

**Revitalising Historic Buildings**

**Through Partnership Scheme**

**Lady Ho Tung Welfare Centre**

**Resource Kit**



Date: 16 December 2013

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## **I. Introduction**

1.1 The purpose of the Resource Kit is to provide applicants with information to prepare proposals for the historic buildings under the Revitalising Historic Buildings Through Partnership Scheme (the Revitalisation Scheme). Information provided include:

Section II	Historical Background and Architectural Merits;
Section III	Site Information;
Section IV	Building Information;
Section V	Vicinity and Access;
Section VI	Conservation Guidelines;
Section VII	Town Planning Issues;
Section VIII	Land and Tree Preservation Issues;
Section IX	Slope Maintenance;
Section X	Technical Compliance for Possible Uses; and
Section XI	Special Requirements of the Project.

1.2 In drawing up proposals, applicants should in particular endeavor to:

- (a) bring out the historical significance of the buildings;
- (b) follow the Conservation Guidelines; and
- (c) strike a balance between maintaining the architectural authenticity of the buildings and complying with current statutory building control requirements.

We appreciate that (c) will be a complex task. We have the following suggestions for the applicants' consideration:

- (i) when undergoing major alteration and addition works and material change of use, the historic buildings should be properly upgraded for compliance with the current building safety and health standards under Buildings Ordinance. The need for preserving the significant architectural features (**Appendix IX** refers), site constraints or prohibitive upgrading cost may limit the type of uses that may be chosen for the buildings; and
- (ii) every effort should be made to preserve the elements of significance and character-defining elements of the historic buildings. Addition and alteration works, if necessary, should be undertaken at less visually intrusive locations.

1.3 For each historic building, we have suggested a number of uses which appear to be pursuable based on information on hand. However, the technical feasibility of such case will need to be further examined.

1.4 The dimensions, areas and datum levels presented in this resource kit including the architectural drawings are for reference only. A thorough cartographic survey for the

building and topographic survey for the Site should be carried out by authorized specialists to verify the dimensions, areas and datum levels before detailed design is to be carried out.

- 1.5 The information that has been assembled is meant to give a general understanding of the historic buildings and the site. Key parameters available at the time of preparation of the resources kit are supplied for the applicants' convenience and may not be exhaustive. Because of the unique nature and requirements of each proposal, applicants are strongly advised to verify the provided data before finalising their proposals.
- 1.6 The Scheme Secretariat will provide a one-stop service to assist applicants and where necessary, refer them to concerned departments. Applicants may contact the Scheme Secretariat at :-

Address:	Commissioner for Heritage's Office, Development Bureau, 19/F, West Wing, Central Government Offices, 2 Tim Mei Avenue, Tamar, Hong Kong
Email:	<a href="mailto:rhb_enquiry@devb.gov.hk">rhb_enquiry@devb.gov.hk</a>
Phone:	2848 6230
Fax:	2127 4090

## **II. Historical Background and Architectural Merits**

### **2.1 Historical Background**

Lady Ho Tung Welfare Centre is a mixed Chinese and Western style building complex situated in Kwu Tung. Construction started in 1932 and was completed in November 1933. The welfare centre was constructed with the donations from Sir Robert Ho Tung (1862-1956) and named after Lady Ho Tung (1865-1944), who was Sir Robert Ho Tung's first wife and they married in 1881.

After graduating from Queen's College, Sir Robert Ho Tung commenced his association with Messrs. Jardine, Matheson & Co. Ltd. in 1880 and later he was promoted from a junior position to become the manager of the Chinese department of the leading business firm in the Far East as comprador of Jardine's. After resigning his compradoreship in 1900, Sir Robert Ho Tung invested in property, insurance, shipping, and import and export business with his business expanded to the Northern China and the South Sea Islands, etc. Sir Robert Ho Tung was one of the first very successful Eurasian businessmen in colonial Hong Kong. He served on the boards of influential charitable organisations, including Tung Wah Hospital. Sir Robert Ho Tung and his family members took a keen interest in charity and education in Hong Kong. Their community leadership and close involvement in the development of social services in Hong Kong are still evident in many places in Hong Kong.

Lady Ho Tung Welfare Centre was a Government welfare centre. From 1934 to 1973, the welfare centre served mainly as a maternity centre, and also as a sanatorium for Indian soldiers. In 1948, an entrance hall was partitioned off in order to provide a specialised hospitalised ward for sick members of the Police Force stationed in the New Territories. Lady Ho Tung Welfare Centre was a general out-patients clinic until 2005.

Lady Ho Tung Welfare Centre was one of the first rural clinics established in the New Territories and it was used by the residents of the entire district, where is far from the urban centre of Kowloon and its medical facilities.

Lady Ho Tung Welfare Centre provided medical services for residents in the nearby areas, such as Kam Tsin Tsuen (金錢村), Kwu Tung (古洞) and Ho Sheung Heung (河上鄉). A number of elderly patients had used the clinic's services for a long time and some of them were born in Lady Ho Tung Welfare Centre.

There are two photographs of Lady Ho Tung and Sir Robert Ho Tung respectively at the two sides of the entrance to the Treatment Room. They were donated by Ho Tung family in 1957.

## 2.2 Architectural Merits

Completed in 1933, Lady Ho Tung Welfare Centre is a complex composed of the Main Block and the Bungalow. Both blocks are of single storey. The Main Block is laterally symmetrical and well-proportioned at the exterior with a stone plaque inscribed “Lady Ho Tung Welfare Centre” (「何東麥夫人醫局」) above the entrance. Embracing the rear of the Main Block is a U-shaped colonnaded verandah. The Bungalow is a U-shaped building, with an open courtyard in the middle. A covered walkway is in place to connect the Main Block and the Bungalow.

The architectural style of the buildings is “Arts and Crafts”. The Main Block is emphasised with a huge hip and gable roof with curling ends, which is finished with local Chinese tiles arranged in double rolls. The roof of the Bungalow is hipped. Both roofs are supported by a timber truss system. The walls are rendered smooth by plaster with a plinth painted grey. Red brick trim is found under the quarry-tiled sills and at the heads of the windows; and was also applied to the prominent chimney stacks as decoration. The fireplaces located inside the buildings are of typical period ones, comprising black cast iron fire surrounds with smoke hoods, dark green glazed tiles, and wooden mantelpieces and shelves. Chinese influence can be seen in the roof design and in the courtyard configuration of the Bungalow.

### **III. Site Information**

#### **3.1 Location**

The site is located at 38 Kwu Tung Road, Kwu Tung, Sheung Shui, New Territories. The Location Plan is at **Appendix I**.

#### **3.2 Site Boundary**

The site rests on Government land. The Site Boundary Plan is shown at **Appendix II(A)**.

#### **3.3 Site Area**

The site area of the revitalisation project, including Lady Ho Tung Welfare Centre, is approximately 3,550 sq.metres.

#### **3.4 Major Datum Levels**

The major datum levels of the site range from approximately +14.08mPD to +18.03mPD shown at **Appendix III**.

A summary of the site information is given at **Appendix IV**.



## **IV. Building Information**

### **4.1 Building Description**

The site of the Lady Ho Tung Welfare Centre includes the following buildings and structures:

- Main Block
- Bungalow
- Covered walkway
- Disabled and female toilets
- Refuse collection chamber
- Pavilion

Lady Ho Tung Welfare Centre was constructed in 1932 to 1933. The Main Block and Bungalow are single storey buildings connected by a covered walkway. Disabled and female toilets are located at the rear of the Main Block. The buildings are surrounded by trees in a lawn. The Main Block was used for medical purposes. The Bungalow provided lodgings and minor staff quarters.

A summary of building information is shown at **Appendix IV**.

The architectural drawings of the Lady Ho Tung Welfare Centre which consist of floor plans, elevations and sections, and three-dimensional view are attached at **Appendix V(A)**. Structural drawings of the roof truss are attached at **Appendix V(B)**. These drawings are produced based on rough site measurements in August 2013 and required further verifications.

Photos showing the Lady Ho Tung Welfare Centre are attached at **Appendix VI**.

### **4.2 Historic Grading**

The Main Block and the Bungalow of the Lady Ho Tung Welfare Centre had been confirmed as “Grade 2 Historic Buildings” by the Antiquities Advisory Board in 2009.

“Grade 2 historic buildings” is defined as “buildings of special merit; effort should be made to selectively preserve.”

Grading Boundary Plan is shown at **Appendix II(B)**.

### **4.3 Schedule of Accommodation of the existing Lady Ho Tung Welfare Centre**

The usages mentioned in this Schedule of Accommodation refer to the usages at the time when it was used as a welfare centre. The approximate Net Operational Floor

Area (NOFA) and Construction Floor Area (CFA) are indicative only. Applicants shall verify such information on their own before adopting this information in their proposals.

(a) Main Block

Construction Floor Area is approximately 280 sq.m

<b>Floor Level</b>	<b>Accommodation</b>	<b>Approximate Net Operational Floor Area (sq.m)</b>
G/F	Waiting Hall	69
	Treatment Room	37
	Dispensary	17
	Interview Room	14
	Consultation Room	17
	Store Room	12
	Watchman Room	9
	Other Areas	Approximate Net Floor Area (sq.m)
	Colonnaded verandah	63
	Staff Toilet	2
	Male Toilet	4

(b) Bungalow

Construction Floor Area is approximately 146 sq.m

<b>Floor Level</b>	<b>Accommodation</b>		<b>Approximate Net Operational Floor Area (sq.m)</b>
G/F	Bungalow A	Sitting Room A	8
		Bedroom A	8
	Bungalow B	Sitting Room B	8
		Bedroom B	8
	Minor Staff Quarters A		6
	Minor Staff Quarters B		5
	Kitchen		7
	Other Areas		Approximate Net Floor Area (sq.m)
	Bungalow A	Corridor A	2
		Toilet A	2
	Bungalow B	Corridor B	2
		Toilet B	2
	Garage		17
	Corridor C		4
	Toilet C		4

Floor Level	Accommodation	Approximate Net Operational Floor Area (sq.m)
	Lavatory	2

(c) Other Structures

Construction Floor Area is approximately 76 sq.m.

Accommodation	Approximate Net Floor Area (sq.m)
Covered walkway	11
Disabled and female toilets	17
Refuse collection chamber	6
Pavilion	24

Total Construction Floor Area of all buildings and structures is approximately 502 sq.m.

#### 4.4 Materials of Construction

(a) Main Block

<b>Materials</b>	Roof	Timber trusses with steel tension rod Chinese pan and roll tiles
	Wall/Columns	Mainly bricks Stone doorcase and threshold
	Ground Floor	Concrete slab
<b>Finishes</b>	Exterior	Plaster rendered with paint Cement skirting
	Interior	<u>Suspended False ceiling:</u> <i>Upper layer:</i> timber <i>Lower layer:</i> mineral fibre with metal grid; metal strips <u>Wall finishes:</u> Plaster rendered with paint; 1300mm high ceramic tile dado with border <u>Floor finishes:</u> Homogeneous tiles Terrazzo <u>Skirting:</u> 300mm high cement skirting homogenous tiles

(b) Bungalow

<b>Materials</b>	Roof	Timber rafters with timber ties Chinese pan and roll tiles
	Wall	Mainly bricks
	Column	Mild steel posts
	Floor	Concrete slab
<b>Finishes</b>	Exterior	Plaster rendered with paint
	Interior	<u>Ceiling:</u> Plaster rendered with paint Mineral fiber suspended ceiling with metal grid Timber suspended false ceiling <u>Wall finishes:</u> Plaster rendered with paint Ceramic tiles <u>Floor finishes:</u> Homogeneous tiles Trowelled finish Mosaic tiles <u>Skirting:</u> 300mm high cement skirting

(c) Covered walkway

<b>Materials</b>	Roof	Reinforced concrete slab
	Wall/Columns	Mainly bricks
	Beam	Reinforced concrete beams
	Ground Floor	Concrete slab
<b>Finishes</b>	Exterior	<u>Ceiling finishes:</u> Plaster rendered with paint <u>Wall finishes:</u> Plaster rendered with paint <u>Floor finishes:</u> Granite edge stone and homogeneous tiles <u>Skirting:</u> Cement skirting

(d) Disabled and female toilets

<b>Materials</b>	Roof	Reinforced concrete slab
	Wall	Mainly bricks
	Floor	Concrete slab
<b>Finishes</b>	Exterior	<u>Roof:</u>

		Plaster rendered with paint <u>Wall finishes:</u> Plaster rendered with paint <u>Skirting:</u> Cement skirting
	Interior	<u>Ceiling finishes:</u> Paint <u>Wall finishes:</u> Ceramic tiles <u>Floor finishes:</u> Homogeneous tiles

(e) Refuse collection chamber

<b>Materials</b>	Roof	Metal Deck
	Wall	Brick wall
	Floor	Concrete slab on ground level
<b>Finishes</b>	Exterior	Paint
	Interior	<u>Ceiling:</u> Paint <u>Wall finishes:</u> Ceramic tiles <u>Floor finishes:</u> Homogeneous tiles

(f) Pavilion

<b>Materials</b>	Roof	Corrugated Metal Sheet
	Beam/Column	Steel
	Floor	Concrete slab
<b>Finishes</b>	Exterior	Enamel paint

## 4.5 Internal Circulation

### (a) General Description

#### (i) Main Block

It is a single storey building with 3 direct accesses. The front entrance leads to a waiting hall. The 2 side entrances lead to the colonnaded verandah, which is connected via the covered walkway to the Bungalow. 3 doors from the treatment room and 1 door from the interview room also lead to the colonnaded verandah, integrating the inside and the outside. In addition,

watchman room has its individual access.

(ii) Bungalow

It is a single storey building with separate accesses from the courtyard and the lawn to Bungalow A, Bungalow B, Minor Staff Quarters, Garage and ancillary facilities.

**(b) Barrier Free Access**

(i) Main Block

The existing tactiles at main entrance do not fully comply with “Design Manual: Barrier Free Access 2008”. There is no ramp provision for the level difference between internal and external spaces.

The existing ramps adjacent to the male toilet and tactiles at female toilet and disabled toilet do not fully comply with current standard “Design Manual: Barrier Free Access 2008”.

(ii) Bungalow

There is no ramp provision for the level difference between internal and external spaces.

**4.6 Major Alternations and Additions**

(a) Main Block

Visual inspection at the ceiling void indicated that repair works had been carried out in a few areas to provide additional vertical timber supports for defective timber roof rafters at the east and west side of the timber roof structure.

It appeared that the existing mineral fiber suspended ceiling was added below the original timber suspended ceiling.

(b) Bungalow

Visual inspection indicated that repair works had been carried out to provide additional vertical steel supports for defective timber roof rafters.

(c) Covered walkway

No alterations or additions were observed.

(d) Other structures

It appeared that the disabled and female toilets, refuse collection chamber, pavilion and water tanks on the covered walkway were constructed at a later stage.

## 4.7 Preliminary Structural Appraisal

### 4.7.1 Description

This preliminary structural appraisal covers Main Block, Bungalow, covered walkway, disabled and female toilets, refuse collection chamber and pavilion.

As no record structural plans and foundation plans were available for inspection when preparing this Resource Kit, the following preliminary structural appraisal was based on structural condition survey works by Visual Inspection Method being carried out for this Resource Kit.

(a) Main Block

The building appeared in the form of beam/wall-column frame building with timber roof as roofing system. The overall dimensions of the building were approximately 19.8m long and 14.3m wide. The floor height was 4.0m with pitch roof height of 3.30m above ground floor ceiling level.

The pitch roof was at upward angle of about 23° (longitude) and 22° (latitude).

The external perimeter brick walls were 460 mm thick which acted as load bearing wall for gravity load as well as cross wall for lateral wind resistance along longitudinal and transverse directions.

The internal cross wall thicknesses were in the ranges from 150 mm thick to 360 mm thick which acted as cross wall in providing horizontal support to external brick walls under lateral wind load along longitudinal and transverse direction.

There were 14 brick vertical columns of 400 mm x 400 mm with 4.0m height. It was measured and found that the timber trusses did not sit on these brick columns. It was logically by professional experiences to assume that these timber trusses would be supported by horizontal concrete beams spanning between these brick columns at south and brick walls at north. However,

these assumed concrete transfer beams could not be identified based on visual site inspection. Verification of the validity of this assumption is necessary in the future further detail investigation works.

The roofing tiles were supported by timber rafters (55mm x 100 mm spaced at 245 mm) which in turn were supported by roof timber purlins. The roof timber purlins transferred the roof imposed loads onto the timber trusses (3m height and 5 numbers spaced at approximately about 2.6m ~ 2.7m) spanning 14.135 m between concrete beams and brick columns at the south and brick walls at the north.

It was observed that there were 5 pitched timber roof trusses. The pitched truss was with a span of about 14.135m between the heel locations (supports) with 6 panel segments of about 2.3m in length and the middle peak location is of 3.0 m height. The measured sizes of the truss members were shown in the following tables.

<b>Element Items</b>	<b>Structural Materials</b>	<b>Sectional Shapes</b>	<b>Member Sizes</b>
Top Chord	Timber	Rectangular Shape	150mm(W) x 175mm(D)
Bottom Chord	Timber	Rectangular Shape	150mm(W) x 200mm(D)
Vertical Web	Steel Rod	Circular Solid Bar	30Φ mm (Centre), 22Φmm (Middle), 20Φmm (End)
Diagonal Web	Timber	Rectangular Shape	150mm(W) x 100mm(D)

W = width, D = Depth

The ground floor slab appeared to be concrete slab-on-grade.

It was noted a concrete tank of size about 1.5 m(width) x 1.5 m(length) x 1.5 m(height) was installed at the ceiling level which was supported directly on top of the brick partition walls below the ceiling located at grid line (G) and (4).

There were 3 brick chimneys located on the western side of the pitched roof.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the brick bearing wall and brick cross walls at ground floor level.



Roof Measured Plan and the associated roof truss sections with on-site measurements for sizes of structural elements and locations of timber trusses and bearing walls were illustrated in the attached Structural Drawings (Drawing No. MB01 and MB-02) in **Appendix V(B)**.

(b) Bungalow

The external perimeter brick walls were 400 mm and 260 mm thick which acted as load bearing wall for gravity load as well as cross wall for lateral wind resistance in longitudinal and transverse directions.

The pitched roof is at an upward angle of 23° along the U-shaped roof.

The internal brick partition wall thicknesses were in the ranges from 150mm to 290mm thick which acted as cross wall in providing horizontal support to external brick walls under lateral wind load along longitudinal and transverse direction

There were 4 metal pipe posts (110mm diameter) supporting the timber purlin (100mm (W) x 170mm (D)) along the end of roof timber rafters (55mm x 100 mm spaced at 245mm) in the internal open-court yard area. The roof timber rafters were anchored into the perimeter supporting brick bearing walls. The supports of these pitched roof timber rafters were tied with timber rafters at 735 mm centre interval (i.e. one horizontal tie rafter at every third pitched roof rafter).

The roofing tiles were supported by roof timber rafters (55mm x 100mm spaced at 245mm) which in turn were supported by external and internal brick bearing walls.

There were 2 brick chimneys located on the north and south side of the pitched roofs.

The ground floor slab appeared to be concrete slab-on-grade.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the brick bearing wall and brick cross walls at ground floor level.

Roof measured plan and the associated roof sections with on-site measurements for sizes of structural elements and locations of roof rafters were illustrated in the attached Structural Drawings (Drawing No. BB01 and BB-02) in **Appendix V(B)**.

(c) Covered walkway

The covered structure was a one-storey brick column/beam/slab open-frame with a concrete flat roof.

The flat roof was constructed with reinforced concrete slab.

The wind load resistance elements were by way of slab/column frame and beam/column frame along longitude and latitude directions.

The ground floor slab appeared to be built of concrete slab-on-grade.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the brick columns.

(d) Disabled and female toilets

The building was a one-storey building with a concrete flat roof. The roof dimension of disable toilet is 2.8m long x 3.0m wide, and the female toilet is 4.4m long x 3.0m wide. Both story heights are 3.0m high above ground.

The external and internal walls were constructed of brickworks. The flat roof was constructed with reinforced concrete slab.

The wind load resistance elements were external brick bearing wall along longitude and latitude directions.

The ground floor slab appeared to be built of concrete slab-on-grade.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the brick walls.

(e) Refuse collection chamber

The structure was a one-storey brick wall structure with a metal flat roof.

The flat roof was constructed with metal deck.

The wind load resistance elements were by way of brick bearing walls along longitude and latitude directions.

The ground floor slab appeared to be built of concrete slab-on-grade.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the brick walls.

(f) Pavilion

The structure was a one-storey steel beam/column frame structure with pitched roof on 4 sides. The overall dimensions of the structure were approximately 6m long x 3.94m wide with storey height at 3.6m at high level and down to be 2.4m at low level.

All steel members were hollow sections with details as listed in the following table.

Type	Hollow Section	Steel Member Size
Main Beam	Square	200 mm x 200 mm
Secondary Beam	Rectangular	200 mm x 90 mm
Vertical Column	Circular	180 mm dia

The pitched roof was constructed with corrugated metal sheets. The pitch roofs were at upward angles of about 20° (longitude) and 20° (latitude) respectively.

The wind load resistance elements were by way of beam/columns frames and along north/south and east/west directions

The ground floor slab appeared to be built of concrete slab-on-grade.

Although no record foundation plan was available for review, the prevailing foundation design for this type of light weight structure is likely to be concrete pad footing under the steel columns.

#### 4.7.2 Preliminary Appraisal

No opening-up, coring or laboratory testing were carried out to the buildings when preparing this resource kit. The preliminary appraisal was purely based on the observation in visual inspection. Since there is no record structural plan and foundation plan available for inspection during information search period, the selected applicant shall carry out detailed structural appraisal for the buildings and structures.

(a) Main Block

In general, the brick bearing columns, concrete beams between brick bearing columns, brick bearing walls and brick cross walls appeared in good conditions. No immediate repair of these structure elements is needed.

The timber roof trusses system (roof timber rafters, timber purlins, steel tension rods and steel connection parts) was found in fair conditions with appeared structural defects in a few areas as listed below which are in need of further investigation. Structural element is considered in fair condition when there is no immediate danger of failure of the structure elements, but the observed structural defects should be investigated and rectified as soon as practically possible for maintaining the structure in structural safe condition as designed in original design.

(i) Some localised leakages were found underneath the tile-timber pitched roof which would have ill effect to the timber truss members. The leakage area was in the centre portion of the apex of the all timber trusses. The wet and dry condition will cause the deterioration of structural timbers. The deterioration of timber would impair the structural integrity of trusses and reduce the structural capacity to support the intended roof dead and imposed load. It was not certain at the time of inspection whether damages had been done to the observed defective timber rafters. Further investigation on this aspect is needed

(ii) Some localised timber rafter deterioration found and repair works had been carried out with improper details. It appeared that these repair works were intended to provide vertical timber post support for those defective roof timber rafters along top of trusses no 1 and 5. However these timber posts were sitting on the bottom chord of trusses at inclined angles. This vertical offset alignment would cause eccentric twisting effect to the bottom chord of the timber trusses which had not been designed for. Rectification works including the removal of these improper repair works should be carried out as soon as practically possible.

(iii) Mild corrosion (estimation of corrosion was in the order of section reduction in 10% to 20% ranges) had been found in all steel tension members and steel connection joint between timber members (top chord, bottom chord and diagonal strut) and steel member (tension rods between top and bottom timber chords). Reduction in steel section would reduce the structural capacity of the steel section in the original design for supporting the intended dead & imposed loads.

No cracks were observed on the surface of ground floor finishes and it

appeared that no differential settlement had occurred between footings under brick bearing walls and brick cross walls.

(b) Bungalow

No excessive vertical settlement and misalignment of the external and internal brick bearing walls was observed. In general, the structural timber rafters, timber ties, steel vertical posts and brick bearing walls, appeared in good conditions but routine maintenance and monitoring of these structural elements were necessary.

Visual inspection revealed that there were few minor cracks on the brick walls located at western wall facing the covered walkway. A few localised leakages were found on roof defective timber rafters underneath the roof located at the junction between the pitched roofs (north/south and east/west-grid line (E) & (5) and (6)) at the ridge line towards the internal court yard (Drawing No. BB01 and BB02) in **Appendix V(B)**. Repair or replacement of these defective timber rafters were needed.

No cracks were observed on the surface of ground floor finishes and it appeared that no differential settlement had occurred between footings under brick bearing walls and brick cross walls.

(c) Covered walkway

In general, the brick bearing columns, roof slabs/beams of this one storey open beam/column frame structure appeared in good conditions but routine maintenance and monitoring of these structural elements were necessary.

There were four numbers of GRP (Glassfibre Reinforced Polyester) tanks installed on the roof of the link covered walkway structure with steel beam/post frame support. These GRP tanks appeared to be misaligned with the supporting steel channel frames. There was mild corrosion on steel supporting members at the flat roof level. Further investigation to the above appeared structural defects is recommended.

No cracks were observed on the surface of ground floor finishes and it appeared that no differential settlement had occurred between footings under brick columns.

(d) Disabled and female toilets

In general, the perimeter external brick bearing walls appeared in good

conditions but the roof concrete slab was observed to be in fair condition.

Visual inspection revealed that there were a few spalling concrete spots( surface area of about 300 mm x 600 mm) located at roof slab soffit areas where medium corrosion occurred on the steel reinforcement bars of the roof slab observed.

There were mild corrosion (estimation of corrosion was in the order of section reduction in 10% to 20%) on steel metal deck and supporting steel members on the metal roof cover between the Main Block and the disabled and female toilet blocks. Further investigation for these appeared structural defects is recommended and repair works for deficiencies found should be conducted as soon as practically possible.

No cracks were observed on the surface of ground floor finishes and it appeared that no differential settlement had occurred between footing under brick bearing walls and brick cross walls.

(e) Refuse collection chamber

No excessive vertical settlement and misalignment of the external and internal brick bearing walls was observed. In general, the brick bearing wall structure with metal deck roof appeared in good condition but routine maintenance and monitoring of these structural elements were necessary.

No cracks were observed on the surface of ground floor finishes and it appeared that no differential settlement had occurred between footings under brick walls.

(f) Pavilion

In general, this steel beam/column frame structure with corrugated metal sheets roofing appeared in good condition but routine maintenance and monitoring of these structural elements were necessary.

No cracks were observed on the surface of ground floor finishes and it appeared that no differential settlement had occurred between footings under steel columns.

### **4.7.3 Loading Assessment**

No design imposed load was known as there were no record structural plans for inspection during information search period.

The buildings except steel pavilion structure were known to be built in 1932. It was believed that the design would have followed the prevailing design code of London County Council (LCC) By-Laws 1915 and the amendments between 1915 and 1932 period.

The steel pavilion structure was known to be built in 2000 and it was believed that the design would have followed the prevailing design code of Hong Kong Building (Construction) Regulations- 1990.

(a) Main Block

For the ground floor on grade slab, in accordance with LCC By-Law 1915, the design imposed live load for floor loading to be used wholly for the purpose of human habitation was 70 lb/sq ft, equivalent to 3.3 kPa. As the ground floor appeared to be slab on-grade, the loading capacity of the ground floor is estimated to be 4.0 kPa.

For imposed roof live load, in accordance with LCC By-Law 1915, the design imposed live load for inclined upward at a greater angle than 20° degree, 28 lb/sq ft, equivalent to 1.3 kPa. It is noted that the use of 28 lb/sq ft (1.3 kPa) for imposed roof live load deemed to include wind pressure. Taking into account of the age of the building, the estimated loading capacity of the roof would be 0.75 kPa.

(b) Bungalow

For the ground floor on grade slab, in accordance with LCC By-Law 1915, the design imposed live load for floor loading to be used wholly for the purpose of human habitation was 70 lb/sq ft, equivalent to 3.3 kPa. As the ground floor appeared to be slab on-grade, the loading capacity of the ground floor is estimated to be 4.0 kPa.

For imposed live load on roof, in accordance with LCC By-Law 1915, the design imposed load for inclined upward at a greater angle than 20 degree, 28 lb/sq ft, equivalent to 1.3 kPa. It is noted that that the use of 28 lb/sq ft (1.3 kPa) for imposed live load deemed to include wind pressure. Taking into account of the age of the building, the estimated loading capacity of the roof would be 0.75 kPa.

(c) Covered walkway

For the ground floor on grade slab, in accordance with LCC By-Law 1915, the design imposed load for floor loading to be used wholly for the purpose of human habitation was 70 lb/sq ft, equivalent to 3.3 kPa. As the ground floor

appeared to be slab on-grade, the loading capacity of the ground floor is estimated to be 4.0 kPa.

For imposed live load on roof, in accordance with LCC By-Law 1915, the design imposed load for flat roof was 56 lb/sq ft, equivalent to 2.7 kPa. Taking into account of the age of the building, the estimated loading capacity of the roof would be 2.0 kPa.

(d) Disabled and female toilets

For the ground floor on grade slab, in accordance with LCC By-Law 1915, the design imposed load for floor loading to be used wholly for the purpose of human habitation was 70 lb/sq ft, equivalent to 3.3 kPa. As the ground floor appeared to be slab on-grade, the loading capacity of the ground floor is estimated to be 4.0 kPa.

For imposed live load on roof, in accordance with LCC By-Law 1915, the design imposed load for flat roof was 56 kg/sq ft, equivalent to 2.7 kPa. Taking into account of the age of the building and the prevailing condition of the roof structure, the estimated loading capacity of the roof would be 0.75 kPa.

(e) Refuse collection chamber

For the ground floor on grade slab, in accordance with LCC By-Law 1915, the design imposed load for floor loading to be used wholly for the purpose of human habitation was 70 lb/sq ft, equivalent to 3.3 kPa. As the ground floor appeared to be slab on-grade, the loading capacity of the ground floor is estimated to be 4.0 kPa.

For imposed live load on roof, in accordance with LCC By-Law 1915, the design imposed load for flat roof was 56 lb/sq ft, equivalent to 2.7 kPa. Taking into account of the age of the building, the estimated loading capacity of the roof would be 0.75 kPa.

(f) Pavilion

For the ground floor on grade slab, in accordance with Hong Kong B(C)R-1990, the design imposed load for floor loading to be used wholly for the purpose of human habitation was 4.0 kPa

For imposed live load on roof, in accordance with Hong Kong B(C)R-1990, the design imposed load for inaccessible pitched roof was 0.75kPa. Taking into account of the age of the building, the estimated loading capacity of the



roof would be 0.75 kPa.

The wind loading on the pavilion would have followed the Code of Practice on Wind Effects Hong Kong-1983.

#### 4.7.4 Recommendations

As no record drawings for all 4 buildings and 2 open-frame structures are available, more comprehensive and site investigation to the structural members and appropriate in-situ and laboratory tests shall be carried out to confirm the as-built and current conditions of the structural members and performance of the buildings.

For the Main Block and Bungalow, the building performance in a few areas of the buildings, in particular deteriorations of timber members of timber pitched roofs and the corrosion occurred in steel elements shall be re-checked and remedied if deficiencies are found.

For the disabled and female toilets, the building performance of the roof slabs in particular the corrosion of steel reinforcement bars and spalling concrete should be further investigated. These defective areas shall be re-checked and remedied as soon as practically possible if deficiencies are found.

For the refuse collection chamber and the pavilion structure, the structural conditions appeared to be in good conditions, regular maintenance is needed to keep the building in an acceptable structural condition.

#### 4.7.5 Conclusions

This preliminary structural appraisal shall not be treated as a comprehensive and complete evaluation of building performance as no test or opening-up of finishes was carried out when appraising the buildings.

Based on the visual inspection of 4 building blocks and 2 open-frame structures, the overall conditions are good except that there are 2 areas (roof timber truss at Main Block and roof slab at disabled and female toilets). Remedial works to the observed structural defects as described in Section 4.7.2 are recommended.

Finding of structural conditions on the building blocks based on visual inspection were summarised in the following table.

<b>Building Blocks</b>	<b>Structural Conditions</b>	<b>Recommendation</b>
Main Block	Overall good except roof	Further investigation for

	truss system(fair condition)	the timber rafters, purlins and trusses and connections is required and deficiencies found should be repaired
Bungalow	Overall good	Repair for the timber rafters, purlins and ties is recommended
Covered walkway	Overall good	Further investigation for the GRP and support connections is required and deficiencies found should be repaired.
Disabled and female toilets	Overall good except roof slab (fair condition)	Further investigation for the roof slab is required and deficiencies found should be repaired
Refuse collection chamber	Overall good	-
Pavilion	Overall good	-

According to the preliminary loading assessment, all the buildings are able to take the loading estimated in Section 4.7.3, which are summarised as follows:

Building Blocks	Estimated Floor Loading Capacity (kPa)	
	Ground Floor Level	Roof Level
Main Block	4.0	0.75
Bungalow	4.0	0.75
Covered walkway	4.0	2.00
Disabled and female toilets	4.0	0.75
Refuse collection chamber	4.0	0.75
Pavilion	4.0	0.75

The above loading capacity is assessed by estimation only. Detailed structural appraisal of the buildings should be carried out to verify these assumptions. The loading capacity of each floor level shall be assessed individually in the detailed structural appraisal.

#### 4.8 Building Services and Utilities

A list of existing provisions of building services and utilities for Lady Ho Tung Welfare Centre in Kwu Tung and the associated building is as follows:-

<b>Building Services and Utilities</b>	<b>Existing Provisions</b>
MVAC Installation	<ul style="list-style-type: none"> <li>- All air-conditioners are in window type with metal supporting frames attached at the window top parts. They are all found too aged and appeared not suitable for re-use.</li> <li>- All exhaust fans are in domestic window type fixed at the window top panels. They are all found too aged and appeared not suitable for re-use.</li> <li>- Two sets of cabinet fans completed with air ductwork fixed inside the ceiling void above false ceiling of the Main Block with louvre connection to the false ceiling. They are exhaust air &amp; fresh air intake fans for mechanical ventilation for the ceiling void of the Main Block.</li> <li>- The surface condition of the existing mechanical ventilation fans and air ductwork are not bad. Although the fans are switched ON &amp; OFF several times and no abnormal operation and noise is found, selected applicant is still advised to verify the existing fan condition if the installation can be capable for ventilation of the ceiling void space.</li> </ul>
Fire Services Installation	<ul style="list-style-type: none"> <li>- Only some portable type fire extinguishers are positioned at rooms of Main Block and surrounding covered walkway. No other fire services installation was provided.</li> <li>- There are 4 nos. of existing fire extinguishers positioned at different rooms of Main Block and 1 no. at the covered walkway outside Main Block. They are found still in operation condition with expiry date of 25-Nov-2013 and the last pressure test arranged in 2012. The fire extinguishers are water type with capacity of 9 Lit and fire rating of 13A.</li> <li>- There is an existing underground town mains running along the adjacent Kwu Tung South Road. For future fire services water connection to new fire services systems, such as sprinklers, hydrant &amp; hose reel installations, selected applicant can apply to Water Supplies Department for water supply tee-off to the new fire services system of the premises.</li> <li>- As of 22 November 2013, no information was provided by Water Supplies Department on the available water supply pressure, pipe connection types and location of water connections to the site.</li> </ul>
Lift	<ul style="list-style-type: none"> <li>- There is no lift installation.</li> </ul>
Gas Installation	<ul style="list-style-type: none"> <li>- There is no gas installation.</li> <li>- As advised by the Hong Kong and China Gas Company Limited, there is an existing underground gas main located</li> </ul>

	<p>along Kwn Tung Road. They do not envisage any major technical difficulty in provide gas supply.</p> <ul style="list-style-type: none"> <li>- Selected applicant can apply to the Hong Kong and China Gas Company Limited for gas supply tee-off to the premises. Details of gas connection will depend on the future gas demand.</li> <li>- As of 22 November 2013, no information was provided by the Hong Kong and China Gas Company Limited on the available gas supply size, pipe connection types and location of gas connections to the site.</li> </ul>
Electrical Installation	<ul style="list-style-type: none"> <li>- The existing CLP LV Incoming HRC Service Cutout with maximum supply capacity of 200A TP&amp;N (as the main power supply to the premises) is found wall mounted at external wall of Main Block.</li> <li>- The existing wiring conduit installation is in exposed type. The existing lighting and power installation at Main Block are still connected with power supply. Since the existing circuit wirings and electrical installations are fixed to suit the existing layout and operation requirement, it is believed that all the existing installation cannot be retained for future use.</li> <li>- Selected applicant can coordinate with CLP for final arrangement of electrical supply &amp; distribution installation to the premises.</li> </ul>
Drainage Installation	<p>Storm Water Drainage:</p> <ul style="list-style-type: none"> <li>- The rain water at roof is collected by gutters running along the edge of pitch roofs, and discharged to the surface channels (covered with grating) around the buildings.</li> <li>- The rain water at paved open areas is collected by surface channels (covered with grating).</li> <li>- The rain water at external grassland of back yard is permeated through natural soil.</li> <li>- The rain water at external grassland of front yard is collected by existing channels.</li> <li>- The existing rain water drainage installation is found in working condition, but repair and maintenance works are needed.</li> <li>- All existing channels are connected to the existing surrounding storm water culverts along Kwu Tung South Road at the open area in between the Lady Ho Tung Welfare Centre and the private estate, Valais. The outflow storm water pipe of the storm water manhole adjacent Kwu Tung Market Shopping Centre is 450mm dia. and discharging to the existing nullah along Fanling Highway. However, the</li> </ul>

	<p>storm water drain along the Kwu Tung South Road is not shown on record drawing of Drainage Services Department.</p> <ul style="list-style-type: none"> <li>- As of 22 November 2013, Drainage Services Department and Highways Department advised that they are not the maintenance agents for the existing storm water manholes and underground drainage along Kwu Tung South Road.</li> <li>- For effective operation of the site, selected applicant should identify and seek advices from the maintenance agent(s) for application of storm water connection to the existing storm water manholes on Kwu Tung South Road.</li> </ul> <p>Soil and Waste Water Drainage:</p> <ul style="list-style-type: none"> <li>- The soil &amp; waste water at various drain points, including floor drains, basin drains, WC drains, etc., is collected by underground drain &amp; manhole system. The collected sewage water is grouped at an underground manhole adjacent to Main Block.</li> <li>- No provision of last manhole or fresh air inlet pipe and no outgoing underground drain pipe running to outside is found at site.</li> <li>- The foul water pipe from this manhole is disconnected at some point downstream according to the findings of the utilities mapping.</li> <li>- New foul water drainage system for the premises is therefore required. Selected applicant can consider adding a new foul water drainage or sewage treatment system with proper discharge capacity to suit the future use of the premises. Statutory submission of the new foul water drainage/treatment system proposal to BD, EPD or Drainage Services Department, where applicable, should be required at planning and design stage.</li> </ul>
Plumbing Installation	<ul style="list-style-type: none"> <li>- The existing potable water supply pipe of 22mm dia. is connected from Water Supplies Department's(WSD) main pipe at Kwu Tung Road and run at underground through the Government's land in between the back yard of the site and Kwu Tung Road.</li> <li>- The potable water meter is 15mm main located adjacent to the Bungalow. The outgoing (metered) potable water pipe runs at underground and turns up with tee-off pipes to the existing water tanks positioned on top of covered walkway linking the Main Block and the Bungalow supplying potable and flushing water to the premises including female and disabled toilets , water basins at the Main Block, toilets at Bungalow.</li> </ul>

	<ul style="list-style-type: none"> <li>- The rough-estimated tank capacities are:- 1000 Lit. potable water for the Main Block, 500 Lit. potable water for the Bungalow, and 800 Lit. flushing water for all toilets use.</li> <li>- The existing water supply pipes and water tanks are abandoned for a certain period of time and the condition is found deteriorated. Also, the existing pipe runs are surface mounted along external wall and distributed to suit the old Centre's layout and operation requirement, it is believed that all the existing installation cannot be retained for future use.</li> <li>- New potable water supply of adequate capacity is required in future for revitalisation work.</li> <li>- No salt water main or flushing water (check) meter is found at the existing water connection point. Selected applicant can apply to WSD for Temporary Mains-water for flushing supply.</li> <li>- A metal tank is found positioned at false ceiling void of Main Block, which had been abandoned and already replaced by the fibre glass tanks.</li> </ul>
Fixed Telecommunication Network	<ul style="list-style-type: none"> <li>- The existing telephone wiring is connected from a PCCW services pit outside site at Kwu Tung South Road and run at high level from the external telephone post located outside site boundary adjacent to existing tree "T49". The existing telephone wiring is surface mounted along the external wall of Main Block and turned into Waiting Hall, Treatment Room, Interview Room and, Consultation Room, etc.</li> <li>- The existing wiring work is aged and cannot be reused.</li> <li>- New wiring application to the Fixed Telecommunication Network Service Provider is required in future for revitalisation work.</li> </ul>

An underground utilities mapping survey for the Lady Ho Tung Centre had been conducted to determine the location of underground utilities, including electricity, plumbing, drainage, tele-communication and gas. Please refer to **Appendix XVI**.

## **V. Vicinity and Access**

### **5.1 Immediate Surroundings**

Lady Ho Tung Welfare Centre is located in the Kwu Tung area near Sheung Shui, at the junction of Kwu Tung Road and Kwu Tung South Road. It is bordered on the east by Valais, a low-rise residential development. Kwu Tung Market is on the opposite side of Kwu Tung South Road. The surroundings are villages, low-rise residential developments and rural areas.

Sheung Shui MTR Station is within a 10 minute drive from Lady Ho Tung Welfare Centre.

The Plan Showing Immediate Surroundings is at **Appendix VII**.

### **5.2 Access**

Access to the site is shown in the Access Plan at **Appendix VIII**.

#### **5.2.1 Vehicular Access**

Vehicular access to the site is available from the Kwu Tung South Road which is a two-way drive. Turning area is available in front of site entrance at the end of Kwu Tung South Road. An internal driveway leads to the ground in front of Main Block and the Bungalow.

#### **5.2.2 Emergency Vehicular Access (EVA)**

No EVA complying with the requirement stipulated in Section 6, Part D of Code of Practice for Fire Safety in Buildings 2011 (FS Code 2011) is found in the site.

#### **5.2.3 Loading and Unloading Area**

Loading and unloading area is not clearly demarcated in the site. The ground (approx. 40m x 11m) in front of the buildings may be used as loading and unloading area.

#### **5.2.4 Parking**

A garage is located at the Bungalow. The ground (approx. 40m x 11m) in front of the buildings may be used for parking.

#### **5.2.5 Pedestrian Access**

Pedestrians can access the site from Kwu Tung South Road. The site is about 3 minute walk to a minibuses bus stop where minibuses leave for Sheung Shui MTR Station.

**5.2.6 Vehicular Access (Site)**

Vehicular access is available for the buildings in the site.

**5.2.7 Refuse Collection Point**

A refuse collection point is located at Kwu Tung Road, 70 metres east of the site.



## VI. Conservation Guideline

### 6.1 General Conservation Approach

6.1.1 All applicants are advised to give due regard to the Charter of Venice (ICOMOS), the Burra Charter (ICOMOS Australia) and the Principles for the Conservation of Heritage Sites in China (China ICOMOS), which give the established international principles in heritage conservation in preparing their proposals for the restoration works.

6.1.2 We understand it will be a complex issue to strike a balance between maintaining the architectural authenticity of historic building and complying with the current statutory requirements under the Buildings Ordinance (Cap. 123). On this issue, we would advise:

(a) when undergoing major alteration works and change of use, the historic building should be properly upgraded to meet the same level of safety in respect of the new use as in the case of new buildings. The need for preserving the significant architectural features (**Appendix IX** refers), site constraints or prohibitive upgrading cost may limit the type of use that may be chosen for the building; and

(b) every effort should be made to preserve the façades of the historic building except unauthorised building structures, if any. Addition and alteration works, if necessary, should be undertaken at the back or other less visually prominent location of the building concerned. The original façades of the building should generally be left unaltered and must not be disturbed, i.e. no major external additions or alterations to the premises will be allowed, unless permitted under these Conservation Guidelines. External redecoration is restricted to colours that are compatible with the age and character of the buildings and the paint system is to be reversible<sup>1</sup>. Any fixed signage should match the age and character of the exterior of the building and is to be approved by the Antiquities and Monuments Office (AMO) prior to installation.

6.1.3 For the renovation works to comply with statutory building control requirements, the following general guidelines are given to the applicants for reference. However, they should not be treated as exhaustive and it is essential for the

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<sup>1</sup> “Reversibility” is an act or process which can be undone or removed at a later date without causing material injury, loss, damage or change to the historic site or the historic building as the case may be.

selected applicant to refer to the full requirements imposed by the relevant authorities in respect of their proposals, including Buildings Department, Fire Services Department, Drainage Services Department, etc.

<b>Possible Building Works</b>	<b>Conservation Guidelines</b>
a) Means of Escape	Any improvement works recommended to doorway openings, steps, etc. require the prior approval of the AMO.
b) Emergency Vehicular Access (EVA)	EVA should blend in with the surroundings to preserve the historical character of the building(s).
c) Natural Lighting and Ventilation	Alteration or enlargement of any original windows or provision of any new window openings will not be permitted, unless approved by the AMO.
d) Barrier Free Access	Any proposed access improvement for persons with a disability must respect historical integrity of the building(s) and its/ their surroundings, in particular the external elevation(s) of the building(s).
e) Fire Resisting Construction to Floors, Doors, Walls and Staircase	Any necessary upgrading works proposed to meet current requirements must respect the historical integrity and materials of the element concerned, which will probably be required to be retained in-situ.
f) Floor Loadings	Any proposed upgrading works necessary to meet “change of use” requirements must respect the historical integrity and materials of the floor concerned. Advice of Registered Structural Engineer should be sought on the proposed upgrading works.
g) Building Services	Any proposed upgrading of electrical supply, air conditioning and fire services installations should ensure that no “non-reversible” works are carried out to the historic building(s).
h) Plumbing and Sanitary Fittings	If “historic fitment(s)” is/ are identified, it/ they should be preserved, while modern fittings may be re-used, replaced or increased in number as required.
i) Sewage, Drainage System and Waste Disposal Facilities	All drainage services that are to be retained should be checked and overhauled as necessary; capacity of the existing system and adequacy of authorised waste disposal methods should also be

	confirmed and upgraded as necessary.
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- 6.1.4 The conditions of each historic building are unique. As such, the problems encountered in the renovation works of each historic building should be tackled on a case-by-case basis. If compliance with the conservation requirements as listed in these Conservation Guidelines cannot be achieved because of statutory requirements arising from the proposed adaptive re-uses, AMO's approval should be sought.
- 6.1.5 As the renovation works will inevitably cause impact on the historic building, the selected applicant should submit a Heritage Impact Assessment (HIA) to the AMO for agreement before the commencement of the works. Consultation with the Antiquities Advisory Board for the agreement may be necessary.
- 6.1.6 A specialist contractor from the Development Bureau's "List of Approved Suppliers of Materials and Specialist Contractors for Public Works" in the "Repair and Restoration of Historic Buildings" category (RRHB specialist contractor) should be engaged to carry out the renovation works, either as a main contractor or a domestic sub-contractor. This RRHB specialist contractor should be responsible for the repair and restoration of the "Architectural Features to be Preserved" listed in **Appendix IX**. If the RRHB specialist contractor is only engaged as a domestic sub-contractor for carrying out works confined to heritage conservation, the selected applicant should separately engage a main contractor for the remaining works from the Development Bureau's "List of Approved Contractors for Public Works" from the appropriate group according to the estimated value of the works (please see [http://www.devb.gov.hk/en/construction\\_sector\\_matters/contractors/index.html](http://www.devb.gov.hk/en/construction_sector_matters/contractors/index.html) for the list). The main contractor for all building works should also be registered in the relevant Contractor's Register kept by the Building Authority in accordance with the Buildings Ordinance (Cap. 123). All other domestic sub-contractors for the renovation works should also be engaged from the relevant categories in the Development Bureau's "List of Approved Suppliers of Materials and Specialist Contractors for Public Works". The renovation works should be carried out to the satisfaction of the AMO.

## 6.2 Specific Conservation Requirements

- 6.2.1 Lady Ho Tung Welfare Centre was completed in 1933, with the donations from Sir Robert Ho Tung. It has been a welfare centre for the public until 2005. Being one of the first rural clinics, at first it served mainly as a maternity centre and as a sanatorium for Indian soldiers. Later it provided a specialised ward for sick policemen stationing in the New Territories. It was once a general out-patient clinic and a travelling dispensary providing medical services to nearby residents. As the site has been providing medical services serving the

nearby residents for more than seventy years, its historic value as a welfare centre as well as its connections with the Ho Tung family and its social value associated with the nearby residents are important to be interpreted and presented to the public.

6.2.2 The architectural style of the buildings is “Arts and Crafts” which is quite rare in Hong Kong. Both the Main Block and the Bungalow are Chinese pitched roof buildings constructed with red bricks combining Western and local vernacular features. Therefore, the treatments in the adaptive re-use scheme should respect its original architectural design intention and the facades, the design and the form of the buildings should be generally kept intact.

6.2.3 A number of character defining elements must be preserved in-situ and maintained as necessary. They are listed at **Appendix IX**. Their corresponding required and recommended conservation treatments are listed at **Appendix X** and **XI** respectively.

6.2.4 Every effort should be made to carry out all “required treatments” set out under **Appendix X**. If compliance with the “required treatments” cannot be achieved, justifications should be given to the AMO for their consideration. **Appendix XI** set out the “recommended treatments” to the historic building, which should be carried out as far as practicable.

## **VII. Town Planning Issues**

The proposed site is zoned as “Government, Institution or Community” (“G/IC”) on the Outline Zoning Plan (OZP) No. S/NE-KTS/13 – Kwu Tung South gazetted on 18 January 2013. The full set of OZP including the Plan, Amendments, Notes, Schedule of Uses and Explanatory Statement is available at Town Planning Board’s Statutory Planning Portal (<http://www.info.gov.hk/tpb/>). Relevant extracts of the OZP and Notes for the “G/IC” zone are shown at **Appendix XII**.

The planning intention of the “G/IC” zone is primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or territory. It is also intended to provide land for uses directly related to or in support of the works of Government, organisations providing social services to meet community needs and other institutional establishments.

The Notes for the ‘G/IC’ zone (**Appendix XII**) set out the uses or developments that are always permitted (the ‘Column 1’ uses) within the “G/IC” zone and those requiring permission from the TPB (the ‘Column 2’ uses). The application for Column 2 uses should be made to the TPB under Section 16 of the Town Planning Ordinance. If the use proposed by an applicant is not under Column 1 or Column 2, an application for amendment of the zoning on the OZP under Section 12A of the Town Planning Ordinance will be required to be submitted to the TPB for consideration.

Prior to the submission of an application, advice could be sought from Sha Tin, Tai Po and North District Planning Office of the Planning Department at 13/F, Sha Tin Government Offices, No.1 Sheung Wo Che Road, Sha Tin, New Territories (Tel: 2158 6274 or Fax No.: 2691 2806).

All applications for permission under Section 16 of the Town Planning Ordinance will be considered by the TPB within two months of their receipt. The TPB may reject or approve an application, with or without conditions. The applicant will be notified in writing of the TPB’s decision after confirmation of the minutes of the meeting at which the decision is made (normally two weeks after the meeting).

## **VIII. Land and Tree Preservation Issues**

### **8.1 Land Issues**

The site is located on Government land. A Site Boundary Plan is shown at **Appendix II(A)**.

### **8.2 Tree Issues**

Old and Valuable Tree (OVT) in the OVT Register maintained by the Leisure and Culture Service Department is not present at the site.

A total of 37 trees are surveyed within the site boundary and the surveyed trees are tagged with Tree Number T1-10, T12-34, T36-38 and T134. Over 90 trees grow between the site and Kwu Tung Road and Kwu Tung South Road. Tree locations are shown on the Topographical Survey and Tree Location Plan attached at **Appendix XIII(A)**. Tree Survey Plan and Tree Survey Schedule depicting the conditions and value of trees on site are shown at **Appendix XIII(B)**.

In general, no tree growing on the site or adjacent thereto shall be interfered with without the prior written consent of the District Lands Officer or the appropriate authority who may, in granting consent, impose such conditions as to transplanting, compensatory landscaping or replanting as he may deem appropriate.

The selected applicant should be responsible for the horticultural maintenance of vegetation and maintenance of trees within the site boundary of this revitalisation project.

## **IX. Slope Maintenance**

No slope feature is located within the site of the revitalisation project and slope maintenance is therefore not required.

## **X. Technical Compliance for Possible Uses**

### **10.1 Uses That Can Possibly be Considered**

Possible adaptive reuse of the site of this revitalisation project include:

- (a) Social Services Centre
- (b) Field Study/Education/Visitor Centre
- (c) Holiday Camp

Applicants are welcomed to come up with suggestions on possible uses that they consider the most suitable for the site. Applicants should make reference to the “Definition of Terms” under the Town Planning board’s web site to ascertain if a particular use is permitted. Applicants are required to ascertain the technical feasibility, including the structural adequacy and conservation requirements, of their proposed uses.

### **10.2 Technical Considerations**

Technical considerations to be given due regard include:

- (a) Compliance with the requirements under the Buildings Ordinance. These requirements include but are not limited to:

<b>Requirements</b>	<b>Remarks</b>
Means of Escape	Some modifications to the existing exit arrangements may be required to suit the new use and layout. In view of the conservation requirements limiting the extent of upgrading works, fire engineering approach may be adopted as an alternative approach to comply with the current safety requirements.
Fire Resisting Construction	Further investigation will be required to demonstrate the adequacy of fire resisting construction of the existing building elements. Some upgrading works may be required.
Means of Access for Firefighting and Rescue	Compensatory measures may be required for non-provision or deficient EVA.
Barrier Free Access and Facilities	Various provisions for barrier free access, such as ramps, accessible toilets etc. may be required.
Structural Adequacy	A preliminary structural appraisal for the existing buildings is under Section 4.7 of this Resource Kit. Strengthening works may be required depending on the proposed use and detailed structural appraisal



	should be carried out by the selected applicant.
Fire Services Installation Requirements	Major fire services installations and equipment such as sprinkler system, hose reel system, fire alarm system, fire detection system, emergency generator and emergency lighting, etc may be required according to the Code of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment.
Natural Lighting and Ventilation	Compensatory measures may be required for the deficiency.
Provision of Sanitary Fitments	Additional sanitary fitments may be required to comply with current requirements.
Drainage Installation Requirements	Further investigation will be required for proper drainage provisions to suit different uses of revitalisation project. Grease trap facilities may be required to comply with restaurant licensing requirements of FEHD.

- (b) Compliance with licensing requirements (for uses requiring issue of licence for their operation);
- (c) Compliance with conservation guidelines (see Section VI); and
- (d) Compliance with planning requirements (see Section VII).

The technical aspects listed above might not be exhaustive. Applicants should pay attention that they may need to address other technical considerations in preparing their proposals.

### 10.3 Further Information on Possible Uses

For illustration purpose, preliminary study has been carried out for uses listed in paragraph 10.1 above. Some information that can be useful to the applicants is listed below:

**(a) Heritage Conservation**

Requirements of the conservation guidelines in Section VI should be followed when resolving technical issues.

**(b) Planning**

Uses as Social Service Centre and Field Study Centre, Education Centre and Visitor Centre are under Column 1 of the Notes of the “G/IC” zone. Column 1 uses are always permitted. Use as Holiday Camp is under Column 2. Column 2 uses require permission from the TPB.

**(c) Emergency Vehicular Access (EVA)**

An EVA complying with the requirements stipulated in Section 6, Part D of the Code of Practice for Fire Safety in Buildings 2011 will be required. If there are genuine site constraints in the provision of a proper EVA, fire engineering approach with fire safety enhancement measures such as fast-response type sprinkler heads and a direct line connecting to Fire Services Communication Centre may be adopted.

**(d) Licensing**

- i. If Lady Ho Tung Welfare Centre is to be used as a field study or education centre, the selected applicant is required to check whether the proposed mode of operation falls within the definition of a ‘school’ under the Education Ordinance (Cap. 279). If affirmative, the selected applicant shall make an application for registration of a school to the Permanent Secretary for Education under the Education Bureau (EDB). Relevant information on registration procedures and forms can be downloaded from the website of EDB (<http://www.edb.gov.hk>).
- ii. If Lady Ho Tung Welfare Centre is to be used as a holiday camp, the applicant is required to check whether the proposed mode of operation falls within the definition of a “bedspace apartment” under Bedspace Apartment Ordinance (Cap. 447) or a “hotel” or “guesthouse” under the Hotel and Guesthouse Accommodation Ordinance (Cap. 349). If affirmative, the selected applicant shall make an application for registration of the bedspace apartment to the office of the licensing authority under Home Affairs Department (HAD). Relevant information on registration procedures and forms can be downloaded from the website of HAD (<http://www.hadla.gov.hk>).

**(e) Structural Limitation**

The required loading capacities for the possible uses are listed in the table below. For required loading capacities for other specific uses of possible adaptive re-use not mentioned in this table, reference should be made to the Building (Construction) Regulations (B(C)R).

Possible Adaptive re-use of Lady Ho Tung Welfare Centre	Required Loading Capacities (kPa)	(B(C) R) Class No.	Usage stated (B(C) R)
(i) Social Services Centre	3.0	3	Leisure, recreational and amusement areas that cannot be used for assembly purposes
(ii) Field Study/	3.0	3	Classrooms, lecture

Education/ Visitor Centre			rooms, tutorial rooms, computer rooms and reading rooms without book storage
(iii) Holiday Camp	2.0	1	Private sitting room, bedrooms and toilet rooms in hotels, motels and guesthouses

It may be structurally feasible for the Main Block and the Bungalow to accommodate adaptive reuse with required loading capacities equal to or less than 4.0kPa. For adaptive reuse requiring loading capacities exceeding 4.0kPa, feasibilities on increasing the floor imposed load and its subsequent effect on the structural stability of the buildings in accordance with current standards should be investigated.

It is always advisable to carry out structural assessment for the proposed uses in any case.

The applicant should also pay attention to the mature trees planted close to the buildings within the site. The effect of the roots of these trees on nearby building's foundations may need to be considered.

#### 10.4 Recurrent Expenditure

The selected applicant is responsible for the future maintenance of the site, including the buildings/structures, open space and trees within the site, and the associated building services facilities at their own cost with the exception of the structural repairs of the existing graded buildings, which are to be borne by the Government.

To facilitate the applicants in forecasting their operating expenses and filling in the required information in Section (2) of Part D under Chapter III of the application form, we have estimated the respective expenditures on some common recurrent items including electricity fee, water and sewage charge, and rates and rent regarding the historic buildings at **Appendix XIV**. Please note that the estimated expenditures have been made on the basis of some possible uses with assumptions, and are for reference only. Applicants are advised to make necessary adjustments with regard to their own proposals and specific operational requirements.

## **XI. Special Requirements of the Project**

Taking account of the uniqueness of this heritage site and the views expressed by the public and stakeholders, we have set out special requirements for the revitalisation of Lady Ho Tung Welfare Centre in this Section. Applicants are required to take these special requirements into account in formulating their proposals and explain in their applications how these special requirements have been incorporated in their proposals.

### **11.1 Provision of Sewage Connection/Facilities**

To provide sewage connection/facility in compliance with the Water Pollution Control Ordinance (Cap. 358) and all the pertaining statutory and regulatory requirements for the provision of the foul water drainage connection/facilities to cater for the revitalised use:

#### **(a) Sewage treatment plant/on-site treatment facility:**

A new sewage treatment plant/on-site treatment facility could be constructed to collect and treat the discharged foul water as per the requirements under Environmental Protection Department (EPD).

Selected applicant shall be responsible for coordination and submission of plant proposal and sewage impact assessment to EPD for approval, detailed study of various site factors, such as excavation works, limited future expansion and use of the premises, etc., and arrange statutory submissions to Buildings Department.

Applicants shall pay attention to the plant area requirement in their proposal. Typical size of a simple sewage treatment plant is enlisted below for applicants' reference:

<b>Use</b>	<b>Capacity</b>	<b>Size of plant (sqm)</b>
Hostel / Holiday Camp	80	50

For details on the sewage treatment plant and related matters, the applicant can refer to "Guidelines for the Design of Small Sewage Treatment Plants" which issued by Environmental Protection Department.

([http://www.epd.gov.hk/epd/english/environmentinhk/water/guide\\_ref/guide\\_wpc\\_stp.html](http://www.epd.gov.hk/epd/english/environmentinhk/water/guide_ref/guide_wpc_stp.html))

Relevant information on procedures and forms can also be downloaded from the website of EPD (<http://www.epd.gov.hk/epd/eindex.html>).

#### **(b) Connection to Public Sewer on Kwu Tung Road**

The nearest Government's foul water manhole (no. FMH 1030358) is at the

pavement outside the adjacent private estate, Valais, next to Sheung Yue River. The distance of the existing nearest Government's foul water manhole is around 500m from the site.

The cover level (CL) and invert level (IL) of the foul water manhole no. FMH 1030358 is +10.52mPD (CL) and +9.36mPD (IL) respectively. Also, the existing buildings are at +15.27mPD. Applicants might consider providing the foul water drains for the buildings to discharge by natural gravity fall to connect with the existing Government's foul water drainage system.

The selected applicant shall be responsible for coordination and obtaining all the necessary approvals from the pertinent Authorities for connection to the Government foul water drainage and shall pay attention to the following specific obligations including but not limited to:-

- i) Study on various site factors such as excavation works, temporary traffic arrangement, etc.;
- ii) Coordination with relevant Departments/Authorities, i.e. Lands Department (LandsD), EPD and Highways Department (HyD) etc, for detailed application of foul water connection to existing Government's foul water drainage system;
- iii) Statutory submissions to Buildings Department.
- iv) Application of excavation permit from HyD and LandsD along the Kwu Tung Road and permission to laying 500m foul water drainage including manholes and pipeworks on Government land;
- v) Compliance with requirements from Drainage Services Department (DSD) on connection of sewage discharge to the public sewer such as drainage impact assessment, drainage submission, audit of the drainage connections etc;
- vi) Proposed drainage works shall be repaired and maintained by the selected applicant at their own cost; and
- vii) All associated making good work for all adjacent affected areas upon the completion of the sewer manholes and drain pipes.

For details on design of the foul water drainage connection and related matters, the applicant can refer to Technical Manuals issued by DSD. ([http://www.dsd.gov.hk/EN/Technical\\_Manuals/Technical\\_Manuals/index.html](http://www.dsd.gov.hk/EN/Technical_Manuals/Technical_Manuals/index.html))

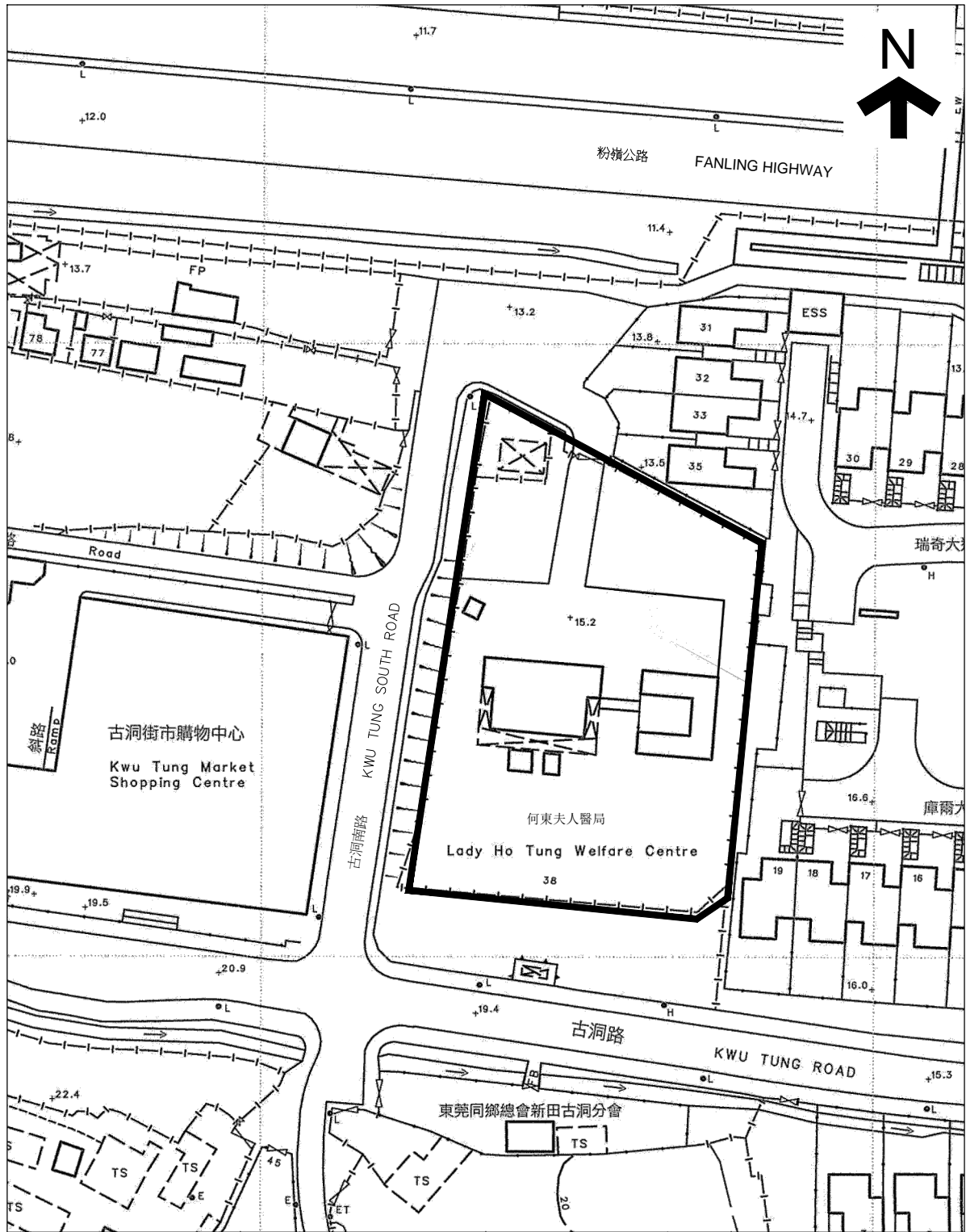
Relevant information on procedures and forms can also be downloaded from the website of DSD. (<http://www.dsd.gov.hk/EN/Home/index.html>)


For details on the application of excavation permit, the applicant can refer to Excavation Permit Processing Manual issued by HyD. ([http://www.hyd.gov.hk/en/publications\\_and\\_publicity/publications/technical\\_do](http://www.hyd.gov.hk/en/publications_and_publicity/publications/technical_do))

cument/xppm/index.html)

Relevant information on procedures and forms can also be downloaded from the website of Highways Department (<http://www.hyd.gov.hk/en/home/index.html>).

**Appendix I**  
**Location Plan**



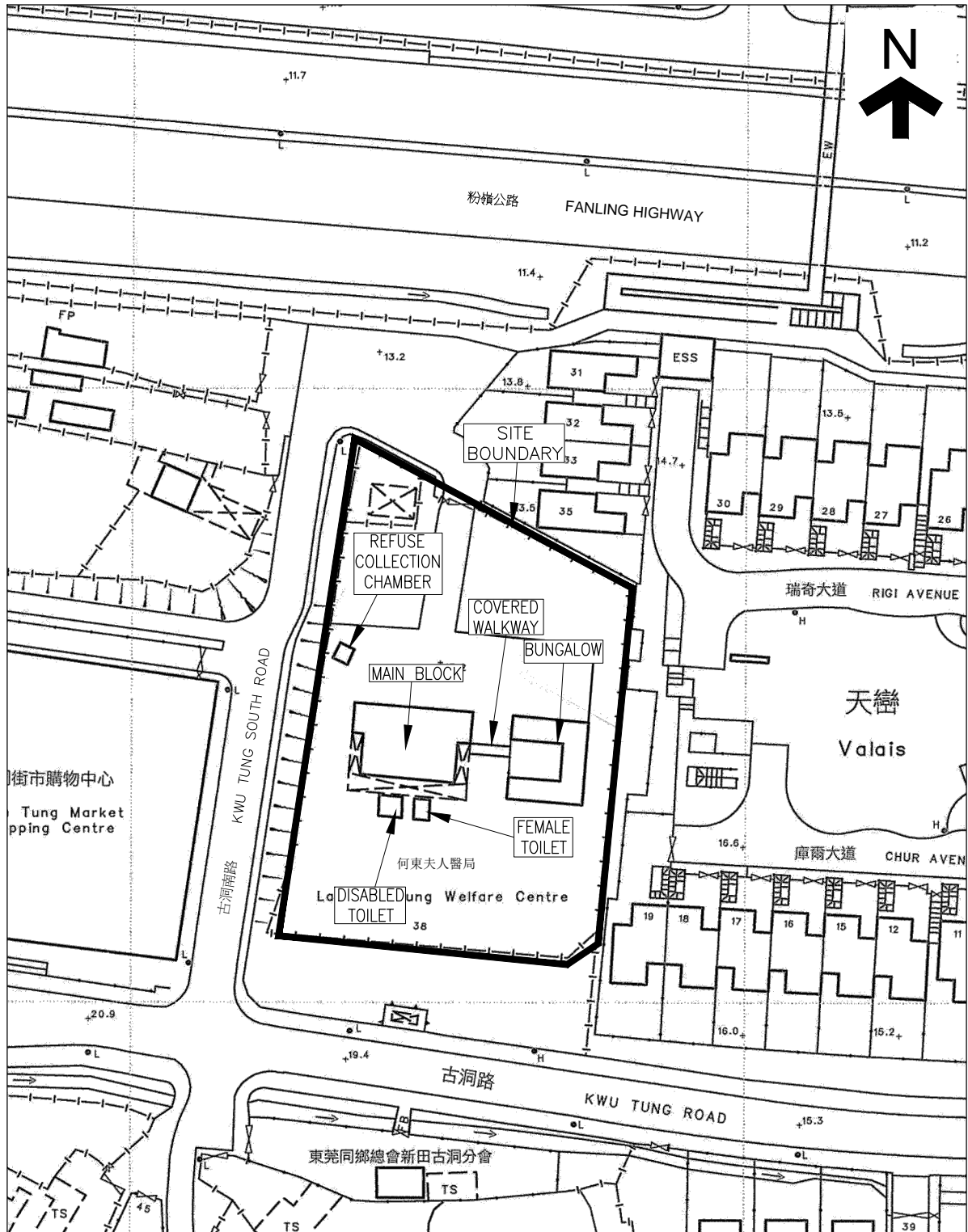

**THE SITE**  
 EXTRACTED PLAN BASED ON  
 SURVEY SHEET NO. 2-SE-9B  
 DATE: 12/11/2013


**LADY HO TUNG WELFARE CENTRE**  
 NO. 38 KWU TUNG ROAD  
 SHEUNG SHUI  
 NEW TERRITORIES

DRAWING NO.: AG-01-01  
**APPENDIX I**  
 LOCATION PLAN  
 1: 1000



**Appendix II(A)**  
**Site Boundary Plan**

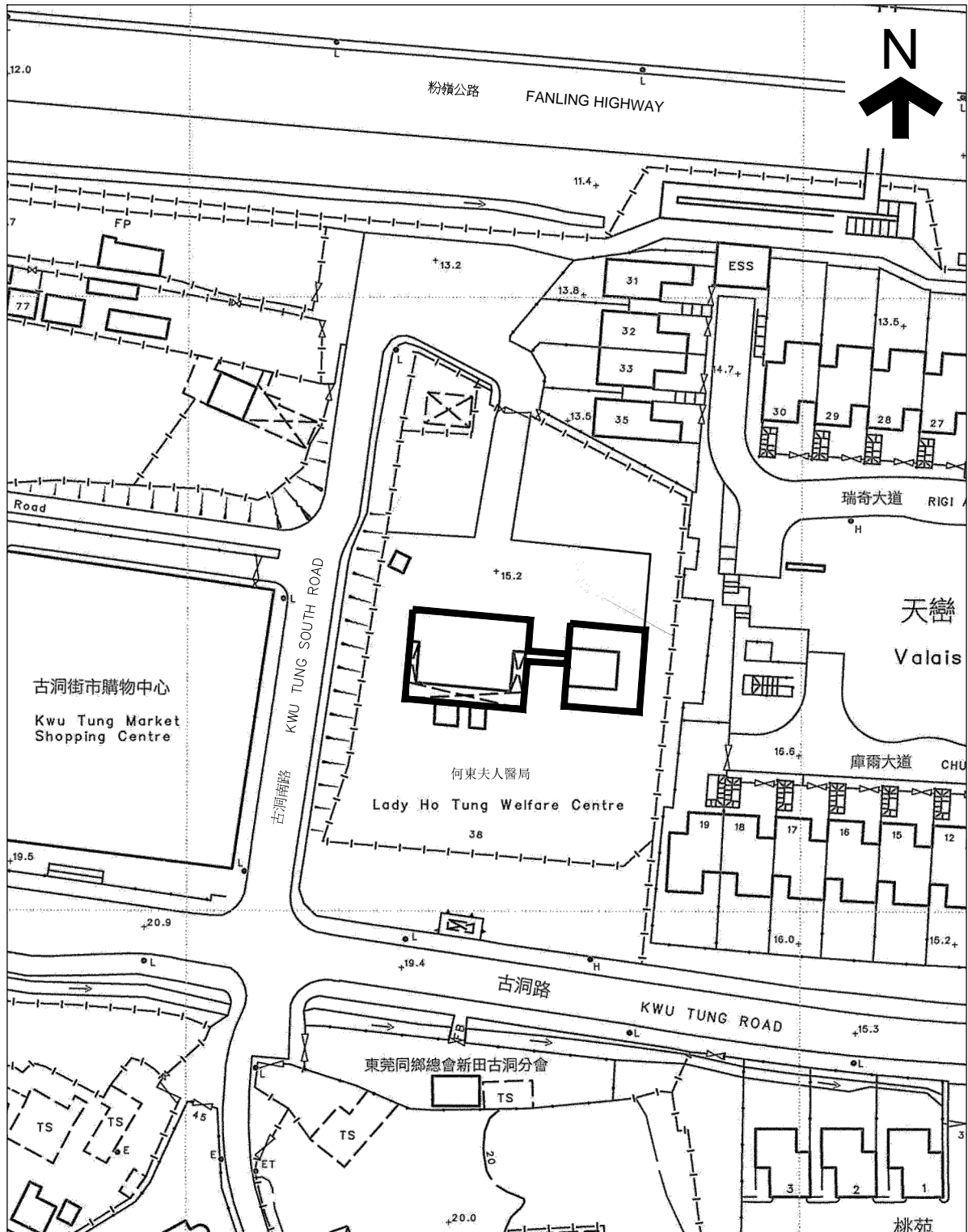



 **SITE BOUNDARY**  
 EXTRACTED PLAN BASED ON  
 SURVEY SHEET NO. 2-SE-9B  
 DATE: 12/11/2013

**LADY HO TUNG WELFARE CENTRE**  
 NO. 38 KWU TUNG ROAD  
 SHEUNG SHUI  
 NEW TERRITORIES

DRAWING NO.: AG-01-02  
**APPENDIX II (A)**  
**SITE BOUNDARY PLAN**  
 1: 1000

**Appendix II(B)**  
**Grading Boundary Plan**

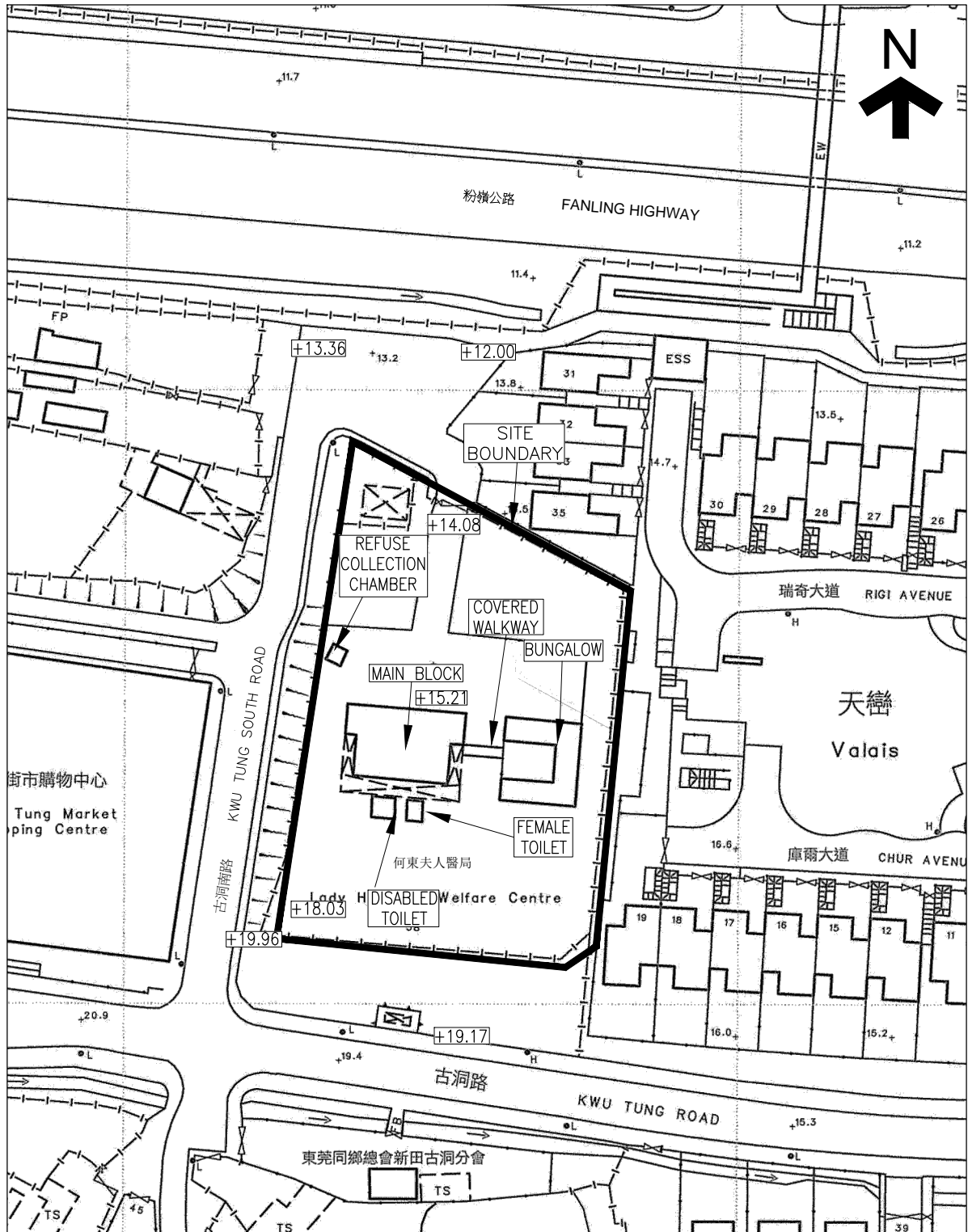



 GRADING BOUNDARY

LADY HO TUNG WELFARE CENTRE  
 NO. 38 KWU TUNG ROAD  
 SHEUNG SHUI  
 NEW TERRITORIES

DRAWING NO.: AG-01-08  
 APPENDIX II (B)  
 GRADING BOUNDARY PLAN  
 1: 1000

**Appendix III**  
**Datum Levels Plan**



 **SITE BOUNDARY**  
 EXTRACTED PLAN BASED ON  
 SURVEY SHEET NO. 2-SE-9B  
 DATE: 12/11/2013

**LADY HO TUNG WELFARE CENTRE**  
 NO. 38 KWU TUNG ROAD  
 SHEUNG SHUI  
 NEW TERRITORIES

DRAWING NO.: AG-01-03  
**APPENDIX III**  
**DATUM LEVELS PLAN**  
 1: 1000

**Appendix IV**  
**Summary of Site and Building Information**

**Summary of site information is listed below:**

Building Name	Lady Ho Tung Welfare Centre
Address	38 Kwu Tung Road, Kwu Tung, Sheung Shui, New Territories
Site Area	Approximately 3,550 sq.m
Major Datum Level	Ranging from about +14.08mPD to +18.03mPD
Zoning	Government, Institution or Community (G/IC) in OZP No. S/NE-KTS/13 gazetted on 18 January 2013

**Summary of building information is listed below:**

Building:	Year of Completion:	
Main Block	1933	
Bungalow	1933	
Covered walkway	1933	
Disabled and female toilets	Not known	
Refuse collection chamber	Not known	
Pavilion	2000	
Total Construction Floor Area	Building:	Construction Floor Area:
	Main Block	280 sq.m
	Bungalow	146 sq.m
	Other Areas	76 sq.m
	<b>Total:</b>	<b>502 sq.m</b>
Historic Grading	Graded as a Grade 2 historic building on 18 December 2009. Please refer Appendix II(B) Grading Boundary.	
Original and Recent Uses	Lady Ho Tung Welfare Centre served mainly as a maternity center and also a general out-patients clinic.	
Schedule of Accommodation	<p><u>Main Block:</u> Waiting Hall, Treatment Room, Dispensary, Interview Room, Consultation Room, Store Room, Watchman Room, Colonnaded Verandah, Staff Toilet, Male Toilet</p> <p><u>Bungalow:</u> Courtyard Bungalow A (Sitting Room A, Bedroom A, Corridor A, Toilet A) Bungalow B (Sitting Room B, Bedroom B, Corridor B, Toilet B) Minor Staff Quarters A, Minor Staff Quarter B, Kitchen, Garage, Corridor C and Toilet C, Lavatory</p> <p><u>Covered walkway</u> <u>Disabled and female toilets</u> <u>Refuse collection chamber</u></p>	



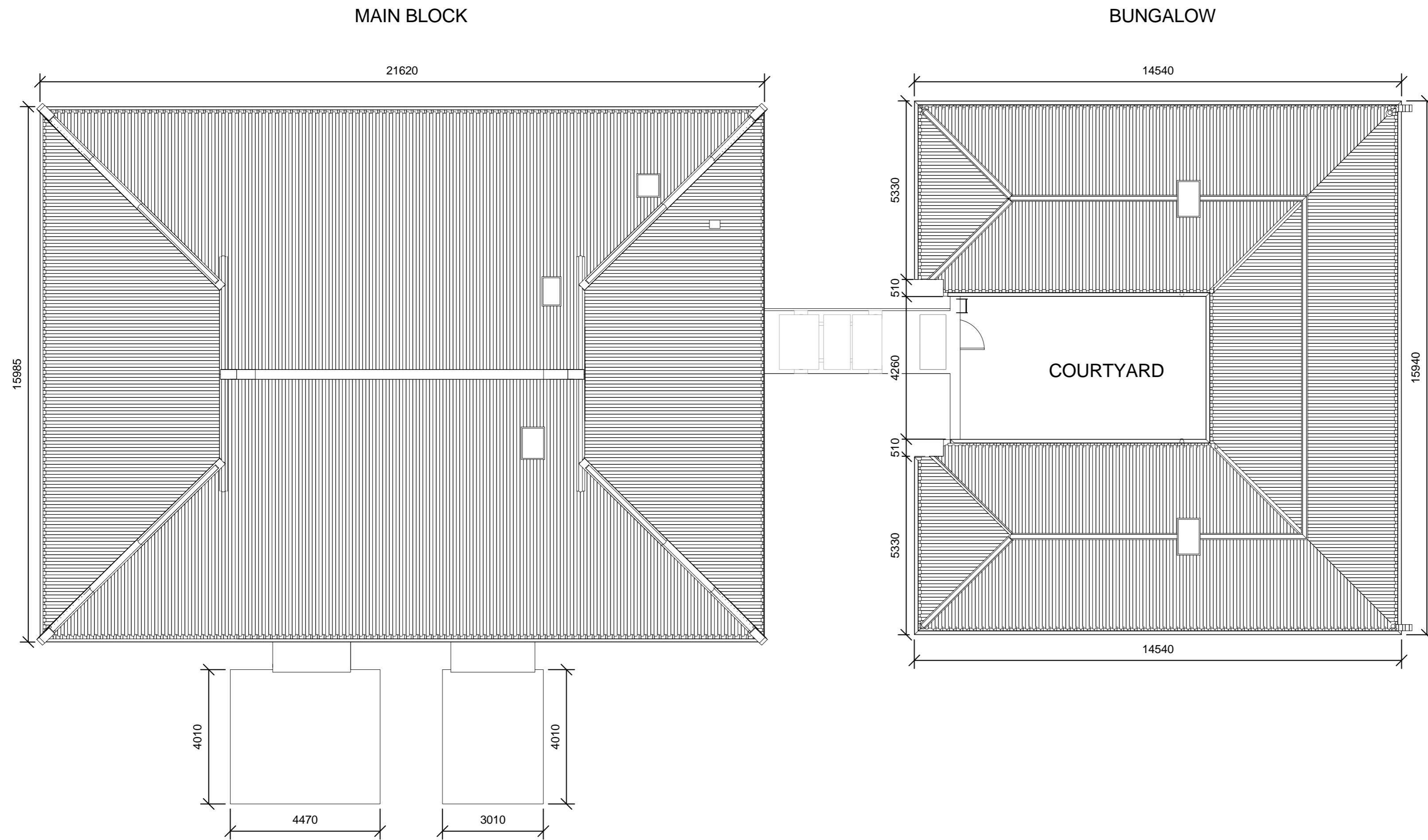
**Appendix V(A)**  
**Architectural Drawings**

<b>Architectural Drawings</b>	
<b>Drawing No.</b>	<b>Title</b>
A-01	Ground Floor Plan
A-02	Roof Plan
A-03	Elevations
A-04	Elevations
A-05	Sections
A-06	3D View



Notes:

1. All dimensions shown are in millimeter (mm)
2. Exact dimensions, areas and layout should be verified on site



**ROOF PLAN**

Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
ROOF PLAN

Drawing. No.	SCALE
A-02	1 : 100 (A2) 1 : 200 (A4)

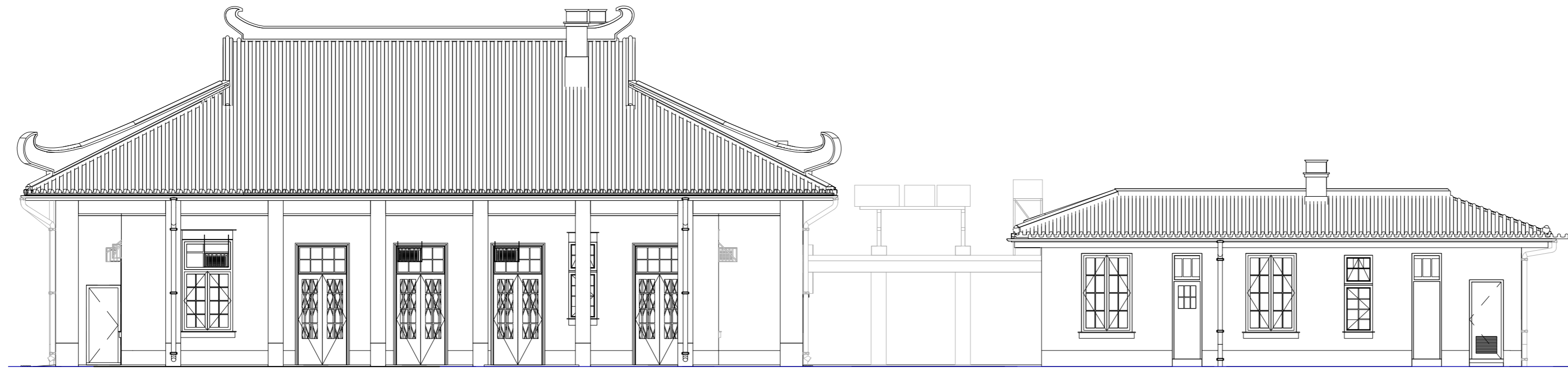
Date of Production : 16/7/2013

Produced by  
**isBIM Limited**

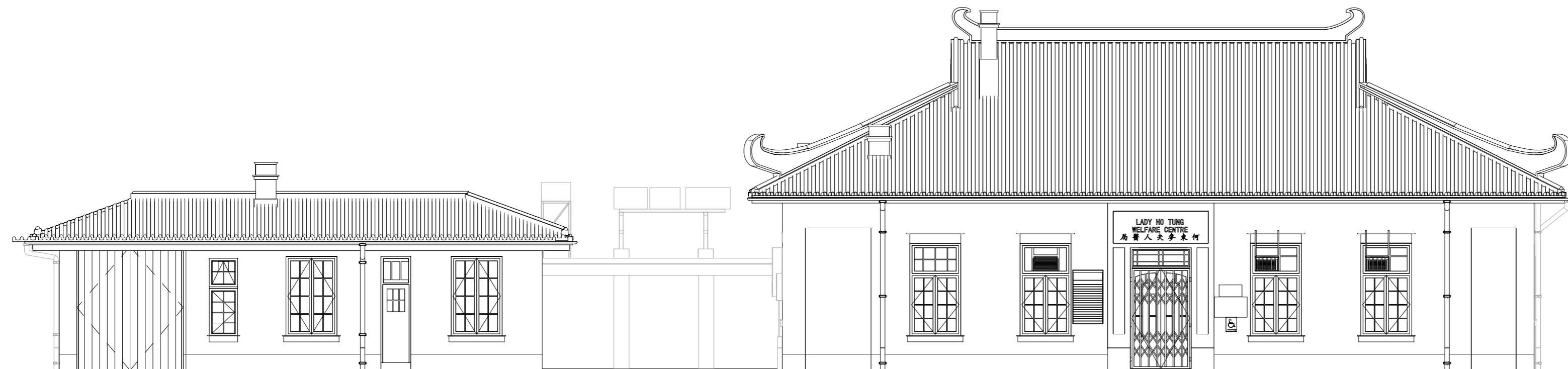
 ARCHITECTURAL  
SERVICES  
DEPARTMENT

Notes:

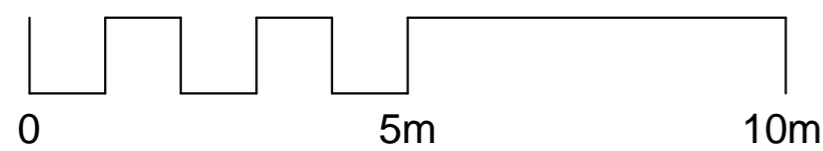
1. All dimensions shown are in millimeter (mm)
2. Exact dimensions, areas and layout should be verified on site



**SOUTH ELEVATION**



**NORTH ELEVATION**



Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
ELEVATIONS

Drawing No.	SCALE
A-03	1 : 100 (A2) 1 : 200 (A4)

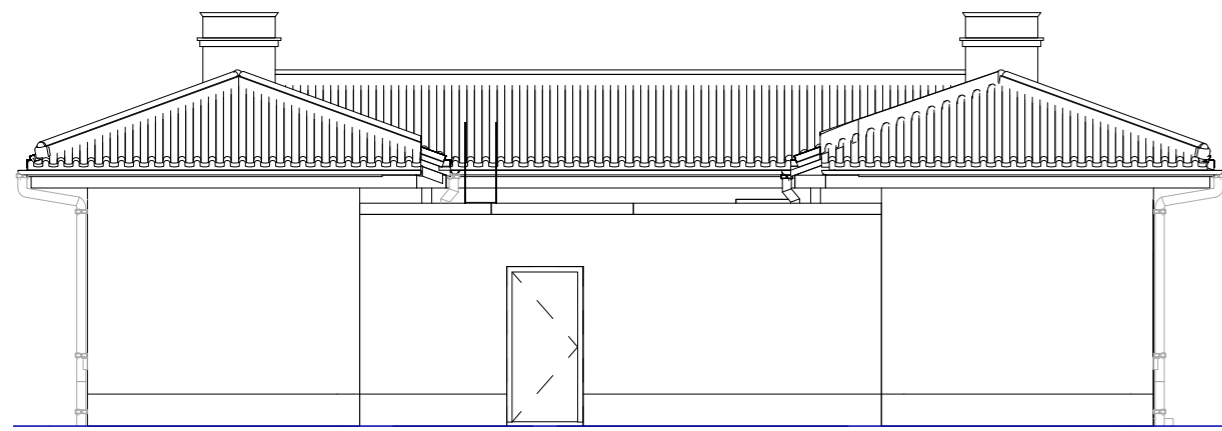
Date of Production : 16/7/2013

Produced by  
**isBIM Limited**



Notes:

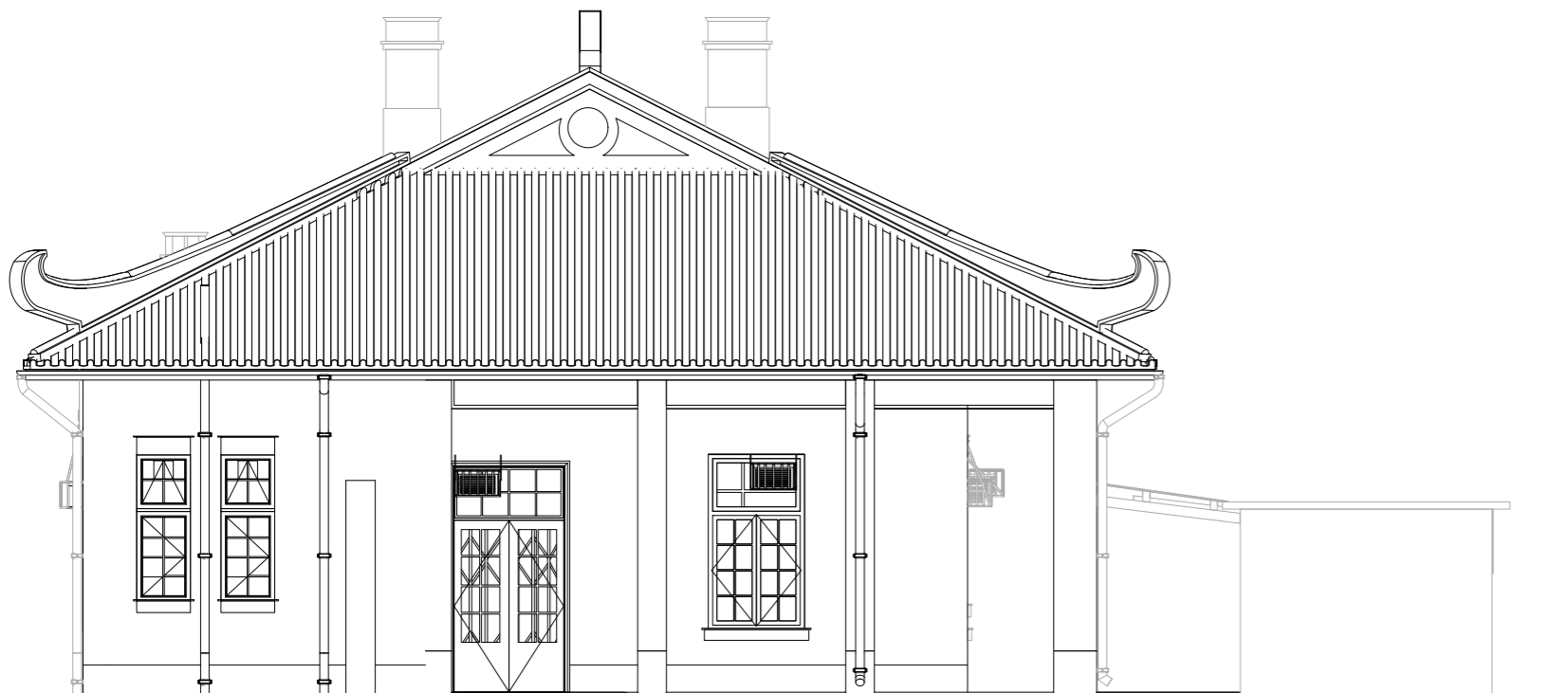
1. All dimensions shown are in millimeter (mm)
2. Exact dimensions, areas and layout should be verified on site



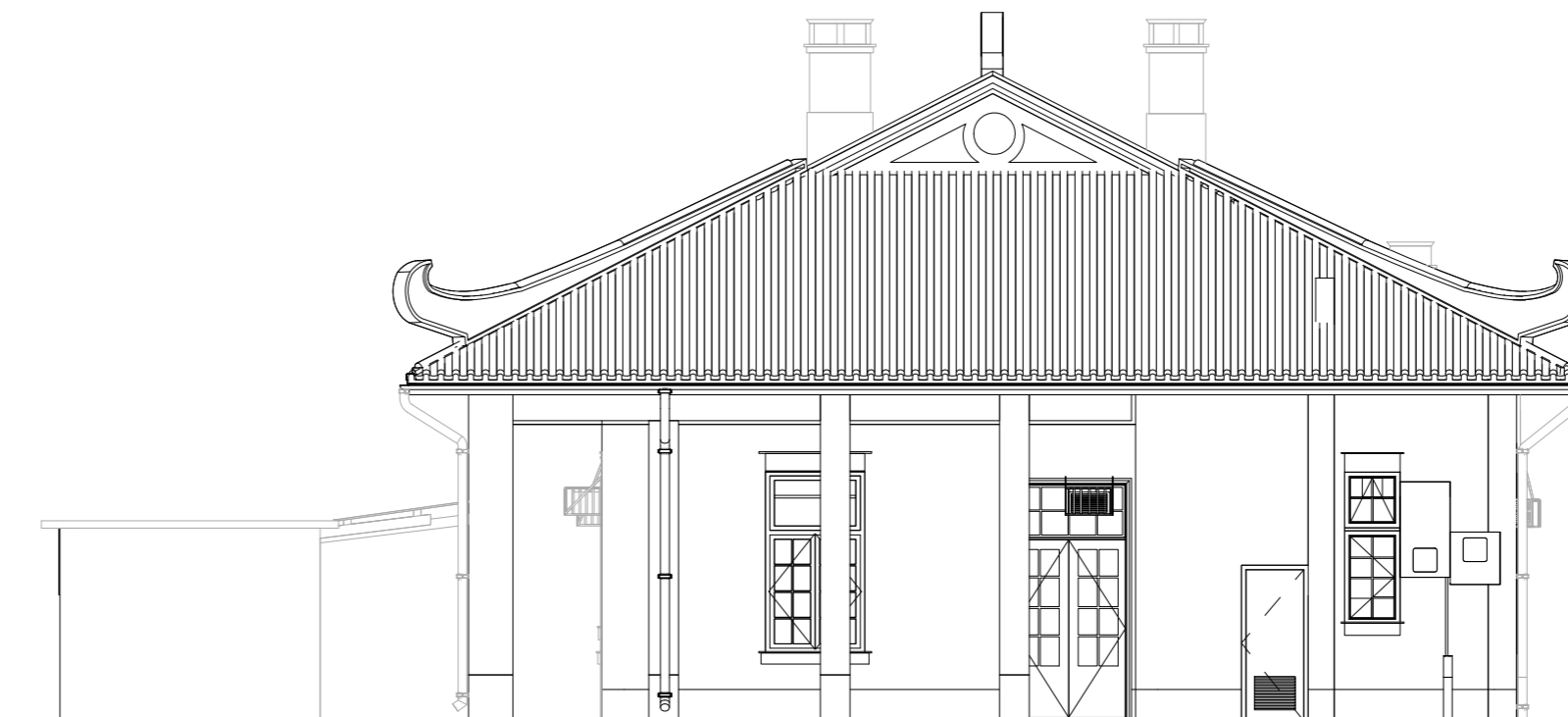
**BUNGALOW WEST ELEVATION**



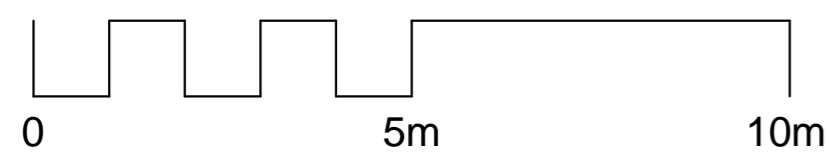
**BUNGALOW EAST ELEVATION**



**MAIN BLOCK WEST ELEVATION**



**MAIN BLOCK EAST ELEVATION**



Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
ELEVATIONS

Drawing No.	SCALE
A-04	1 : 100 (A2) 1 : 200 (A4)

Date of Production : 16/7/2013

Produced by

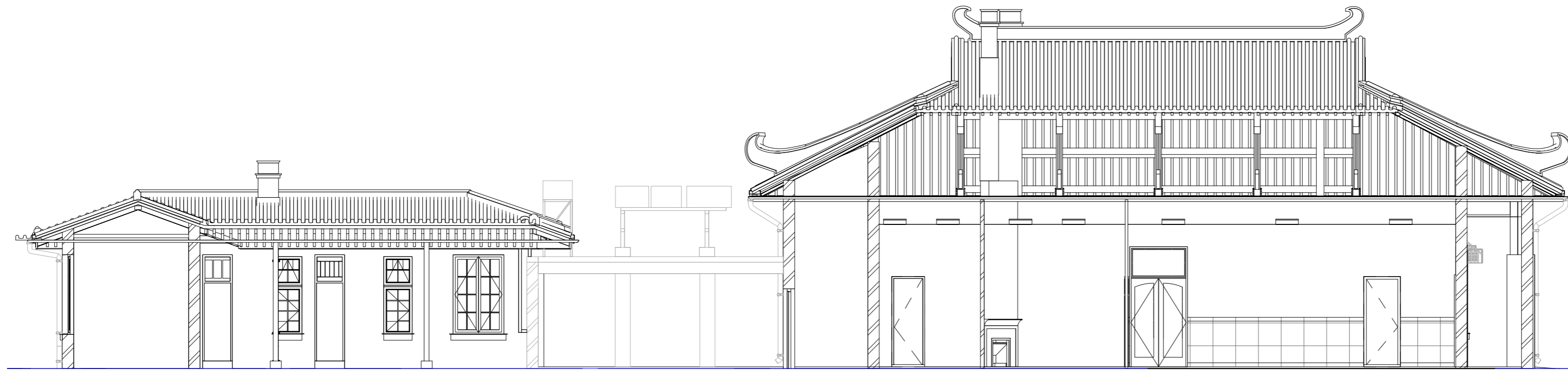
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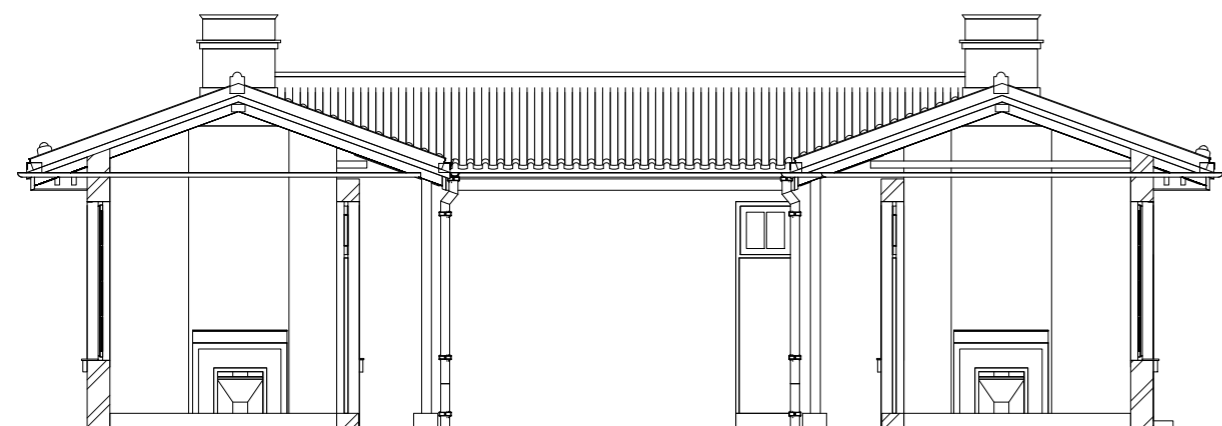
ARCHITECTURAL  
SERVICES  
DEPARTMENT

Notes:

1. All dimensions shown are in millimeter (mm)
2. Exact dimensions, areas and layout should be verified on site



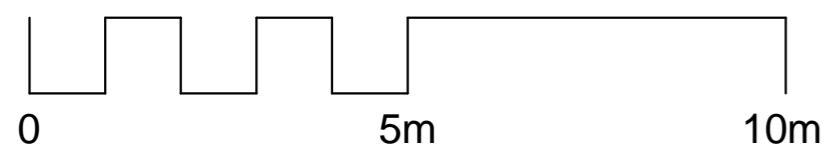
**SECTION A-A**



**SECTION B-B**



**SECTION C-C**



Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
SECTIONS

Drawing No. A-05	SCALE 1 : 100 (A2) 1 : 200 (A4)
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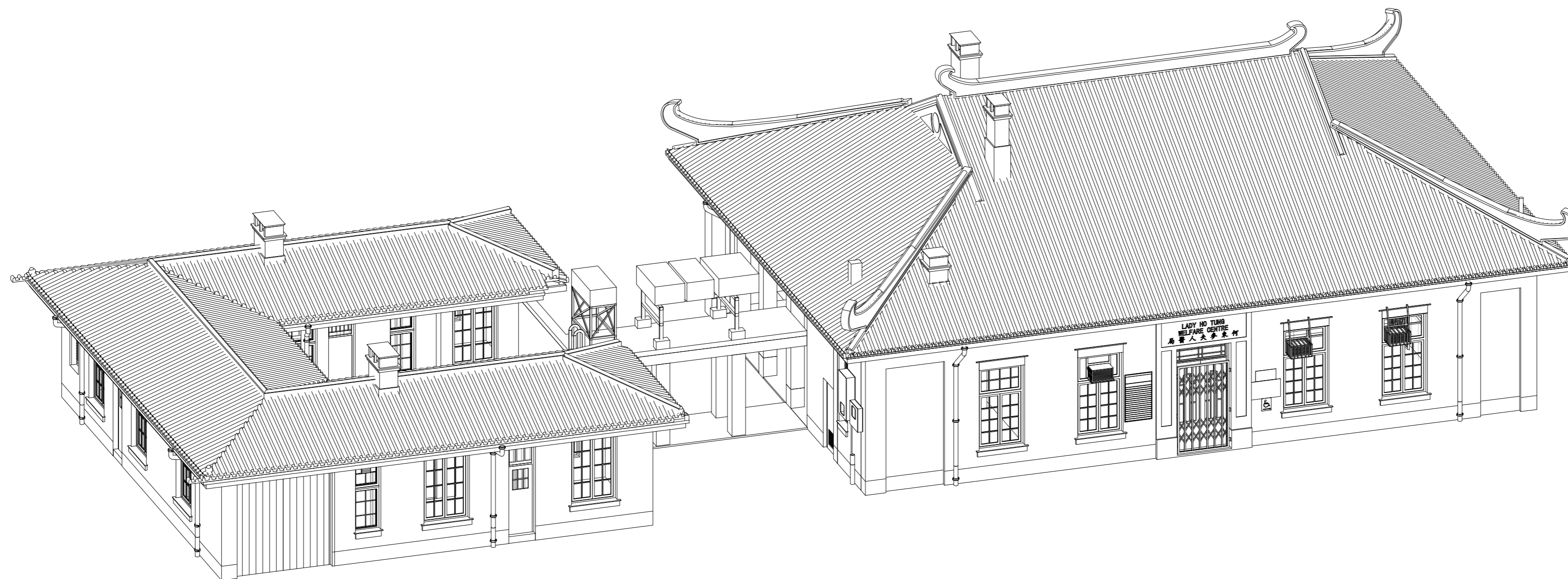
Date of Production : 16/7/2013

Produced by  
**isBIM Limited**

 ARCHITECTURAL  
SERVICES  
DEPARTMENT

Notes:

- 1. All dimensions shown are in millimeter (mm)
- 2. Exact dimensions, areas and layout should be verified on site



3D VIEW

Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
3-D VIEW

Drawing. No. A-06	SCALE (A2)
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Date of Production : 16/7/2013

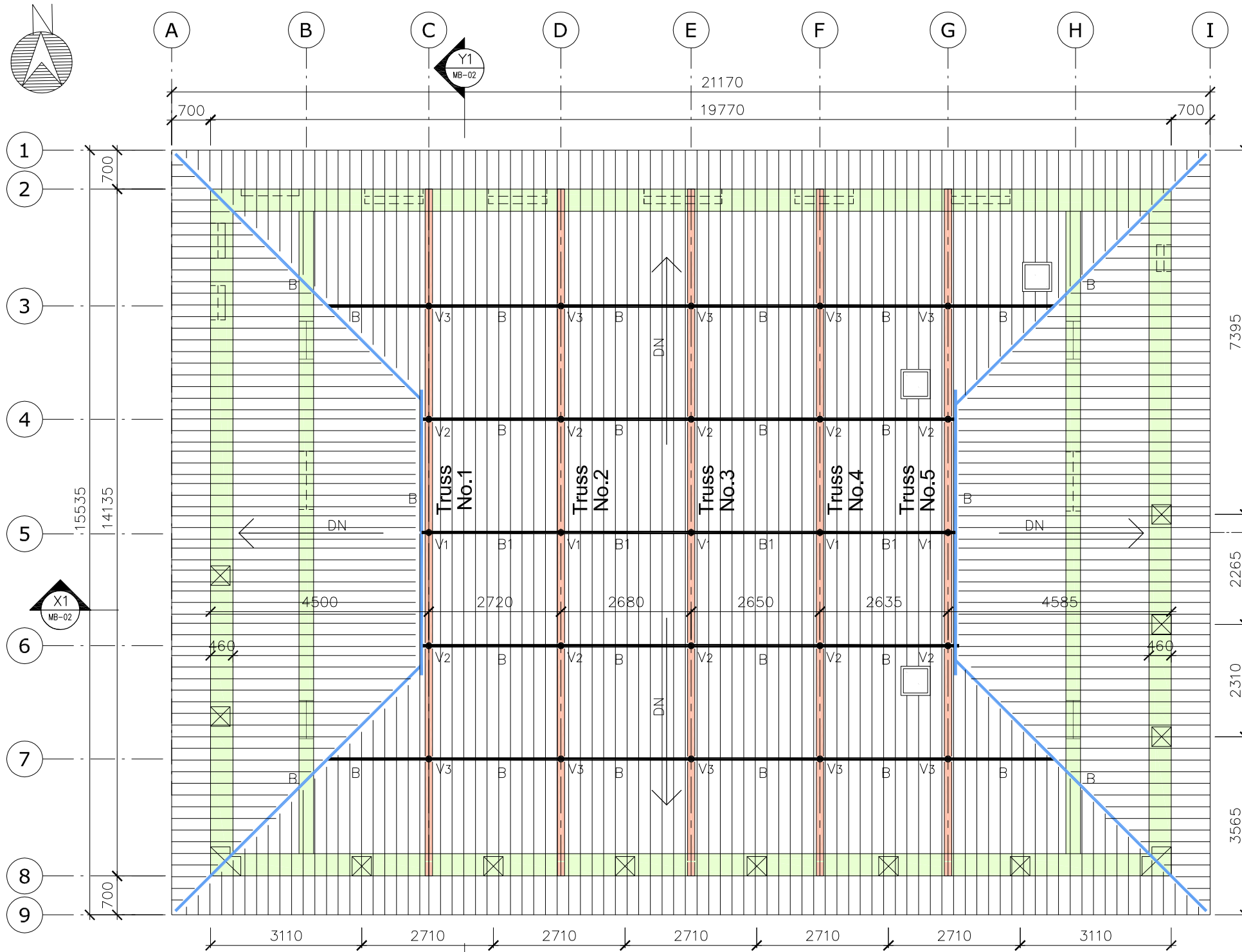
Produced by  
**isBIM Limited**



**Appendix V(B)**  
**Structural Drawings**

<b>Structural Drawings</b>	
<b>Drawing No.</b>	<b>Title</b>
MB-01	Measured Plan for Roof Structure of Main Block
MB-02	Section X1 & Y1 Main Block
BB-01	Measured Plan for Roof Structure of Bungalow Block
BB-02	Section X2 & Y2 Bungalow Block





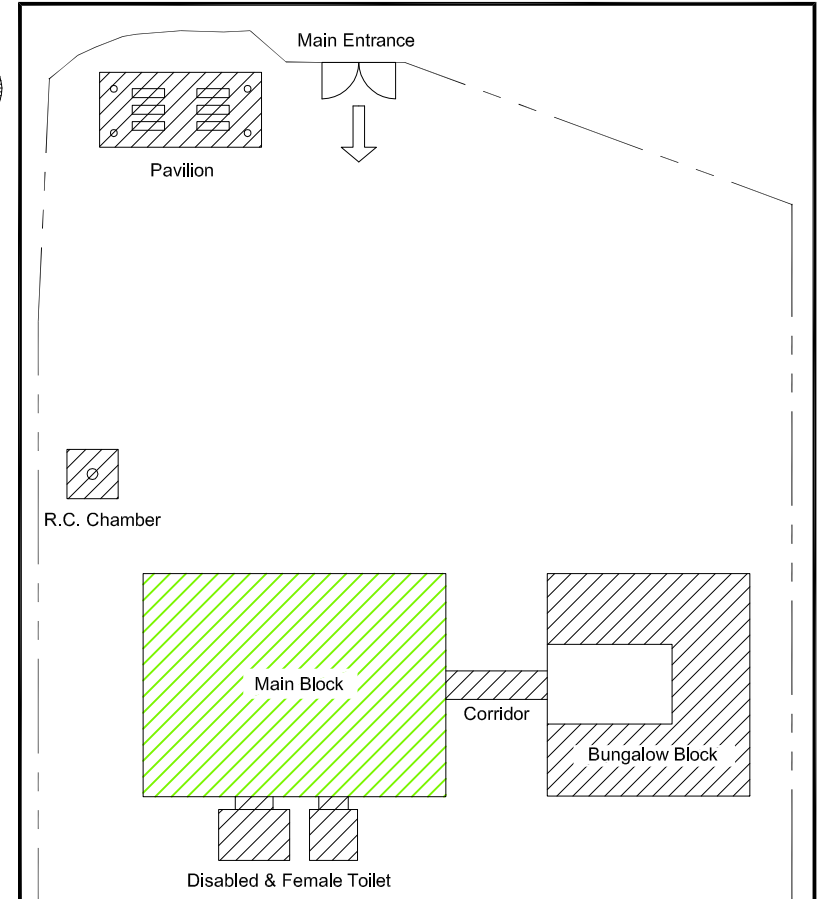
**ROOF MEASURED PLAN (MAIN BLOCK)**  
SCALE 1 : 100

**Roof Truss System Member Size (Main Block)**

Marks	Shape	material	Section Size
J	■	Timber	55mm(W) x 100mm(D) @ 245 c/c
B	■	Timber	120mm(W) x 250mm(D)
B1	■	Timber	150mm(W) x 150mm(D)
TC	■	Timber	150mm(W) x 175mm(D)
BC	■	Timber	150mm(W) x 200mm(D)
W	■	Timber	150mm(W) x 100mm(D)
V	●	Steel	V <sub>1</sub> = 30mm(dia), V <sub>2</sub> = 22mm(dia), V <sub>3</sub> = 20mm(dia)

**LEGEND**

- ⊠ COLUMN
- FIRE PLACE CHIMNEY
- █ BRICK WALL
- ▤ WINDOW/DOOR OPENING
- ┌─┐ ROOF VOID ACCESS OPENING



**LOCATION PLAN** N.T.S

**Project :**  
Lady Ho Tung Welfare Centre  
38 Kwu Tung Road,  
Sheung Shui  
N.T.

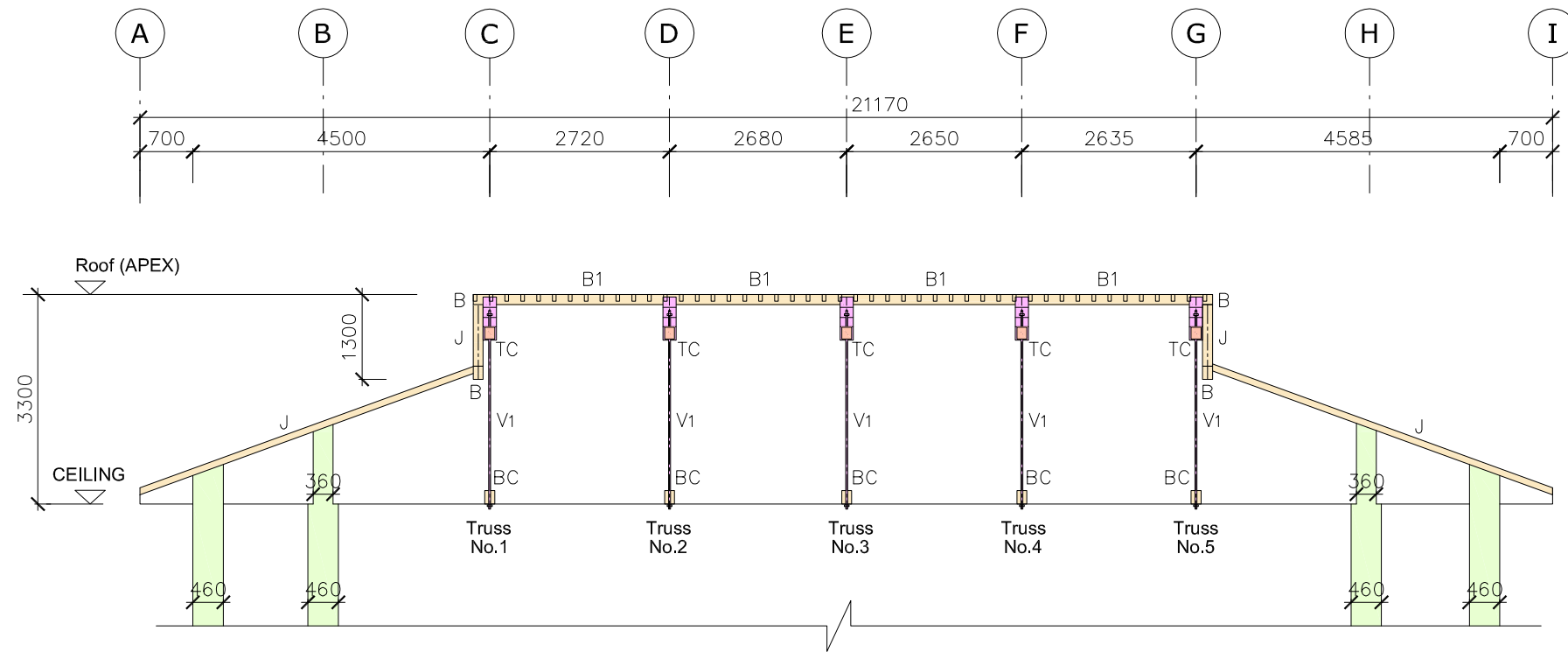
**Drawing Title :**  
Roof Measured Plan For  
Roof Structure of  
Main Block

Sheet 1 of 4

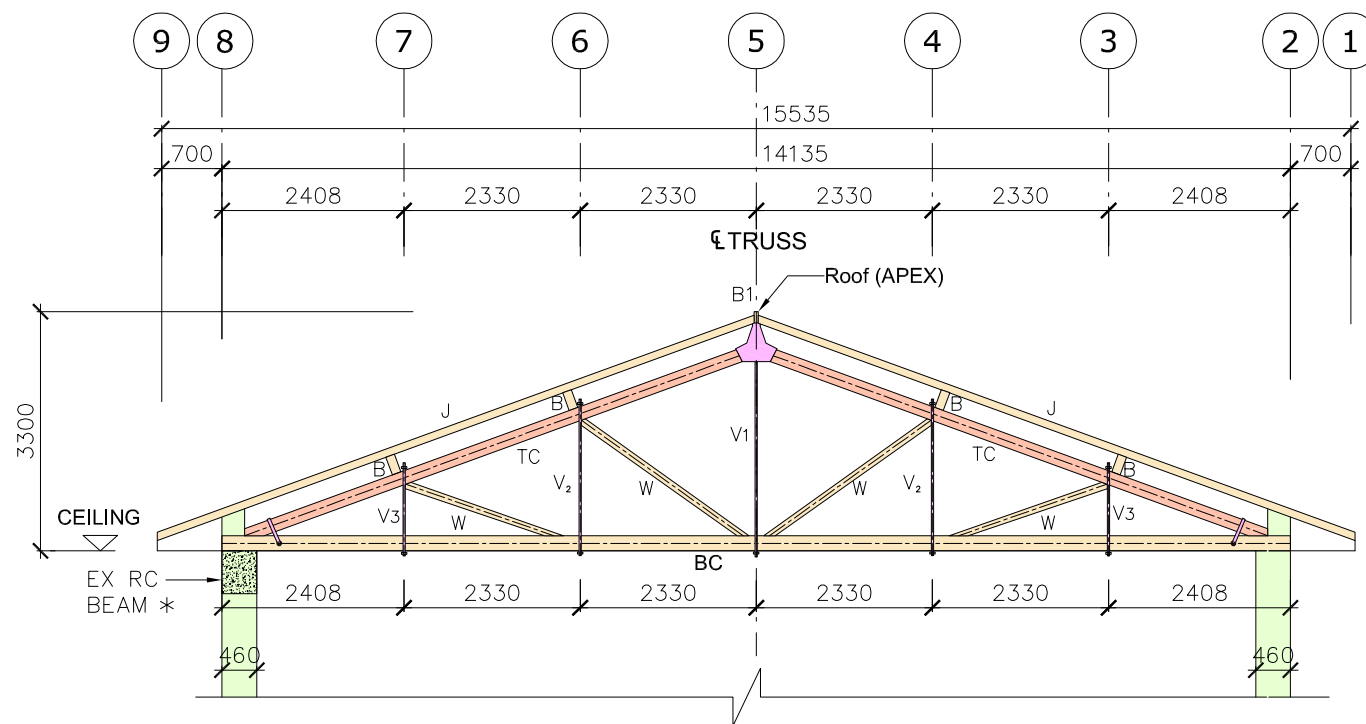
**Drawing No. :**  
MB - 01

**Scale :**  
1 : 100

**Date of issue :**  
22 NOV 2013



**SECTION X1-X1(MAIN BLOCK)**  
SCALE 1 : 100



**SECTION Y1-Y1(PITCH ROOF TRUSS)(MAIN BLOCK)**  
SCALE 1 : 100

\* FURTHER INVESTIGATION WORKS IS REQUIRED FOR THE EX RC BEAM  
NOTE : FOR SECTION LOCATION,SEE DWG No. MB-01

**LEGEND**

- ☒ COLUMN
- ☐ FIRE PLACE CHIMNEY
- █ BRICK WALL
- ▤ WINDOW/DOOR OPENING
- ⊢ ROOF VOID ACCESS OPENING

**Roof Truss System Member Size (Main Block)**

Marks	Shape	material	Section Size
J	■	Timber	55mm(W) x 100mm(D) @ 245 c/c
B	■	Timber	120mm(W) x 250mm(D)
B1	■	Timber	150mm(W) x 150mm(D)
TC	■	Timber	150mm(W) x 175mm(D)
BC	■	Timber	150mm(W) x 200mm(D)
W	■	Timber	150mm(W) x 100mm(D)
V	●	Steel	V <sub>1</sub> = 30mm(dia), V <sub>2</sub> = 22mm(dia), V <sub>3</sub> = 20mm(dia)

**Note :**

These measured sizes, layouts and locations of structural members are based on manual measurements during visual site inspection. Further detailed investigation works are required for comprehensive structural assessment works.

**Project :**

Lady Ho Tung Welfare Centre  
38 Kwu Tung Road,  
Sheung Shui  
N.T.

**Drawing Title :**

Section X1 & Y1  
Main Block

Sheet 2 of 4

**Drawing No. :**

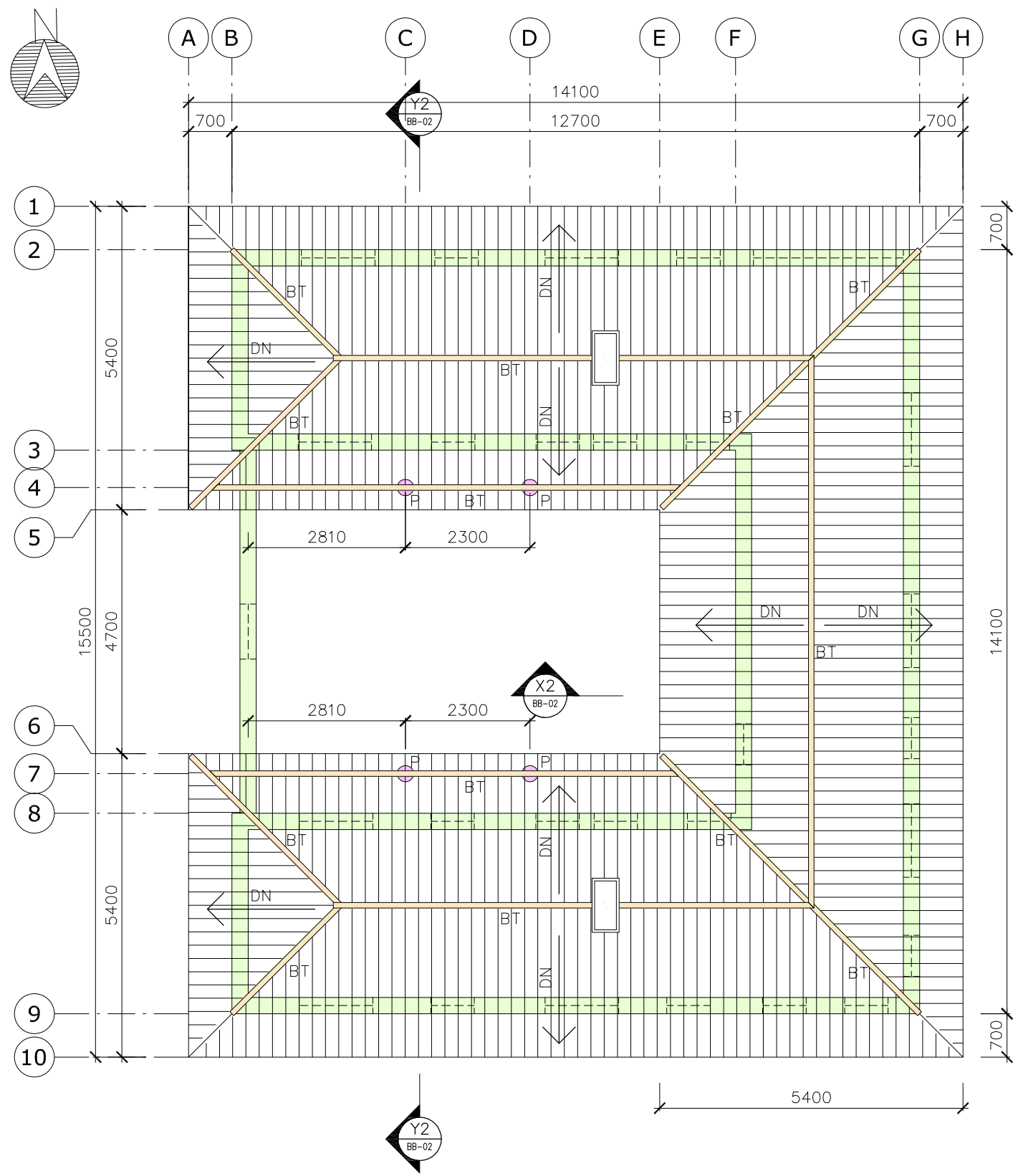
MB - 02

**Scale :**

1 : 100

**Date of issue :**

5 DEC 2013



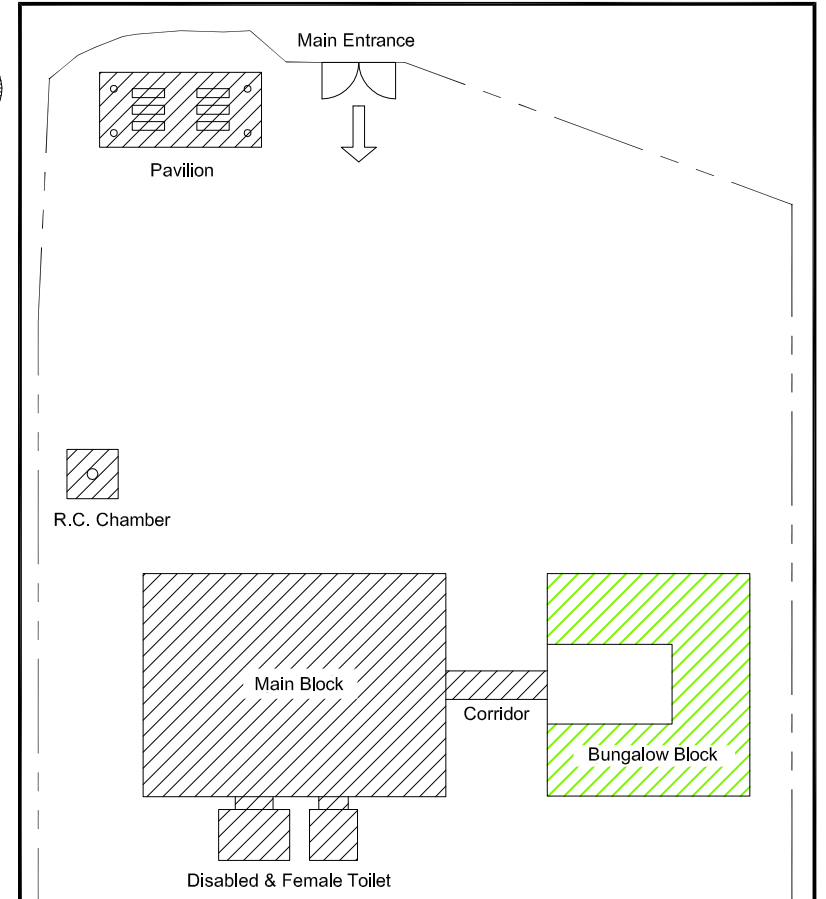
**ROOF MEASURED PLAN (BUNGALOW BLOCK)**  
SCALE 1 : 100

**Note :**  
These measured sizes, layouts and locations of structural members are based on manual measurements during visual site inspection. Further detailed investigation works are required for comprehensive structural assessment works.

**Roof Truss System Member Size (Bungalow Block)**

Marks	Shape	material	Section Size
J	■	Timber	55mm(W) x 100mm(D) @ 245 c/c
BT	■	Timber	100mm(W) x 170mm(D)
P	●	Metal	CHS 110mm(DIA)

- LEGEND**
- FIRE PLACE CHIMNEY
  - BRICK WALL
  - WINDOW/DOOR OPENING
  - METAL POLE



**LOCATION PLAN** N.T.S

**Project :**  
Lady Ho Tung Welfare Centre  
38 Kwu Tung Road,  
Sheung Shui  
N.T.

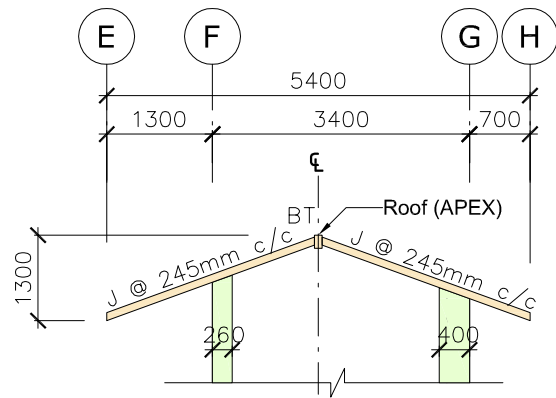
**Drawing Title :**  
Measured Plan For  
Roof Structure of  
Bungalow Block

Sheet 3 of 4

**Drawing No. :**  
BB - 01

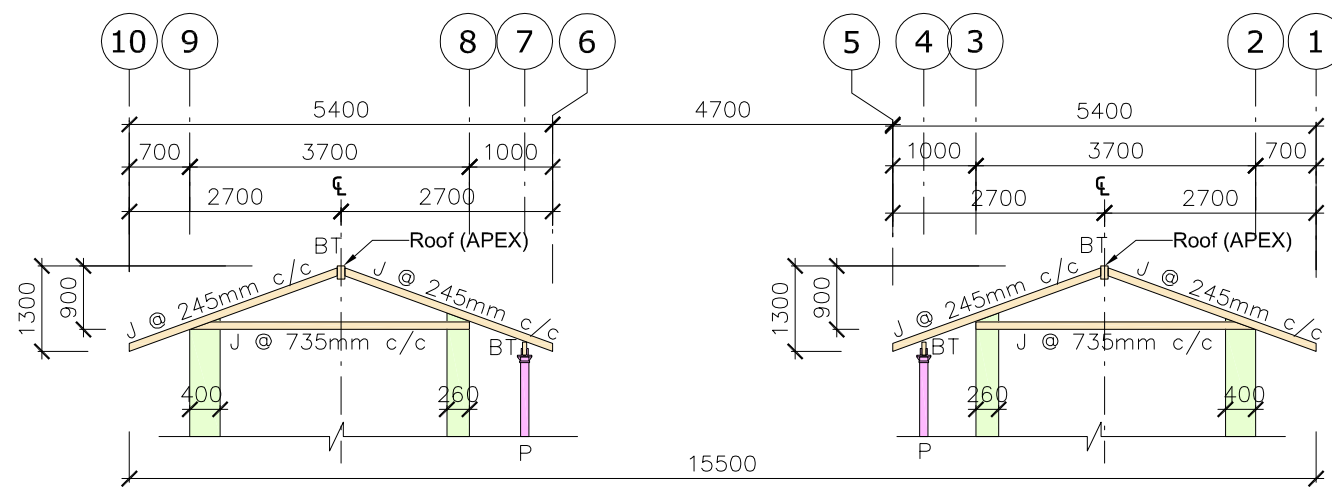
**Scale :**  
1 : 100

**Date of issue :**  
22 NOV 2013



**SECTION X2-X2 (BUNGALOW BLOCK)**

SCALE 1 : 100



**SECTION Y2-Y2 (BUNGALOW BLOCK)**





SCALE 1 : 100

NOTE : FOR SECTION LOCATION,SEE DWG No. BB-01

**Roof Truss System Member Size (Bungalow Block)**

Marks	Shape	material	Section Size
J	■	Timber	55mm(W) x 100mm(D) @ 245 c/c
BT	■	Timber	100mm(W) x 170mm(D)
P	●	Metal	CHS 110mm(DIA)

**LEGEND**

-  FIRE PLACE CHIMNEY
-  BRICK WALL
-  WINDOW/DOOR OPENING
-  METAL POLE

**Project :**

Lady Ho Tung Welfare Centre  
38 Kwu Tung Road,  
Sheung Shui  
N.T.

**Drawing Title :**

Section X2 & Y2  
Bungalow Block

Sheet 4 of 4

**Drawing No. :**

BB - 02

**Scale :**

1 : 100

**Date of issue :**

22 NOV 2013

**Appendix VI**  
**Photos of the Site and Buildings**

## 1. Site



1.1 Main entrance gate at the end of Kwu Tung South Road



1.2 Open space at the rear of the Bungalow



1.3 Open space at the rear of the Main Block

## 2. The Building



2.1 Front elevation of the Main Block facing main entrance



2.2 Side elevation of Main Block facing Kwu Tung Market



2.3 Rear elevation of Main Block facing Kwu Tung Road





2.4 Rear elevation of Main Block facing Kwu Tung Road



2.5 Side elevation of Main block facing Bungalow



2.6 Roof truss structure at Main Block

### 3. Bungalow



3.1 Front elevation of Bungalow facing main entrance



3.2 Side elevation of Bungalow Block facing Main Block



3.3 Side elevation of Bungalow Block facing Valais I



3.4 Rear elevation of Bungalow facing Kwu Tung Road



3.5 Courtyard of the Bungalow

**4. Covered walkway**



4.1 Covered walkway connecting the Main Block and the Bungalow

**5. Disabled and female toilets**



5.1 Female toilet facing the Main Block



5.2 Disabled toilet facing the Main Block

## 6. Refuse collection chamber



6.1 Refuse collection chamber

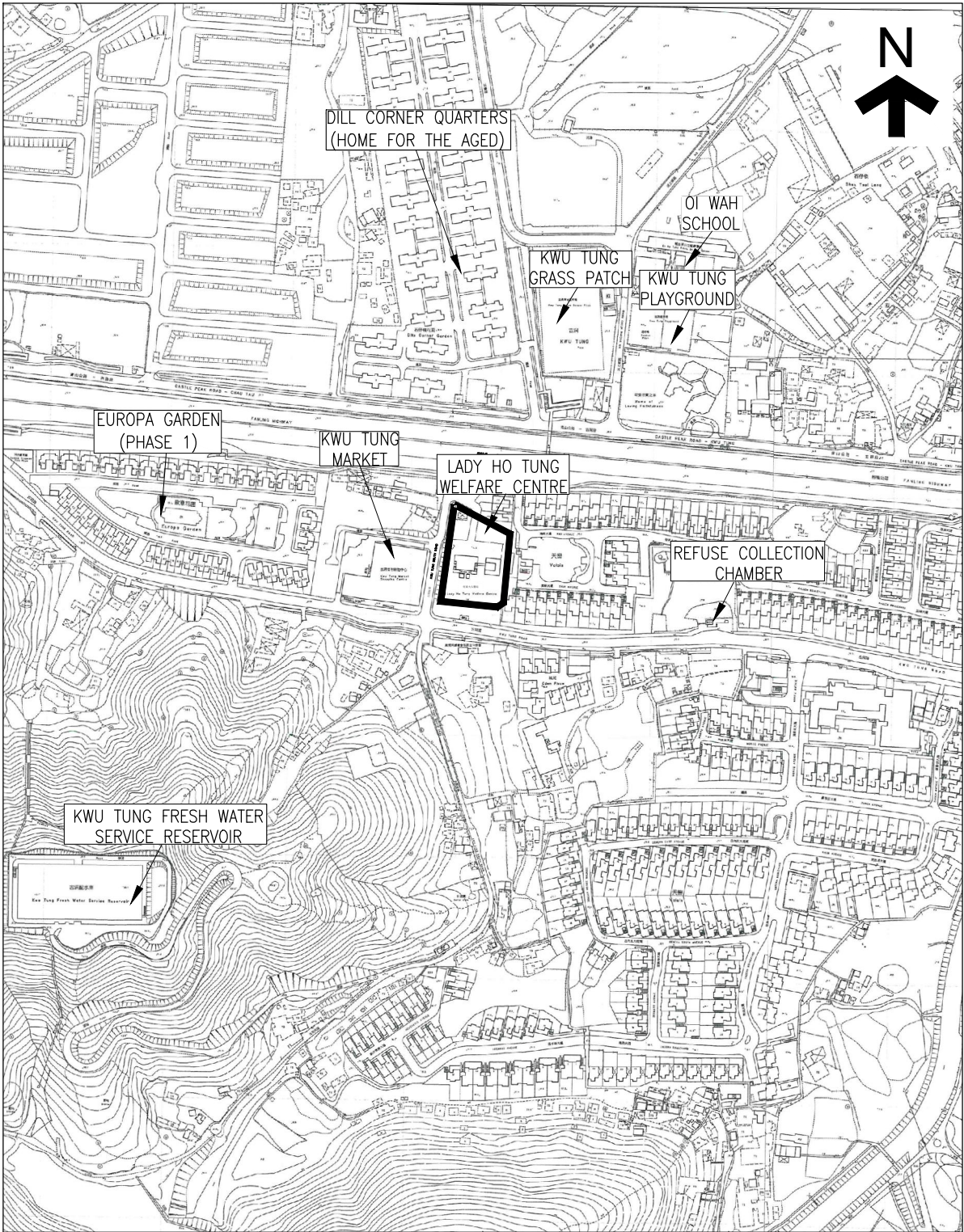
## 7. Pavilion




7.1 Pavilion near site entrance

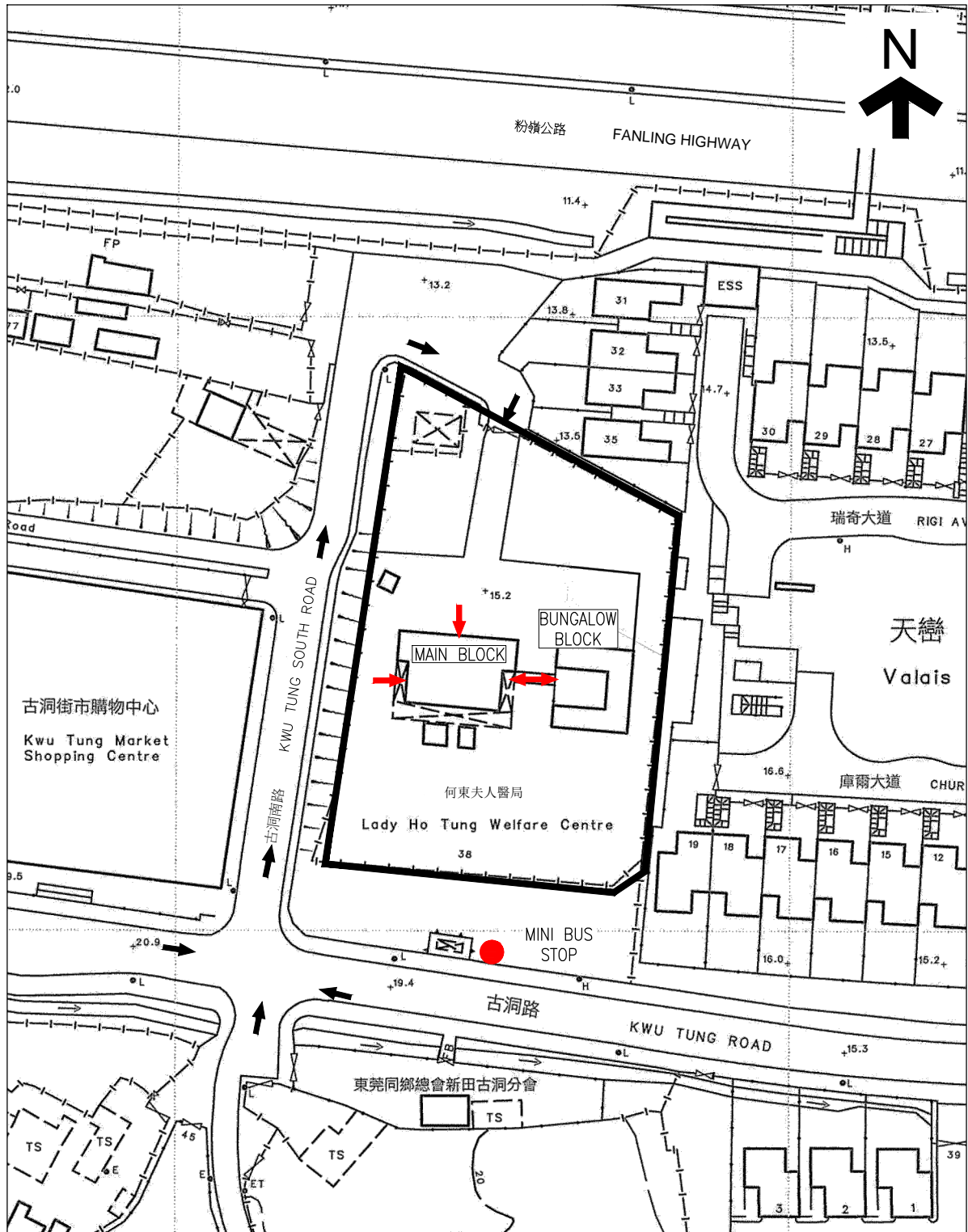
**Appendix VII**  
**Plan Showing Immediate Surroundings**








<p> SITE BOUNDARY</p> <p>EXTRACTED PLAN BASED ON SURVEY SHEET NO. 2-SE-9 &amp; 2-SE-10</p> <p>DATE: 12/11/2013</p>	<p>LADY HO TUNG WELFARE CENTRE</p> <p>NO. 38 KWU TUNG ROAD</p> <p>SHEUNG SHUI</p> <p>NEW TERRITORIES</p>	<p>DRAWING NO.: AG-01-04</p> <p>APPENDIX VII</p> <p>PLAN SHOWING IMMEDIATE SURROUNDINGS PLAN</p> <p>1: 5000</p>
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**Appendix VIII**  
**Access Plan**



 SITE BOUNDARY  
 VEHICULAR ACCESS  
 PEDESTRIAN ACCESS  
 DATE: 12/11/2013

LADY HO TUNG WELFARE CENTRE  
 NO. 38 KWU TUNG ROAD  
 SHEUNG SHUI  
 NEW TERRITORIES

DRAWING NO.: AG-01-05  
 APPENDIX VIII  
 ACCESS PLAN  
 1: 1000

**Appendix IX**  
**List of Architectural Features**  
**to be Preserved**

# Lady Ho Tung Welfare Centre

## Architectural Features to be Preserved

### 1. MAIN BLOCK

1.1) All elevations with rendered and painted external walls.



1.2) Stone doorcase and threshold of the main entrance, including the inscriptions “LADY HO TUNG WELFARE CENTRE” and 「何東麥夫人醫局」 on the lintel.



1.3) Main entrance door, external doors to the verandah, internal timber doors to the Treatment Room and Interview Room, including door panels with grid pattern, door frames, fanlight, horizontal pivoted windows, insects screens, original glazing scheme of obscure and clear glass, and original ironmongeries.



Main entrance door



External door to verandah with horizontal pivoted windows



Internal door to Treatment Room



Internal door to Interview Room with insects screen



Original ironmongeries

1.4) Window heads and quarry-tiled window sills painted in red with white brick lines.



1.5) Timber casement windows and horizontal pivoted windows on top, including original glazing scheme of obscure and clear glass, original ironmongeries and window frames.



1.6) Original internal wooden window sills with mouldings.



1.7) Chinese style roof with hip and gable roof structure, including curled-up ends of roof ridges and circular decorative moulding on pediment.



1.8) Over-hanging roof eaves with suspended timber battened ceiling



1.9) Chimney stacks with ornamental band painted in red and white brick lines.





1.10) Ceramic photographs of Sir Robert Ho Tung and Lady Ho Tung on either side of the door to the Treatment Room.



1.11) Original glazed wall tiles in the Waiting Hall and Treatment Room.



1.12) Fireplaces (3 Nos.) in the Consultation Room, Treatment Room and Interview Room, including tiling, surrounds, grates, hearths and mantel shelf.



Consultation Room

Interview Room

Treatment Room

1.13) Moulded cornices at ceilings.



View to ceiling

1.14) Timber roof structure.



1.15) Timber fence holder, terrazzo floor finishes and the granite threshold in the Watchman Room.



1.16) Original cement skirting.



1.17) Colonnaded verandah, including concrete square columns and granite edge stones to paving.



1.18) Timber suspended ceiling along the colonnaded verandah.



1.19) Cow's horn cleats mounted on the verandah columns.



1.20) Cast iron rainwater pipes and eave gutters at the elevations.



1.21) Original wooden directional signs in arrow shape including the inscriptions 「往登記處」  
“TO REGISTRATION OFFICE” and 「往換藥室」 “TO DRESSING ROOM”.



## 2. BUNGALOW

2.1) All elevations with rendered and painted external walls.



2.2) Timber battened doors to the Garage and all original external timber doors, including door panels with grid pattern, door frames, fanlights, original glazing scheme of obscure and clear glass, granite thresholds and original ironmongeries and timber door bars.



2.3) Quarry-tiled window sills painted in red with white brick lines.



2.4) Timber casement windows including original glazing scheme of obscure and clear glass, ironmongeries and window frames.



2.5) Chinese pitched roof.



2.6) Over-hanging roof eaves.



2.7) Chimney stacks with ornamental band painted in red and white brick lines.



2.8) Open courtyard of the Bungalow including cast iron columns with concrete plinths supporting the roof eaves.

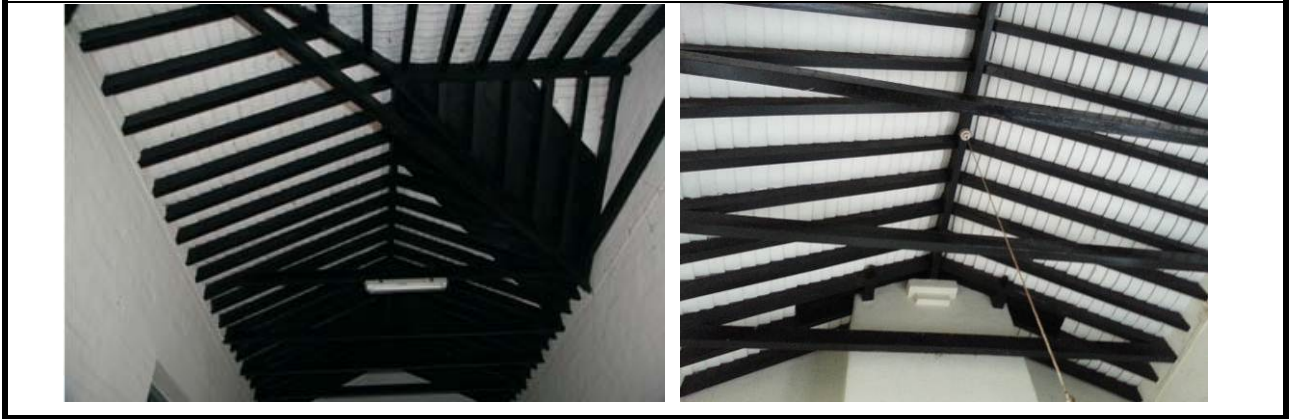


2.9) Fireplaces (2 Nos.), including tiling, surrounds, grates, hearths, and mantel shelf.





2.10) Timber roof structure.



2.11) Internal space of the Garage.



2.12) Cast iron rainwater pipes and eave gutters at the elevations.



**3. EXTERNAL AREA**


3.1) Covered walkway linking the Main Block and the Bungalow, including concrete square columns and granite edge stones to paving.




**Appendix X**  
**List of Required Treatments to**  
**Architectural Features**

**Lady Ho Tung Welfare Centre**  
**Required Treatments to Architectural Features**


**1. MAIN BLOCK**


<b>Architectural Feature</b>	<b>Required Treatment</b>
1.1) All elevations with rendered and painted external walls	Repair and repaint the external walls as necessary. The type of paint should match existing and be approved by AMO as appropriate. No alteration to the existing openings or formation of new openings to the elevations is allowed unless approved by AMO.
	


<b>Architectural Feature</b>	<b>Required Treatment</b>
1.2) Stone doorcase and threshold of the main entrance, including the inscriptions on the lintel	The stone doorcase and threshold of the main entrance, including the inscriptions on the lintel should be preserved in-situ and should be fully protected during the course of any works. Granite surfaces should not be painted or treated with permanent coating system. They should be cleaned with bristle or nylon brushes and clean water. No corrosive cleaning chemical is allowed. If new sign is to be put over the inscriptions on the lintel, the works should be carried out in a reversible manner without causing damage to the stonework and inscriptions.
	


Architectural Feature	Required Treatment
<p>1.3) Main entrance door, external doors to the verandah, internal timber doors to the Treatment Room and the Interview Room</p>	<p>Ease, adjust and overhaul all doors, insects screens, horizontal pivoted windows above and fanlight, repair and repaint as necessary. No alteration to the internal door opening of the Treatment Room where located at the axis of the Building is allowed. Original glazing scheme of obscure and clear glass should be retained. The later-added window-type air-conditioning units with supports and burglar bars should be removed and the window openings above the doors should be restored to horizontal pivoted windows of design which follows those original pivoted windows that have been retained on the elevations. Remove the Bostwick gates as they hinder public appreciation to the original timber doors. Original door ironmongeries should be overhauled and repaired. New ironmongery installations may be permitted for security reason subject to AMO's approval.</p>





Architectural Feature	Required Treatment
1.4) Window heads and quarry-tiled window sills painted in red with white brick lines	They should be repainted in the same colour scheme.
	

Architectural Feature	Required Treatment
1.5) Timber casement windows and horizontal pivoted windows on top	Ease, adjust and overhaul all windows, repair and repaint as necessary. Remove all the later-added window type air-conditioning units with supports and restore to horizontal pivoted windows of design which follows those original pivoted windows that have been retained on the facades. Original ironmongeries should be overhauled and repaired. Original glazing scheme of obscure and clear glass should be retained. Remove the burglar bars behind the top windows so that the original or restored horizontal pivoted windows can be opened fully. No objection to remove the burglar bars installed behind the casement windows
	

Architectural Feature	Required Treatment
1.6) Original internal wooden window sills with mouldings	Original wooden window sills should be retained. Repair and repaint as necessary.
	

Architectural Feature	Required Treatment
1.7) Chinese style roof with hip and gable roof structure, including curled-up ends of roof ridges and circular decorative moulding on pediment	Check waterproofing condition. If leaking problem is observed, the roof should be carefully repaired with Chinese pan-and-roll tiles to match existing. Remove any vegetation, leaves, twigs and debris.
	

Architectural Feature	Required Treatment
1.8) Over-hanging roof eaves with suspended timber battened ceiling	Check the over-hanging eaves and suspended ceiling for rot and replace any damaged timber as necessary. Remove any vegetation, leaves, twigs and debris. Repaint as necessary.
	

Architectural Feature	Required Treatment
1.9) Chimney stacks with ornamental band painted in red and white brick lines.	Retain the ornamental chimney stacks in the original condition which should not be altered in any way. Repair and repaint in the same colour scheme as necessary.
	



Architectural Feature	Required Treatment
1.10) Ceramic photographs of Sir Robert Ho Tung and Lady Ho Tung on either side of the door to Treatment Room	The ceramic photographs should be preserved in-situ and protected. Measure to protect the ceramic photographs is required, provided that it should not bring future maintenance problem and hinder public appreciation to the ceramic photographs. Such measure should be submitted to the AMO for approval.



Architectural Feature	Required Treatment
1.11) Original glazed wall tiles in the Waiting Hall and Treatment Room	Protect old wall tiles during the course of works. Clean them to remove dirt and stains. Original tiles should not be removed, but it is permitted to cover them with drywall furring as long as the installation work is reversible and no anchors or fixings are made to the tiling itself.



Architectural Feature	Required Treatment
1.12) Fireplaces (3 Nos.) in the Consultation Room, Treatment Room and Interview Room, including tiling, surrounds, grates, hearths, and mantel shelf	The fireplaces should be protected during the course of work and be restored as appropriate. Hooks attached to the mantelpiece of the Treatment Room fireplace should be removed and the surround be repaired to match existing. The fireplaces should not be covered and should be exposed for public appreciation.



Consultation Room




Interview Room





Treatment Room


Architectural Feature	Required Treatment
1.13) Moulded cornices at and ceilings	The moulded cornices should not be disturbed. Repair and repaint as necessary.





Architectural Feature	Required Treatment
1.14) Timber roof structure	Check and repair the defective timber rafters, timber purlins and timber trusses as necessary. At least part of the timber roof structure should be exposed for appreciation.
	


Architectural Feature	Required Treatment
1.15) Timber fence holder, terrazzo floor finishes and the granite threshold in the Watchman Room	The timber fence holder and terrazzo floor finishes should be preserved in-situ. Repair and repaint the fence holder and clean the terrazzo floor finishes and granite threshold by non-corrosive detergent as necessary. No objection to covering the terrazzo floor finishes but should be in a reversible manner.
	

Architectural Feature	Required Treatment
1.16) Original cement skirting	Original cement skirting should be retained. Repair and repaint as necessary. No objection to covering the skirting but should be in a reversible manner.
	

Architectural Feature	Required Treatment
1.17) Colonnaded verandah, including the square concrete column and granite edge stones to paving	The verandah should not be enclosed in any way. Repair and repaint as necessary. The type of paint should match existing and be approved by AMO as appropriate. The granite edge stones should be preserved in-situ and cleaned. If the paving of verandah is to be repaved, the design and materials of the new paving should be submitted to AMO for approval.
	

Architectural Feature	Required Treatment
1.18) Timber suspended ceiling along the open colonnaded verandah	The suspended ceiling should be retained in timber materials. Replacing the timber suspended ceiling with new grid system and new timber panels is allowed in condition that the materials should be approved by AMO, and the existing grid pattern and moulded cornices should be kept.
	

Architectural Feature	Required Treatment
1.19) Cow's horn cleats mounted on the verandah columns	The cow's horn cleats should be retained. Repair and repaint as necessary.
	

Architectural Feature	Required Treatment
1.20) Cast iron rainwater pipes and eave gutters at the elevations	The cast iron rainwater pipes with swan's neck bends and the eave gutters should be preserved in-situ. Repair and restore their functions and repaint the eave gutters and rainwater pipes as necessary.
	

Architectural Feature	Required Treatment
1.21) Original wooden directional signs in arrow shape including the inscriptions	The wooden directional signs should be retained, repair and repaint in same colour and calligraphy as necessary. Appropriate method should be proposed to interpret the signs in relation to the former use of the Site.
	

Architectural Feature	Required Treatment
1.22) Internal walls, floor finishes and suspended ceilings of mineral fibre ceiling tiles	Repair any damage sections of the walls using materials matching existing as necessary. Formation of new openings and alterations to existing openings on load bearing walls may be permitted subject to AMO's approval and Registered Structural Engineer's advice. No objection to the removal of later-added partitions. No specific requirements on floor finishes and suspended ceilings of fibre ceiling tiles.





Later-added partition

Architectural Feature	Required Treatment
1.23) Redundant cables, old wirings, conduits, disused electrical appliances, and meter boxes	Disconnect and remove redundant cables, old wirings, conduits, disused electrical appliances, and meter boxes. Damage to wall surfaces should be made good to match existing. New cable routes/ conduit routes and pipes should be carefully planned to avoid damage to architectural features and to minimise the intervention to the building fabric.




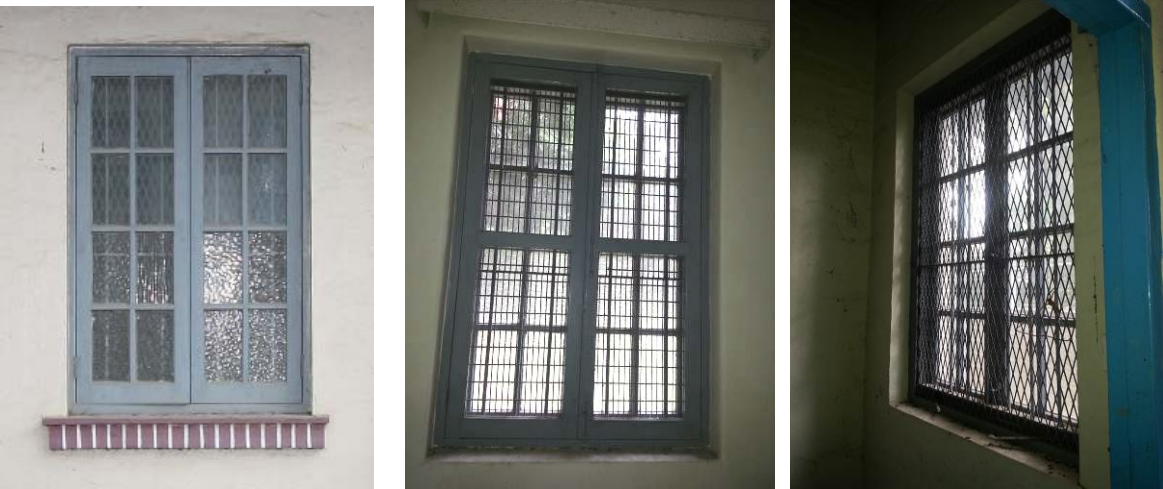
## 2. BUNGALOW

Architectural Feature	Required Treatment
2.1) All elevations with rendered and painted external walls	Repair and repaint the external walls as necessary. The type of paint should match existing and be approved by AMO as appropriate. No alteration to the existing opening or formation of new opening to the elevations is allowed unless approved by AMO.
	

Architectural Feature	Required Treatment
2.2) Timber battened doors of the Garage and all original external timber doors	Ease, adjust and overhaul all doors and fanlights, repair and repaint as necessary. No alteration to the door openings is allowed. The granite threshold should be preserved in-situ and be cleaned. Original glazing scheme of obscure and clear glass should be retained. Original ironmongeries should be overhauled and repaired. New ironmongery installations may be permitted for security reason subject to AMO's approval.
	



Architectural Feature	Required Treatment
2.3) Quarry-tiled window sills painted in red with white brick lines	They should be repainted in the same colour scheme.
	


Architectural Feature	Required Treatment
2.4) Timber casement windows	Ease, adjust and overhaul all windows, repair and repaint as necessary. No alteration to window openings is allowed unless approved by AMO. Original ironmongeries should be overhauled and repaired. Original glazing scheme of obscure and clear glass should be retained. No objection to remove the burglar bars and metal grilles installed behind the casement windows.
	

Architectural Feature	Required Treatment
2.5) Chinese pitched roof	Check waterproofing condition. If leaking problem is observed, the roof should be carefully repaired with Chinese pan-and-roll tiles to match existing. Remove any vegetation, leaves, twigs and debris.




Architectural Feature	Required Treatment
2.6) Over-hanging roof eaves	Check the over-hanging eaves for rot and replace any damaged timber as necessary. Repair and replace rotten fascia boards to match existing. Remove any vegetation, leaves, twigs and debris. Repaint as necessary.




Architectural Feature	Required Treatment
2.7) Chimney stacks with ornamental band painted in red and white brick lines	Retain the ornamental chimney stacks in the original condition which should not be altered in any way. Repair and repaint in the same colour scheme as necessary.
	


Architectural Feature	Required Treatment
2.8) Open courtyard of the Bungalow including cast iron columns with concrete plinths supporting the roof eaves	The open courtyard should be retained in its existing uncovered condition, to show its original function as a ventilated light-well to the building. Check cast iron columns for rust and scale. Scrape off, repair and repaint as necessary. Check concrete plinths conditions. Repair as necessary.
	

Architectural Feature	Required Treatment
2.9) Fireplaces (2 Nos.), including tiling, surrounds, grates, hearths, and mantel shelf	The fireplaces should be protected during the course of work and be restored as appropriate. The fireplaces should not be covered and should be exposed for public appreciation.
	

Architectural Feature	Required Treatment
2.10) Timber roof structure	Check and repair the defective timber rafters, purlins and timber ties as necessary. At least part of the timber structure should be exposed for appreciation.
	

Architectural Feature	Required Treatment
2.11) Internal walls at the staff quarters and lodgings	Repair any damage sections of the walls using materials matching existing as necessary. No restriction to alterations of internal partitions of the staff quarters and lodgings subject to the advice from a Registered Structural Engineer.
	


Architectural Feature	Required Treatment
2.12) Internal space of the Garage	The internal space of the Garage should be kept intact, i.e., no alteration to the existing walls or addition of new partitions is allowed unless approved by AMO. Plaster should not be applied to the walls of the Garage. Expose the whole timber roof structure at the Garage for public appreciation.
	

Architectural Feature	Required Treatment
2.13) Cast iron rainwater pipes and eave gutters at the elevations	The cast iron rainwater pipes with swan's neck bends and the eave gutters should be preserved in-situ. Repair and restore their functions and repaint the eave gutters and rainwater pipes as necessary.
	

### 3. EXTERNAL AREA

Architectural Feature	Required Treatment
3.1) Covered walkway linking the Main Block and the Bungalow, including granite edge stones to paving	The covered walkway should not be enclosed in any way. Repair and repaint as necessary. Remove the water tank, the associated pipes and the supporting plinths on top of the covered walkway. Check waterproofing condition for roof, repair waterproof layer as necessary. The granite edge stones should be retained and be cleaned. If the paving of the covered walkway is to be repaved, the design and materials of new paving should be submitted to AMO for approval.



Architectural Feature	Required Treatment
3.2) Open spaces	Any new structure should not cause visual impact to the Main Block and the Bungalow, in particular, the front façades of the buildings should not be blocked.
	





## **Appendix XI**

### **List of Recommended Treatments to Architectural Features**

**Lady Ho Tung Welfare Centre**  
**Recommended Treatments to Architectural Features**

**1. MAIN BLOCK AND BUNGALOW**

<b>Architectural Feature</b>	<b>Recommended Treatment</b>
1.1) Original suspended timber ceilings	Most of the suspended timber ceilings inside the Main Block are in dilapidated conditions. Those inside the Bungalow are comparatively in better conditions. Since they are an original feature which echoes with the suspended ceilings in the verandah, they are recommended to be retained, repaired or replaced with new timber materials in same design and form as necessary.
	

<b>Architectural Feature</b>	<b>Recommended Treatment</b>
1.2) Wall lamp in the courtyard of the Bungalow	Recommended to repair and restore its function if feasible.
	

Architectural Feature	Recommended Treatment
1.3) Original stone table, shelves, draining board and sink in the Kitchen	Recommended to preserve and reuse as far as possible. Clean them to remove dirt and stains. Protect them during course of the works.
	

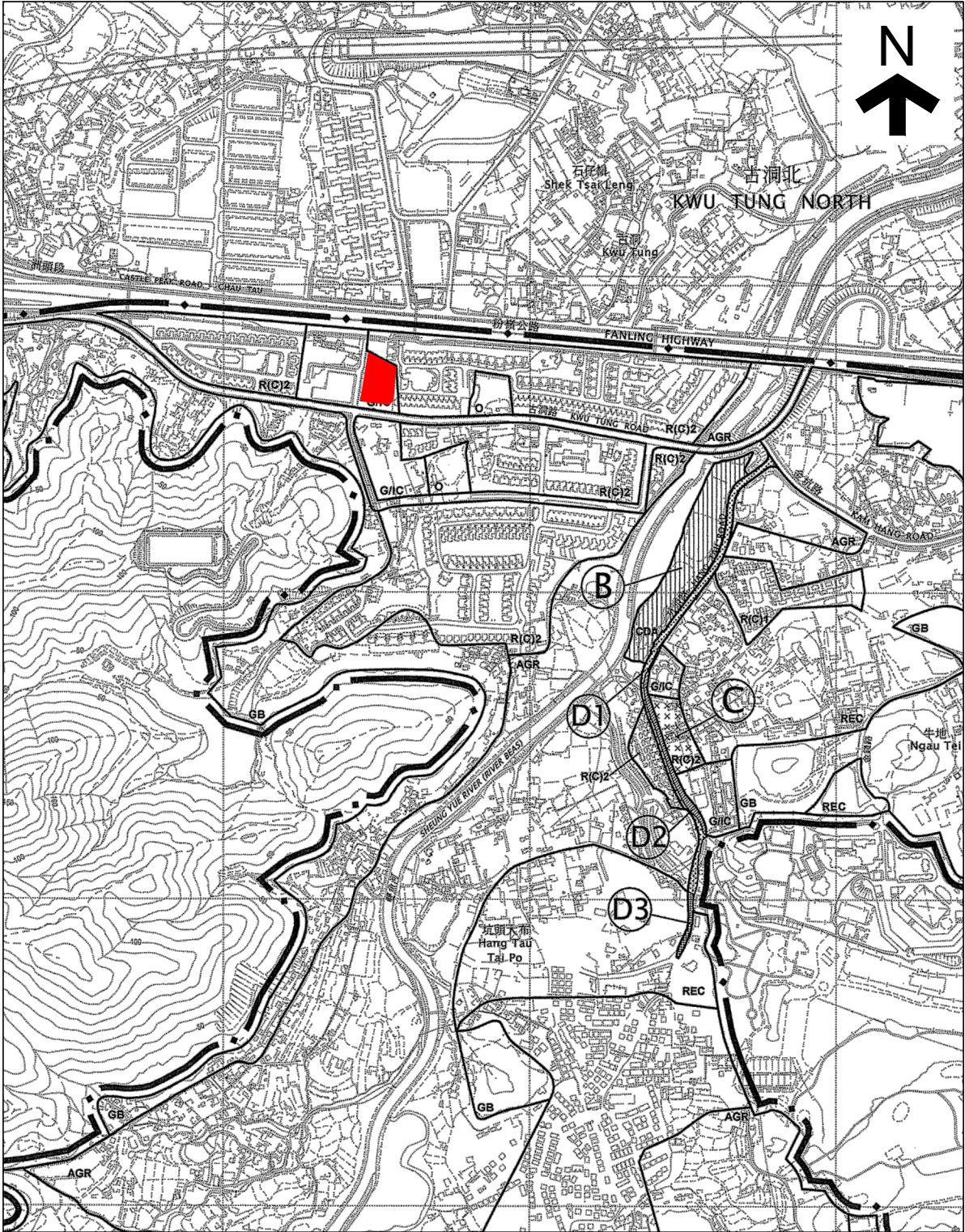
Architectural Feature	Recommended Treatment
1.4) Original wooden directional signs in arrow shape including the inscriptions	Recommended to preserve in-situ, repair and repaint in same colour and calligraphy as necessary.
	

## 2. EXTERNAL AREA

Architectural Feature	Recommended Treatment
2.1) Toilet blocks (2 nos.)	Recommended to remove the toilet blocks as they hinder public appreciation to the rear elevation of the Main Block.



**Appendix XII**  
**Outline Zoning Plan**



THE SITE

EXTRACTED PLAN BASED ON  
OUTLINE ZONING PLAN NO.  
2/NE-KTS/13  
DATE: 18/09/2013

LADY HO TUNG WELFARE CENTRE

NO. 38 KWU TUNG ROAD  
SHEUNG SHUI  
NEW TERRITORIES

DRAWING NO.: AG-01-06

APPENDIX XII  
OUTLINE ZONING PLAN  
1: 10000

GOVERNMENT, INSTITUTION OR COMMUNITY

Column 1 Uses always permitted	Column 2 Uses that may be permitted with or without conditions on application to the Town Planning Board
Ambulance Depot Animal Quarantine Centre (in Government building only) Broadcasting, Television and/or Film Studio Eating Place (Canteen, Cooked Food Centre only) Educational Institution Exhibition or Convention Hall Field Study/Education/Visitor Centre Government Refuse Collection Point Government Use (not elsewhere specified) Hospital Institutional Use (not elsewhere specified) Library Market Place of Recreation, Sports or Culture Public Clinic Public Convenience Public Transport Terminus or Station Public Utility Installation Public Vehicle Park (excluding container vehicle) Recyclable Collection Centre Religious Institution Research, Design and Development Centre Rural Committee/Village Office School Service Reservoir Social Welfare Facility Training Centre Wholesale Trade	Animal Boarding Establishment Animal Quarantine Centre (not elsewhere specified) Columbarium Correctional Institution Crematorium Driving School Eating Place (not elsewhere specified) Flat Funeral Facility Helicopter Landing Pad Holiday Camp House (other than rebuilding of New Territories Exempted House or replacement of existing domestic building by New Territories Exempted House permitted under the covering Notes) Off-course Betting Centre Office Petrol Filling Station Place of Entertainment Private Club Radar, Telecommunications Electronic Microwave Repeater, Television and/or Radio Transmitter Installation Refuse Disposal Installation (Refuse Transfer Station only) Residential Institution Sewage Treatment/Screening Plant Shop and Services Utility Installation for Private Project Zoo

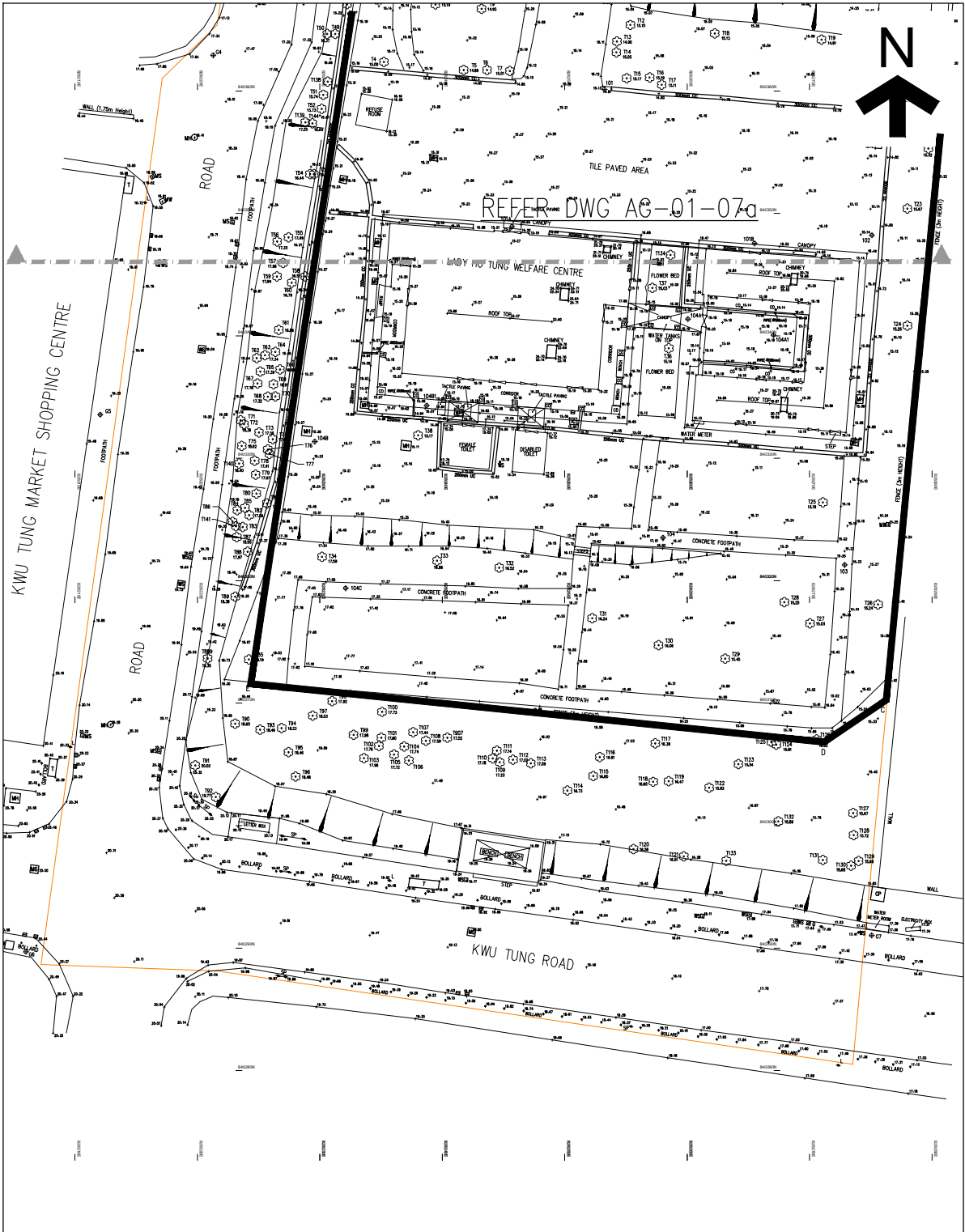
Planning Intention

This zone is intended primarily for the provision of Government, institution or community facilities serving the needs of the local residents and/or a wider district, region or the territory. It is also intended to provide land for uses directly related to or in support of the work of the Government, organizations providing social services to meet community needs, and other institutional establishments.

**Appendix XIII(A)**  
**Topographical Survey and Tree Location Plan**







THE SITE



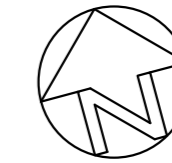
T1  
TREE NUMBER

NO. 38 KWU TUNG ROAD  
SHEUNG SHUI  
NEW TERRITORIES

DRAWING NO.: AG-01-09b

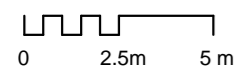
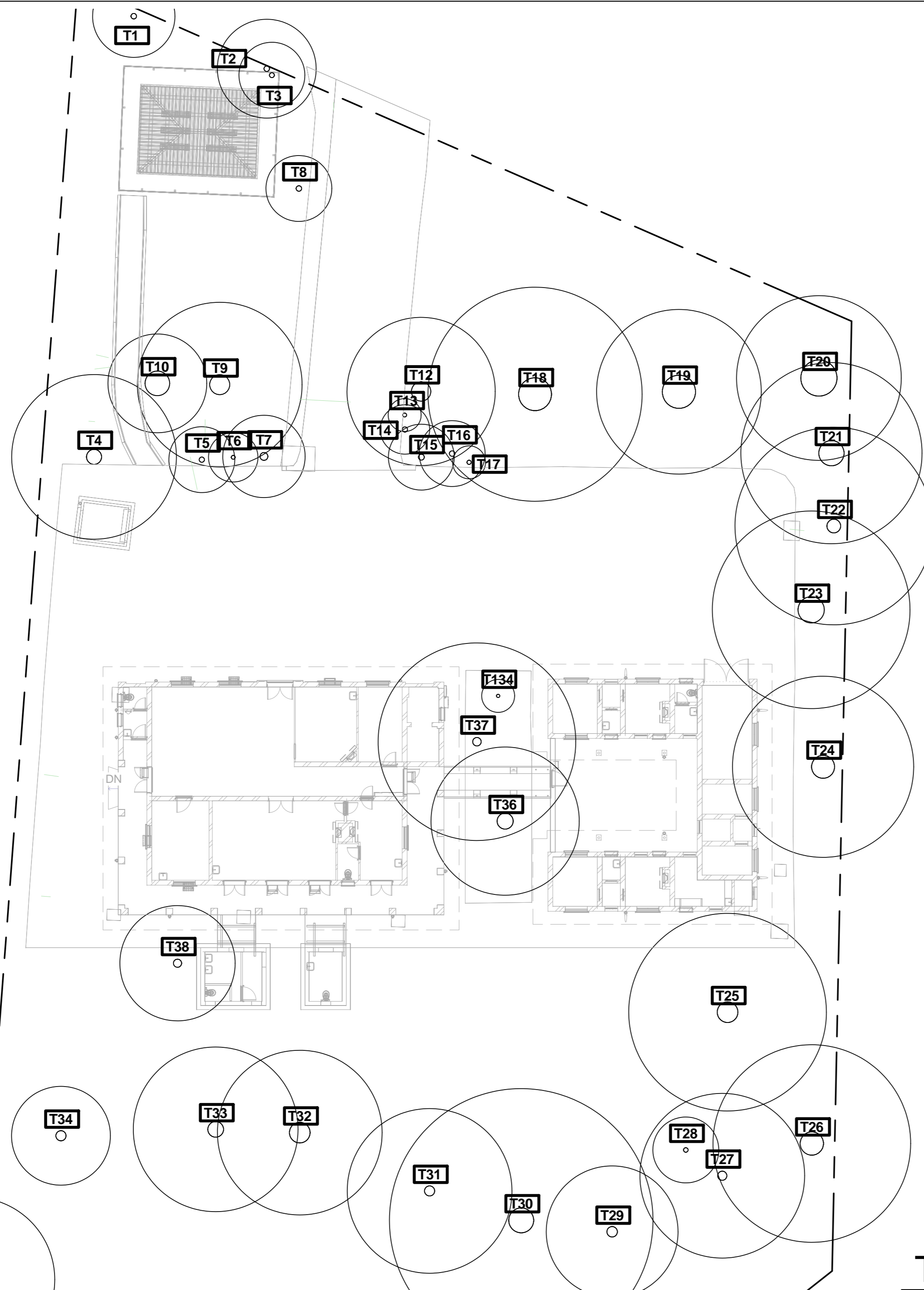
APPENDIX XIII (A)  
TOPOGRAPHICAL SURVEY AND  
TREE LOCATION PLAN (2)  
1: 500

**Appendix XIII(B)**  
**Tree Survey Plan and Tree Survey Schedule**



Notes:

- 1. All dimensions shown are in millimeter (mm)
- 2. Exact dimensions, areas and layout should be verified on site



# TREE SURVEY PLAN

Project  
LADY HO TUNG WELFARE CENTRE  
IN SHEUNG SHUI

Drawing Title  
TREE SURVEY PLAN

Drawing. No.	SCALE
A-14	1 : 200 (A2) 1 : 400 (A4)

Date of Production : 16/7/2013

Produced by  
**isBIM Limited**





Our Ref: TP/15514

Date of Survey: 10-13/06/2013

Surveyor: H.M.Fong, K.W.Chu

## TREE SURVEY SCHEDULE (Inside Site Boundary)

CLIENT: Architectural Services Department

LOCATION: Lady Ho Tung Welfare Centre

38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

### Tree Survey Report - Tree Schedule (Area 1)

Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form			Health			Amenity Value			Action			Remarks
						Good	Fair	Poor	Good	Fair	Poor	High	Medium	Low	Retain	Transplant	Fell	
T1	<i>Ficus hispida</i>	對葉榕	0.17	5	5	F	F	F	F	F	F	M			R		Double trunk; restricted growth by fence; cross trunk.	
T2	<i>Bauhinia variegata</i>	羊蹄甲	0.17	8	6	F	F	F	F	F	F	M			R		Restricted growth by fence; drain nearby; close to T3.	
T3	<i>Leucaena leucocephala</i>	銀合歡	0.15	10	4	F	F	F	F	F	F	M			R		Restricted growth by fence; drain nearby; close to T2.	
T4	<i>Crataeva religiosa</i>	魚木	0.46	12	10	F	F	F	F	F	F	M			R		Root growth restricted by drain, epicormics found.	
T5	<i>Plumeria rubra</i>	雞蛋花	0.16	5	4	F	F	F	F	F	F	M			R		Old wound with decay.	
T6	<i>Plumeria rubra</i>	雞蛋花	0.12	4	3	F	F	F	F	F	F	M			R		Old wound with decay.	
T7	<i>Plumeria rubra</i>	雞蛋花	0.24	12	5	F	F	F	F	F	F	M			R		Root growth restricted by footpath.	
T8	<i>Bauhinia variegata</i>	羊蹄甲	0.17	4	4	F	F	F	F	F	F	M			R		Double trunk; root growth restricted by footpath.	
T9	<i>Bauhinia variegata</i>	羊蹄甲	0.61	12	10	P	F	F	F	F	F	M			R		Multi-trunk; leaning; cavity at root collar; epicormics found.	
T10	<i>Melaleuca cajuputi</i>	白千層	0.75	14	6	F	F	F	F	F	F	M			R		-	
T12	<i>Melaleuca cajuputi</i>	白千層	0.59	14	9	P	F	F	F	F	F	M			R		Trunk crooked; cavity in trunk.	
T13	<i>Plumeria rubra</i>	雞蛋花	0.12	5	2	P	F	F	F	F	F	M			R		Trunk crooked; old wound with decay.	
T14	<i>Plumeria rubra</i>	雞蛋花	0.16	6	3	F	F	F	F	F	F	M			R		Old wound with decay.	
T15	<i>Plumeria rubra</i>	雞蛋花	0.18	6	4	F	F	F	F	F	F	M			R		Old wound with decay.	
T16	<i>Plumeria rubra</i>	雞蛋花	0.17	6	4	F	F	F	F	F	F	M			R		Old wound with decay.	
T17	<i>Plumeria rubra</i>	雞蛋花	0.13	3	2	F	F	F	F	F	F	M			R		Old wound with decay.	
T18	<i>Bauhinia variegata</i>	羊蹄甲	1.00	12	13	F	F	F	F	F	F	M			R		Multi-trunk; cross trunk; large cavity in trunk.	
T19	<i>Melaleuca cajuputi</i>	白千層	1.01	16	10	F	F	F	F	F	F	M			R		-	
T20	<i>Acacia confusa</i>	台灣相思	1.10	16	10	P	P	F	F	F	F	M			R		Multi-trunk; leaning; fungal fruiting bodies found at tree base; root growth restricted by fence; bark crack.	
T21	<i>Acacia confusa</i>	台灣相思	0.77	14	11	P	F	F	F	F	F	M			R		Double trunk; leaning; root growth restricted by fence.	
T22	<i>Acacia confusa</i>	台灣相思	0.42	12	12	P	F	F	F	F	F	M			R		Leaning; root growth restricted by fence; diebacks.	



Our Ref: TP/15514

Date of Survey: 10-13/06/2013

Surveyor: H.M.Fong, K.W.Chu

## TREE SURVEY SCHEDULE (Inside Site Boundary)

CLIENT: Architectural Services Department

LOCATION: Lady Ho Tung Welfare Centre

38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

### Tree Survey Report - Tree Schedule (Area 1)

Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form		Health		Amenity Value	Action	Remarks
						Good Fair	Good Fair	Good Fair	Good Fair	High Medium	Retain Transplant	
T23	<i>Acacia confusa</i>	台灣相思	0.80	13	12	P	P	P	P	M	R	Leaning; root growth restricted by fence; diebacks; rotten trunk; fungal fruiting bodies found.
T24	<i>Acacia confusa</i>	台灣相思	0.70	12	11	P	F	P	F	M	R	Leaning; root growth restricted by fence; diebacks; bark crack.
T25	<i>Litchi chinensis</i>	荔枝	0.63	10	12	F	F	F	F	M	R	Double trunk.
T26	<i>Acacia confusa</i>	台灣相思	0.71	16	12	P	F	P	F	M	R	Double trunk; root growth restricted by fence; one trunk topped by others before; diebacks.
T27	<i>Bauhinia variegata</i>	羊蹄甲	0.28	10	10	P	F	P	F	M	R	Half-collapsed; root expose.
T28	<i>Dimocarpus longan</i>	龍眼	0.14	8	4	F	F	F	F	M	R	-
T29	<i>Dimocarpus longan</i>	龍眼	0.32	10	8	F	F	F	F	M	R	-
T30	<i>Eucalyptus spp.</i>	桉樹	0.76	16	16	F	F	F	F	M	R	Cross branch.
T31	<i>Dimocarpus longan</i>	龍眼	0.31	9	10	F	F	F	F	M	R	Root growth restricted by footpath.
T32	<i>Eucalyptus robusta</i>	大葉桉	0.63	10	10	P	P	P	P	M	R	Leader topped by others before.
T33	<i>Eucalyptus citriodora</i>	檸檬桉	0.48	16	10	P	F	P	F	M	R	One trunk topped by others before; bark crack.
T34	<i>Eucalyptus robusta</i>	大葉桉	0.31	11	6	F	F	F	F	M	R	Cavity at tree base; dead branch.
T35	<i>Acacia confusa</i> (Outside Site Boundary)	台灣相思	0.95	15	10	P	F	P	F	M	R	Double trunk; root growth restricted by fence; included bark; fungal fruiting bodies found at old purned wound. Outside Site Boundary
T36	<i>Dimocarpus longan</i>	龍眼	0.49	12	9	F	F	F	F	M	R	Root growth restricted by buildings; cross branch.
T37	<i>Dimocarpus longan</i>	龍眼	0.26	18	12	F	F	F	F	M	R	Root growth restricted by buildings.
T38	<i>Celtis sinensis</i>	朴樹	0.25	11	7	P	F	P	F	M	R	Co-dominant trunk; root growth restricted by drains; included bark; cross trunk.
T134	<i>Averrhoa carambola</i>	楊桃	0.10	6	2	P	F	P	F	M	R	Leaning; unbalanced crown.

Total no. of trees: 37



**TREE SURVEY SCHEDULE (Outside Site Boundary)**

CLIENT: Architectural Services Department  
LOCATION: Lady Ho Tung Welfare Centre  
38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

Our Ref: TP/15514  
Date of Survey: 10-13/06/2013  
Surveyor: H.M.Fong, K.W.Chu

Tree Survey Report - Tree Schedule (Area 2)																		
Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form			Health			Amenity Value			Action			Remarks
						Good	Fair	Poor	Good	Fair	Poor	High	Medium	Low	Retain	Transplant	Fell	
T35	<i>Acacia confusa</i>	台灣相思	0.95	15	10	P	F		F									Double trunk; root growth restricted by fence; included bark; fungal fruiting bodies found at old purned wound.
T39	<i>Celtis sinensis</i>	朴樹	0.21	9	4	F	F		F									On slope; root growth restricted by fence and drain.
T40	<i>Macaranga tanarius</i>	血桐	0.15	8	5	F	F		F									On slope; growth restricted by fence; corss branch to T42.
T41	<i>Celtis sinensis</i>	朴樹	0.12	10	4	F	F		F									On slope; cross trunk to T42.
T42	<i>Acacia confusa</i>	台灣相思	0.52	14	8	F	P		P									On slope; root growth restricted by road and drain; root exposed; rotten branch; cross trunk to T41; cross branch to T40.
T43	<i>Celtis sinensis</i>	朴樹	0.19	12	6	F	F		F									On slope; root growth restricted by road and drain; dead stubs.
T44	<i>Celtis sinensis</i>	朴樹	0.21	9	5	F	F		F									On slope; root growth restricted by fence and drain; cross trunk.
T45	<i>Leucaena leucocephala</i>	銀合歡	0.10	10	2	F	F		F									On slope; root growth restricted by fence and drain; cross trunk; with vines.
T46	<i>Crataeva religiosa</i>	魚木	0.13	7	5	F	F		F									On slope; root growth restricted by fence and drain.
T47	<i>Leucaena leucocephala</i>	銀合歡	0.10	7	3	F	P		P									On slope; root growth restricted by road and drain; cross trunk; broken branch.
T48	<i>Macaranga tanarius</i>	血桐	0.10	6	4	F	F		F									On slope; root growth restricted by fence and drain; broken branch.
T49	<i>Leucaena leucocephala</i>	銀合歡	0.46	14	10	F	F		F									On slope; root growth restricted by road and drain.
T50	<i>Leucaena leucocephala</i>	銀合歡	0.17	9	2	P	P		P									On slope; root growth restricted by road and drain.
T51	<i>Leucaena leucocephala</i>	銀合歡	0.14	11	3	F	F		F									On slope; root growth restricted by drain.
T52	<i>Leucaena leucocephala</i>	銀合歡	0.14	9	4	F	F		F									On slope; root growth restricted by drain.
T53	<i>Leucaena leucocephala</i>	銀合歡	0.17	12	6	P	F		F									On slope; root growth restricted by drain; leaning; with vines.
T54	<i>Acacia confusa</i>	台灣相思	0.47	13	8	F	F		F									On slope; root growth restricted by drain.
T55	<i>Acacia confusa</i>	台灣相思	0.63	15	8	F	F		F									On slope; root growth restricted by road; unbalanced crown.



**TREE SURVEY SCHEDULE (Outside Site Boundary)**

CLIENT: Architectural Services Department  
LOCATION: Lady Ho Tung Welfare Centre  
38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

Our Ref: TP/15514  
Date of Survey: 10-13/06/2013

Surveyor: H.M.Fong, K.W.Chu

Tree Survey Report - Tree Schedule (Area 2)												
Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form		Health		Amenity Value	Action	Remarks
						Good	Fair	Good	Fair			
T56	<i>Acacia confusa</i>	台灣相思	0.35	12	8	F	F					On slope; root growth restricted by road.
T57	<i>Acacia confusa</i>	台灣相思	0.20	10	4	P	P					On slope; root growth restricted by road; leaning; cross trunk; mechanical injury.
T58	<i>Acacia confusa</i>	台灣相思	0.12	8	8	F	F					On slope; root growth restricted by drain; cross branch.
T59	<i>Acacia confusa</i>	台灣相思	0.24	13	6	P	P					On slope; root growth restricted by road; unbalanced crown; serious mechanical injury, one trunk dead.
T60	<i>Acacia confusa</i>	台灣相思	0.24	12	7	P	F					On slope; leaning; one trunk broken;
T61	<i>Acacia confusa</i>	台灣相思	0.16	12	4	F	F					On slope.
T62	<i>Acacia confusa</i>	台灣相思	0.24	13	8	F	P					On slope; root growth restricted by road; one trunk pruned by others before; dead branch; bark crack.
T63	<i>Acacia confusa</i>	台灣相思	0.13	10	6	F	F					One slope.
T64	<i>Acacia confusa</i>	台灣相思	0.34	10	8	F	F					On slope; co-dominant trunk.
T65	<i>Acacia confusa</i>	台灣相思	0.26	12	7	F	F					On slope.
T66	<i>Acacia confusa</i>	台灣相思	0.13	11	5	F	F					On slope; dead branch.
T67	<i>Acacia confusa</i>	台灣相思	0.15	12	4	F	F					On slope; root growth restricted by road; mechanical injury.
T68	<i>Acacia confusa</i>	台灣相思	0.32	12	5	P	F					On slope; broken leader.
T69	<i>Acacia confusa</i>	台灣相思	0.31	12	6	F	F					On slope; dead branch.
T70	<i>Acacia confusa</i>	台灣相思	0.27	11	6	F	F					On slope.
T71	<i>Leucaena leucocephala</i>	銀合歡	0.11	7	3	F	F					On slope; root growth restricted by road; cross trunk.
T72	<i>Acacia confusa</i>	台灣相思	0.10	10	4	F	F					On slope; root growth restricted by road; cross trunk.
T73	<i>Acacia confusa</i>	台灣相思	0.22	13	6	F	F					On slope; double trunk.
T74	<i>Acacia confusa</i>	台灣相思	0.19	10	6	F	F					On slope; root growth restricted by drain.
T75	<i>Acacia confusa</i>	台灣相思	0.19	9	9	F	P					On slope; root growth restricted by road; cross trunk; mechanical injury.
T76	<i>Acacia confusa</i>	台灣相思	0.21	12	6	F	F					On slope; root growth restricted by drain.
T77	<i>Acacia confusa</i>	台灣相思	0.11	12	8	P	F					On slope; leaning; root growth restricted by drain.
T78	<i>Acacia confusa</i>	台灣相思	0.28		8	P	F					On slope; leaning; cross branch.
T79	<i>Acacia confusa</i>	台灣相思	0.28	11	5	P	F					On slope; leaning; root growth restricted by drain.
T80	<i>Acacia confusa</i>	台灣相思	0.11	8	4	F	P					On slope; root growth restricted by road; old wound; broken leader; termite found.





**TREE SURVEY SCHEDULE (Outside Site Boundary)**

CLIENT: Architectural Services Department  
LOCATION: Lady Ho Tung Welfare Centre  
38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

Our Ref: TP/15514  
Date of Survey: 10-13/06/2013  
Surveyor: H.M.Fong, K.W.Chu

Tree Survey Report - Tree Schedule (Area 2)												
Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form		Health		Amenity Value	Action	Remarks
						Good	Fair	Good	Fair			
T81	<i>Acacia confusa</i>	台灣相思	0.37	11	6	F	F					On slope broken branch; wound on trunk.
T82	<i>Acacia confusa</i>	台灣相思	0.26	11	4	F	F					On slope; wound on trunk.
T83	<i>Acacia confusa</i>	台灣相思	0.30	12	7	F	F					On slope.
T84	<i>Acacia confusa</i>	台灣相思	0.26	8	6	P	P					On slope; leaning; dead branch.
T85	<i>Acacia confusa</i>	台灣相思	0.13	8	4	F	F					On slope.
T86	<i>Acacia confusa</i>	台灣相思	0.11	9	4	F	F					On slope.
T87	<i>Acacia confusa</i>	台灣相思	0.30	12	6	F	P					On slope; rotten trunk; termite found.
T88	<i>Acacia confusa</i>	台灣相思	0.32	12	7	F	F					On slope; dead branch.
T89	<i>Dimocarpus longan</i>	龍眼	0.13	7	6	F	F					On slope.
T90	<i>Thevetia peruviana</i>	黃花夾竹桃	0.17	7	7	F	P					Double trunk; rotten trunk; dead branch.
T91	<i>Acacia confusa</i>	台灣相思	0.46	11	8	F	F					Co-dominant trunk; diebacks; rotten trunk; root growth restricted by road.
T92	<i>Celtis sinensis</i>	朴樹	0.37	11	7	F	F					Root growth restricted by road; hanger.
T93	<i>Acacia confusa</i>	台灣相思	0.16	9	10	F	F					-
T94	<i>Acacia confusa</i>	台灣相思	0.21	12	5	F	F					-
T95	<i>Acacia confusa</i>	台灣相思	0.14	8	3	F	F					Double trunk.
T96	<i>Thevetia peruviana</i>	黃花夾竹桃	0.14	7	4	P	F					Leaning.
T97	<i>Acacia confusa</i>	台灣相思	0.24	12	5	F	F					-
T98	<i>Bridelia tomentosa</i>	土蜜樹	0.10	7	5	F	F					Dead branch.; mechanical injury
T99	<i>Acacia confusa</i>	台灣相思	0.60	14	10	F	F					Multi-trunk; dead branch.
T100	<i>Microcos paniculata</i>	布渣葉	0.10	7	5	F	F					-
T101	<i>Acacia confusa</i>	台灣相思	0.11	11	3	P	F					Trunk crooked.
T102	<i>Acacia confusa</i>	台灣相思	0.34	16	8	F	F					-
T103	<i>Acacia confusa</i>	台灣相思	0.36	7	5	P	F					Leaning.
T104	<i>Acacia confusa</i>	台灣相思	0.44	11	5	P	F					Double trunk; leaning.
T105	<i>Acacia confusa</i>	台灣相思	0.24	7	5	P	F					Leaning; epicormics found; hanger.
T106	<i>Acacia confusa</i>	台灣相思	0.14	7	3	P	F					Leaning.
T107	<i>Microcos paniculata</i>	布渣葉	0.13	7	7	F	F					-
T108	<i>Acacia confusa</i>	台灣相思	0.62	15	13	F	F					Multi-trunk.
T109	<i>Thevetia peruviana</i>	黃花夾竹桃	0.10	7	6	P	F					Leaning.



**TREE SURVEY SCHEDULE (Outside Site Boundary)**

CLIENT: Architectural Services Department  
LOCATION: Lady Ho Tung Welfare Centre  
38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

Our Ref: TP/15514  
Date of Survey: 10-13/06/2013  
Surveyor: H.M.Fong, K.W.Chu

Tree Survey Report - Tree Schedule (Area 2)												
Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form		Health		Amenity Value	Action	Remarks
						Good	Fair	Good	Fair			
T110	<i>Acacia confusa</i>	台灣相思	0.26	11	7	P	F					Leaning.
T111	<i>Acacia confusa</i>	台灣相思	0.11	8	3	P	F					Leaning.
T112	<i>Acacia confusa</i>	台灣相思	0.42	15	13	F	F					Double trunk; dead branch.
T113	<i>Acacia confusa</i>	台灣相思	0.45	15	8	F	F					Multi-trunk; dead trunk.
T114	<i>Microcos paniculata</i>	布渣葉	0.17	9	10	F	F					Close to T113
T115	<i>Acacia confusa</i>	台灣相思	0.38	15	9	F	F					Multi- trunk.
T116	<i>Acacia confusa</i>	台灣相思	0.37	15	8	P	F					Double trunk; included bark.
T117	<i>Acacia confusa</i>	台灣相思	0.37	14	10	F	F					With vines.
T118	<i>Acacia confusa</i>	台灣相思	0.26	10	6	P	F					Half collapsed.
T119	<i>Acacia confusa</i>	台灣相思	0.31	11	8	F	F					-
T120	<i>Acacia confusa</i>	台灣相思	0.45	11	6	P	F					Leaning.
T121	<i>Macaranga tanarius</i>	血桐	0.11	5	6	F	F					-
T122	<i>Acacia confusa</i>	台灣相思	0.40	15	8	P	F					Leaning.
T123	<i>Eucalyptus spp.</i>	桉樹	0.42	13	8	P	F					Broken leader.
T124	<i>Eucalyptus spp.</i>	桉樹	0.61	15	10	F	F					Close to T125
T125	<i>Celtis sinensis</i>	朴樹	0.21	8	8	P	F					Close to T124; leaning.
T126	<i>Celtis sinensis</i>	朴樹	0.42	11	12	F	F					Multi-trunk.
T127	<i>Acacia confusa</i>	台灣相思	0.27	11	3	P	P					Slender form.
T128	<i>Acacia confusa</i>	台灣相思	0.24	12	5	F	F					One trunk pruned by others before.
T129	<i>Acacia confusa</i>	台灣相思	0.17	8	3	F	F					-
T130	<i>Leucaena leucocephala</i>	銀合歡	0.15	9	6	P	P					Collapsed.
T131	<i>Leucaena leucocephala</i>	銀合歡	0.12	3	1	P	P					Collapsed.
T132	<i>Casuarina equisetifolia</i>	木麻黃	0.17	10	7	F	F					-
T133	<i>Ficus hispida</i>	對葉榕	0.20	4	5	P	P					Double trunk; broken lender; rotten trunk.
T135	Dead Tree	死樹	0.41	13	7	-	-					-
T136	Dead Tree	死樹	0.47	13	9	-	-					-
T137	Dead Tree	死樹	0.15	10	4	-	-					-
T138	Dead Tree	死樹	0.44	12	6	-	-					-
T139	Dead Tree	死樹	0.37	12	7	-	-					-
T140	Dead Tree	死樹	0.18	3	1	-	-					-



**TREE SURVEY SCHEDULE (Outside Site Boundary)**

CLIENT: Architectural Services Department  
 LOCATION: Lady Ho Tung Welfare Centre  
38 Kwu Tung Road, Kwu Tung, Sheung Shui, N.T.

Our Ref: TP/15514  
 Date of Survey: 10-13/06/2013  
 Surveyor: H.M.Fong, K.W.Chu

Tree Survey Report - Tree Schedule (Area 2)												
Tree No.	Botanical Name	Chinese Name	DBH (m)	Height (m)	Spread (m)	Form		Health		Amenity Value  High Medium	Action  Retain Transplant	Remarks
						Good Fair	Good Fair	Good Fair	Good Fair			
T141	<i>Dead Tree</i>	死樹	0.10	4	1	-	-	-	-			-
T142	<i>Dead Tree</i>	死樹	0.12	4	1	-	-	-	-			-
T143	<i>Dead Tree</i>	死樹	0.18	7	4	-	-	-	-			-
T144	<i>Dead Tree</i>	死樹	0.41	12	7	-	-	-	-			-
T145	<i>Dead Tree</i>	死樹	0.16	5	3	-	-	-	-			-

Total no. of trees: 107

**Appendix XIV**  
**Recurrent Expenditure**

### (A) Electricity Fee

Possible Use(s) <sup>(1)</sup>	GFA (m <sup>2</sup> ) (a)	Net Gross Ratio (b)	IFA (m <sup>2</sup> ) (c)=(a)x(b)	Energy Consumption Indicator <sup>(2)</sup> (MJ/ m <sup>2</sup> /annum) (d)	Energy Consumption per annum (kWh/ annum) <sup>(3)</sup> (e)=(c)x(d)x 0.2778	Estimated Electricity Fee(\$) <sup>(4)</sup> per annum	Energy Consumption is based on the following Groups of Uses on EMSD's website <sup>(2)</sup>
Social Services Centre	427	83%	354.42	630	62,027.66	71,314.78	Adult Education / Tutorial / Vocational Course
Field Study/ Education/ Visitor Centre				185	18,214.47	20,973.43	Post-secondary College
Holiday Camp				1326	130,553.45	150,050.91	Guest House

#### Notes:

- (1) It is assumed the length of operating hours is in line with the normal mode of operations, e.g. 24 hours for boarding houses, 9 hours for schools and offices, 12 hours for shops and café, etc.
- (2) The respective "Energy Consumption Indicators" can be found at [http://ecib.emsd.gov.hk/en/indicator\\_cmc.htm](http://ecib.emsd.gov.hk/en/indicator_cmc.htm)
- (3) 1MJ x 0.2778 = 1kWh
- (4) Electricity fee of Kowloon side is based on the tariff charged by China Light & Power Company (CLP), and the fee of Hong Kong side by Hong Kong Electric Holdings Limited (HEH).

CLP: @\$0.934 for first 5,000 units and @\$0.925 thereafter. Fuel clause adjustment charge is @\$0.224.

HEH: @\$0.914 for first 500 units, @0.954 for each of next 1,000 units, @1.065 for each of next 18,500 units and @\$1.092 thereafter. Fuel clause adjustment charge is @\$0.402.

1 Unit = 1 kWh.

The estimated electricity fee is for cost projection in the application only. The actual fee will be subject to the then tariff and actual consumption.

**(B) Water and Sewage Charge**

Possible Use(s) <sup>(1)</sup>	GFA (m <sup>2</sup> ) (a)	Net Gross Ratio (b)	IFA (m <sup>2</sup> ) (c)=(a)x(b)	Estimated Water & Sewage Charge (\$)/month (d)=(c)x\$0.3	Estimated Water & Sewage Charge (\$) <sup>(2)</sup> per Annum (e)=(d)x12
Social Services Centre	427	83%	354.42	106	1272
Field Study/ Education/ Visitor Centre				106	1272
Holiday Camp				213	2556

**Notes:**

(1) According to the standard accommodation rate issued by the Government Property Agency, the estimated monthly water& sewage charges of Government-owned offices is \$0.3 per m2.

Based on the above estimate, it is assumed that the use of water per m2 of :

Social Services Centre = Offices

Field Study/ Education/ Visitor Centre = Offices

Holiday Camp = office x 2

(2) The estimated water and sewage charge is for cost projection in the application only. The applicants are free to make reference to other sources as appropriate. The actual water and sewage charge will be subject to the then tariff and actual consumption.

### (C) Estimated Rates and Rent

Possible Use(s)	GFA (m <sup>2</sup> )	Site Area (m <sup>2</sup> )	Rateable Value <sup>(1)</sup> (\$) (a)	Rates/annum (\$) (b)=(a)x5%	Rent/annum (\$) (c)=(a)x3%	Rate & Rent/annum (\$) (d)=(b)+(c)
Social Services Centre	427	3550	92,400.00	4,620.00	2,772.00	7,392.00
Field Study/ Education/ Visitor Centre						
Holiday Camp						

#### **Notes:**

- (1) The rateable values are rough estimates based on the possible uses and are for cost projection in the application only.
- (2) The actual assessment of rateable values will depend on the actual use, operating mode, extent of renovation, actual floor area, etc. of each historic building. The rateable value will be subject to annual revaluation by the Rating and Valuation Department.

**Appendix XV(A)**

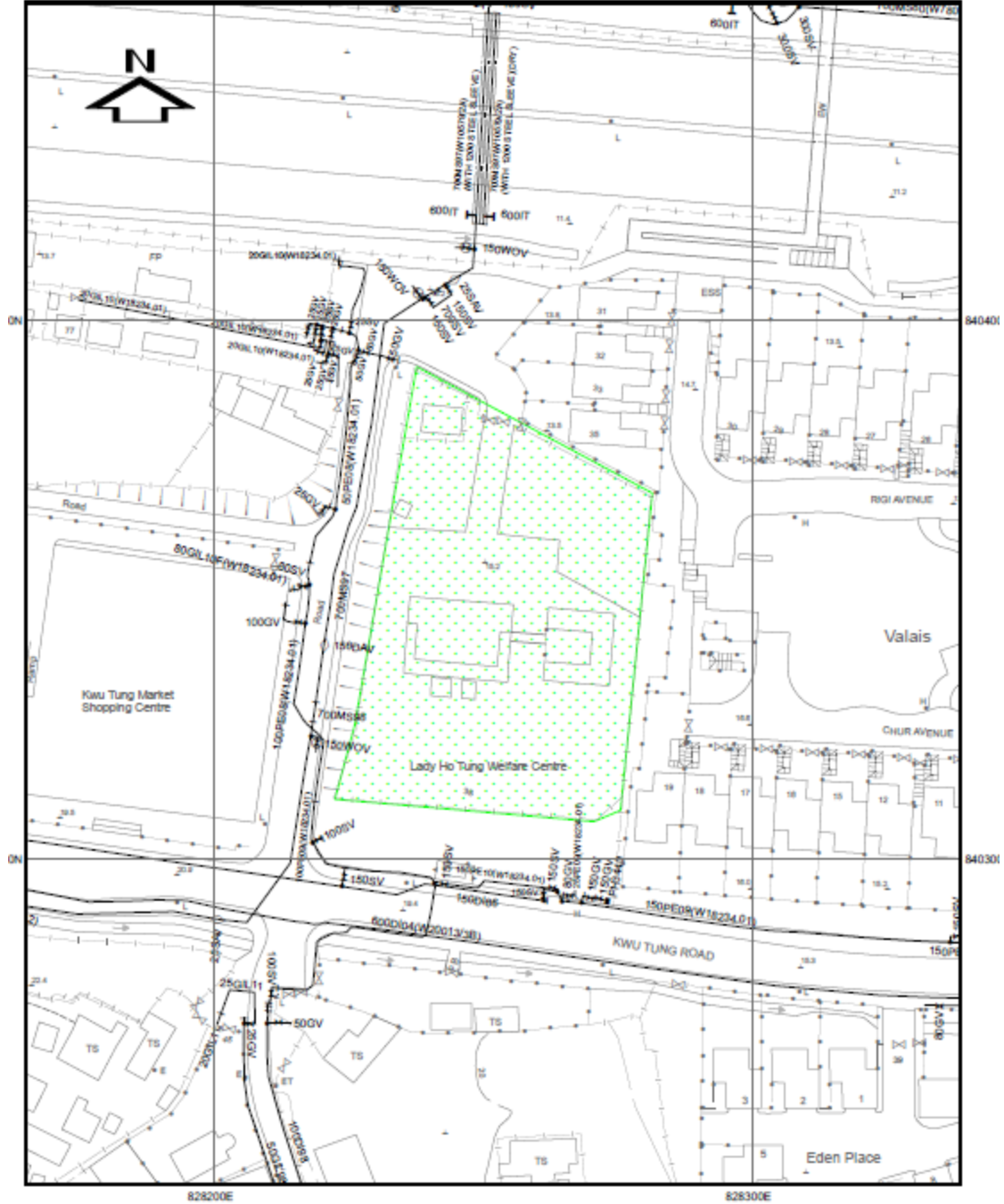
**Record Plan of Water Supplies Department**



**Patrick Yuen Underground Detection Company Limited**

Room 1001, Fortune Commercial Building  
 362 Sha Tsui Road, Tsuen Wan, Hong Kong  
 Tel: 2615 2788 Fax: 2615 2789  
 E-mail: survey@patrickyuen.imsbiz.com.hk

WSD



1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SPECIFIED.
2. ALL LEVELS ARE IN METRES ABOVE PRINCIPAL DATUM.
3. INFORMATION ON ALIGNMENT OF MAINS IS OF INDICATIVE VALUE ONLY, WHERE POSITIONAL ACCURACY MAY BE OF IMPORTANCE, DETAILS SHOULD BE SITE CHECKED.
4. FOR MAINS RECORDS SIGN CONVENTIONS AND DESIGNATIONS SEE SKETCH NO 3988.
5. NO EXISTING SALT WATER MAINS IN THE VICINITY OF THE SITE.
6. NO EXISTING WSD CABLE IN THE VICINITY OF THE SITE.
7. NO PROPOSED WSD CABLE IN THE VICINITY OF THE SITE.
8. THE SITE IS WITHIN WSD FLOOD PUMPING GATHERING GROUNDS.
9. NO WSD LAND ALLOCATION / WARR WITHIN THE SITE AREA.
10. NO WSD SLOPES ARE AFFECTED IN THE VICINITY OF THE SITE.

SUBJECT SITE

PART COPY OF FRESH WATER MAINS RECORD PLAN(S)

W67880/2-SE-9B

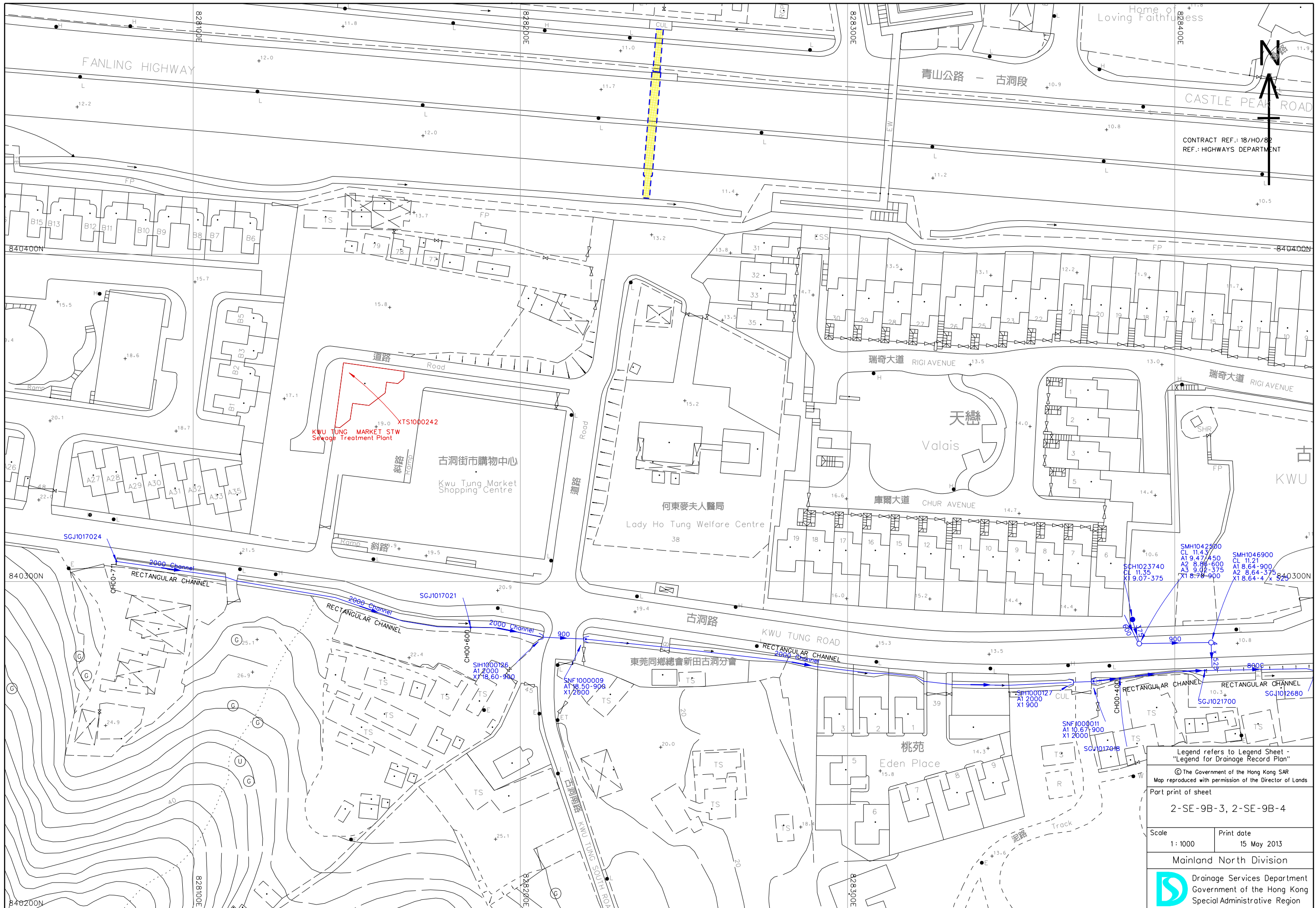
REF. CODE: 20W13M SHEET 1 OF 1 SCALE 1:1000



水務署  
 Water Supplies Department

**Appendix XV(B)**

**Record Plan of Drainage Services**



CONTRACT REF.: 18/HO/82  
REF.: HIGHWAYS DEPARTMENT

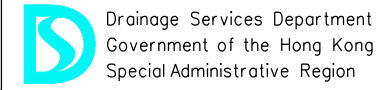
Legend refers to Legend Sheet -  
"Legend for Drainage Record Plan"

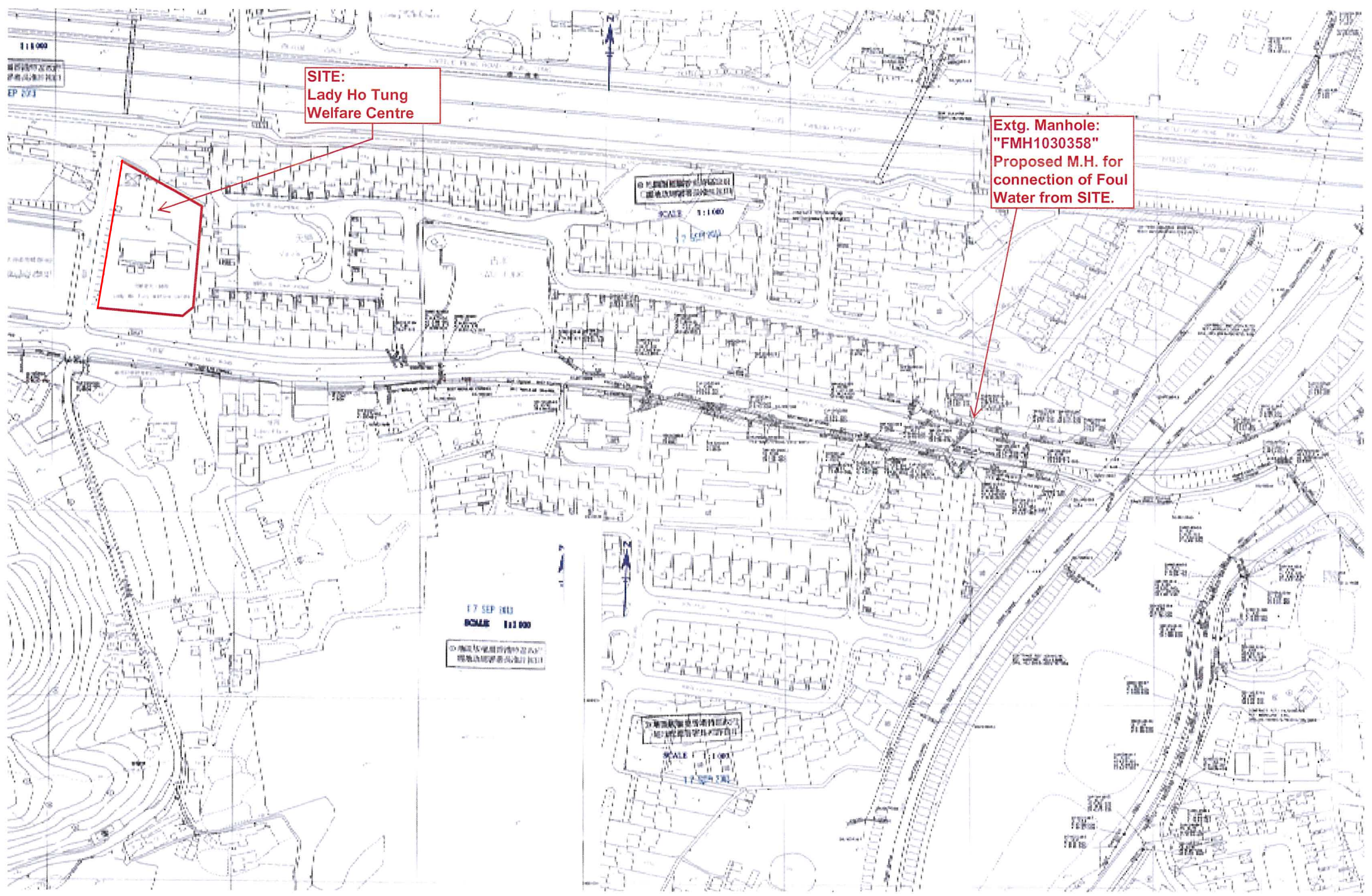
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Part print of sheet  
2-SE-9B-3, 2-SE-9B-4

Scale 1: 1000	Print date 15 May 2013
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Mainland North Division



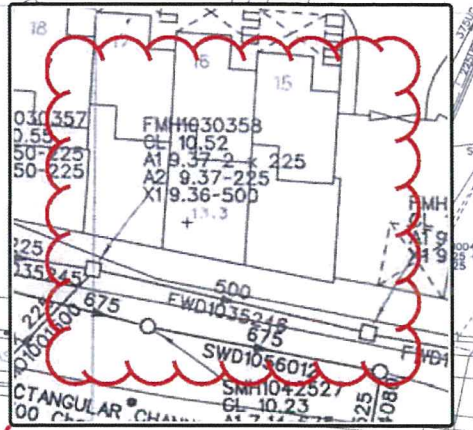
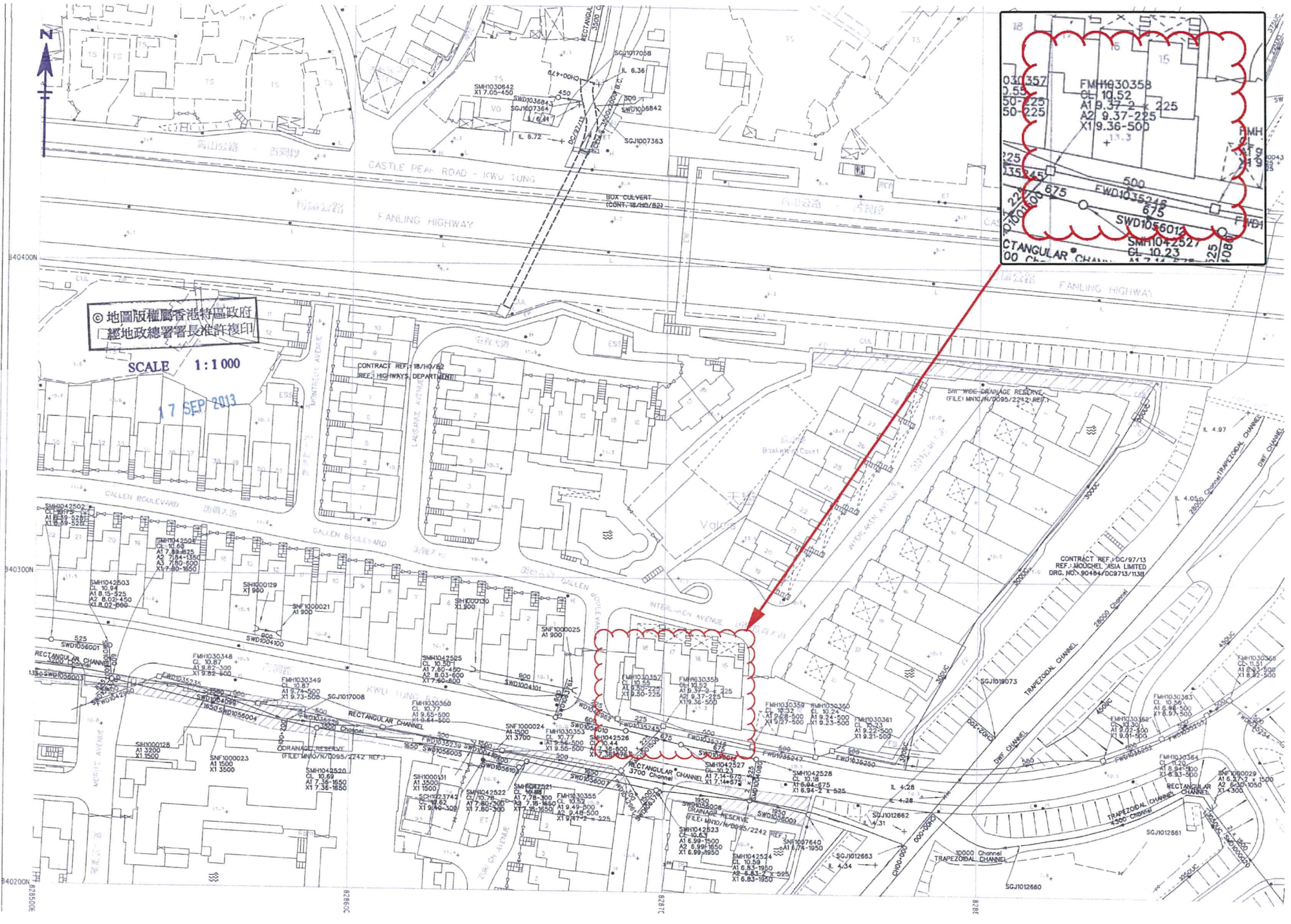


**SITE:**  
Lady Ho Tung  
Welfare Centre

**Extg. Manhole:**  
"FMH1030358"  
Proposed M.H. for  
connection of Foul  
Water from SITE.

17 SEP 1983  
SCALE 1:1,000

SCALE 1:1,000  
17 SEP 1983



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經地政總署署長准許複印

SCALE 1:1000

17 SEP 2013

B40400N

B40300N

B40200N

B2860E

B2817E

B2818E

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SGJ1012902

SGJ1012903

**Appendix XV(C)**

**Record Plan of Highways Department**



**Appendix XV(D)**

**Record Plan of China Light and Power Company Limited**



**Patrick Yuen Underground Detection Company Limited**

Room 1001, Fortune Commercial Building  
 362 Sha Tsui Road, Tsuen Wan, Hong Kong  
 Tel: 2615 2788 Fax: 2615 2789  
 E-mail: survey@patrickyuen.imsbiz.com.hk

CLP



Legend	
	400KV CABLE / SUBMARINE CABLE / OHL
	400KV OVERHEAD LINE TOWER
	132KV CABLE / SUBMARINE CABLE / OHL
	132KV OVERHEAD LINE TOWER
	230KV CABLE
	230KV SUBMARINE CABLE
	230KV OVERHEAD LINE
	ABANDONED TRANSMISSION CABLE
	11KV CABLE
	11KV SUBMARINE CABLE
	11KV OVERHEAD LINE
	LOW VOLTAGE CABLE
	LOW VOLTAGE OVERHEAD LINE (H PILING)
	LOW VOLTAGE OVERHEAD LINE (PILING)
	LV OVERHEAD LINE (ABC) (WIR MOUNTING)
	LV OVERHEAD LINE (PVC)
	PILOT CABLE
	TEMPERATURE SENSING CABLE (TSC)
	FIBRE OPTIC CABLE
	ANIMAL WORTH MONITOR (AWM)
	OVERHEAD LINE FIBRE OPTIC
	SHALLOW COVER INSTALLATION
	DUCT LINE

ALL LOCATIONS, MEASUREMENTS, DIMENSIONS AND DISTANCES ARE FOR CLP POWER INTERNAL USE ONLY. THEY SHOULD NOT BE SCALED AND ASSUMED ACCURATE. CLP POWER ACCEPTS NO RESPONSIBILITY IN THE EVENT OF ANY INACCURACY. EXTREME CARE MUST BE EXERCISED WHEN WORKING IN CLOSE PROXIMITY TO OUR EQUIPMENT. PLEASE CONTACT OUR REGIONAL OFFICE AS SOON AS YOU ARE READY TO COMMENCE WORK.

MAP NO: CLP Facility Records Map  
 02SE09B

SCALE: 1:1000      PRINTED ON: 24-05-2013

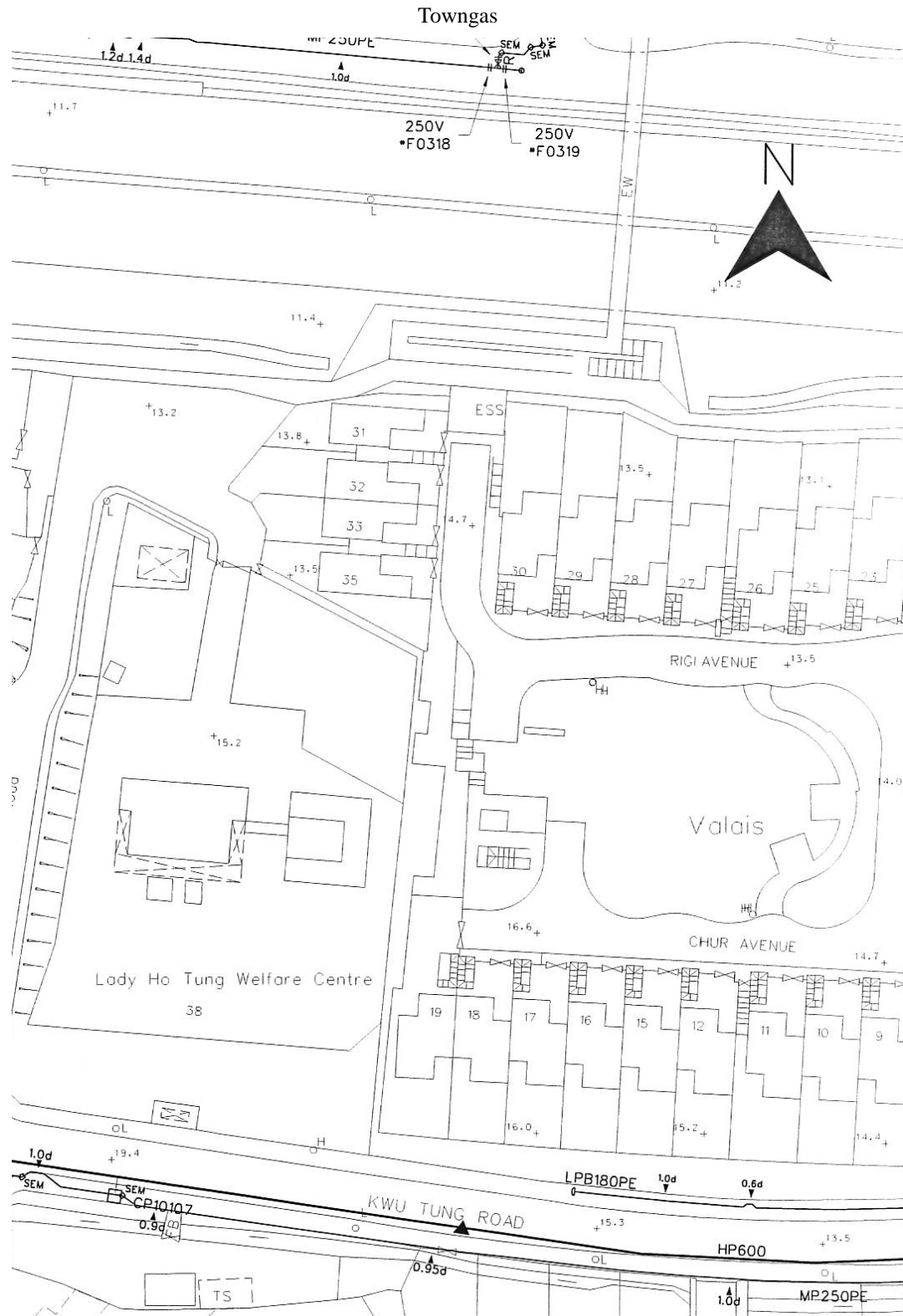
**Appendix XV(E)**

**Record Plan of the Hong Kong and**

**China Gas Company Limited**

**Patrick Yuen Underground Detection Company Limited**

Room 1001, Fortune Commercial Building  
 362 Sha Tsui Road, Tsuen Wan, Hong Kong  
 Tel: 2615 2788 Fax: 2615 2789  
 E-mail: survey@patrickyuen.imsbiz.com.hk



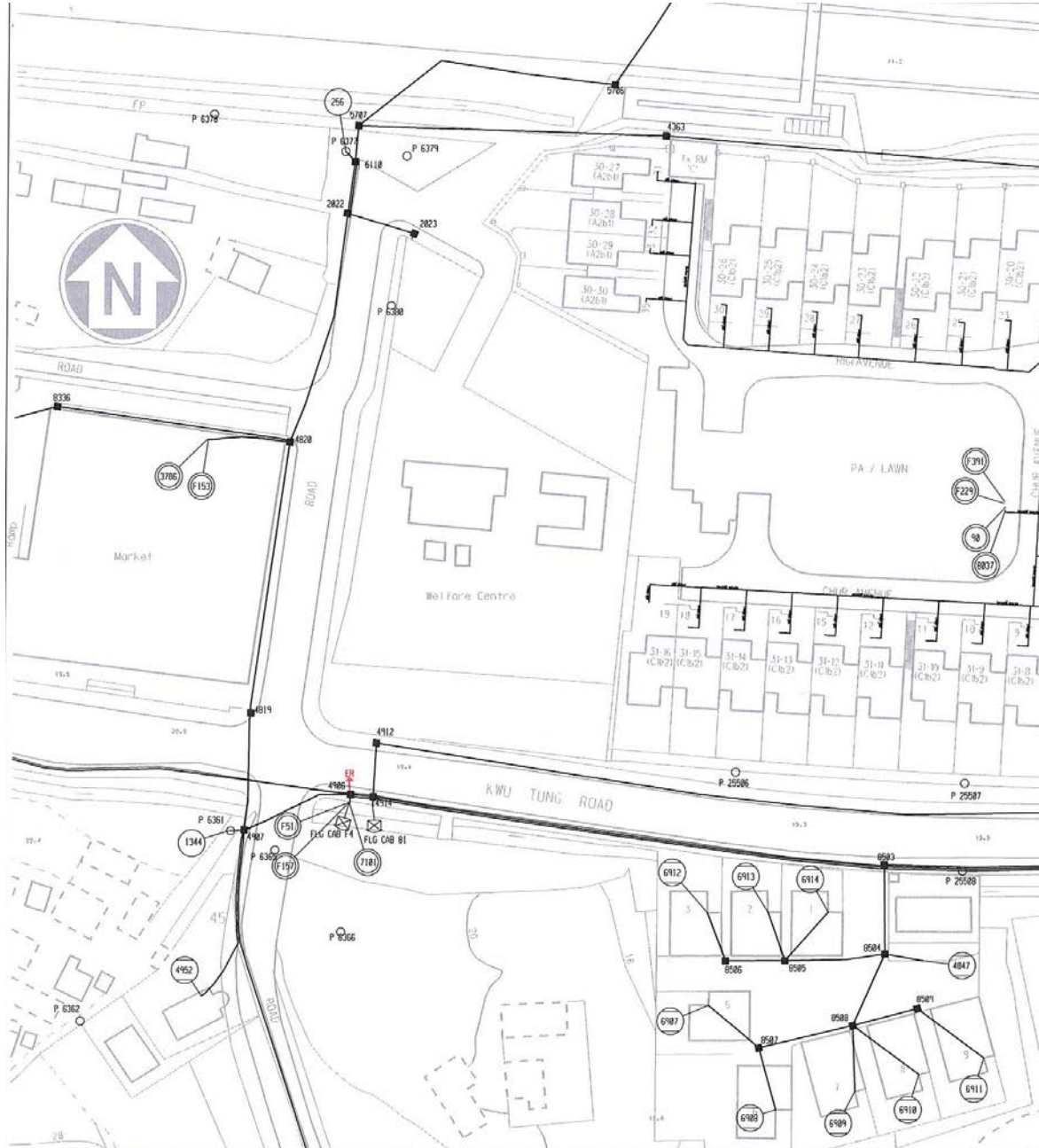
**Appendix XV(F)**
















**Record Plan of Pacific Century Cyber Works Limited**

**Patrick Yuen Underground Detection Company Limited**

Room 1001, Fortune Commercial Building  
362 Sha Tsui Road, Tsuen Wan, Hong Kong  
Tel: 2615 2788 Fax: 2615 2789  
E-mail: survey@patrickyuen.imsbiz.com.hk

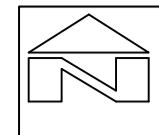
PCCW



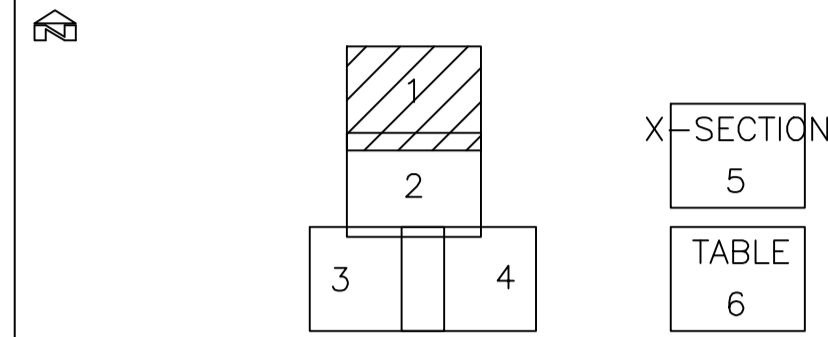
 <b>電訊盈科</b> OUTSIDE PLANT SERVICES EXCH. AREA : FLG SURVEY MAP No. 2-SE-9B REF. No. FS/NT/OPS/MR/FLG096/13/YOL PREP. C C LAI SCALE 1 : 1000 CKD. S P LEE DATE 28-05-2013 DWG. No.	NOTES	<b>KEY OF PLANT</b> EXISTING      PROPOSED MANHOLE   JOINT BOX   DUCT   CABLE   POLE   CABINET   BURIED COUPLING  
	1. EXCEPT FOR YOUR PROSPECTIVE CONTRACTORS/EMPLOYEES, THIS DRAWING MUST NOT BE RELEASED TO THIRD PARTY WITHOUT HK TELEPHONE'S WRITTEN APPROVAL.	
	2. THIS INFORMATION IS ACCURATE AT THE DATE BELOW, BUT FURTHER ALTERATIONS/AUGMENTATION MAY TAKE PLACE IN THE FUTURE.	
	3. THE POSITION OF PLANT INDICATED ON THIS DRAWING IS APPROXIMATELY ONLY. ACTUAL DEPTH AND POSITION OF PLANT MUST BE ESTABLISHED BEFORE COMMENCEMENT OF WORK BECAUSE VARIATIONS OF DEPTH AND LINE MAY OCCUR. EXTREME CARE MUST BE EXERCISED WHEN EXCAVATIONS ARE MADE IN PROXIMITY TO SUCH PLANT.	
	4. REACH NETWORKS HONG KONG LIMITED'S PLANT INCLUDED.	

**Appendix XVI**

**Utilities Mapping Drawings**



SHEET LAYOUT:



LEGEND & ABBREVIATION:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>— SD — STORM DRAIN</li> <li>— FD — FOUL DRAIN</li> <li>— ETC — ELECTRIC TRANSMITTED CABLE</li> <li>— E — E&amp;M</li> <li>— E — ELECTRIC POWER LINE</li> <li>— PL — PUBLIC LIGHTING</li> <li>— FOC — FIBER OPTICS CABLE</li> <li>— CTV — CABLE TV</li> <li>— HKN — HKBN</li> <li>— HGC — HGC</li> <li>— WT&amp;T — WT&amp;T</li> <li>— NWT — NWT</li> <li>— PCCW — PCCW</li> <li>— GAS — GAS</li> <li>— GAS — GASLINE</li> <li>— UNK — UNKNOWN CABLE</li> <li>— STC — SIGNAL TRANSMITTED CABLE</li> <li>— ATC — ATC</li> <li>— MTRC — MTRC</li> <li>— FWM — FRESH WATER MAIN</li> <li>— SWM — SALT WATER MAIN</li> <li>— — TOPOGRAPHIC FEATURES</li> <li>— — FENCE/RAILING</li> <li>— — FREE STANDING WALL</li> <li>— — HOARDING</li> <li>— — NOISE-BARRIER</li> <li>— — RETAINING WALL</li> <li>— — SURVEY EXTENT</li> <li>— — SLOPE</li> <li>— — STEPPED CHANNEL</li> </ul> | <ul style="list-style-type: none"> <li>⌋ DOWN PIPE</li> <li>⊞ ELECTRIC PIT</li> <li>⊞ ELECTRIC POLE</li> <li>⊞ FIRE HYDRANT</li> <li>⊞ GATE</li> <li>⊞ GRATING</li> <li>⊞ LAMP POST</li> <li>⊞ LIGHTING PIT</li> <li>⊞ MANHOLE</li> <li>⊞ MANHOLE FOUL</li> <li>⊞ MANHOLE STORM</li> <li>⊞ MANHOLE TELECOM</li> <li>⊞ MANHOLE WATERWORKS</li> <li>⊞ TELEPHONE POLE</li> <li>⊞ TELEPHONE KIOSK</li> <li>⊞ TRAFFIC LIGHT</li> <li>⊞ TRAFFIC LIGHT CONTROL BOX</li> <li>⊞ UTILITY CONTROL BOX</li> <li>⊞ VALVE FIRE</li> <li>⊞ VALVE GAS</li> <li>⊞ VALVE WATERWORKS</li> <li>⊞ WATER METER</li> <li>⊞ WATER POINT</li> </ul> |
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NOTE:  
 1) DIGITAL SURVEY SHEET IS FOR IDENTIFICATION ONLY.  
 2) ALL COORDINATES REFER TO THE HONG KONG 1980 GRID.  
 3) ALL LEVELS REFER TO THE HONG KONG PRINCIPAL DATUM.  
 4) ALL UNITS ARE METRIC.

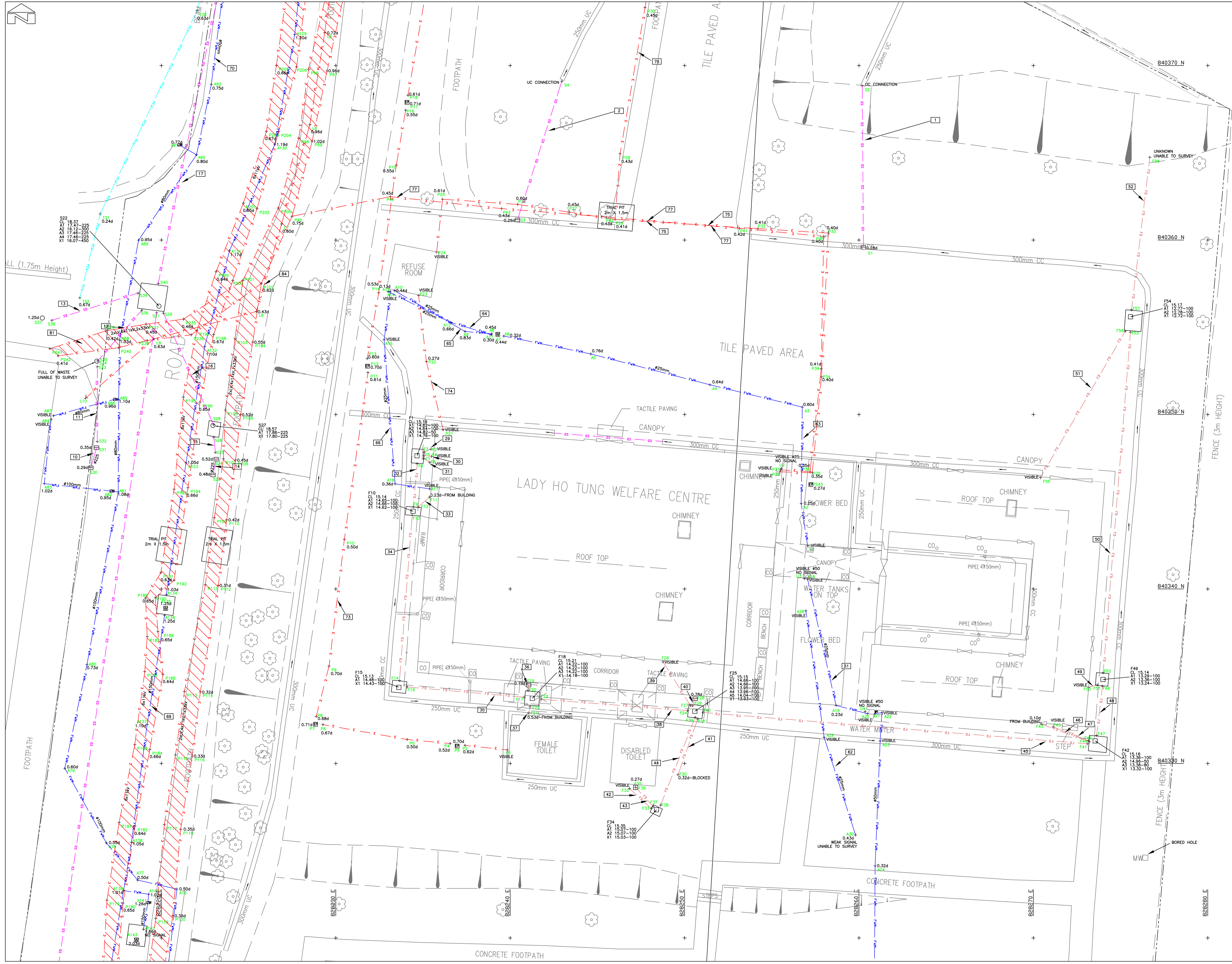
DRAWING SCALE 1:100  
 DATE OF SURVEY: JUNE 2013

PROJECT TITLE:  
 LADY HO TUNG WELFARE CENTRE  
 SHEUNG SHUI  
 QUOTATION CONTRACT NO. HRT 02/2013  
 UNDERGROUND DETECTION SURVEY

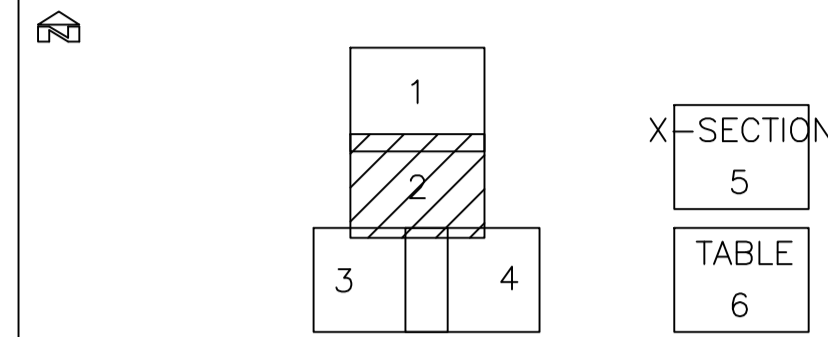
EMPLOYER:  
 ARCHITECTURAL SERVICES DEPARTMENT

SURVEYED BY:  
  
 PATRICK YUEN UNDERGROUND DETECTION CO. LTD.  
 ROOM 1001, FORTUNE COMMERCIAL BUILDING  
 362 SHA TSUI ROAD, TSUEN WAN  
 HONG KONG  
 TEL: 2615 2788 FAX: 2615 2789  
 E-MAIL: SURVEY@PATRICKYUEN.IMSBIZ.COM.HK

PLAN NO.: 1305799/01/R2  
 PAGE: 1 OF 6  
 SURVEYED BY: CHAU, NGAI KONG CP01235  
 DRAWN BY: YUNG, KWOK KUEN  
 APPROVED BY:



SHEET LAYOUT:



LEGEND & ABBREVIATION:

- |  |  |
|--|--|
| <ul style="list-style-type: none"> <li>DRAINAGE SYSTEM</li> <li>STORM DRAIN</li> <li>FOUL DRAIN</li> <li>ELECTRIC TRANSMITTED CABLE</li> <li>E&amp;M</li> <li>ELECTRIC POWER LINE</li> <li>PUBLIC LIGHTING</li> <li>FIBER OPTICS CABLE</li> <li>CABLE TV</li> <li>HKBN</li> <li>HGC</li> <li>WT&amp;T</li> <li>NWT</li> <li>PCCW</li> <li>GAS SYSTEM</li> <li>GASLINE</li> <li>MISCELLANEOUS</li> <li>UNKNOWN CABLE</li> <li>SIGNAL TRANSMITTED CABLE</li> <li>ATC</li> <li>MTRC</li> <li>WATER SUPPLY SYSTEM</li> <li>FRESH WATER MAIN</li> <li>SALT WATER MAIN</li> <li>TOPOGRAPHIC FEATURES</li> <li>FENCE/RAILING</li> <li>FREE STANDING WALL</li> <li>HOARDING</li> <li>NOISE-BARRIER</li> <li>RETAINING WALL</li> <li>SURVEY EXTENT</li> <li>SLOPE</li> <li>STEPPED CHANNEL</li> </ul> | <ul style="list-style-type: none"> <li>DOWN PIPE</li> <li>ELECTRIC PIT</li> <li>ELECTRIC POLE</li> <li>FIRE HYDRANT</li> <li>GATE</li> <li>GRATING</li> <li>LAMP POST</li> <li>LIGHTING PIT</li> <li>MANHOLE</li> <li>MANHOLE FOUL</li> <li>MANHOLE STORM</li> <li>MANHOLE TELECOM</li> <li>MANHOLE WATERWORKS</li> <li>TELEPHONE POLE</li> <li>TELEPHONE KIOSK</li> <li>TRAFFIC LIGHT</li> <li>TRAFFIC LIGHT CONTROL BOX</li> <li>UTILITY CONTROL BOX</li> <li>VALVE FIRE</li> <li>VALVE GAS</li> <li>VALVE WATERWORKS</li> <li>WATER METER</li> <li>WATER POINT</li> </ul> |
|--|--|

NOTE:  
 1) DIGITAL SURVEY SHEET IS FOR IDENTIFICATION ONLY.  
 2) ALL COORDINATES REFER TO THE HONG KONG 1980 GRID.  
 3) ALL LEVELS REFER TO THE HONG KONG PRINCIPAL DATUM.  
 4) ALL UNITS ARE METRIC.

DRAWING SCALE 1:100  
 DATE OF SURVEY: JUNE 2013

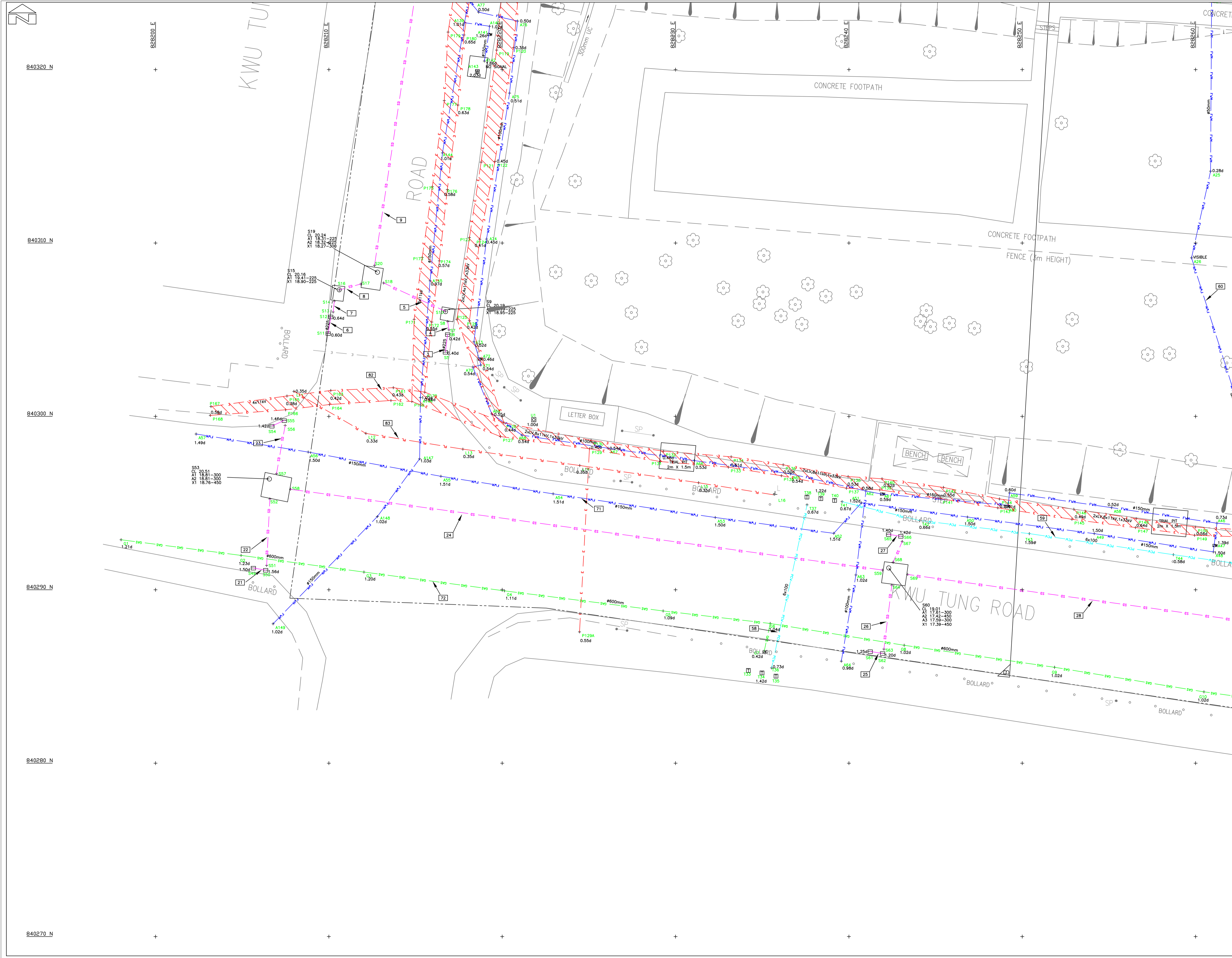
PROJECT TITLE:  
 LADY HO TUNG WELFARE CENTRE  
 SHEUNG SHUI  
 QUOTATION CONTRACT NO. HRT 02/2013  
 UNDERGROUND DETECTION SURVEY

EMPLOYER:  
 ARCHITECTURAL SERVICES DEPARTMENT

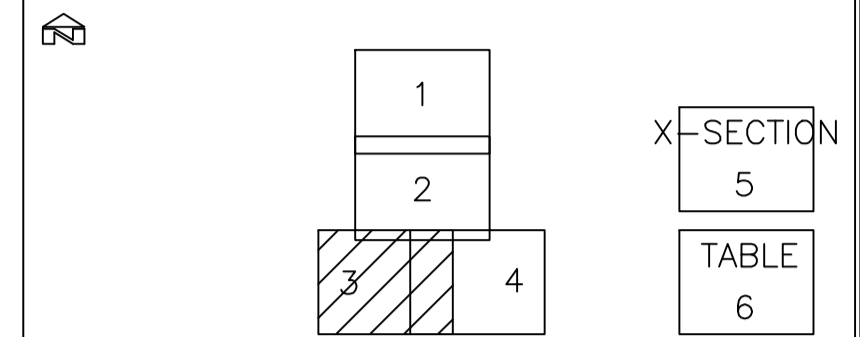
SURVEYED BY:  
  
 PATRICK YUEN UNDERGROUND DETECTION CO. LTD.  
 ROOM 1001, FORTUNE COMMERCIAL BUILDING  
 362 SHA TSUI ROAD, TSUEN WAN  
 HONG KONG  
 TEL.: 2615 2788 FAX: 2615 2789  
 E-MAIL: SURVEY@PATRICKYUEN.INSBIZ.COM.HK

PLAN NO.: 1305799/02/R2  
 PAGE: 2 OF 6  
 SURVEYED BY: CHAU, NGAI KONG CP01235  
 DRAWN BY: YUNG, KWOK KUEN  
 APPROVED BY:  
 PATRICK PO TSUN YUEN MRICS, MHKS, RPS(LS)





SHEET LAYOUT:



LEGEND & ABBREVIATION:


- |  |   |
|--|---|
| <ul style="list-style-type: none"> <li>— DRAINAGE SYSTEM</li> <li>— SB STORM DRAIN</li> <li>— FD FOUL DRAIN</li> <li>— ELECTRIC TRANSMITTED CABLE</li> <li>— E&amp;M</li> <li>— E ELECTRIC POWER LINE</li> <li>— PL PUBLIC LIGHTING</li> <li>— FIBER OPTICS CABLE</li> <li>— CTV CABLE TV</li> <li>— HKBN</li> <li>— HGC</li> <li>— HCC</li> <li>— WT&amp;T</li> <li>— NWT</li> <li>— PCCW</li> <li>— GAS SYSTEM</li> <li>— GAS GASLINE</li> <li>— MISCELLANEOUS</li> <li>— UNKNOWN CABLE</li> <li>— SIGNAL TRANSMITTED CABLE</li> <li>— ATC</li> <li>— MTRC</li> <li>— WATER SUPPLY SYSTEM</li> <li>— FW FRESH WATER MAIN</li> <li>— SW SALT WATER MAIN</li> <li>— TOPOGRAPHIC FEATURES</li> <li>— FENCE/RAILING</li> <li>— FREE STANDING WALL</li> <li>— HO HOARDING</li> <li>— NB NOISE-BARRIER</li> <li>— RETAINING WALL</li> <li>— SURVEY EXTENT</li> <li>— SLOPE</li> <li>— STEPPED CHANNEL</li> </ul> | <ul style="list-style-type: none"> <li>DP DOWN PIPE</li> <li>EP ELECTRIC PIT</li> <li>EP ELECTRIC POLE</li> <li>FH FIRE HYDRANT</li> <li>GATE</li> <li>GRATING</li> <li>LAMP POST</li> <li>LP LIGHTING PIT</li> <li>M MANHOLE</li> <li>MFO MANHOLE FOUL</li> <li>MS MANHOLE STORM</li> <li>MT MANHOLE TELECOM</li> <li>MW MANHOLE WATERWORKS</li> <li>T TELEPHONE POLE</li> <li>TK TELEPHONE KIOSK</li> <li>TL TRAFFIC LIGHT</li> <li>TLCB TRAFFIC LIGHT CONTROL BOX</li> <li>UCB UTILITY CONTROL BOX</li> <li>VVF VALVE FIRE</li> <li>VVG VALVE GAS</li> <li>VWW VALVE WATERWORKS</li> <li>WM WATER METER</li> <li>WP WATER POINT</li> </ul> |
|--|---|

NOTE:  
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 3) ALL LEVELS REFER TO THE HONG KONG PRINCIPAL DATUM.  
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DRAWING SCALE 1:100  
 DATE OF SURVEY: JUNE 2013

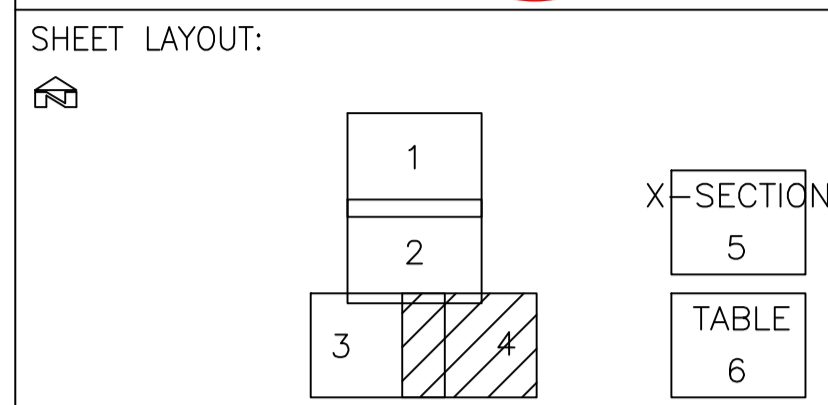
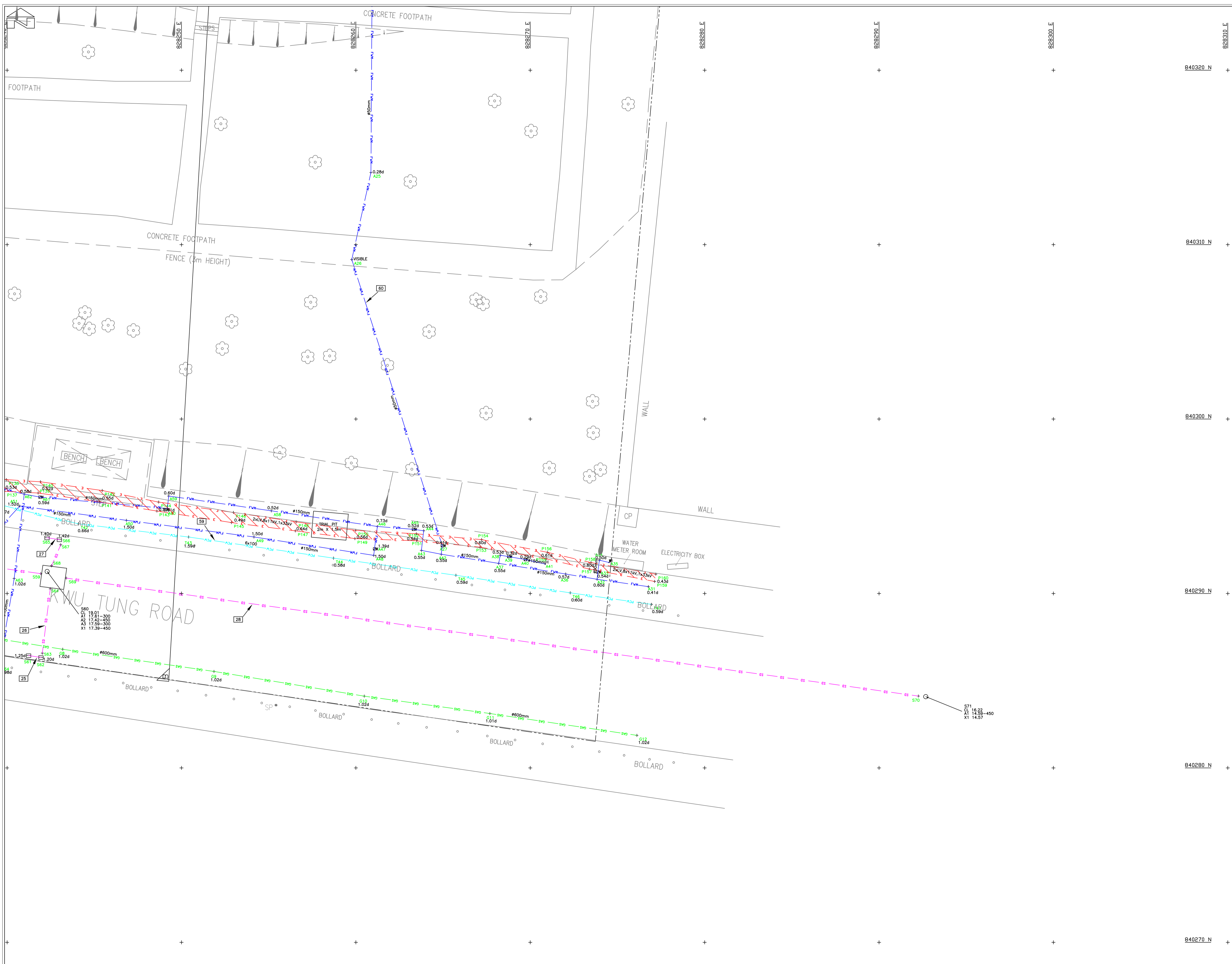
PROJECT TITLE:  
 LADY HO TUNG WELFARE CENTRE  
 SHEUNG SHUI  
 QUOTATION CONTRACT NO. HRT 02/2013  
 UNDERGROUND DETECTION SURVEY

EMPLOYER:  
 ARCHITECTURAL SERVICES DEPARTMENT

SURVEYED BY:  
  
 PATRICK YUEN UNDERGROUND DETECTION CO. LTD.  
 ROOM 1001, FORTUNE COMMERCIAL BUILDING  
 362 SHA TSUI ROAD, TSUEN WAN  
 HONG KONG  
 TEL.: 2615 2788 FAX: 2615 2789  
 E-MAIL: SURVEY@PATRICKYUEN.INSBIZ.COM.HK

PLAN NO.: 1305799/03/R2  
 PAGE: 3 OF 6  
 SURVEYED BY: CHAU, NGAI KONG CP01235  
 DRAWN BY: YUNG, KWOK KUEN  
 APPROVED BY:

PATRICK PO TSUN YUEN MRICS, MHKIS, RPS(LS)



LEGEND & ABBREVIATION:

<p><b>DRAINAGE SYSTEM</b></p> <ul style="list-style-type: none"> <li>SD STORM DRAIN</li> <li>FD FOUL DRAIN</li> </ul> <p><b>ELECTRIC TRANSMITTED CABLE</b></p> <ul style="list-style-type: none"> <li>EM E&amp;M</li> <li>E ELECTRIC POWER LINE</li> <li>PL PUBLIC LIGHTING</li> </ul> <p><b>FIBER OPTICS CABLE</b></p> <ul style="list-style-type: none"> <li>CTV CABLE TV</li> <li>HKBN HKBN</li> <li>HGC HGC</li> <li>WT&amp;T WT&amp;T</li> <li>NWT NWT</li> <li>PCCW PCCW</li> </ul> <p><b>GAS SYSTEM</b></p> <ul style="list-style-type: none"> <li>gas GASLINE</li> </ul> <p><b>MISCELLANEOUS</b></p> <ul style="list-style-type: none"> <li>UNK UNKNOWN CABLE</li> <li>SIGNAL TRANSMITTED CABLE</li> <li>ATC ATC</li> <li>MTRC MTRC</li> </ul> <p><b>WATER SUPPLY SYSTEM</b></p> <ul style="list-style-type: none"> <li>FWM FRESH WATER MAIN</li> <li>SWM SALT WATER MAIN</li> </ul> <p><b>TOPOGRAPHIC FEATURES</b></p> <ul style="list-style-type: none"> <li>FENCE/RAILING</li> <li>FREE STANDING WALL</li> <li>HOARDING</li> <li>NOISE-BARRIER</li> <li>RETAINING WALL</li> <li>SURVEY EXTENT</li> <li>SLOPE</li> <li>STEPPED CHANNEL</li> </ul>	<ul style="list-style-type: none"> <li>DP DOWN PIPE</li> <li>EP ELECTRIC PIT</li> <li>EP ELECTRIC POLE</li> <li>EH FIRE HYDRANT</li> <li>G GATE</li> <li>GR GRATING</li> <li>L LAMP POST</li> <li>LP LIGHTING PIT</li> <li>M MANHOLE</li> <li>MF MANHOLE FOUL</li> <li>MS MANHOLE STORM</li> <li>MT MANHOLE TELECOM</li> <li>MW MANHOLE WATERWORKS</li> <li>TP TELEPHONE POLE</li> <li>TK TELEPHONE KIOSK</li> <li>TL TRAFFIC LIGHT</li> <li>CB CONTROL BOX</li> <li>UB UTILITY CONTROL BOX</li> <li>F VALVE FIRE</li> <li>GW VALVE GAS</li> <li>WW VALVE WATERWORKS</li> <li>WM WATER METER</li> <li>WP WATER POINT</li> </ul>
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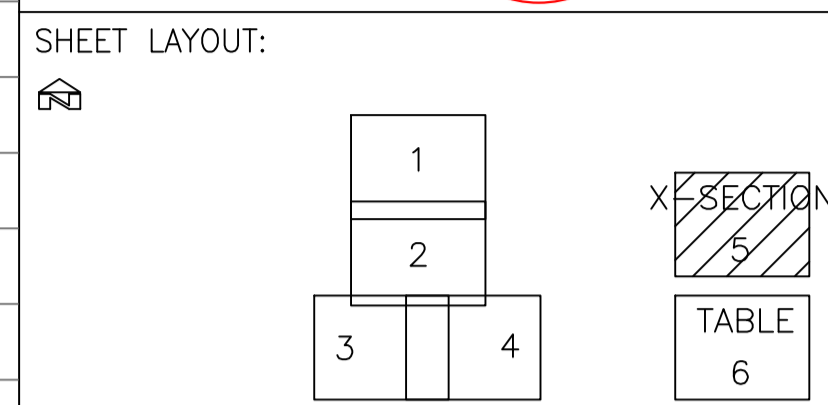
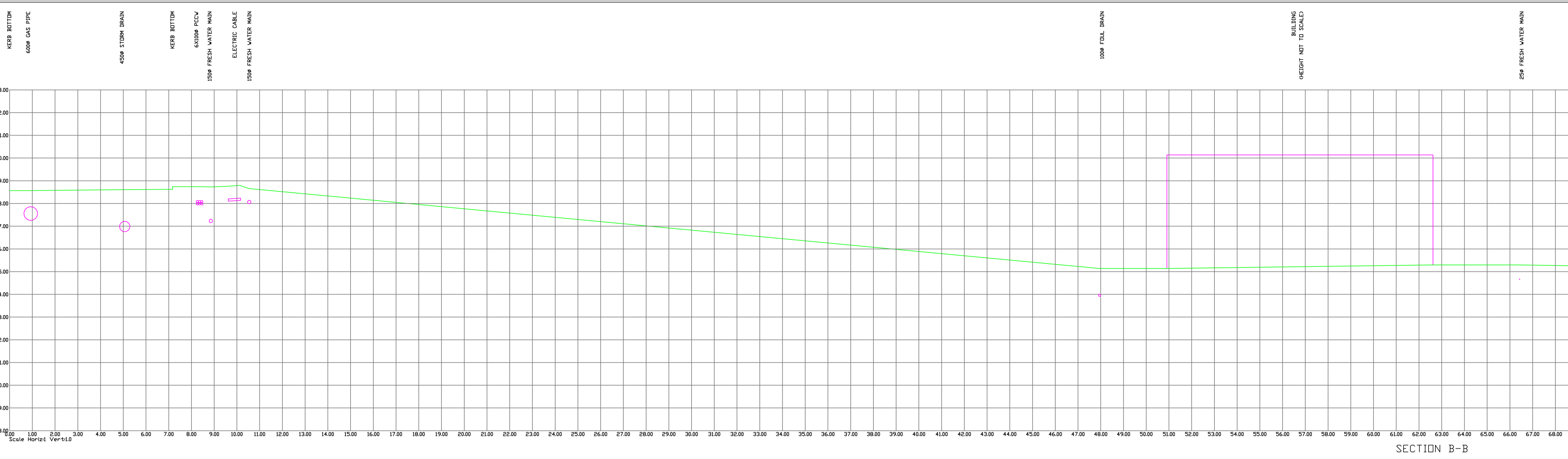
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 SHEUNG SHUI  
 QUOTATION CONTRACT NO. HRT 02/2013  
 UNDERGROUND DETECTION SURVEY

EMPLOYER:  
 ARCHITECTURAL SERVICES DEPARTMENT

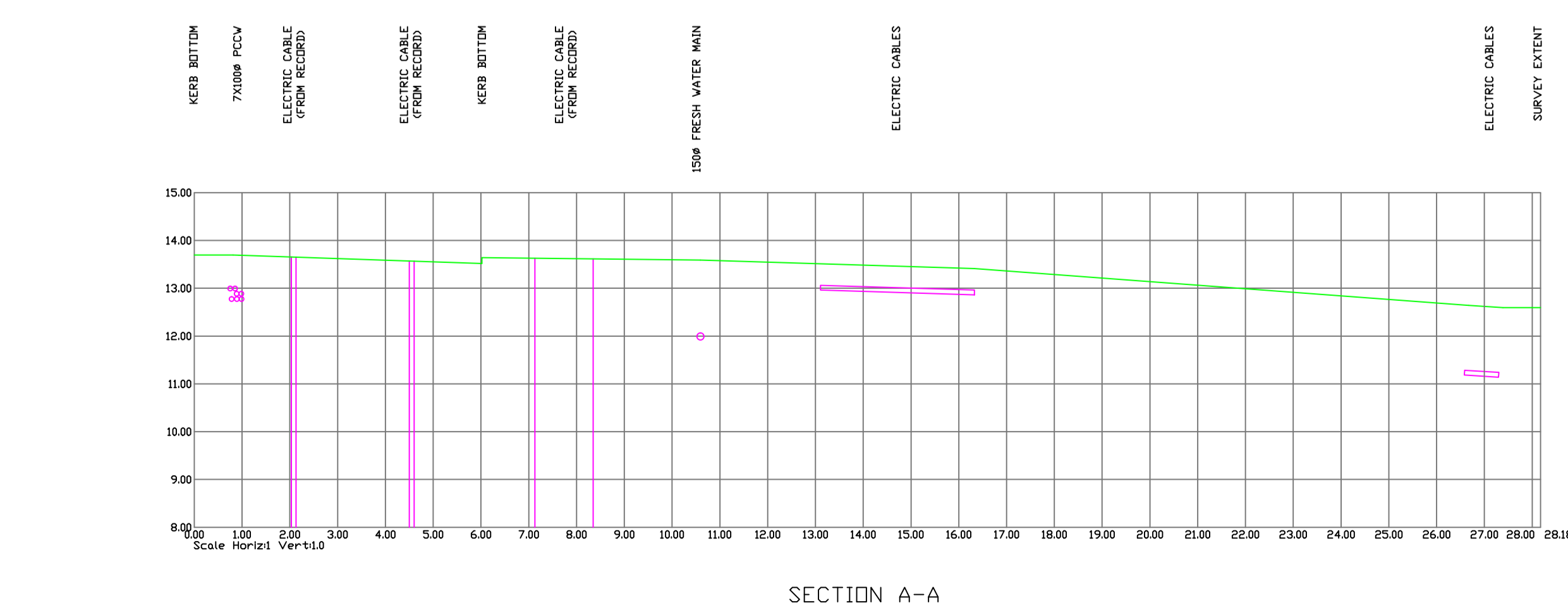
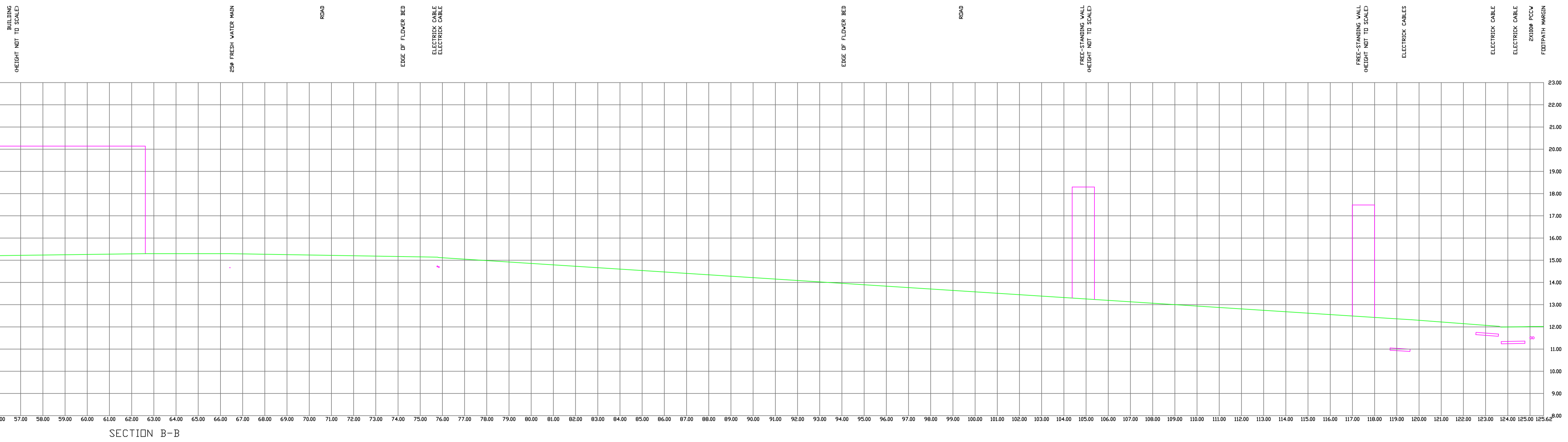
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 APPROVED BY:



LEGEND & ABBREVIATION:

<ul style="list-style-type: none"> <li>DRAINAGE SYSTEM</li> <li>SB STORM DRAIN</li> <li>FD FOUL DRAIN</li> <li>ELECTRIC TRANSMITTED CABLE</li> <li>EM E&amp;M</li> <li>E ELECTRIC POWER LINE</li> <li>PL PUBLIC LIGHTING</li> <li>FIBER OPTICS CABLE</li> <li>CTV CABLE TV</li> <li>HKBN HKBN</li> <li>HGC HGC</li> <li>WT&amp;T WT&amp;T</li> <li>NWT NWT</li> <li>PCCW PCCW</li> <li>GAS SYSTEM</li> <li>GAS GASLINE</li> <li>MISCELLANEOUS</li> <li>UNK UNKNOWN CABLE</li> <li>SIGNAL TRANSMITTED CABLE</li> <li>ATC ATC</li> <li>MTR MTRC</li> <li>WATER SUPPLY SYSTEM</li> <li>FWM FRESH WATER MAIN</li> <li>SWM SALT WATER MAIN</li> <li>TOPOGRAPHIC FEATURES</li> <li>FENCE/RAILING</li> <li>FREE STANDING WALL</li> <li>HOARDING</li> <li>NOISE-BARRIER</li> <li>RETAINING WALL</li> <li>SURVEY EXTENT</li> <li>SLOPE</li> <li>STEPPED CHANNEL</li> </ul>	<ul style="list-style-type: none"> <li>DP DOWN PIPE</li> <li>EP ELECTRIC PIT</li> <li>E ELECTRIC POLE</li> <li>FH FIRE HYDRANT</li> <li>G GATE</li> <li>GR GRATING</li> <li>LP LAMP POST</li> <li>LP LIGHTING PIT</li> <li>MANHOLE MANHOLE</li> <li>MANHOLE FOULED MANHOLE FOULED</li> <li>MANHOLE STORM MANHOLE STORM</li> <li>MANHOLE TELECOM MANHOLE TELECOM</li> <li>MANHOLE WATERWORKS MANHOLE WATERWORKS</li> <li>TELEPHONE POLE TELEPHONE POLE</li> <li>TK TELEPHONE KIOSK</li> <li>TL TRAFFIC LIGHT</li> <li>TL TRAFFIC LIGHT CONTROL BOX</li> <li>UCB UTILITY CONTROL BOX</li> <li>F VALVE FIRE</li> <li>G VALVE GAS</li> <li>W VALVE WATERWORKS</li> <li>WM WATER METER</li> <li>WP WATER POINT</li> </ul>
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 DRAWN BY: YUNG, KWOK KUEN  
 APPROVED BY:

PATRICK PO TSUN YUEN MRICS, MHKIS, RPS(LS)

Drainage					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
1	Storm Water Pipe	0.00-0.28	100	UC Connection	2
2	Storm Water Pipe	0.00-0.29	100	UC Connection	2
3	Storm Water Pipe	0.40-0.42	225	Gully	3
4	Storm Water Pipe	0.42-1.20	225		3
5	Storm Water Pipe	1.24-1.93	225		3
6	Storm Water Pipe	0.60-0.64	225	Gully	3
7	Storm Water Pipe	0.64-0.75	225		3
8	Storm Water Pipe	1.26-1.92	225		3
9	Storm Water Pipe	1.97-2.25	300		3
10	Storm Water Pipe	0.29-0.35	225		2
11	Storm Water Pipe	0.35-unknown	225	S34 unable to open	2
12	Storm Water Pipe	Unknown-1.17	225		2
13	Storm Water Pipe	1.25-1.17	225		2
14	Storm Water Pipe	0.48-0.52	225	Gully	2
15	Storm Water Pipe	0.52-0.71	225		2
16	Storm Water Pipe	0.77-0.90	225		2
17	Storm Water Pipe	2.30-2.01	450		2
18	Storm Water Pipe	0.90-1.65	225	Catch Pit Connection	1
19	Storm Water Pipe	0.91-1.64	225	Catch Pit Connection	1
20	Storm Water Pipe	2.03-0.00	450	Exposed	1
21	Storm Water Pipe	1.50-1.56	225	Gully	3
22	Storm Water Pipe	1.56-1.70	300		3
23	Storm Water Pipe	1.46-1.70	300		3
24	Storm Water Pipe	1.75-1.59	450		3
25	Storm Water Pipe	1.25-1.20	225		3
26	Storm Water Pipe	1.20-1.40	300		3
27	Storm Water Pipe	1.40-1.42	225		3
28	Storm Water Pipe	1.62-1.63	450		3
29	Foul Water Pipe	0.00-0.37	100	Exposed Downpipe	2

Drainage					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
30	Foul Water Pipe	0.00-0.35	100	Exposed Downpipe	2
31	Foul Water Pipe	0.00-0.37	50	Exposed Downpipe	2
32	Foul Water Pipe	0.43-0.49	100		2
33	Foul Water Pipe	0.23-0.48	100	Building Connection	2
34	Foul Water Pipe	0.52-0.65	100		2
35	Foul Water Pipe	0.70-0.99	100		2
36	Foul Water Pipe	0.73-0.99	100		2
37	Foul Water Pipe	0.53-0.99	100	Toilet Connection	2
38	Foul Water Pipe	1.03-1.20	100		2
39	Foul Water Pipe	0.00-1.19	100	Exposed Downpipe	2
40	Foul Water Pipe	0.78-1.11	100		2
41	Foul Water Pipe	0.32-0.49	100	Blocked	2
42	Foul Water Pipe	0.00-0.28	100	Exposed Downpipe	2
43	Foul Water Pipe	0.27-0.28	100		2
44	Foul Water Pipe	0.32-0.49	100		2
45	Foul Water Pipe	1.22-1.80	100		2
46	Foul Water Pipe	0.10-0.20	50		2
47	Foul Water Pipe	0.00-1.78	80	Exposed Downpipe	2
48	Foul Water Pipe	1.84-1.85	100		2
49	Foul Water Pipe	0.00-1.78	100	Exposed Downpipe	2
50	Foul Water Pipe	1.90-2.40	100		2
51	Foul Water Pipe	0.00-2.39	100	Exposed Downpipe	2
52	Foul Water Pipe	2.45-unknown	100	Unknown Connection	2

Drainage					
Manhole	Type	C.L. (m)	I.L. (m)	Depth (m)	Sheet No.
S9	Storm Manhole	20.19	18.95	1.24	3
S15	Storm Manhole	20.16	18.90	1.26	3
S19	Storm Manhole	20.24	18.27	1.97	3
S22	Storm Manhole	18.37	16.07	2.30	2
S27	Storm Manhole	18.57	17.80	0.77	2
S34	Storm Manhole	18.51	unknown	unknown	2
S37	Storm Manhole	18.49	17.24	1.25	2
S42	Storm Manhole	14.46	12.43	2.03	1
S53	Storm Manhole	20.51	18.76	1.75	3
S60	Storm Manhole	19.01	17.39	1.62	3
S71	Storm Manhole	16.22	14.57	1.65	4
F1	Foul Manhole	15.19	14.76	0.43	2
F10	Foul Manhole	15.14	14.62	0.52	2
F15	Foul Manhole	15.13	14.43	0.70	2
F18	Foul Manhole	15.21	14.18	1.03	2
F25	Foul Manhole	15.15	13.93	1.22	2
F34	Foul Manhole	15.35	15.03	0.32	2
F42	Foul Manhole	15.16	13.32	1.84	2
F49	Foul Manhole	15.14	13.24	1.90	2
F54	Foul Manhole	15.17	12.72	2.45	2

PCCW					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
53	PCCW Cables	0.41-0.56	2 x 100		1
54	PCCW Cables	0.00-0.33	1 x 100	Telephone pole Connection	1
55	PCCW Cables	0.67-1.23	2 x 100		1
56	PCCW Cables	0.46-0.88	2 x 100		1
57	PCCW Cables	0.24-1.15	5 x 100		1
58	PCCW Cables	0.67-0.73	6 x 100		3
59	PCCW Cables	0.58-0.67	6 x 100		3

PCCW					
Manhole	Type	C.L. (m)	I.L. (m)	Depth (m)	Sheet No.
T8	Telephone MH	13.16	12.30	0.86	1
T9	Telephone MH	13.16	12.30	0.86	1
T12	Telephone MH	13.60	12.39	1.21	1
T13	Telephone MH	13.60	12.39	1.21	1
T14	Telephone MH	13.60	12.39	1.21	1
T18	Telephone MH	14.02	12.74	1.28	1
T19	Telephone MH	14.02	12.74	1.28	1
T23	Telephone MH	13.85	12.98	0.87	1
T24	Telephone MH	13.85	12.98	0.87	1
T33	Telephone MH	19.53	18.11	1.42	3
T34	Telephone MH	19.53	18.11	1.42	3
T35	Telephone MH	19.53	18.11	1.42	3
T38	Telephone MH	19.41	18.19	1.22	3
T39	Telephone MH	19.41	18.19	1.22	3
T40	Telephone MH	19.41	18.19	1.22	3

Water Main					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
60	Fresh Water Main	0.00-0.32	50	Exposed	3
61	Fresh Water Main	0.00-0.23	25	Exposed	2
62	Fresh Water Main	0.00-0.43	25	Weak Signal	2
63	Fresh Water Main	0.00-0.76	25		2
64	Fresh Water Main	0.30-0.44	25	Building Connection	2
65	Fresh Water Main	0.13-0.83	25	Building Connection	2
66	Fresh Water Main	0.00-0.36	25	Building Connection	2
67	Fresh Water Main	1.65-3.05	150	Exposed in WSD manhole	1
68	Fresh Water Main	1.03-1.48	150		1
69	Fresh Water Main	0.97-1.86	150		2
70	Fresh Water Main	0.00-1.10	50-100		1
71	Fresh Water Main	1.49-1.51	150		3

Water Main					
Manhole	Type	C.L. (m)	I.L. (m)	Depth (m)	Sheet No.
A7	Waterworks MH	15.36	14.92	0.44	2
A109	Waterworks MH	13.20	12.11	1.09	1
A152	Water Valve	13.27	10.44	2.83	1
A113	Water Valve	13.33	10.38	2.95	1
A151	Waterworks MH	13.37	10.58	2.79	1
A115	Water Valve	13.29	11.80	1.49	1
A123	Waterworks MH	13.43	10.73	2.70	1
A121	Water Valve	13.50	11.67	1.83	1
A118	Water Valve	13.53	11.88	1.65	1
A103	Water Valve	13.75	13.03	0.72	1
A97	Water Valve	14.13	13.68	0.45	1
A99	Water Valve	14.10	13.40	0.70	1
A91	Water Valve	17.39	16.62	0.77	1
A86	Water Valve	18.49	17.53	0.96	2
A82	Water Valve	18.81	17.86	0.95	2
A135	Waterworks MH	18.99	17.74	1.25	2
A141	Water Valve	19.57	18.31	1.26	2
A143	Waterworks MH	19.68	17.65	2.03	2
A72	Water Valve	20.39	19.93	0.46	3
A61	Water Valve	19.18	18.59	0.59	3
A47	Water Valve	18.13	16.74	1.39	3
A45	Water Valve	17.99	17.47	0.52	4
A27	Water Valve	17.90	17.49	0.41	4
A39	Water Valve	17.72	17.40	0.32	4
A40	Fire Valve	17.65	17.36	0.29	4
A33	Water Valve	17.43	16.89	0.54	4

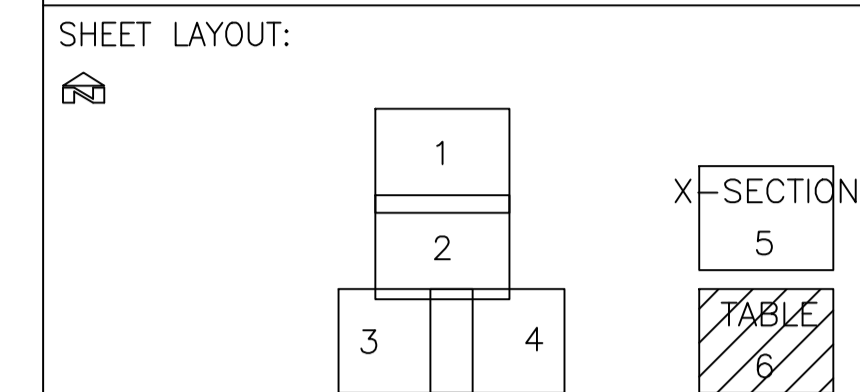
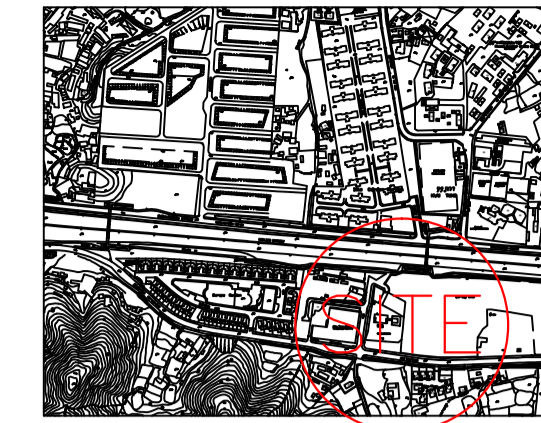
Towgas					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
72	Towgas Main	1.01-1.23	600	Weak Signal	3

Water Main					
Manhole	Type	C.L. (m)	I.L. (m)	Depth (m)	Sheet No.
G7	Towgas Valve	19.39	18.97	0.42	3

Electric Cables					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
73	1 x electric cable	0.00-0.71	N/A	Not shown in CLP record	2
74	1 x electric cable	0.00-0.27	N/A	Not shown in CLP record	2
75	1 x electric cable	0.00-0.61	N/A	Not shown in CLP record	2
76	1 x electric cable	0.00-0.45	N/A	Not shown in CLP record	1
77	1 x electric cable	0.00-0.75	N/A		2
78	4xLV, 10x11kV, 3x33kV	0.41-1.50	N/A		1
79	6 x 11kV	0.35-0.68	N/A		1
80	5 x LV, 6 x 11kV	0.60-0.74	N/A		1
81	2xLV, 6x11kV, 2x33kV	0.41-0.46	N/A		2
82	4 x 11kV	0.38-0.80	N/A		3

Electric Cables					
Manhole	Type	C.L. (m)	I.L. (m)	Depth (m)	Sheet No.
P3	Electric Pit	15.18	14.48	0.70	2
P7	Electric Pit	15.30	14.59	0.71	2
P12	Electric Pit	15.24	14.54	0.70	2
P17	Electric Pit	15.14	14.43	0.71	2

Public Lighting					
No.	Utility	Depth (m)	Pipe Size (mm)	Remark	Sheet No.
83	Public Lighting Cable	0.33-0.35	N/A		1
84	Public Lighting Cable	0.46-0.96	N/A		1



- LEGEND & ABBREVIATION:
- DRAINAGE SYSTEM
    - SB - STORM DRAIN
    - FD - FOUL DRAIN
  - ELECTRIC TRANSMITTED CABLE
    - EM - E&M
    - EP - ELECTRIC POWER LINE
    - PL - PUBLIC LIGHTING
  - FIBER OPTICS CABLE
    - CTV - CABLE TV
    - HKBN - HKBN
    - HCC - HCC
    - WT&T - WT&T
    - NWT - NWT
    - PCW - PCW
  - GAS SYSTEM
    - GAS - GASLINE
  - MISCELLANEOUS
    - UNK - UNKNOWN CABLE
  - SIGNAL TRANSMITTED CABLE
    - ATC - ATC
    - MTRC - MTRC
  - WATER SUPPLY SYSTEM
    - FWM - FRESH WATER MAIN
    - SWM - SALT WATER MAIN
  - TOPOGRAPHIC FEATURES
    - FENCE/RAILING
    - FREE STANDING WALL
    - HOARDING
    - NOISE-BARRIER
    - RETAINING WALL
    - SURVEY EXTENT
    - SLOPE
    - STEPPE CHANNEL
  - DOWN PIPE
  - ELECTRIC PIT
  - ELECTRIC POLE
  - FIRE HYDRANT
  - GATE
  - GRATING
  - LAMP POST
  - LIGHTING PIT
  - MANHOLE
  - MANHOLE FOUL
  - MANHOLE STORM
  - MANHOLE TELECOM
  - MANHOLE WATERWORKS
  - TELEPHONE POLE
  - TELEPHONE KIOSK
  - TRAFFIC LIGHT
  - TRAFFIC LIGHT CONTROL BOX
  - UTILITY CONTROL BOX
  - VALVE FIRE
  - VALVE GAS
  - VALVE WATERWORKS
  - WATER METER
  - WATER POINT

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 SURVEYED BY: CHAU, NGAI KONG CP01235  
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