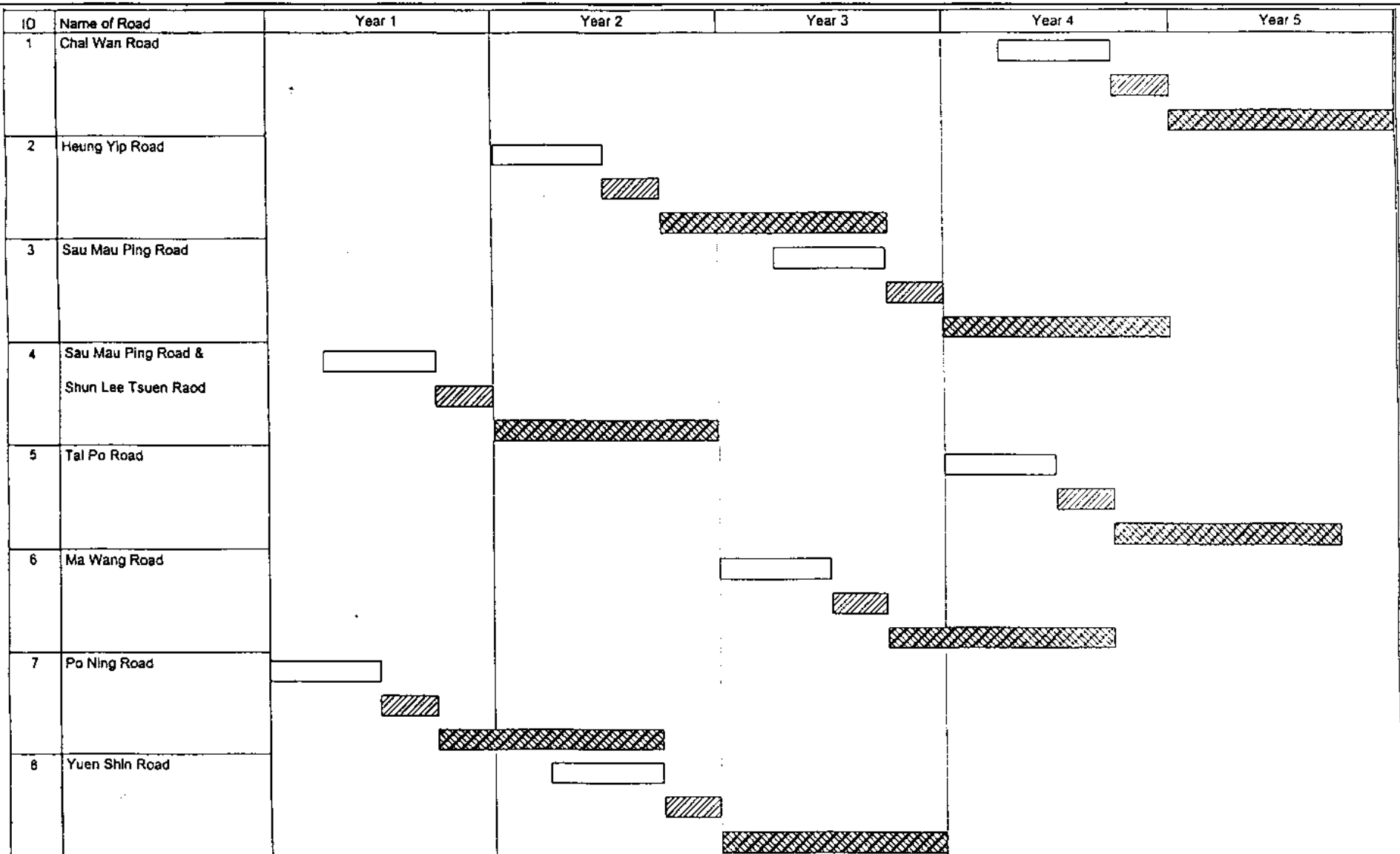
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Project A REVIEWING STUDY FOR PROVIDING DIRECT TECHNICAL REMEDIES ON EXISTING AT-GRADE ROADS  
 Title PROPOSED DIRECT NOISE MITIGATION MEASURES ON EXISTING AT-GRADE ROAD - YUEN SHIN ROAD

Figure 3.8  
 Scale AS SHOWN  
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Remark: Depending on land resumption requirements, road gazette under road ordinance may be required, in which case longer public consultation is require.

