Building Plan – Plot 2.2

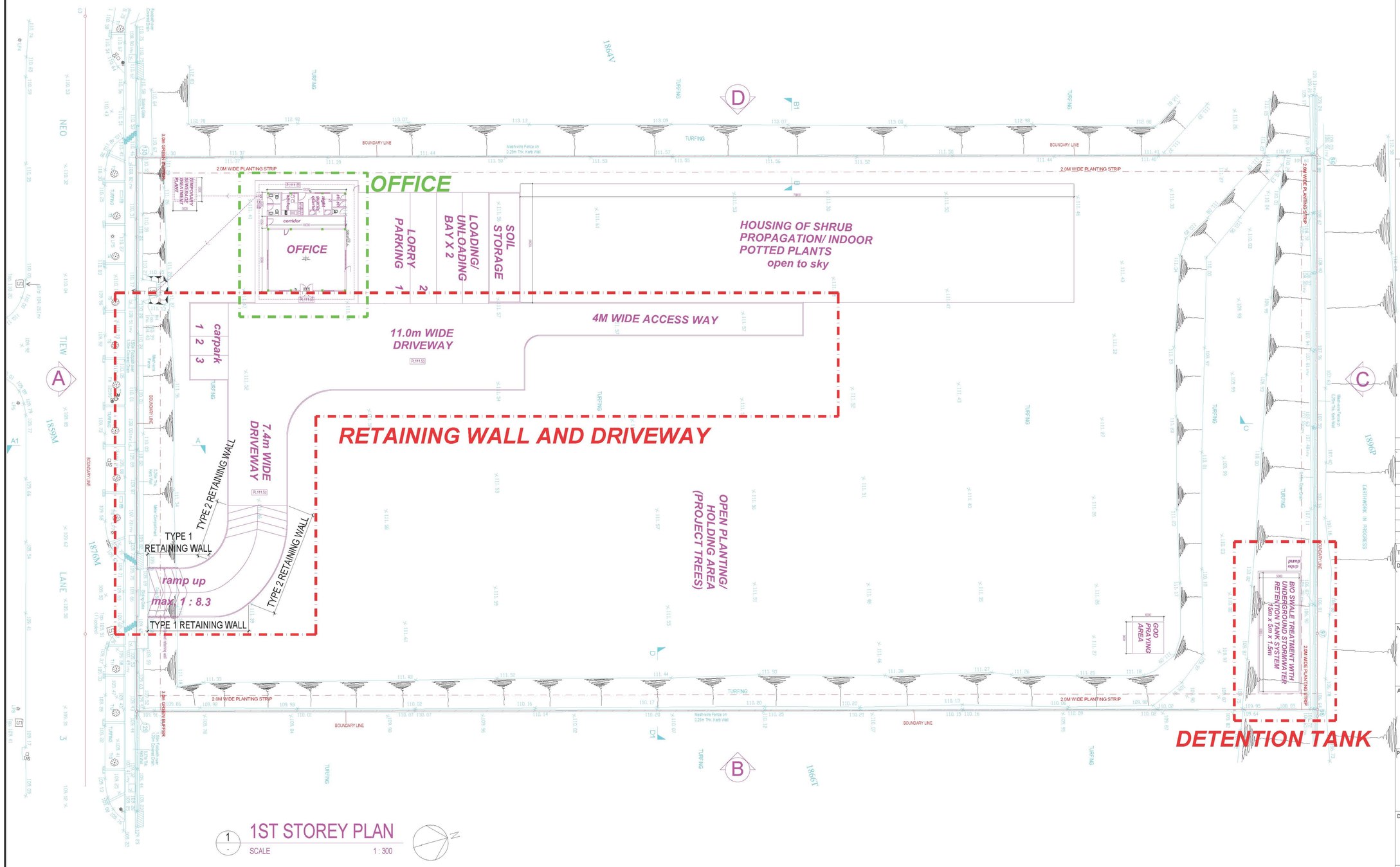
BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

Project Ref No : A0659-00315-2018-ST01

for Commissioner of Building Control

For BCA use only

AS BUILT



1 1ST STOREY PLAN
SCALE 1 : 300

REV	DATE	NAME	SUBJECT	CHK'D

AMENDMENTS

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DEVELOPER

MAIN CONTRACTOR

ARCHITECT

H.U.A.Y ARCHITECTS
10 Anson Road, #19-06 A International Plaza,Spore (079903)
Tel : 63720183 Fax : 63720186
E-mail : huayarch@singnet.com.sg

PROJECT

PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING DESCRIPTION

1ST STOREY PLAN

PROFESIONAL ENGINEER

GNG CONSULTANTS PTE LTD.
CIVIL & STRUCTURAL CONSULTANTS
3791 Jalan Bukit Merah,
#10-23,E-Centre@Redhill
Singapore 159471
Tel:+65 6274 0311 Fax:+65 6274 0310

PROFESSIONAL ENGINEER CIVIL NG LING CHOO 4732 SINGAPORE

PROFESSIONAL ENGINEER CIVIL NG LING CHOO 4732 SINGAPORE

Qualified Person For Structural Works Signature and Stamp
Date : FEBRUARY 2019

SCALE	AS SHOWN		
	BY		DATE
DRAWN	MYINT		FEBRUARY 2019
DESIGNED	TIM		FEBRUARY 2019
CHECKED	MNG		FEBRUARY 2019
APPROVED	MNG		FEBRUARY 2019
JOB NO.	DISCIPLINE	DRAWING NO.	REVISION
-	S	FP-01	-

ENVIRONMENTAL HEALTH DEPARTMENT REQUIREMENTS:

(a) The design, installation and maintenance of roof gutters shall comply with the requirements stated in the SS 525.

(b) Owners/occupiers undertake to carry out regular maintenance of the roof gutters.

PUB (WATER RECLAMATION NETWORK) REQUIREMENTS:

1) The design and construction of the Sanitary Plumbing and Drainage System shall comply with 'The Code of Practice on Sewerage & Sanitary Works (1st Edition – Mar 2000)'.

2) I have checked at site and confirmed that there is no other lateral connections to the sewers/common sanitary drainlines which are to be abandoned. The proposed development will not disrupt or affect any sewer/sanitary drainline that is serving adjacent lots/premises.

3) There is no discharge pipes above bedrooms, living room, dining room or kitchen areas of the strata unit below.

PLATFORM LEVELS:

1) All structural areas and installations will be built at or above the Minimum Platform Level of 104.00 or the adjacent road/ground levels at the outlet discharge points of the internal drains, whichever is highest.The Developer's/ Owner's Qualified Persons (Architect/ Professional Engineers) have given due consideration to the Public Utilities Board's advice for the entire development site to be built at or above the Minimum Platform Level. Nevertheless, the Qualified Persons have decided with the knowledge of the Developer/Owner, that certain ancillary areas within this development site (viz entrance driveway and car porch) will be built to lower levels as shown hereon owing to site design constraints.

2) The Developer/Owner is fully aware that he shall raise the structures/areas built to lower platform levels, to or above the Minimum Platform Level as and when the adjacent grounds/roads are raised in future.

FIRE SAFETY BUREAU REQUIREMENTS:

1) All Singapore Standards Code Of Practice relevant to the project shall be complied with.
2) False ceilings and partitions are to be of non-combustible materials. Combustible finishes, if any, shall note exceed 0.8mm thickness or tested to comply with Fire Reg. 3.13.4
3) In areas where flammable gases/vapour/dust may be present in the air all electrical apparatus, lighting equipment, fixtures and fittings shall be of the approved flame-proof type. All electrical wirings should be carried in strong, screwed metal conduits, efficiently earthed.
4) "No Smoking" signs shall be provided where necessary.
5) All exits, escape routes and passageways shall be kept free of obstruction at all times.
6) Fire extinguishers shall bear PSB label/markings.
7) Separating wall shall be constructed to comply to Reg 3.6.1 of Code of Practice for Fire Precaution in Buildings 2013.
8) All service ducts such as TAS/Elect shall be fire stopped at every storey.
9) Lift shall be installed in accordance with SS 550; and lift landing door shall be 1/2 hr fire rating with PSB label.
10) Exit lighting, exits and exit directional signs shall be installed in accordance with Reg 2.10.1 & 2.10.2 of Code o Practice for Fire Precaution in Buildings 2013 & SS 508 , SS 563
11) The driveway or fire engine hardstanding shall be designed to take the load of a 44 tonnes fire engine.
12) Fire doors shall be tested by PSB and shall bear PSB lable.
13) To provide automatic fire alarm system with manual alarm call points for basement carpark area and clubhouse.
14) To provide fire alarm bells for residential buildings above basement and the alarm bells must be connected to the fire alarm system of the basement.
15) All refuse chamber door at basement level are to be 1/2hour fire rated door.
16) All gas ducts to be cross ventilated above r.c. main roof level.

I , Huay Kwok Meng of H.U.A.Y Architects, confirm that the road reserve lines, the category of the proposed and existing roads & other related road information as shown in the layout plan is in accordance with the information provided by the LTA. via ref. PO: A7222579I_1 dated 19/05/2016

I , Huay Kwok Meng of H.U.A.Y Architects, confirm that the drainage details as shown in the layout plan are in accordance with the information provided by the Chief Engineer, Central Building Plan Unit, Pollution Control Department, ENV.

PUB (CATCHMENT & WATERWAYS DEPARTMENT) REQUIREMENTS:

i. The planning, design, construction activities and procedures for plan submission shall comply fully with the requirements as stipulated in the latest edition of the Code of Practice on Surface Water Drainage and the Sewerage and Drainage (Surface Water Drainage) Regulations 2007.

ii. The capacity of internal drains shall be sufficient to intercept and discharge all runoff from the development site.

iii. The runoff within, upstream of and adjacent to the development lot can be effectively drained away without causing flooding within the lot or in areas outside the lot.

PUB TEMPORARY SEWERAGE HOLDING TANK REQUIREMENTS:

The holding tank shall be installed with high water level alarms and beacon light to warn the owner/operator when the used water level level is high and risk of overflow is significant. The alarm system shall also be capable of sending the alarms via SMS to alert at least least two responsible senior management level officers appointed by the operator/owner to take immediate actions to prevent overflow of used water into the drains

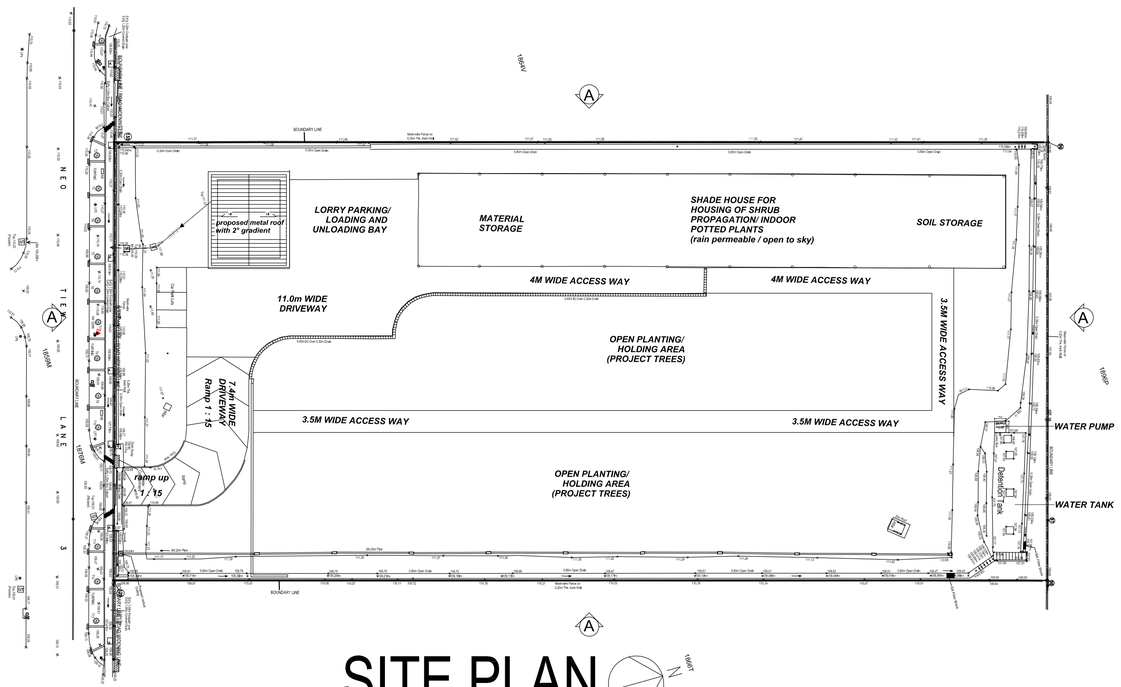
NPARKS AREA ALLOCATION PLANNING DATA		
SITE AREA FOR LOT 01865P	10448.90m²	
GREEN BUFFER AND PLANTING STRIP	887.37m²	
BUILDABLE AREA	9561.53m²	
PRODUCTION USEAGE		
ANCILLARY OFFICE	80.00m²	4.3%
NIGHT GUARDS' QUARTERS (4 PAXS) INCUSLIVE KITCHEN, BATHROOMS AND COMMON TOILETS	31.00m²	
HEAVY VEHICLE PARKING LOTS INCLUSIVE OF LODAING AND UNLOADING BAY (TOTAL 5)	231.00m²	
CARPARK LOTS (TOTAL 4)	46.00m²	
SEWERAGE TREATMENT PLANT	7.00m²	
STORE	14.00m²	
TOTAL	409.00m²	
ANCILLARY USEAGE		
INDOOR PLANTS HOLDING AREA	1050.00m²	95.7%
OUTDOOR TREES HOLDING AREA	6166.98m²	
SOIL STORAGE	55.60m²	
1m WIDE BIO/GRAVEL SWALE	392.09m²	
BIO/GRAVEL SWALE WATER TANK	78.24m²	
TEMPORARY SEWER TANK	6.76m²	
VEHICLE / EQUIP CIRCULATION	1402.86m²	
TOTAL	9152.53m²	

URA PLANNING DATA	
SITE AREA FOR LOT 01865P	10448.90m²
PROPOSED GFA	125.00m²
PROPOSED PLOT RATIO	0.012
PROPOSED AMSL	16.65m
PROPOSED SITE COVERAGE (1175m²)	11.25%

URA GFA BREAKDOWN	
ANCILLARY OFFICE	80.00m²
NIGHT GUARD QUATER	13.20m²
KITCHEN	6.30m²
OTHER AREA	25.50m²
TOATL GFA	125.00m²

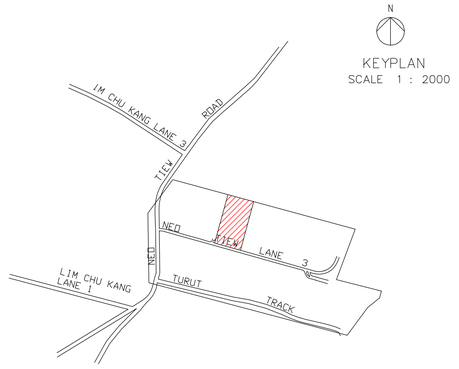
LTA VEHICLE PARKING REQUIREMENTS	
SITE AREA FOR LOT 01865P	10448.90m²
PROPOSED SHELTERD GFA	125.00m²
PROPOSED OPEN AREA	1050.00m²
CAR REQUIREMENT	
REQUIRED	PROVISION
3	3

NEA DAILY REFUSE OUTPUT COMPUTATION	
	litres/day
TRADE PREMISES PER 100m²	30
REQUIRE BASE ON GFA OF 125m²	60



SITE PLAN

SCALE 1 : 500



LOCATION PLAN

NEO TIEW LANE 3

LAND OWNER'S SIGNATURE

LAND OWNER'S ADDRESS

NATIONAL PARKS BOARD
SINGAPORE BOTANIC GARDENS
1 CLUNY ROAD SINGAPORE 259569

TENANT'S ADDRESS	3 NEO TIEW LANE 3 SINGAPORE 718785
TENURE OF LAND	Tenancy

MAIN CONTRACTOR:

Anderco®
ANDERCO PTE LTD
No. 3, TUAS VIEW CIRCUIT,
LBC BUILDING, SINGAPORE 637645.
Tel: 6862 0049 Fax: 6861 9552

PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3

H.U.A.Y ARCHITECTS
10 Anson Road, #19-06 A International Plaza,S'pore (079903)
Tel : 63720183 Fax : 63720186
E-mail : huayarch@singnet.com.sg

HUAY KWOK MENG, ERIC
B. ARCH (HONS) (S'PORE) MSIA, RIBA

DRAWING INFORMATION

DRAWING TITLE: LOCATION PLAN, SITE PLAN		REVISION
SCALE	AS SHOWN	JOB NO. HA/C-46/2018
DATE ISSUED	FEB 2020	
PREPARED	ALAN LIM	DRAWING NO. BP/01/SP01
CHECKED		

FILE INFORMATION

DATE MODIFIED	
PATH/FILE	

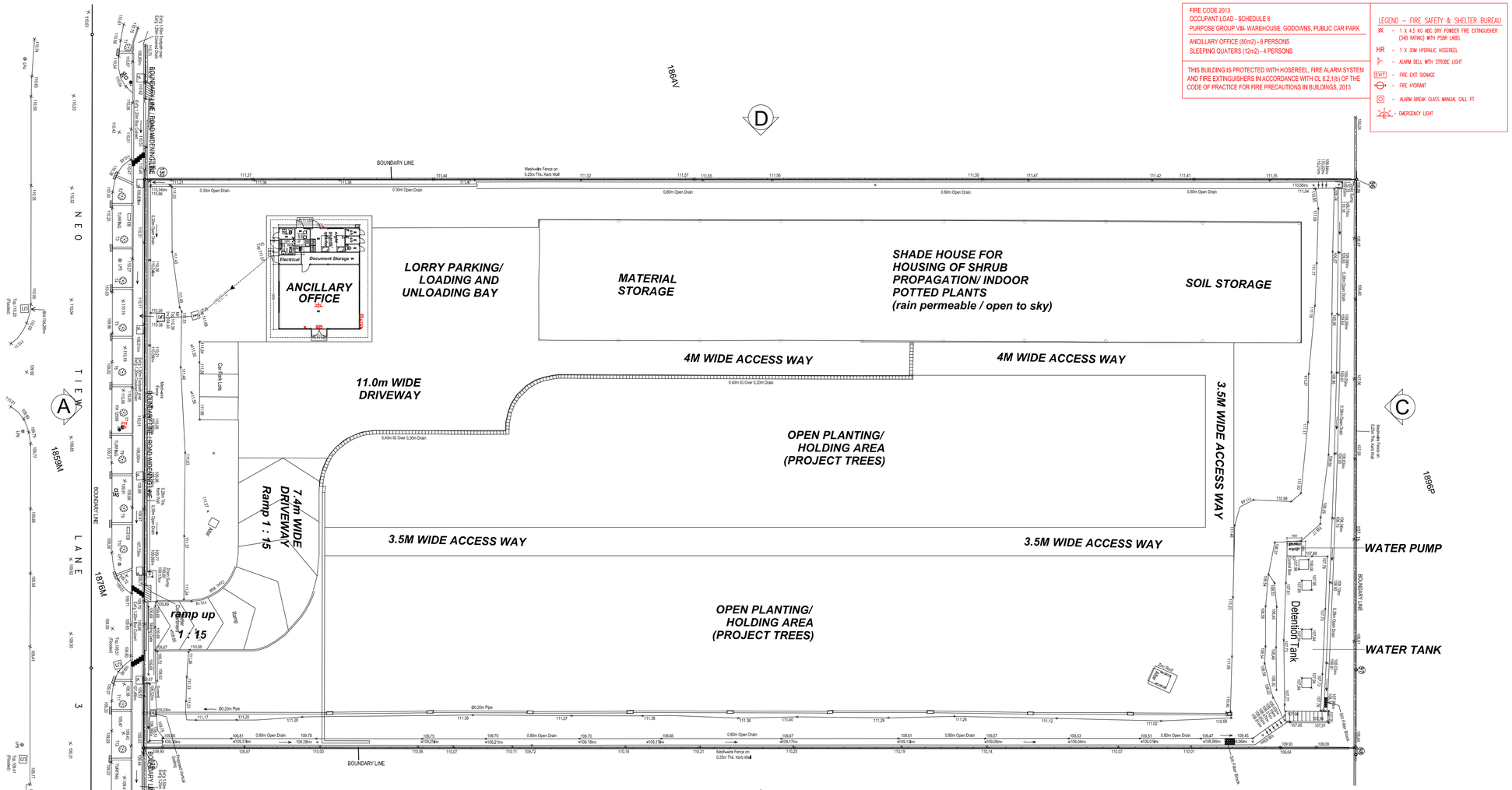
FIRE CODE 2013
OCCUPANT LOAD - SCHEDULE 8
PURPOSE GROUP VIII- WAREHOUSE, GODOWNS, PUBLIC CAR PARK

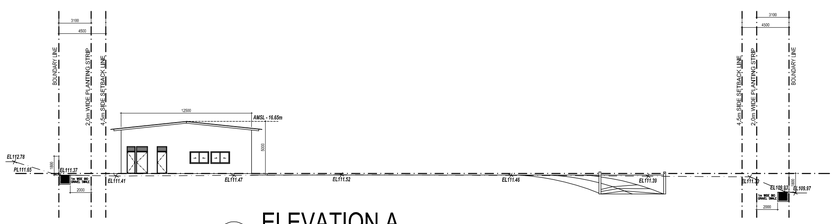
ANCILLARY OFFICE (80m2) - 8 PERSONS
SLEEPING QUATERS (12m2) - 4 PERSONS

THIS BUILDING IS PROTECTED WITH HOSEREEL, FIRE ALARM SYSTEM AND FIRE EXTINGUISHERS IN ACCORDANCE WITH CL 8.2.1(b) OF THE CODE OF PRACTICE FOR FIRE PRECAUTIONS IN BUILDINGS, 2013

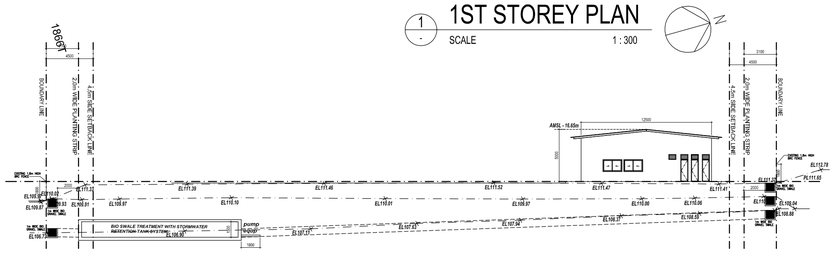
LEGEND – FIRE SAFETY & SHELTER BUREAU

- 9K – 1 X 4.5 KG ABC DRY POWDER FIRE EXTINGUISHER (3A9 RATING) WITH PSSR LABEL
- HR – 1 X 30M HYDRAULIC HOSEREEL
- ALARM BELL WITH STROBE LIGHT
- EXIT – FIRE EXIT SIGNAGE
- FIRE HYDRANT
- ALARM BREAK GLASS MANUAL CALL PT
- EMERGENCY LIGHT

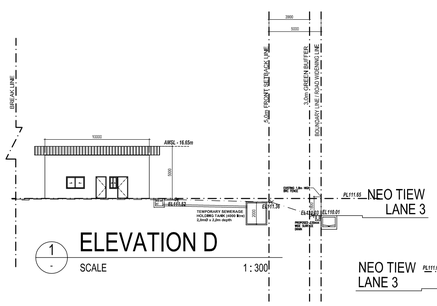




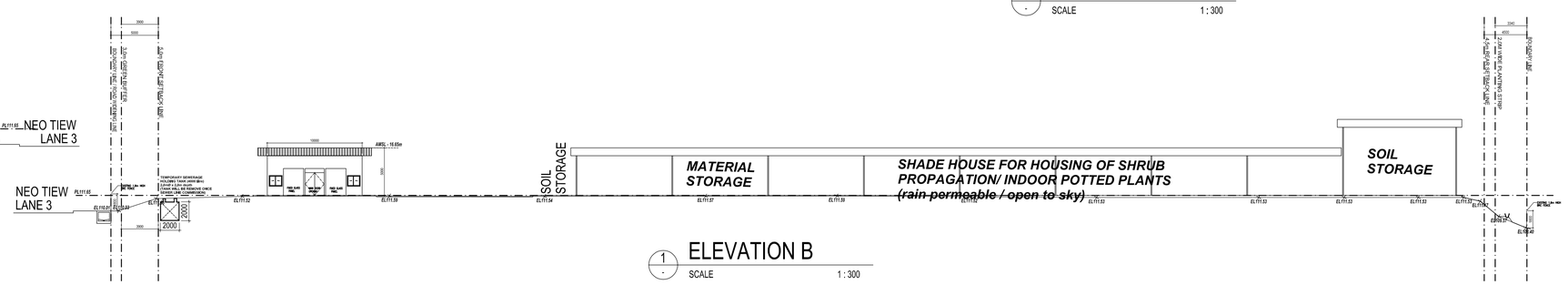
1 - SCALE 1 : 300 — ELEVATION A



1 - SCALE 1 : 300 — ELEVATION C



1 - SCALE 1 : 300 — ELEVATION D



1 - SCALE 1 : 300 — ELEVATION B

1 - SCALE 1 : 300 — 1ST STOREY PLAN

As-Built Drawing

NEO TIEW LANE 3

LAND OWNER'S SIGNATURE

LAND OWNER'S ADDRESS

NATIONAL PARKS BOARD
SINGAPORE BOTANIC GARDENS
1 CLUNY ROAD SINGAPORE 259569

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HUAY KWOK MENG, ERIC
B. ARCH (HONS) (S'PORE) MSIA, RIBA

DRAWING INFORMATION

DRAWING TITLE		REVISION
1ST STOREY PLAN ELEVATION A ELEVATION B ELEVATION C		
SCALE	AS SHOWN	JOB NO. HA/C-46/2018
DATE ISSUED	FEB 2020	
PREPARED	ALAN LIM	DRAWING NO. BP/01/FP01
CHECKED		

FILE INFORMATION

DATE MODIFIED	
PATH/FILE	

A. GENERAL

1. The General Notes is to be read in conjunction with NPQS Specification.
2. All structural drawings shall be read in conjunction with the relevant architectural and M&E drawings. Only the latest structural drawings shall be used for construction.
3. (XXX) as indicated in drawings denotes slab thickness of XXX mm.
4. SL XXXX as indicated in drawings denotes structural floor level.
5. Beam sizes are indicated with width first, i.e width x depth and the depth is the total depth from the top of the slab to the soffit of the beam.
6. 2H10-250 denotes 2 nos high tensile bars of 10mm diameter at 250 mm centre to centre spacing.
7. All dimensions shall be read and not scaled.
8. The contractor shall check the structural drawings against architectural and M&E drawings and resolve all discrepancies with the Engineer and/or Architect, and verify and confirm all dimensions and levels on site two weeks before comencement of any work.
9. The Contractor shall engage a Licensed Surveyor to establish all necessary boundary lines, building lines & corner pegs and set out profile of the buildings.
10. The Contractor shall incorporate all mechanical, sanitary and electrical work, to be embedded in the concrete, or openings for pipes or duct work, as shown in the services drawing included in the contract. He shall check these drawing and confirm with the Engineer in this regard, and sort out discrepancies, if any, before concreting.
11. The Contractor shall produce structural shop drawings to reflect the following :
    a) M&E penetrations & other details such as plinth, hock, hoist beam etc.
    b) Exact level of ramps, staircase section & etc.
    c) Specialist work such as diaphragm wall, prestressing and steelwork
    d) Incorporation of Architectural detail such as feature wall, parapets, downhang, fountain etc.
    e) RC detailing in the case where only beam schedule are issued by the Engineer.
    f) Adjustments of reinforcement details to accommodate structural penetrations. Equivalent structural strength to be provided.
    g) Reinforcement details at scale not less than 1:20 for certain critical areas. eg. column & beam junction where congestion in reinforcement is expected.
    h) As built structural drawing to reflect part prints issued.
12. For timber structure, the contractor should provide PE calculations design and shop drawings.
13. Minimum 50mm lean concrete layer (C16/20) shall be provided immediately beneath all ground beams and ground slabs. The soil shall be properly cut/filled and compacted to the approval of the Engineers, and to be proper level before laying the lean concrete layer.
14. In conjunction with structural drawings, all construction works shall comply with requirements stated in the following codes practices.
    SS EN 1990:2008 (Eurocode: Basis of Structural Design)
    SS EN 1991-1:2008 (Eurocode: Actions of Structures)
    SS EN 1992-1:2008 (Eurocode: Design of Concrete Structures)
    SS EN 1993-1:2010 (Eurocode: Design of Steel Structures)
    SS EN 1997-1:2010 (Eurocode: Geotechnical Design)
    NA to SS EN 1990:2008 + A4:2010 (Singapore National Annex to Eurocode: Basis of Structural Design)
    NA to SS EN 1991-1:2008 (Singapore National Annex to Eurocode: Actions of Structures)
    NA to SS EN 1992-1:2008 (Singapore National Annex to Eurocode: Design of Concrete Structures)
    NA to SS EN 1993-1:2010 (Singapore National Annex to Eurocode: Design of Steel Structures)
    NA to SS EN 1997-1:2010 (Singapore National Annex to Eurocode: Geotechnical Design)

B. TEMPORARY WORKS

1. All temporary works shall be the responsibility of contractor.
2. Prior to the commencement of any excavation works, the contractor shall conduct pre-construction survey to all neighbouring properties that may be affected by the excavation works. Copy of the report of respective properties shall be given to the owners of the properties.
3. The contractor shall engage professional engineer to design, supervise and endorse all the temporary works required.
4. The structural plans and design calculations of the temporary works duly endorsed by contractor's professional engineer must be submitted to the architect and consultant structural engineer for their review, evaluation and within two weeks upon award and before works commence.
5. If in the opinion of the architect or consultant structural engineer there are inadequacies in the structural elements of the temporary works, the contractor shall revise the temporary works details to the satisfaction of the architect and consultant structural engineer. There shall be no additional cost and time variation for such revision.
6. Contractor's professional engineer shall take all necessary precautionary measures and constantly monitor the effects of piling/excavation works or other temporary works to ensure that the adjacent properties are not damaged or disturbed.
7. Contractor's professional engineer shall design and supervise all temporary works, taking into consideration its suitability in the locality.
8. Contractor's professional engineer shall inspect regularly the conditions of the temporary works to ensure its stability and its capability to prevent soil movement and water seepage.
9. Contractor's professional engineer shall ensure that the monitoring programmes as proposed by him and approved by the architect and consultant structural engineer are carried out and to submit a copy of the monthly monitoring report to the architect, consultant structural engineer and the relevant authorities.
10. Contractor's professional engineer shall take immediate action to prop up the affected surrounding structures to prevent further damage if the damage is likely to be caused by the construction works.
11. Contractor's professional engineer shall make all necessary submissions to authorities and obtain necessary clearance from the authorities prior to the commencement of work.

C. PRECAUTIONS ON DEMOLITION

1. Demolition shall be carried out by skilled and competant workmen who shall be under controlled supervision at all times.
2. The demolition works shall be periodically sprayed with water to prevent dust from rising.
3. Safety/dustproof netting shall be installed round the scaffold to prevent dust and flying debris from flying out of the compound.
4. Adequate warning signboards will be placed to warn the pedestrian.
5. Good housekeeping shall be maintained at all times during demolition and removal of debris. Debris shall be removed from site to an approved dumping ground, and the site levelled and free of remnant debris.
6. Protective measures like temporary shoring or propping shall be carried out to the existing structure.
7. Before demolishing of the structures adjoining to neighbouring unit, the contractor's PE shall inspect the neighbouring properties and submit necessary details for reinforcement termination and calculations to BCA to justify that the demolition work has no implication to the structural safety and integrity of neighbouring properties.
8. If demolition affects the commoon party wall, the contractor shall submit details on water proofing to prevent water leakage into neighbouring unit. The exposed party wall must be plastered immediately after demolition.
9. Continuous vibration monitoring shall be done at all stages of demolition work. If reading exceed 3mm/sec, the Engineer must be informed and alternative method of demolition used.
10. Demolition using breaker sitting on existing structure is not allowed unless the contractor carry out direct application to BCA as the Professional Engineer for demolition work.

D. R.C. GENERAL NOTES

1. All concrete sizes and levels are structural unless otherwise stated.
2. Unless otherwise stated, the concrete grade strength @ 28days shall be as following:

Footing	= C30/37
Retaining walls	= C30/37
All Beams and slab	= C30/37
Columns	= C30/37
Non-Suspended Structures	= C30/37

3. Reinforcement bars used shall be:-
   Mild steel having a yield strength of 300N/mm2 (R)
   High tensile steel having a yield strength of 500N/mm2 (H)
4. Contractor shall be responsible for any delay and to bear all cost arising from late proper submission to the Engineer for approval. Submissions on the following items are required
   a. All additives and admixtures to concrete.
   b. Samples of all materials and manufacturer's specification.
   c. Concrete mix design and reinforcement test certificates must be submitted to the Engineer immediately upon award of contract. No concreting work is permitted unless the Engineer has approved the mix design and accepted the reinforcement test certificates.
   d. Method(s) of curing concrete and material(s) used shall be submitted to the Engineer for approval prior to any concreting works. No concreting work is permitted prior to the Engineer's approval. The Contractor shall adopt the approved method(s) for curing and the material(s) for the whole contract.
5. Before commencing concreting, the Contractor shall submit to the Engineer for his approval of all detailed proposals for the sequence of placing concrete and the positions of all vertical and horizontal construction joints.
6. No concrete shall be placed until the steel reinforcement has been checked and approved by the Engineer.
7. All fresh concrete shall be satisfactorily cured and protected by approved means from the rain, sun and drying wind to maintain suitable temperature and moisture.
8. All lean concrete used shall be GRADE C16/20 concrete. Unless otherwise stated, a 50mm thick lean concrete layer shall be provided on all soil surfaces forming the underside of any reinforced concrete beams, slabs, rafts, pilecaps, or drains. If the base is clay, the lean concrete shall be minimum 75mm thick.
9. Before placement of lean concrete or hardcore for non-suspended slabs, sub-grades shall be compacted mechanically to the satisfaction of the Engineer.
10. External R.C. walls & slabs in contact with soil/water shall be provided with an approved waterproofing membrane.
11. Unless otherwise stated, the nominal cover to reinforcement shall be as following:

Undeground wall and Slab	= 50 mm
Upper storey slabs	= 20 mm
Upper storey beams	= 30 mm
Upper storey columns	= 30 mm
Footing	= 50 mm

12. Bakau piles to be provided at 300c/c if the soil condition is soft.

E. REINFORCEMENT

1. Unless otherwise stated, all steel reinforcement shall comply with the requirements of BS EN 10080, Steel reinforcement bars shall be cut and bent to BS 8668:2005:

	H10	H13	H16	H20	H25	H32	Bond Condition
Straight Anchorage ("T.A" , "C.A")	281	406	531	698	906	1160	Good
	401	580	759	997	1295	1657	Poor
Curved Anchorage ("T.A" , "C.A")	363	471	580	725	906	1160	Good
	518	673	829	1036	1295	1657	Poor
Lapping Length(F.T.L) Bars are lapped at one placed <25%	281	406	531	698	906	1160	Good
	401	580	759	997	1295	1657	Poor
Lapping Length(F.T.L) Bars are lapped at one placed <25% to 33%	323	467	611	802	1042	1334	Good
	462	667	872	1146	1489	1906	Poor
Lapping Length(F.T.L) Bars are lapped at one placed <33% to 50%	393	568	743	977	1269	1624	Good
	562	812	1062	1396	1813	2320	Poor
Lapping Length(F.T.L) Bars are lapped at one placed > 50%	421	609	797	1047	1359	1740	Good
	602	870	1138	1495	1942	2486	Poor

Minimum number of link required along the length of the lap NL = 1.25(Dia Lap bar)^2 / (Dia Link)

2. Approved mechanical couplers can be used for lapping of rebars of diameter greater than 30 mm diameter, or when instructed by Engineers.
3. Lapping for beams and slabs shall not be allowed at
   a) Mid-span for bottom bars
   b) support for top bars
4. All laps shall be staggered when possible.
5. Lap length for lapping of different sized bars may be calculated using smaller bar diameter.
6. Spacer bars shall be 20mm diameter or main bar size, or max aggregate size +5mm, whichever is the greater and placed at 1500 mm c/c.
7. The anchorage length of links is to follow the below figure:
8. Steel bars shall be cranked to a 1:10 gradient, if necessary, to achieve required concrete cover.
9. Welded steel fabric reinforcement (WSFR) shall be to BS EN 10080. Wires shall be high-bond, hard-drawn steel wires to BS EN 10080 or approved equivalent. All lap length for welded steel fabric reinforcement shall be 70% of the Normal Bar.
10. The minimum area of reinforcement for a member shall be those specified in these notes or EN 1992, whichever is the greater.
11. Starter bars from the floor structural system for R.C Walls, columns, shall correspond in number and size to the reinforcement in the wall or column in which they are embedded. All starter bars for work not carried out within one month shall protected with 2 coats of cement wash. The coating shall maintained periodically to ensure protection to the reinforcement.

E.1. REINFORCED CONCRETE BEAMS

1. For beam where the depth of the face exceeds 750mm, longitudinal reinforcement shall be provided at each face with a spacing not exceeding 250mm and the diameter of bar not less than 10mm. Please refer to Beam Schedule.

   Unless otherwise shown in Beam Schedule, extra horizontal rebars shall be provided on both vertical faces of beam as detailed and tabulated below:-

F. STRUCTURAL STEEL WORKS

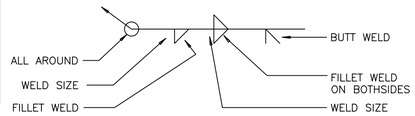
1. All Structural Steelworks to be carried out in accordance with the Drawings, the Specifications, the latest EN 1993 and equivalent local code of practices wherever applicable.
2. All Structural details shown are to be read in conjunction with Architectural drawings respectively.
3. All rolled steel sections shall be NEW and to conform to EN 10025, Grade S275 or equivalent unless otherwise stated.
4. All steel, including bolts and nuts shall be class 1 steel complying to BC1-2012. Contractor to submit to engineer the Factory Production Control (FPC) & Mill Certificate for BC1-2012 Requirements.
5. Any Structural Steel tests (in compliance with EN 10025 required by the Engineer are to be conducted by the relevant authorities or any other approved testing institution, and all expenses incurred shall be borne by the Contractor.
6. No fabricated steelworks are to be delivered to Site unless inspected and approved by the Engineer/or his representatives.
7. Before painting of steel, all surfaces to be painted shall be dry and thoroughly cleaned from all loose scale, rusts and dusts by mechanical wire brushing.
8. All steel surfaces to be encased or embedded in concrete are to be left unpainted, but, must be cleaned of oil, grease, dirt, or other foreign matter.
9. All welds are to be 6mm Fillet weld (F.W. = all round fillet weld) unless otherwise stated.
10. All butt weld to have 45 degrees bevel.
11. All welding works to be carried out by certified welders only.
12. All welds subject to X-ray tests or other forms of NDT tests (at Contractor's expense) are to be carried out by relevant authorities or other such approved institution.
13. Contractor shall remedy all defective and rejected welds and bear the cost of an additional X-ray test on the rectified weld and another 2 additional X-ray tests on the other welds.
14. All bolts used are to be free from loose mill scale rust, grease, dirt and painting and are to be assembled dry.
15. The Contractor is to submit Shop Drawings including connection design to the Engineer for review and approval prior to fabrications showing all details of fabricated items, including method of erection, fixing and anchorage.
16. The Contractor shall be responsible for all temporary works to enable safe erection and overall structure stability of the steelworks construction. The Contractor shall submit method statements clearly defining the proper workmanship provisions in the steelworks erection.
17. Testing of Weld Quality
    a) Below table indicate the testing requirement for the various type welded connections:

TYPE OF WELD	MINIMUM PERCENTAGE OF CONNECTIONS TO BE TESTED
FILLET WELD (FW)	15%
FULL PENETRATION BUTT WELD (FPBW)	100%

   b) Testing of weld quality shall be an approved testing agency.
   c) Quality of weld shall be assessed in accordance with SS EN 1993

   and NA to SS EN 1993 or other approved standard.
   d) Type of test - magnetic particle test, dye penetrant inspection, ultrasonic as approved.

18. Welding Symbols



G. PRECAUTIONS FOR PILING

1. Minimise the ground vibrations to 3mm/s due to the piling works by minimising hard driving of piles.
2. Piles shall be installed away from the boundary line, so that there is sufficient dampening of vibration before it reaches the boundary line and the neighbouring buildings.
3. Vibration monitoring shall be conducted during installation of piles.
4. Settlement markers shall be installed and monitored along the Boundary Line and neighbouring building.
5. Prior to the commencement of piling works, the contractor shall conduct pre-construction survey to all neighbouring properties that may be affected by the piling works. Copy of report of respective properties shall be given to the owners of the properties.

H. PRECAUTIONS DURING CONSTRUCTION

1. The effect on the existing building due to the vibration during piling work will be monitored. Should there be any problem due to excessive vibration, the work will be stopped and proper measures will be taken to reduce the vibration.
2. To ensure the stability of the existing party wall footing, the hacking of the 1st. storey slab will be carried out in two stages. In the first stage, the 1st. storey slab will be hacked up to 600mm away from the Boundary Line. Upon completion of the pile-cap i.e, in the second stage, the remaining portion of the existing 1st. storey slab will be hacked off.
3. Existing party wall will not be disturbed throughout the construction work.

I. TIMBER NOTES

1. All timber sections used shall be strength Group 'A' Standard Grade
   fgpar = 15.86 N/MM2
   cgpar = 13.79 N/MM2
   qgpar = 1.79 N/MM2
   Use 'Kempas Timber' or equivalent Group 'A' timber.

J. WATERPROOFING NOTES

1. 3CC heavy duty waterproofing admixture or equivalent shall be added to concrete of basement slab/wall, r.c pool/pond.
2. The waterproof membrane tanking shall be 1.5m 'Bituthene 3000' cross laminated polythlene film with rubberized asphalt membrane as manufactured by W.R. Grace & Co. or equivalent for r.c water tank and wet area.

K. FACADE & BARRIER WORKS

1. Contractor shall submit PE endorsed shop drawings and calculations of all facade & barrier works to consultant for approval

STANDARD CERTIFICATION ON STRUCTURAL PLANS AND DESIGN CALCULATIONS BY THE QUALIFIED PERSON FOR STRUCTURAL WORKS

1. In accordance with Regulation 9 of the Building Control Regulations, I, NG LING CHOO , the Qualified Person for structural works appointed under section 8(1)(a) or 11(1)(d)(i) of the Building Control Act, hereby submit the detailed structural plans and design calculations prepared by me and certify that they have been prepared in accordance with the provisions of the Building Control Regulations, the Building Control Act and any other written law pertaining to buildings and construction for the time being in force.
2. I further certify that these detailed structural plans and design calculations are in reference to Project Ref. No: A0659-00315-2018-ST02
3. Total number of structural plans submitted : 03
   Total number of pages of design calculations in this book : -

PROFESSIONAL ENGINEER CIVIL NG LING CHOO 4732 SINGAPORE

Qualified Person For Structural Works Signature and Stamp
Date : MAY 2019

PROFESSIONAL ENGINEER CIVIL NG LING CHOO 4732 SINGAPORE

01 sheet of 03

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

Project Ref No : A0659-00315-2018-ST02

for Commissioner of Building Control

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FOR APPROVAL

REV	DATE	NAME	SUBJECT	CHK'D

AMENDMENTS

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DEVELOPER

MAIN CONTRACTOR

ARCHITECT
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E-mail : huayarch@singnet.com.sg

PROJECT
PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING DESCRIPTION
GENERAL NOTES

PROFESIONAL ENGINEER
GNG CONSULTANTS PTE LTD.
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SCALE AS SHOWN

	BY	DATE
DRAWN	MYINT	FEBRUARY 2019
DESIGNED	TIM	FEBRUARY 2019
CHECKED	MNG	FEBRUARY 2019
APPROVED	MNG	FEBRUARY 2019

JOB NO.	DISCIPLINE	DRAWING NO.	REVISION
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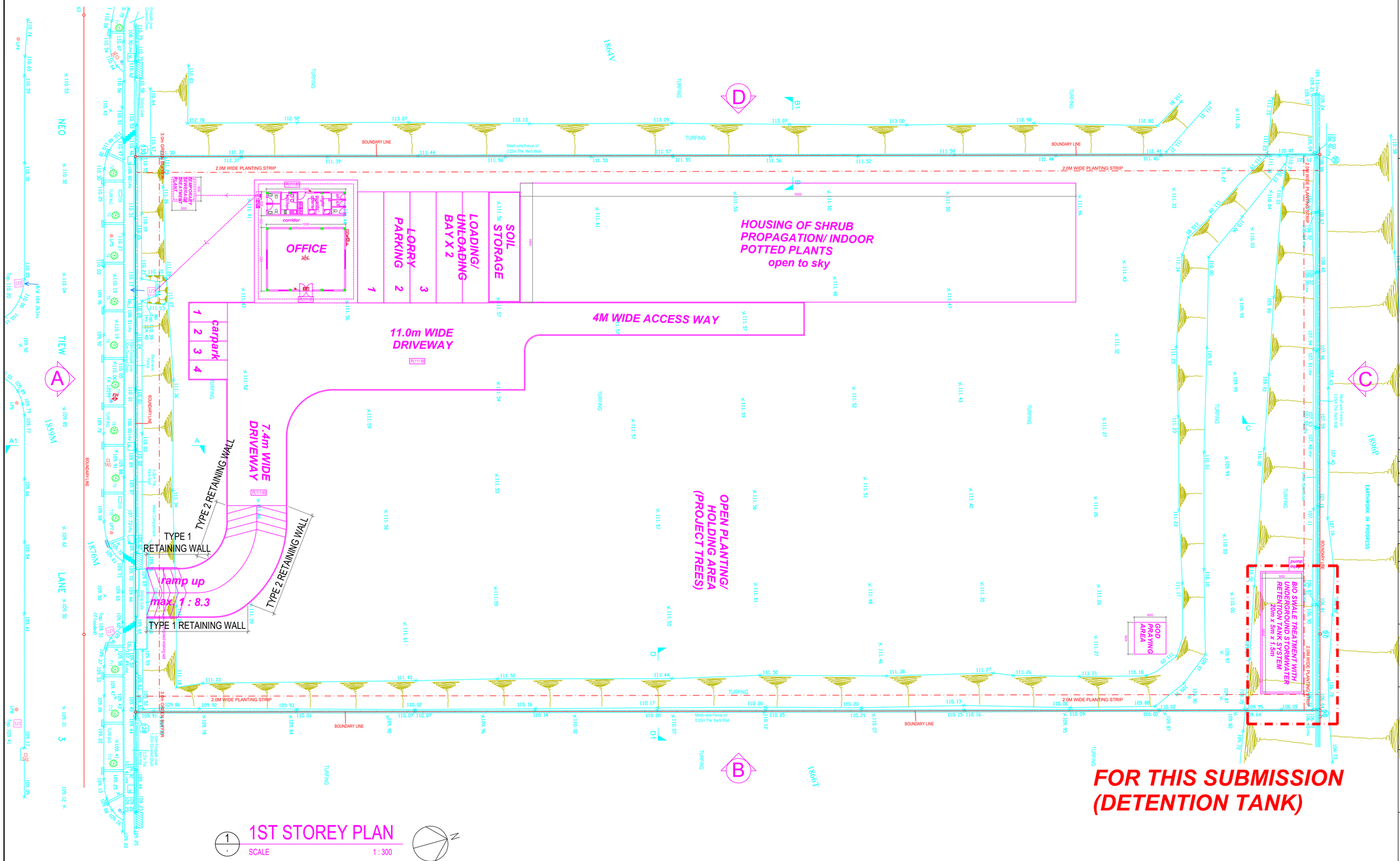

1 1ST STOREY PLAN
SCALE 1 : 300

FOR THIS SUBMISSION (DETENTION TANK)

Qualified Person For Structural Works Signature and Stamp
Date : __MAY 2019_____

02 sheet of 03

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

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DRAWING DESCRIPTION

1ST STOREY PLAN

PROFESIONAL ENGINEER

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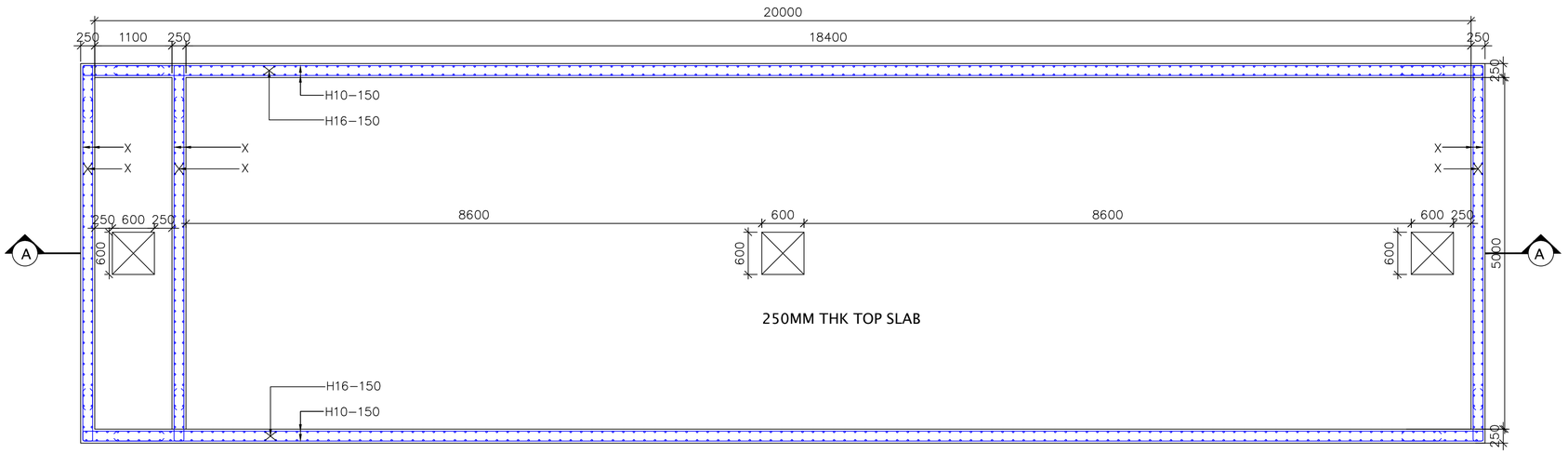
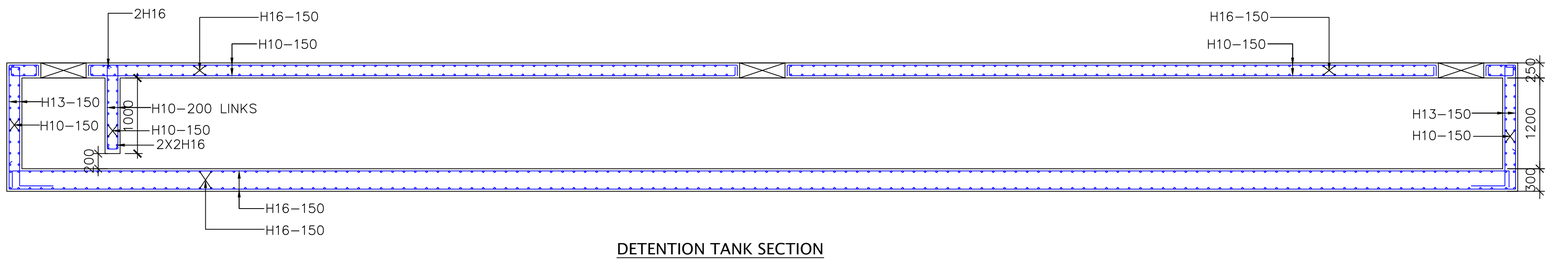
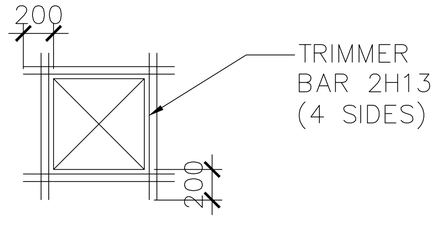


DETENTION TANK PLAN



DETENTION TANK SECTION

NOTE: ALLOWABLE SOIL BEARING CAPACITY - 75 kPa



OPENING SLAB DETAILS

PROFESSIONAL ENGINEER
CIVIL
NG LING CHOO
4732
SINGAPORE

STANDARD CERTIFICATION ON STRUCTURAL PLANS AND DESIGN CALCULATIONS BY THE QUALIFIED PERSON FOR STRUCTURAL WORKS

1. In accordance with Regulation 9 of the Building Control Regulations, I, NG LING CHOO , the Qualified Person for structural works appointed under section 8(1)(a) or 11(1)(d)(i) of the Building Control Act, hereby submit the detailed structural plans and design calculations prepared by me and certify that they have been prepared in accordance with the provisions of the Building Control Regulations, the Building Control Act and any other written law pertaining to buildings and construction for the time being in force.
2. I further certify that these detailed structural plans and design calculations are in reference to Project Ref. No: A0659-00315-2018-ST02
3. Total number of structural plans submitted : 03
   Total number of pages of design calculations in this book : –

PROFESSIONAL ENGINEER
CIVIL
NG LING CHOO
4732
SINGAPORE

Qualified Person For Structural Works Signature and Stamp
Date : MAY 2019

03 sheet of 03

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

Project Ref No : A0659-00315-2018-ST02

for Commissioner of Building Control

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10 Anson Road, # 19-06 A, International Plaza,S'pore (079903)
Tel : 63720183 Fax : 63720186
E-mail : huayarch@singnet.com.sg

PROJECT

PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING DESCRIPTION

DETENTION TANK DETAILS

PROFESIONAL ENGINEER

GNG CONSULTANTS PTE LTD.
CIVIL & STRUCTURAL CONSULTANTS
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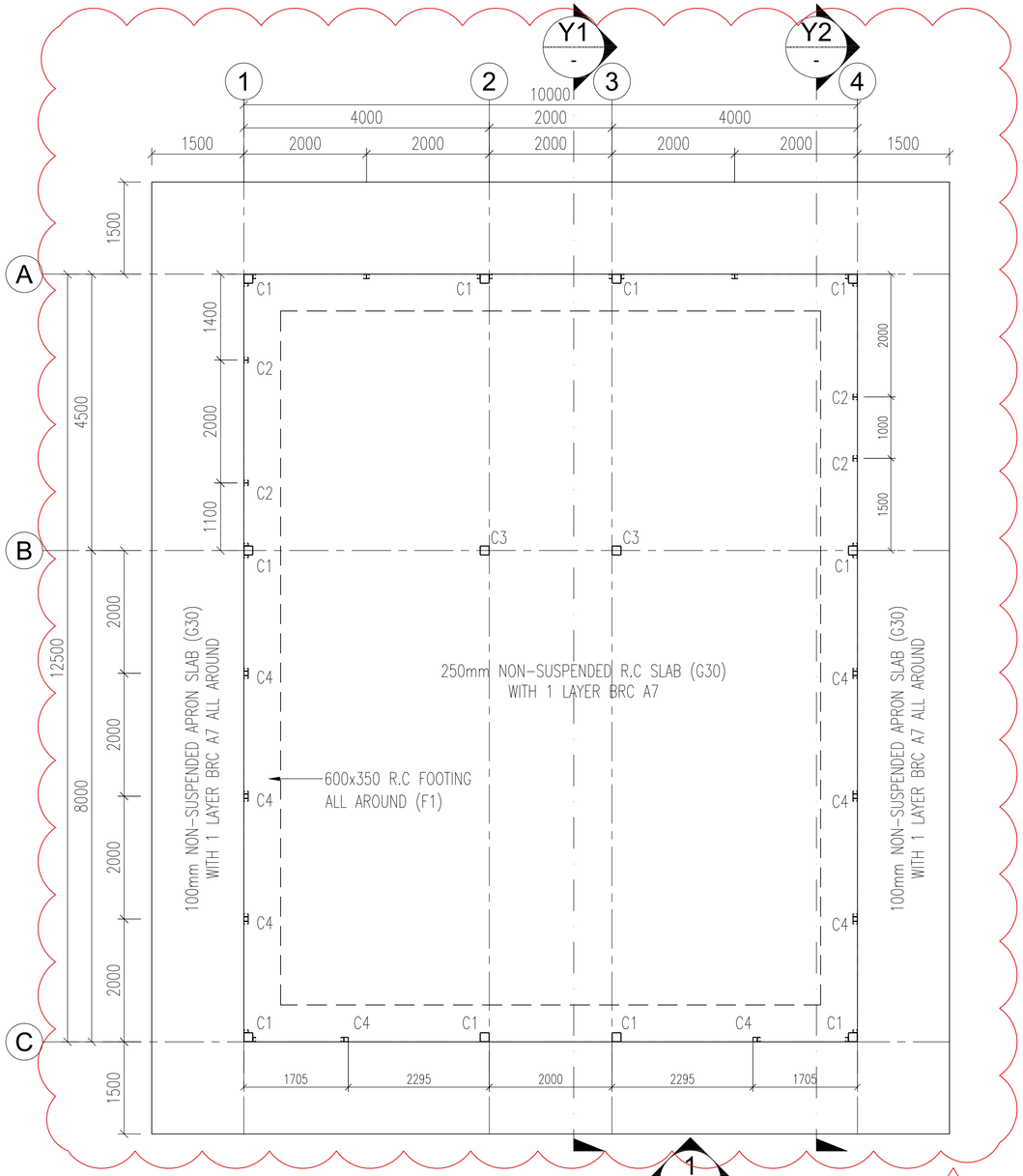
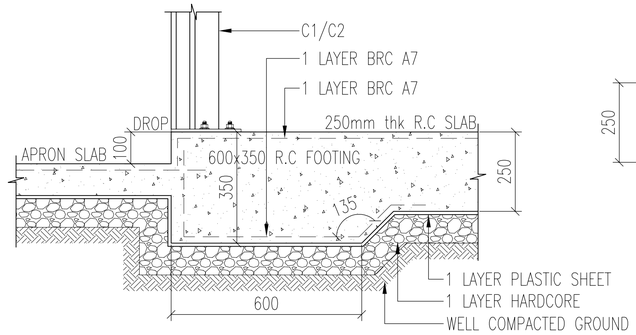
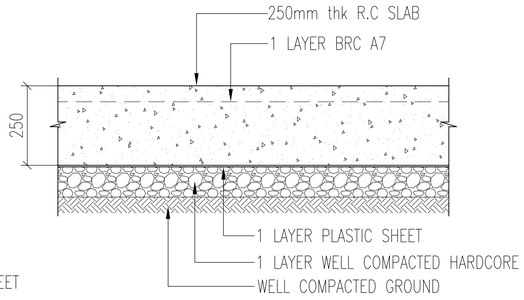


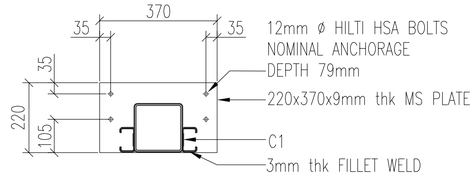
1 FLOOR PLAN
SCALE 1:100 ALLOWABLE SOIL BEARING CAPACITY = 75kN/m²



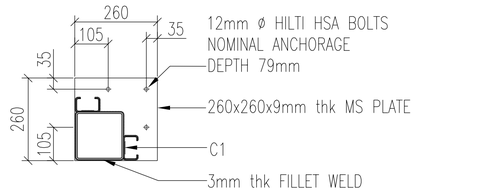
2 FOOTING DETAIL (F1)
SCALE 1:20 NOTE: 1) ALLOWABLE SOIL BEARING CAPACITY – 75kPa
2) ONE PLATE LOAD TEST TO VERIFY THE SOIL BEARING CAPACITY
3) ONE LAYER OF 300MM THK HARDCORE TO BE PROVIDED ON TOP OF EXISTING GROUND
4) COMPACTION OF GROUND ABOVE HARDCORE SHALL BE PERFORMED USING VIBRATION AND SHEEPSFOOT WHEELED ROLLER BEFORE THE PLATE LOAD TEST



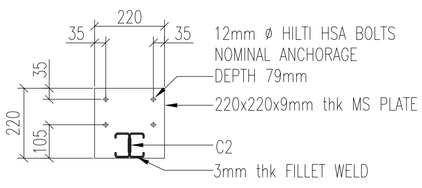
3 SLAB DETAIL
SCALE 1:20



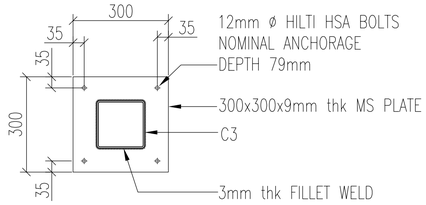
4 BASE PLATE DETAIL C1 @ CENTER
SACLE 1:20



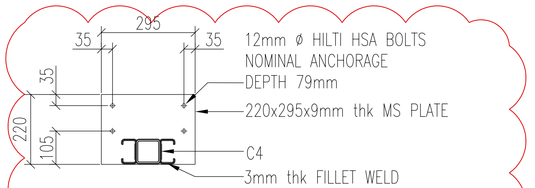
5 BASE PLATE DETAIL C1 @ CORNER
SACLE 1:20



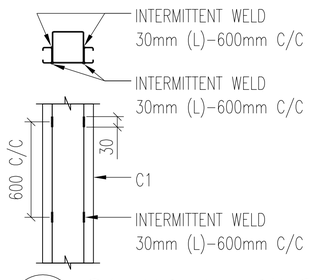
6 BASE PLATE DETAIL C2 @ CENTER
SACLE 1:20



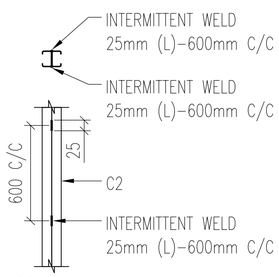
7 BASE PLATE DETAIL C3
SACLE 1:20



8 BASE PLATE DETAIL C4
SACLE 1:20



9 C1 TYP. WELDING
SACLE 1:30



10 C2 TYP. WELDING
SACLE 1:30

LEGEND	
C1	150x150x6mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
C2	2x75x45x15x3mm thk LIPPED CHANNEL
C3	150x150x6mm THK SHS
C4	75x75x4.5mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
TB1	100x50x4mm THK RHS
B1	75x75x4.5mm THK SHS
RB1	200x100x6mm THK RHS
P1	150x65x2.4mm thk x5.79kg/m HIGH TENSILE GALVANISED LIPPED CHANNEL @ 1200 SPACING C/C MAX

02 sheet of 04

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

Project Ref No : A0659-00315-2018-ST04
AMENDMENT TO ST03

for Commissioner of Building Control

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FOR APPROVAL

PROFESSIONAL ENGINEER CIVIL NG LING CHOO 4732 SINGAPORE

Qualified Person For Structural Works Signature and Stamp
Date : AUGUST 2019

REV	DATE	NAME	SUBJECT	CHKT
			CHANGES OF COLUMN LAYOUT	
1	15/08	TIM	AND REVISED DETAIL A	MD

AMENDMENTS

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DEVELOPER

MAIN CONTRACTOR

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PROJECT
PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING DESCRIPTION
OFFICE AND WORKER DORMITORY
FLOOR PLAN AND FOOTING DETAILS

PROFESIONAL ENGINEER
GNG CONSULTANTS PTE LTD.
CIVIL & STRUCTURAL CONSULTANTS
3791 Jalan Bukit Merah,
#10-23,E-Centre@Redhill
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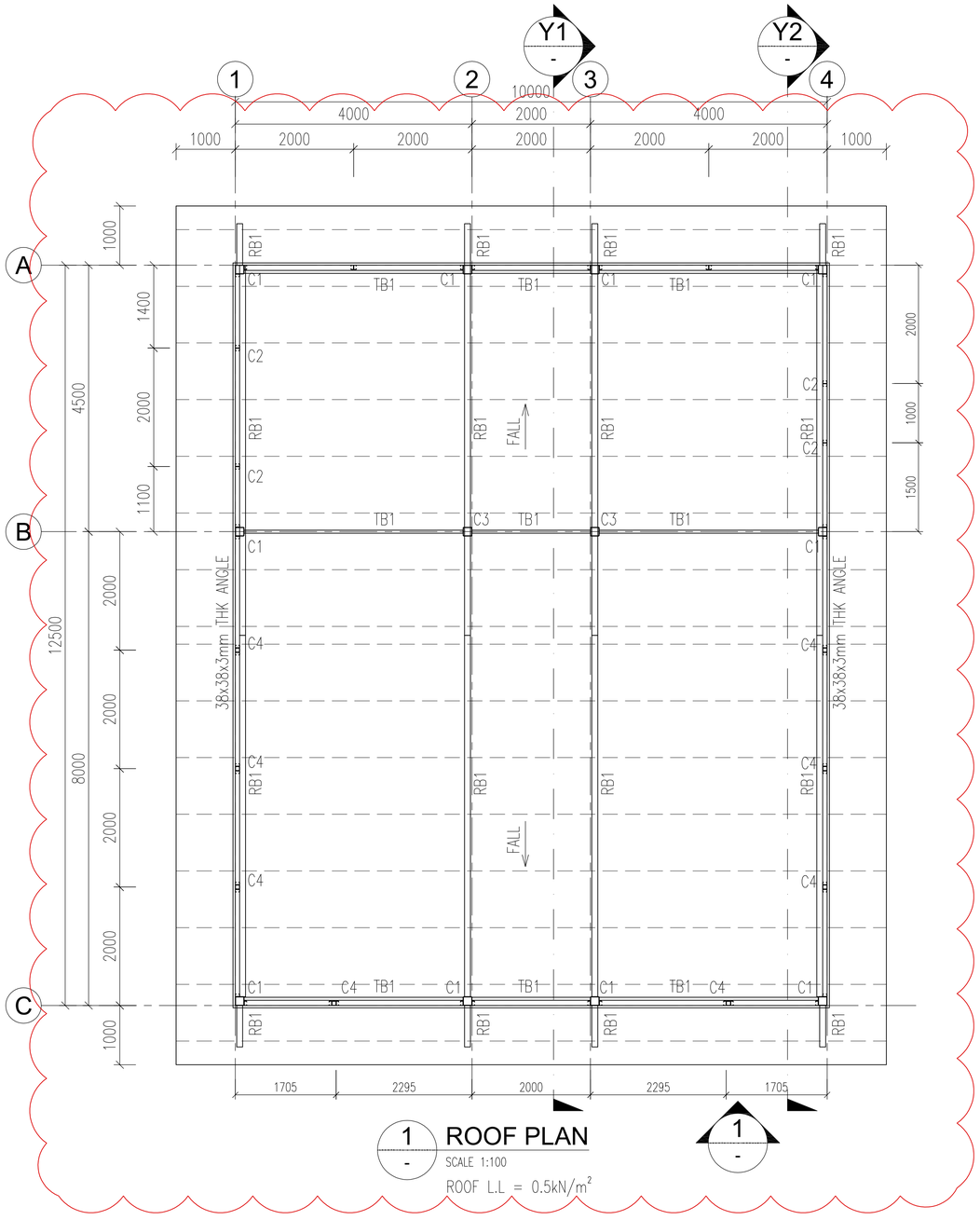
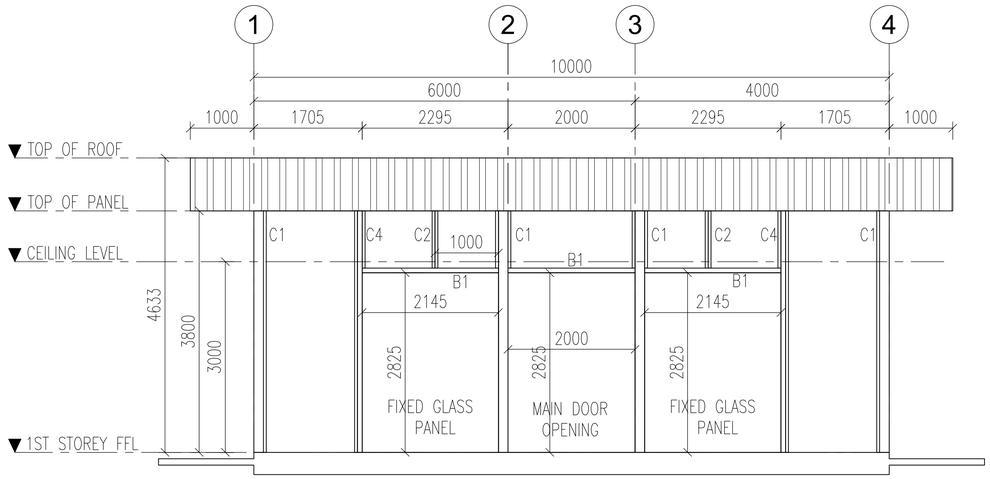
APPROVED		MNG	AUGUST 2019

JOB NO.	DISCIPLINE	DRAWING NO.	REVISION
-	S	02	-

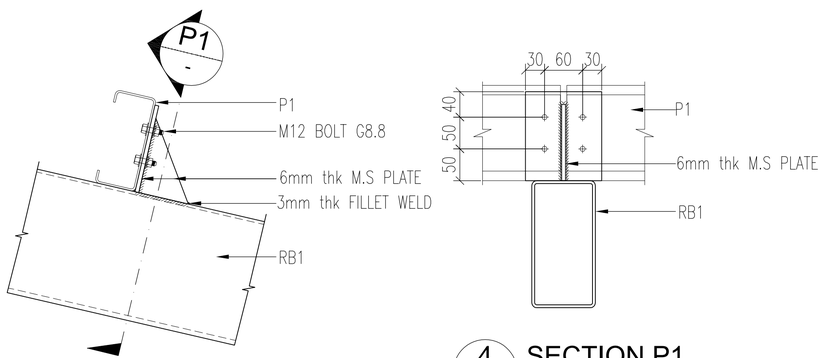


1 ROOF PLAN
SCALE 1:100

ROOF L.L = 0.5kN/m²



2 ELEVATION 1
SCALE 1:100



3 PURLIN (P1) DETAIL
SACLE 1:10

4 SECTION P1
SACLE 1:10

LEGEND	
C1	150x150x6mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
C2	2x75x45x15x3mm thk LIPPED CHANNEL
C3	150x150x6mm THK SHS
C4	75x75x4.5mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
TB1	100x50x4mm THK RHS
B1	75x75x4.5mm THK SHS
RB1	200x100x6mm THK RHS
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PROJECT

PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING DESCRIPTION

OFFICE AND WORKER DORMITORY
ROOF PLAN AND DETAILS - 1

PROFESIONAL ENGINEER

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SCALE AS SHOWN

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JOB NO.	DISCIPLINE	DRAWING NO.	REVISION
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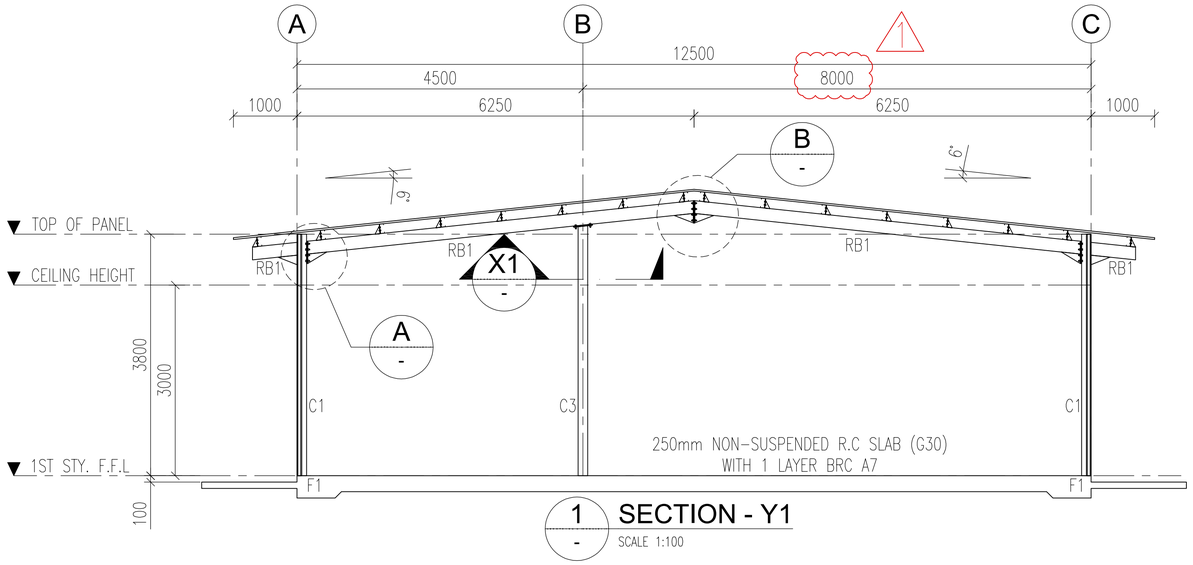
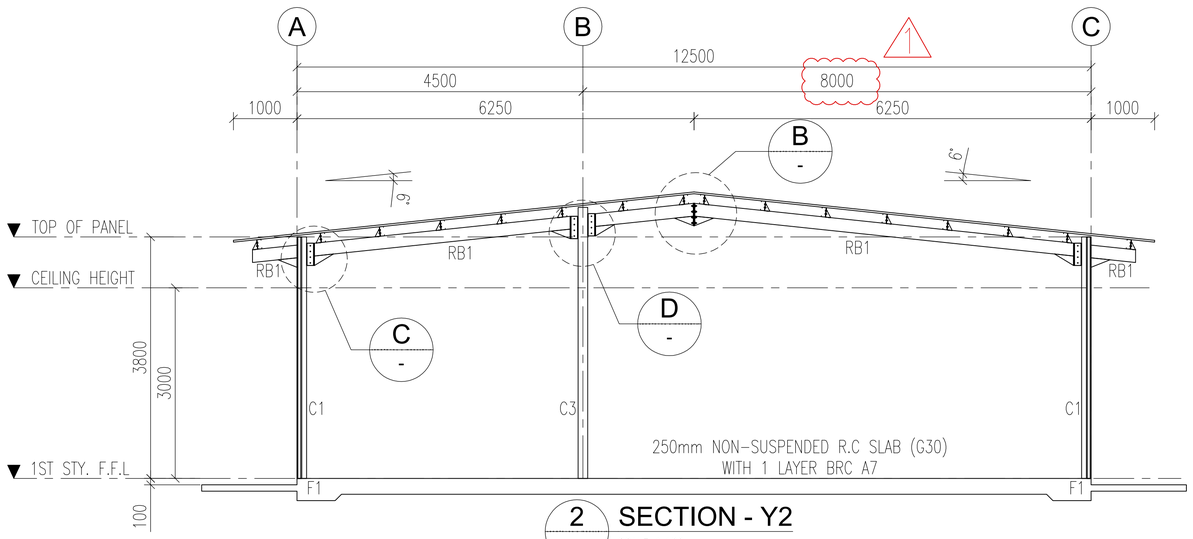


1 SECTION - Y1
SCALE 1:100



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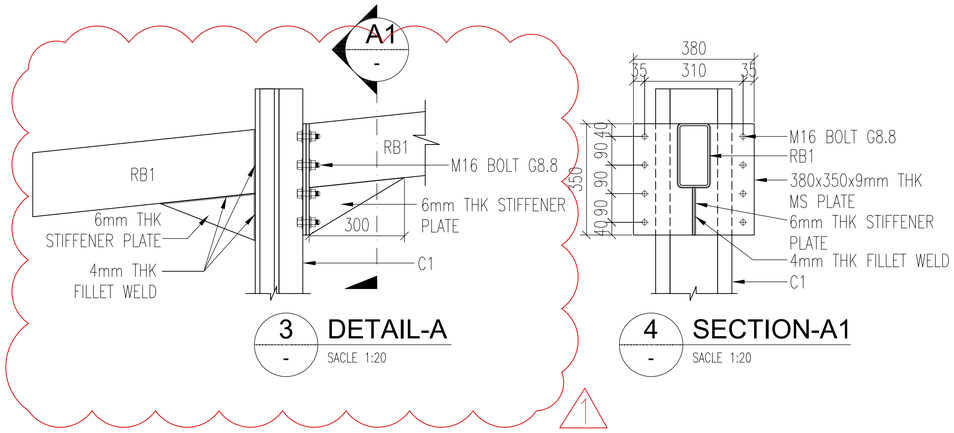
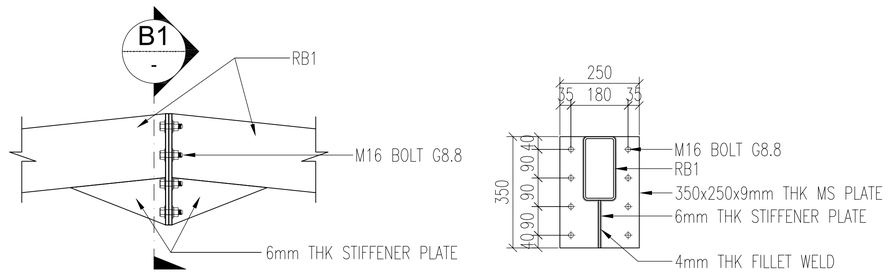


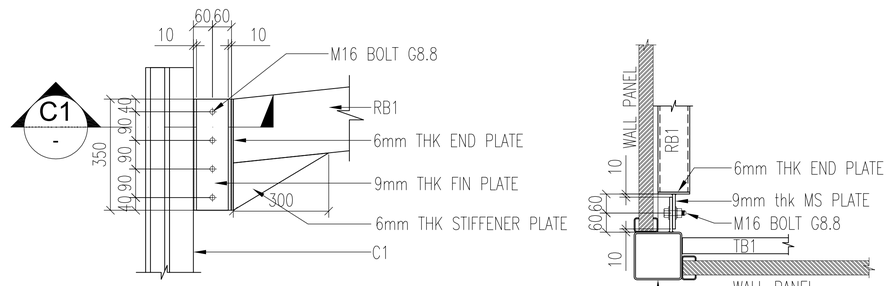
3 DETAIL-A
SACLE 1:20

4 SECTION-A1
SACLE 1:20



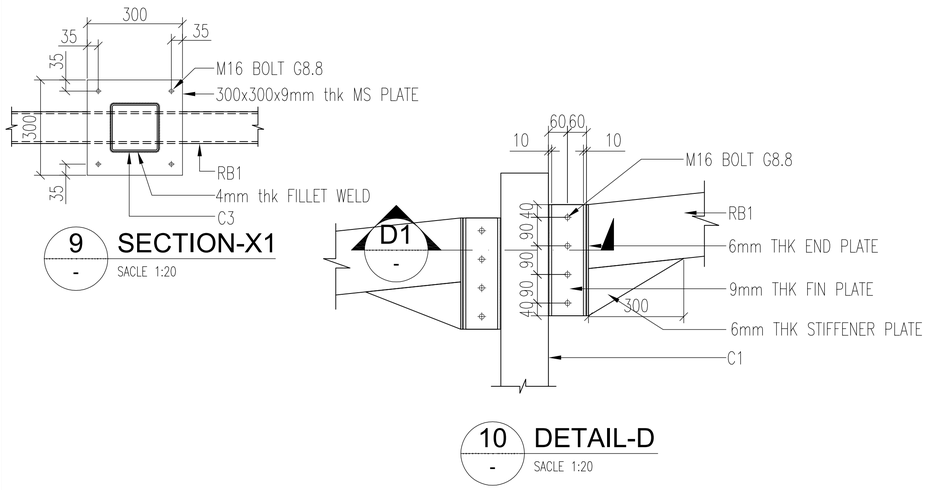
5 DETAIL-B
SACLE 1:20

6 SECTION-B1
SACLE 1:20



7 DETAIL-C
SACLE 1:20

8 SECTION-C1
SACLE 1:20



9 SECTION-X1
SACLE 1:20

10 DETAIL-D
SACLE 1:20

11 SECTION-D1
SACLE 1:20

PROFESSIONAL ENGINEER
CIVIL
NG LING CHOO
4732
SINGAPORE

STANDARD CERTIFICATION ON STRUCTURAL PLANS AND DESIGN CALCULATIONS BY THE QUALIFIED PERSON FOR STRUCTURAL WORKS

1. In accordance with Regulation 9 of the Building Control Regulations, I, NG LING CHOO, the Qualified Person for structural works appointed under section 8(1)(a) or 11(1)(d)(i) of the Building Control Act, hereby submit the detailed structural plans and design calculations prepared by me and certify that they have been prepared in accordance with the provisions of the Building Control Regulations, the Building Control Act and any other written law pertaining to buildings and construction for the time being in force.
2. I further certify that these detailed structural plans and design calculations are in reference to Project Ref. No: A0659-00315-2018-ST04
3. Total number of structural plans submitted : 04
   Total number of pages of design calculations in this book : -

PROFESSIONAL ENGINEER
CIVIL
NG LING CHOO
4732
SINGAPORE

Qualified Person For Structural Works Signature and Stamp
Date : AUGUST 2019

LEGEND	
C1	150x150x6mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
C2	2x75x45x15x3mm thk LIPPED CHANNEL
C3	150x150x6mm THK SHS
C4	75x75x4.5mm THK SHS + 2x75x45x15x3mm thk LIPPED CHANNEL
TB1	100x50x4mm THK RHS
B1	75x75x4.5mm THK SHS
RB1	200x100x6mm THK RHS
P1	150x65x2.4mm thk x5.79kg/m HIGH TENSILE GALVANISED LIPPED CHANNEL @ 1200 SPACING C/C MAX

04 sheet of 04

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5 / SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

Project Ref No : A0659-00315-2018-ST04
AMENDMENT TO ST03

for Commissioner of Building Control

For BCA use only

FOR APPROVAL

REV	DATE	NAME	SUBJECT	CHKT
			CHANGES OF COLUMN LAYOUT	
1	15/08	TIM	AND REVISED DETAIL A	MD

AMENDMENTS

THIS DRAWING IS COPYRIGHT

DEVELOPER

MAIN CONTRACTOR

ARCHITECT
H.U.A.Y ARCHITECTS
10 Anson Road, # 19-06 A International Plaza,S'pore (079903)
Tel : 63720183 Fax : 63720186
E-mail : huayarch@singnet.com.sg

PROJECT
PROPOSED LANDSCAPE NURSERY WITH A SINGLE STOREY ANCILLARY OFFICE AND NIGHT GUARD'S QUARTER ON LOT 01865P MK12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

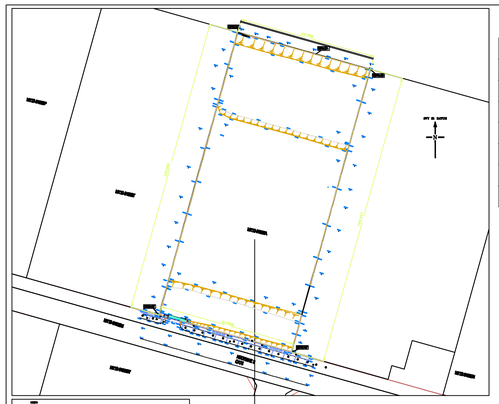
DRAWING DESCRIPTION
OFFICE AND WORKER DORMITORY
SECTIONS

PROFESIONAL ENGINEER
GNG CONSULTANTS PTE LTD.
CIVIL & STRUCTURAL CONSULTANTS
3791 Jalan Bukit Merah,
#10-23,E-Centre@Redhill
Singapore 159471
Tel:+65-6274 0311 Fax:+65-6274 0310

	BY	DATE
SCALE	AS SHOWN	
DRAWN	MYINT	AUGUST 2019
DESIGNED	TIM	AUGUST 2019
CHECKED	MNG	AUGUST 2019
APPROVED	MNG	AUGUST 2019

JOB NO.	DISCIPLINE	DRAWING NO.	REVISION
-	S	04	-

Building Plan – Plot 2.4



LOCATION PLAN
SCALE 1 : 1500 (A1)

SITE

LEGEND / FIRE PROTECTION SYSTEM

EXIT	EXIT SIGN
	4.0kg DRY CHEMICAL FIRE EXTINGUISHER
	EMERGENCY LIGHT
HR	HYDRAULIC HOSE-REEL
	ALARM CALL POINT
	ALARM BELL
AP	ALARM PANEL
S	STROBE LIGHT
	1 HR FIRE DOOR
FAP	FIRE ACCESS PANEL

TREE TABULATION

NO.	TREE_NAME	GIRTH	HEIGHT	RETAIN	REMOVE

DEVELOPMENT DATA

SITE AREA	10,452.20 SQM
PROPOSED GFA	767.50 SQM
ANCILLARY AGRICULTURAL	601.90 SQM
SALES COUNTER/COMMERCIAL	27.60 SQM
ANCILLARY VISITOR CENTRE	138 SQM
PROPOSED PLOT RATIO	0.073
SHD	6.72 M

PLANTING AREA= COMPUTATION

SHRUBS / GROUND COVERS AREA	= 1043 m2
FLOWERING PLANTS / ANNUAL PLANTS AREA	= 1370 m2
TREE / PALM AREA	= 3911 m2
PROPAGATION AREA / SHADE HOUSE	= 828 m2

TOTAL PLANTING AREA = 7152 sqm

NONE PLANTING AREA= COMPUTATION

Main Building	= 340 m2
Soil Mixing Yard	= 480 m2
Wood Chipping / Compost Yard	= 169 m2
Reservoir / Holding Tank	= 300 m2
Green Buffer & Peripheral Planting Verge	= 1024 m2
Circulation Space	= 576 m2
Parking & Loading / Unloading Space	= 48 m2
Footpath	= 363.2 m2

TOTAL NONE PLANTING AREA = 3300.2 sqm

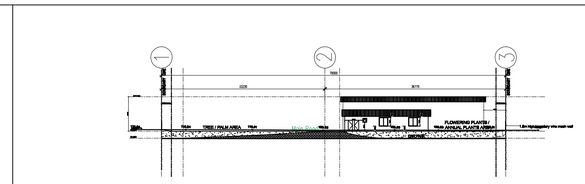
URA REQUIREMENTS

"NO OTHER WORKS TO BE CARRIED OUT TO THE SUBJECT BUILDINGS OTHER THAN THOSE HIGHLIGHTED IN THE CURRENT SUBMISSION"

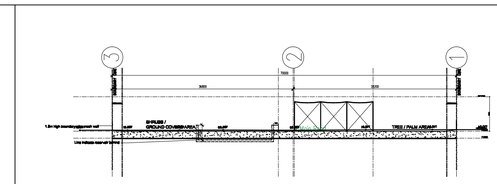
AIR CONDENSING UNITS
The installation of air-conditioning units shall comply with Conservation Guidelines.

SIGNAGES
Detail drawings of signage design indicating size, location, lettering typeface and method of support and illumination shall comply with Conservation Guidelines and shall be submitted for evaluation.

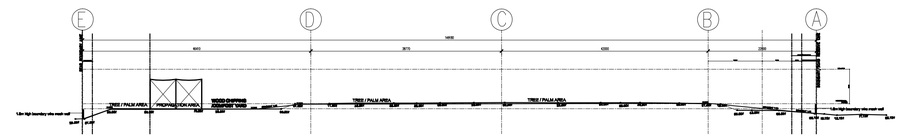
ROOF TOP SCREEN
All roof top services are to be well screened from the top and on all side. Trellises or other similar types of construction may be used. The trellis spacing must be equal or less than the depthof the trellis members. This is to enable effective screening of the roof top services.



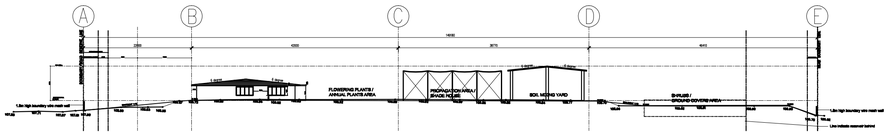
FRONT ELEVATION
SCALE 1 : 600



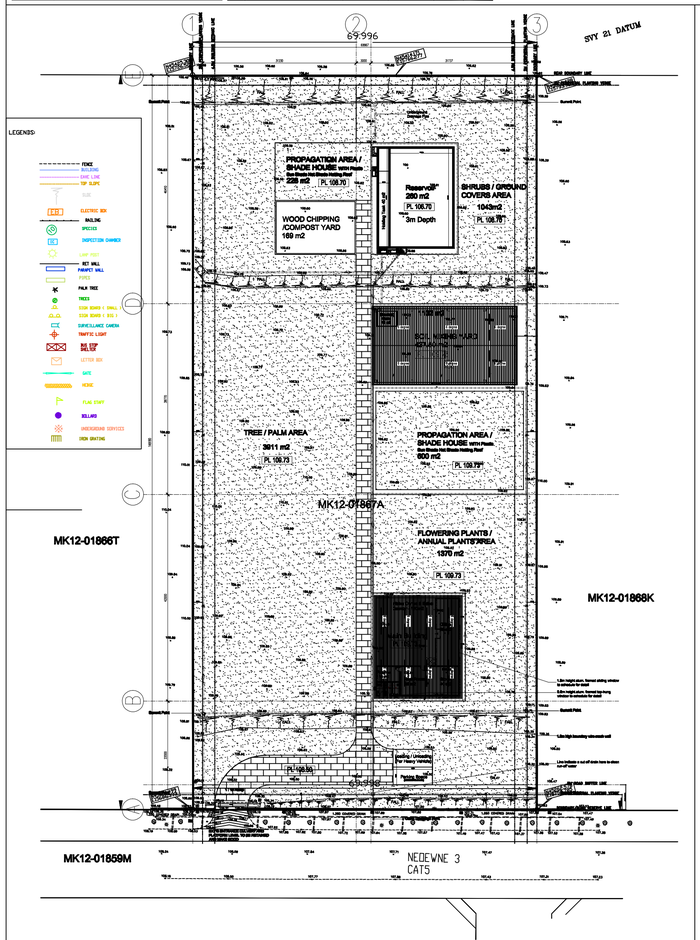
REAR ELEVATION
SCALE 1 : 600



LEFT ELEVATION
SCALE 1 : 600

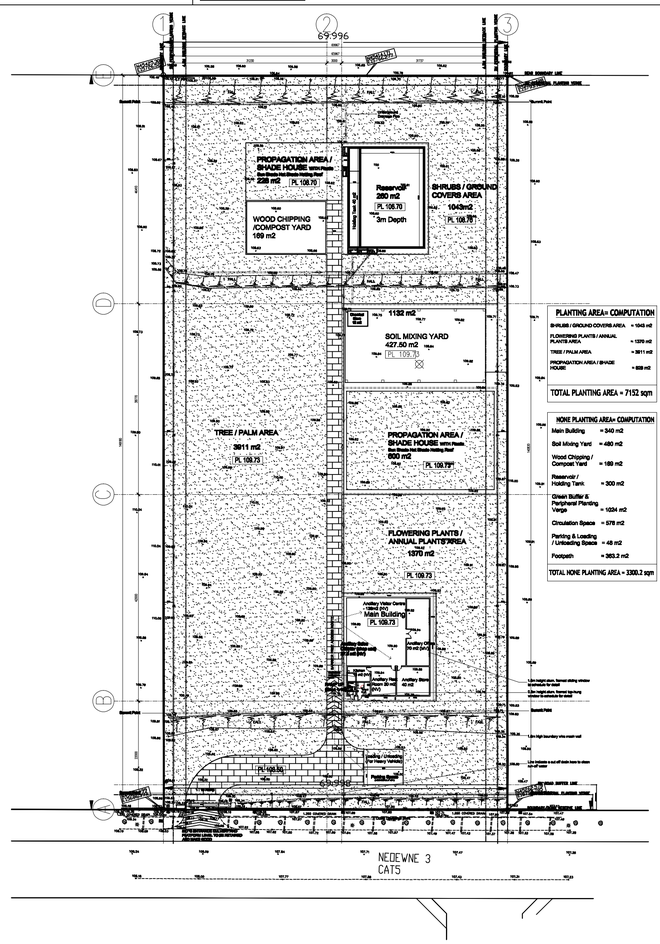


RIGHT ELEVATION
SCALE 1 : 600



SITE PLAN
SCALE 1 : 600

THE BUILDING IS PROTECTED WITH HOSE-REEL, MANUAL ALARM SYSTEM AND FIRE EXTINGUISHERS.



PLANTING AREA= COMPUTATION

SHRUBS / GROUND COVERS AREA	= 1043 m2
FLOWERING PLANTS / ANNUAL PLANTS AREA	= 1370 m2
TREE / PALM AREA	= 3911 m2
PROPAGATION AREA / SHADE HOUSE	= 828 m2

TOTAL PLANTING AREA = 7152 sqm

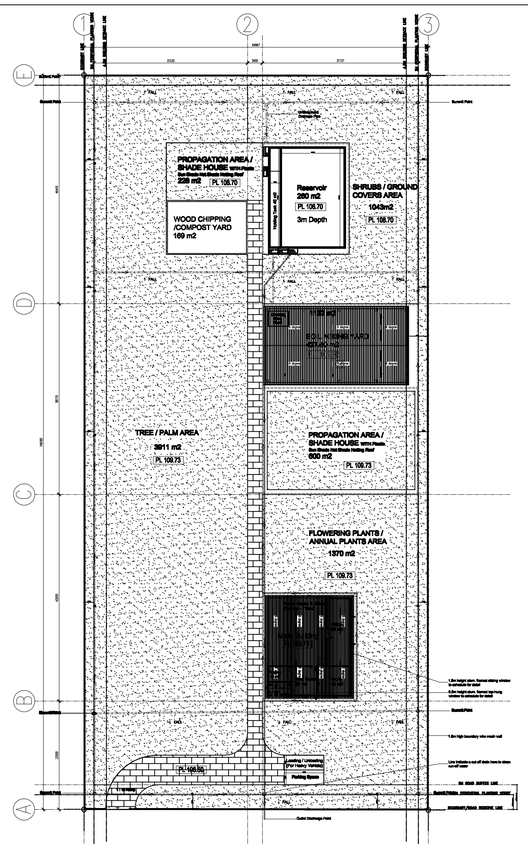
NONE PLANTING AREA= COMPUTATION

Main Building	= 340 m2
Soil Mixing Yard	= 480 m2
Wood Chipping / Compost Yard	= 169 m2
Reservoir / Holding Tank	= 300 m2
Green Buffer & Peripheral Planting Verge	= 1024 m2
Circulation Space	= 576 m2
Parking & Loading / Unloading Space	= 48 m2
Footpath	= 363.2 m2

TOTAL NONE PLANTING AREA = 3300.2 sqm

FIRST STOREY PLAN
SCALE 1 : 600

THE BUILDING IS PROTECTED WITH HOSE-REEL, MANUAL ALARM SYSTEM AND FIRE EXTINGUISHERS.



ROOF PLAN
SCALE 1 : 600

SHEET 01 OF 01

PROJECT REF NO : A2082-11173-2018 BP01

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5/SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

QP ENDORSEMENT

TSOK ARCHITECT
34 ZION ROAD
SINGAPORE 247771
TSOK WUI CHONG

DRAINAGE INTERPRETATION

I, TSOK WUI CHONG, confirm that the drainage details as shown in the layout plan are in accordance with the current information provided by the Chief Engineer, Central Building Plan Unit, NEA

ROAD INTERPRETATION

I, TSOK WUI CHONG, confirm that the road reserve lines, the category of the proposed and existing roads and other related road information as shown in the layout plan is in accordance with the current information provided by LTA

Qualified Person Endorsement :

I, Tsok Wui Chong, hereby certify, subject to any waiver/modification granted under section 6A of the Building Control Act (Cap 29), that –

(a) the preparation of these building plans are in accordance with the Building Control Regulations; and

(b) the buildings / building works shown on these plans are in accordance with the provisions of the Building Control Regulations and the acceptable solutions in the Approved Document.

I, TSOK WUI CHONG, HEREBY DECLARE THAT–
A) I AM NOT THE OWNER(S) OF THE LAND WITHIN THE MEANING OF THE TERM "OWNER" AS DEFINED IN SECTION 2 OF THE PLANNING ACT (CAP 232, 1998Ed); AND
B) I HAVE SHOWN THIS PLAN TO THE OWNER(S) OF THE LAND, AND HAVE OBTAINED THE CONSENT OF THE SAID OWNER(S) TO SUBMIT THIS PLAN TO THE COMPETENT AUTHORITY UNDER THE PLANNING ACT (232, 1998Ed).

LEGEND :
PROPOSED / NEW WORKS
EXISTING WORKS
TO BE DEMOLISHED / REMOVED

Date	Amendment Description	Rev.

OWNER

NATIONAL PARKS BOARD

SINGAPORE BOTANIC GARDENS
1 CLUNY ROAD, SINGAPORE 259569

TENURE OF LAND : LEASE

QUALIFIED PERSON

TSOK ARCHITECT
34 ZION ROAD
SINGAPORE 247771
TEL: 6227 8009 FAX: 6227 8003

PROJECT

PROPOSED NEW ERECTION OF A SINGLE STOREY LANDSCAPE NURSERY WITH ANCILLARY SHOP AND REAR SINGLE STOREY UNDERCOVER STOREROOM ON LOT 01867A MK 12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

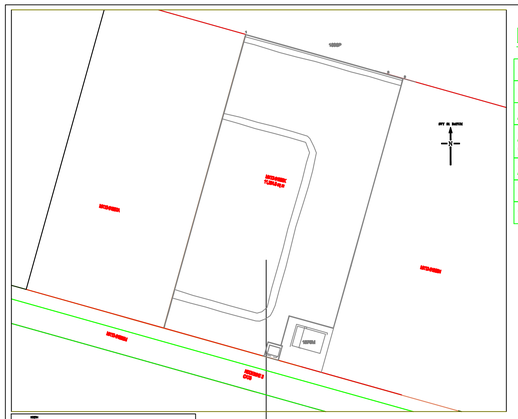
DRAWING TITLE

LOCATION PLAN, SITE PLAN
FLOOR PLANS AND ELEVATIONS

Designed : Chong	Drawn : Max	Scale : 1:600 (A1)
Checked : Chong	Date : 04-10-2018	Drawing No. NTL3_TA_SP01_A Rev. (2)

This drawing is Copyright

Building Plan – Plot 2.5



LOCATION PLAN
SCALE 1 : 1500 (A1)

SITE

LEGEND / FIRE PROTECTION SYSTEM

EXIT	EXIT SIGN
	4.0kg DRY CHEMICAL FIRE EXTINGUISHER
	EMERGENCY LIGHT
HR	HYDRAULIC HOSE-REEL
	ALARM CALL POINT
	ALARM BELL
A/P	ALARM PANEL
S	STROBE LIGHT
FD	1 HR FIRE DOOR
FAP	FIRE ACCESS PANEL

SVY21 COORDINATES FOR LOT BOUNDARY

NO.	NORTHING	EASTING
1	45406.428	15793.923
2	45386.971	15863.387
3	45384.873	15870.872
4	45262.489	15836.822
5	45268.548	15815.142
6	45254.063	15811.093
7	45255.810	15804.829
8	45248.792	15802.872
9	45262.576	15753.785

TREE TABULATION

NO.	GIRTH	HEIGHT	TREE_NAME
1	0.3m	7m	Neram (Dipterocarpus Oblongifolius)
2	0.3m	4m	Chengal Pasir (Hopea Odorata)
3	0.3m	4m	Sapling
4	0.3m	4m	Sapling
5	0.3m	7m	Neram (Dipterocarpus Oblongifolius)
6	0.3m	4m	Chengal Pasir (Hopea Odorata)
7	0.3m	4m	Sapling
8	0.3m	3m	Chengal Pasir (Hopea Odorata)
9	0.2m	7m	Neram (Dipterocarpus Oblongifolius)
10	0.2m	7m	Neram (Dipterocarpus Oblongifolius)
11	0.3m	3m	Chengal Pasir (Hopea Odorata)
12	0.3m	4m	Sapling

DEVELOPMENT DATA

SITE AREA	11,394 SQM
PROPOSED GFA	704.60 SQM
ANCILLARY AGRICULTURAL GFA 539.00 SQM	
ANCILLARY SALES COUNTER/ COMMERCIAL 33.60 SQM	
ANCILLARY VISITOR CENTRE 132.00 SQM	
PROPOSED PLOT RATIO	0.0618
SHD	5.59 M

PLANTING AREA= COMPUTATION

SHRUBS / GROUND COVERS AREA	= 1772.3 m2
FLOWERING PLANTS / ANNUAL	= 2059.7 m2
PLANTS AREA	= 886.6 m2 + 54.4 m2
TREE / PALM AREA	= 2529.4 m2
PROPAGATION AREA / SHADE HOUSE	= 576 m2

TOTAL PLANTING AREA = 7877.4 sqm

NONE PLANTING AREA= COMPUTATION

Main Building	= 330.29 m2
Soil Mixing Yard	= 374 m2
Wood Chipping / Compost Yard	= 432 m2
Reservoir & Holding Tank	= 325 m2
Filtration Tank & Pump Room & Overflow Tank	= 8 m2
Green Buffer & Peripheral Planting Verge	= 1014 m2
Main Road	= 477.4 m2
Parking & Loading / Unloading Space	= 24 m2 + 32 m2
Footpath	= 457.1 m2

TOTAL NONE PLANTING AREA = 3473.79 sqm

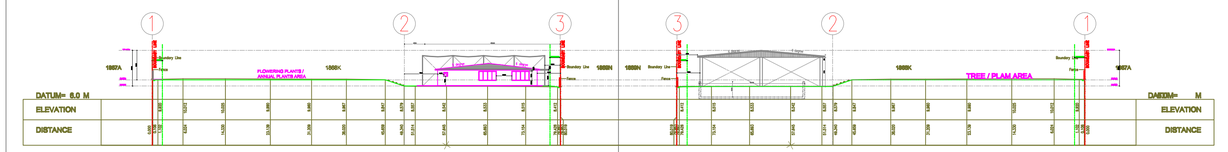
URA REQUIREMENTS

"NO OTHER WORKS TO BE CARRIED OUT TO THE SUBJECT BUILDINGS OTHER THAN THOSE HIGHLIGHTED IN THE CURRENT SUBMISSION"

AIR_CONDENSING UNITS
The installation of air-conditioning units shall comply with Conservation Guidelines.

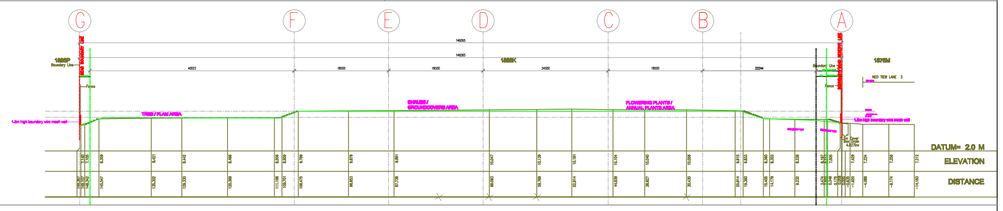
SIGNAGES
Detail drawings of signage design indicating size, location, lettering typeface and method of support and illumination shall comply with Conservation Guidelines and shall be submitted for evaluation.

ROOF TOP SCREEN
All roof top services are to be well screened from the top and on all side. Trellises or other similar types of construction may be used. The trellis spacing must be equal or less than the depthof the trellis members. This is to enable effective screening of the roof top services.

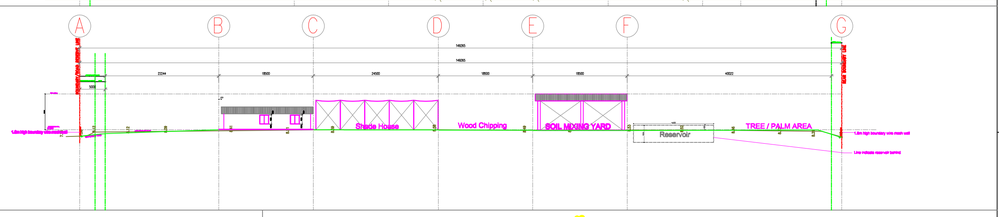


FRONT ELEVATION
SCALE 1 : 600

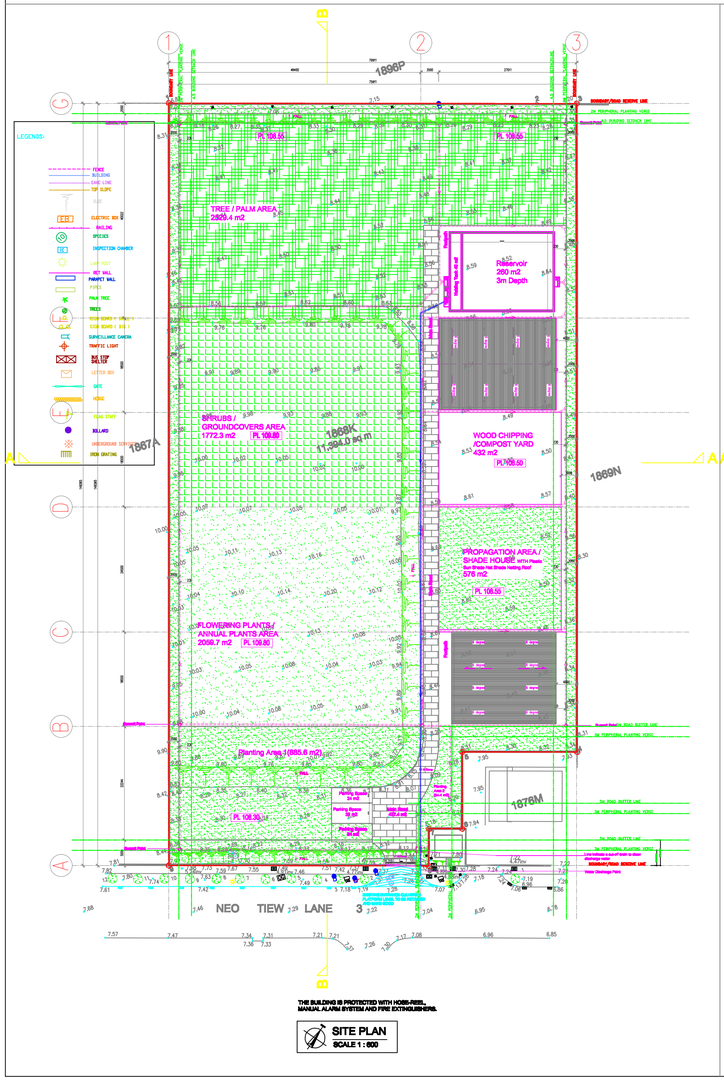
REAR ELEVATION
SCALE 1 : 600



RIGHT ELEVATION
SCALE 1 : 600

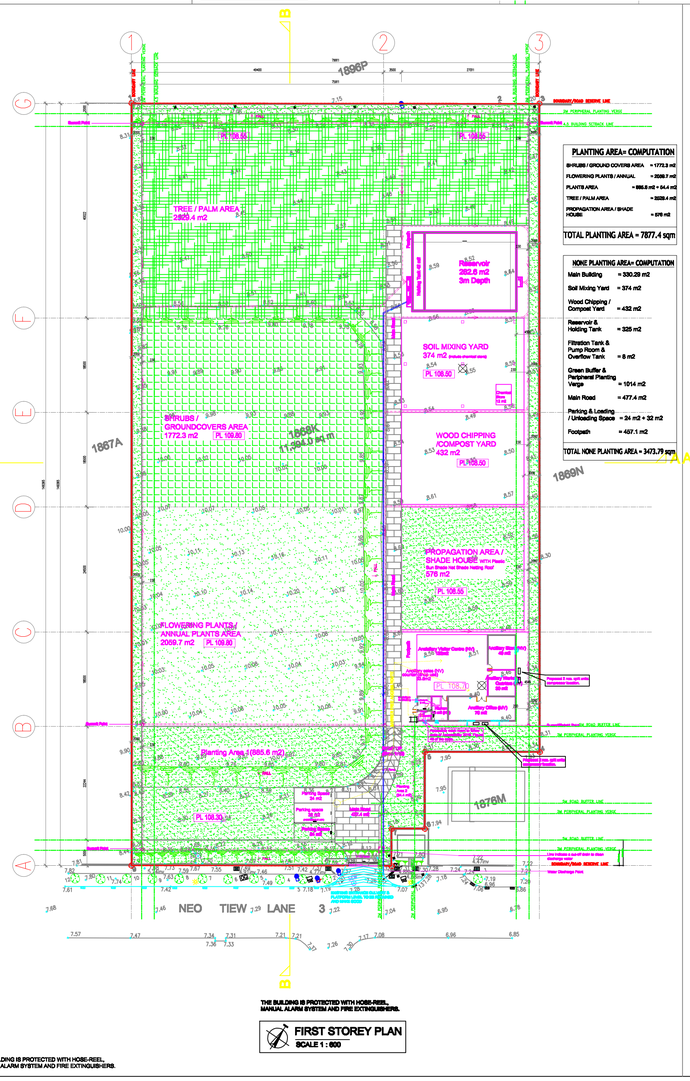


LEFT ELEVATION
SCALE 1 : 600



SITE PLAN
SCALE 1 : 600

THE BUILDING IS PROTECTED WITH HOSE-REEL, MANUAL ALARM SYSTEM AND FIRE EXTINGUISHERS.



PLANTING AREA= COMPUTATION

SHRUBS / GROUNDCOVERS AREA	= 1772.3 m2
FLOWERING PLANTS / ANNUAL	= 2059.7 m2
PLANTS AREA	= 886.6 m2 + 54.4 m2
TREE / PALM AREA	= 2529.4 m2
PROPAGATION AREA / SHADE HOUSE	= 576 m2

TOTAL PLANTING AREA = 7877.4 sqm

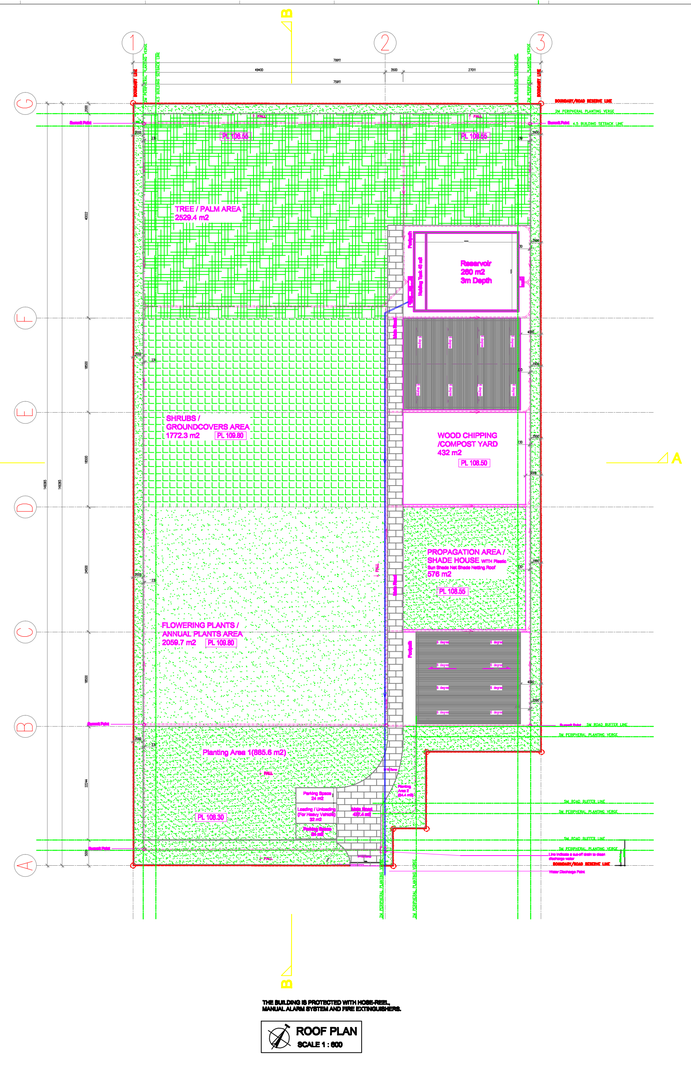
NONE PLANTING AREA= COMPUTATION

Main Building	= 330.29 m2
Soil Mixing Yard	= 374 m2
Wood Chipping / Compost Yard	= 432 m2
Reservoir & Holding Tank	= 325 m2
Filtration Tank & Pump Room & Overflow Tank	= 8 m2
Green Buffer & Peripheral Planting Verge	= 1014 m2
Main Road	= 477.4 m2
Parking & Loading / Unloading Space	= 24 m2 + 32 m2
Footpath	= 457.1 m2

TOTAL NONE PLANTING AREA = 3473.79 sqm

FIRST STOREY PLAN
SCALE 1 : 600

THE BUILDING IS PROTECTED WITH HOSE-REEL, MANUAL ALARM SYSTEM AND FIRE EXTINGUISHERS.



ROOF PLAN
SCALE 1 : 600

THE BUILDING IS PROTECTED WITH HOSE-REEL, MANUAL ALARM SYSTEM AND FIRE EXTINGUISHERS.

SHEET 01 OF 01

PROJECT REF NO : A2082-11174-2018 BP01

BUILDING AND CONSTRUCTION AUTHORITY
APPROVED UNDER SECTION 5/SECTION 5A OF THE BUILDING CONTROL ACT (CHAPTER 29)

AS BUILT DRAWING

DRAINAGE INTERPRETATION

I, TSOK WUI CHONG , confirm that the drainage details as shown in the layout plan are in accordance with the current information provided by the Chief Engineer, Central Building Plan Unit, NEA
ROAD INTERPRETATION

I, TSOK WUI CHONG , confirm that the road reserve lines, the category of the proposed and existing roads and other related road information as shown in the layout plan is in accordance with the current information provided by LTA

Qualified Person Endorsement :

I, Tsok Wui Chong, hereby certify, subject to any waiver/modification granted under section 6A of the Building Control Act (Cap 29), that –

(a) the preparation of these building plans are in accordance with the Building Control Regulations; and

(b) the buildings / building works shown on these plans are in accordance with the provisions of the Building Control Regulations and the acceptable solutions in the Approved Document.

I, TSOK WUI CHONG, HEREBY DECLARE THAT–
A) I AM NOT THE OWNER(S) OF THE LAND WITHIN THE MEANING OF THE TERM "OWNER" AS DEFINED IN SECTION 2 OF THE PLANNING ACT (CAP 232, 1998Ed); AND
B) I HAVE SHOWN THIS PLAN TO THE OWNER(S) OF THE LAND, AND HAVE OBTAINED THE CONSENT OF THE SAID OWNER(S) TO SUBMIT THIS PLAN TO THE COMPETENT AUTHORITY UNDER THE PLANNING ACT (232, 1998Ed).

LEGEND :
- *PROPOSED / NEW WORKS*
- *EXISTING WORKS*
- *TO BE DEMOLISHED / REMOVED*

Date	Amendment Description	Rev.

OWNER

NATIONAL PARKS BOARD
SINGAPORE BOTANIC GARDENS
1 CLUNY ROAD
SINGAPORE 259569

TENURE OF LAND : LEASE

QUALIFIED PERSON

TSOK ARCHITECT
34 ZION ROAD
SINGAPORE 247771
TEL: 6227 8009 FAX: 6227 8003

PROJECT

PROPOSED NEW ERECTION OF A SINGLE STOREY LANDSCAPE NURSERY WITH ANCILLARY SHOP AND REAR SINGLE STOREY UNDERCOVER STOREROOM ON LOT 01868K, MK 12 AT NEO TIEW LANE 3 (LIM CHU KANG PLANNING AREA)

DRAWING TITLE

LOCATION PLAN, SITE PLAN
FLOOR PLANS AND ELEVATIONS

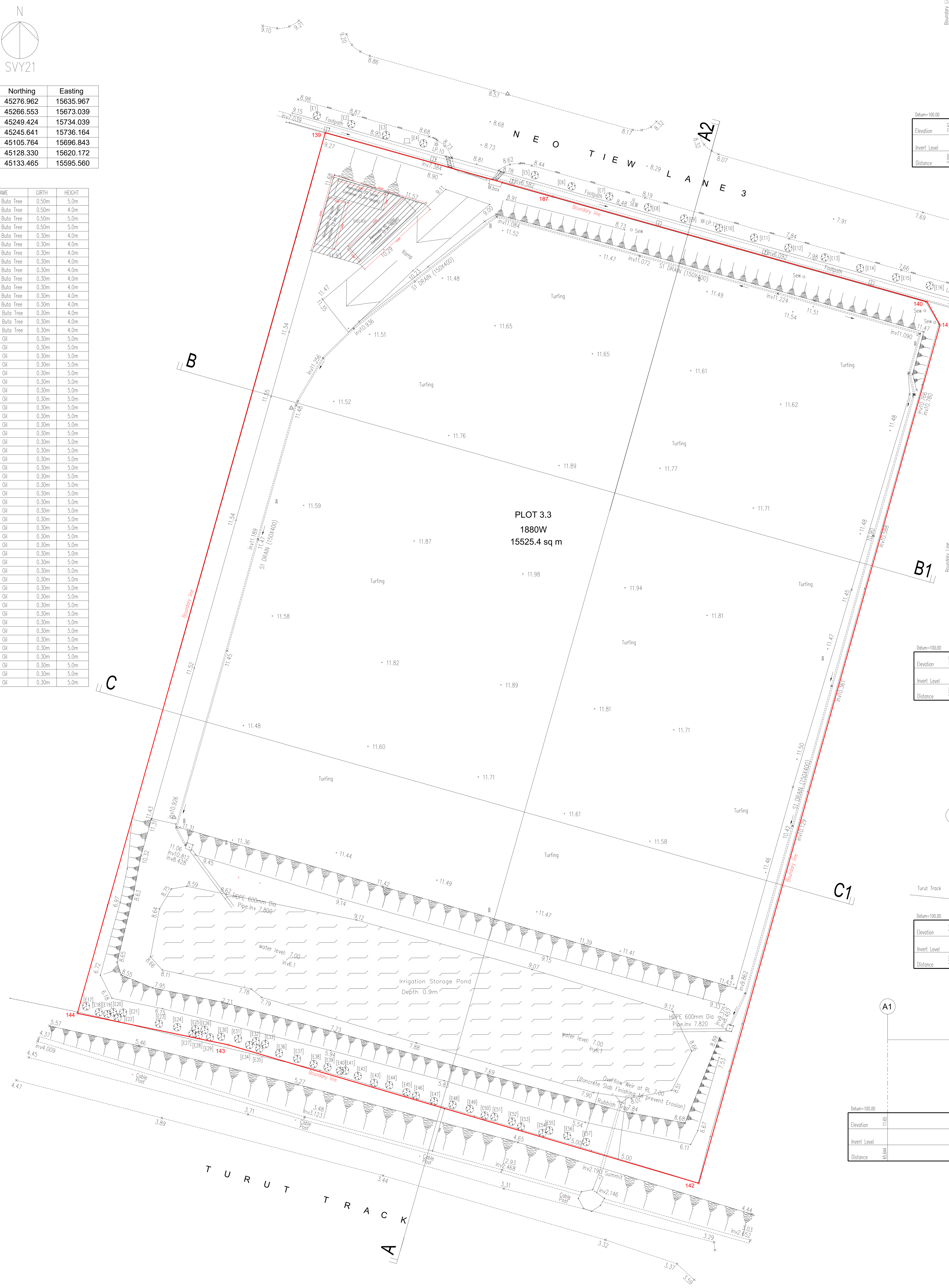
Designed : Chong	Drawn : Max	Scale : 1:600 (A1)	
Checked : Chong	Date : 21-11-2018	Drawing No. NTL3_TA_SP01_A Rev. (2)	

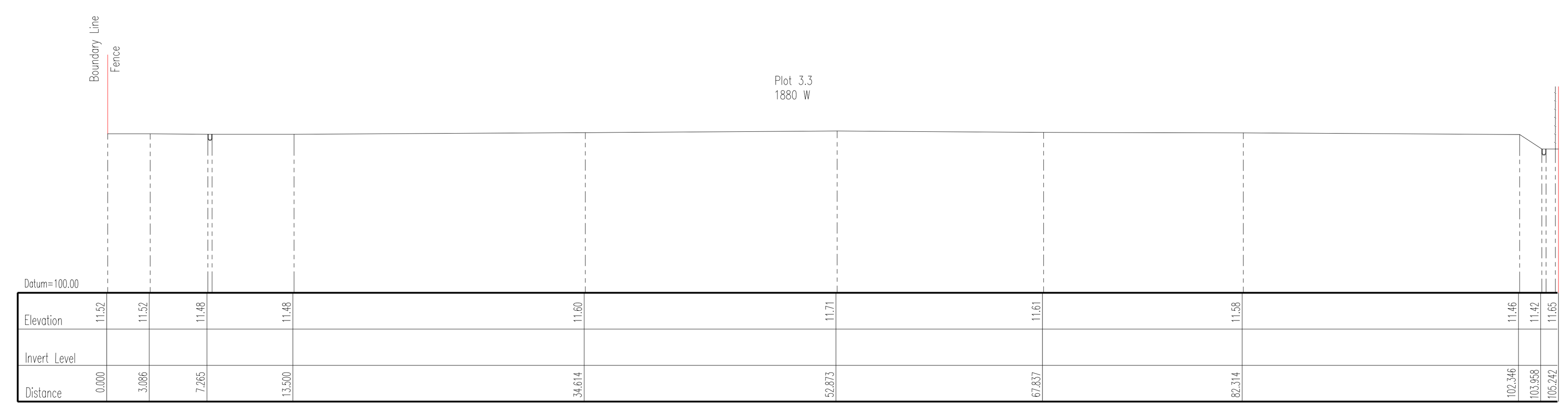
This drawing is Copyright

Building Plan – Plot 3.3

Stn No	Northing	Easting
139	45276.962	15635.967
187	45266.553	15673.039
140	45249.424	15734.039
141	45245.641	15736.164
142	45105.764	15696.843
143	45128.330	15620.172
144	45133.465	15595.560

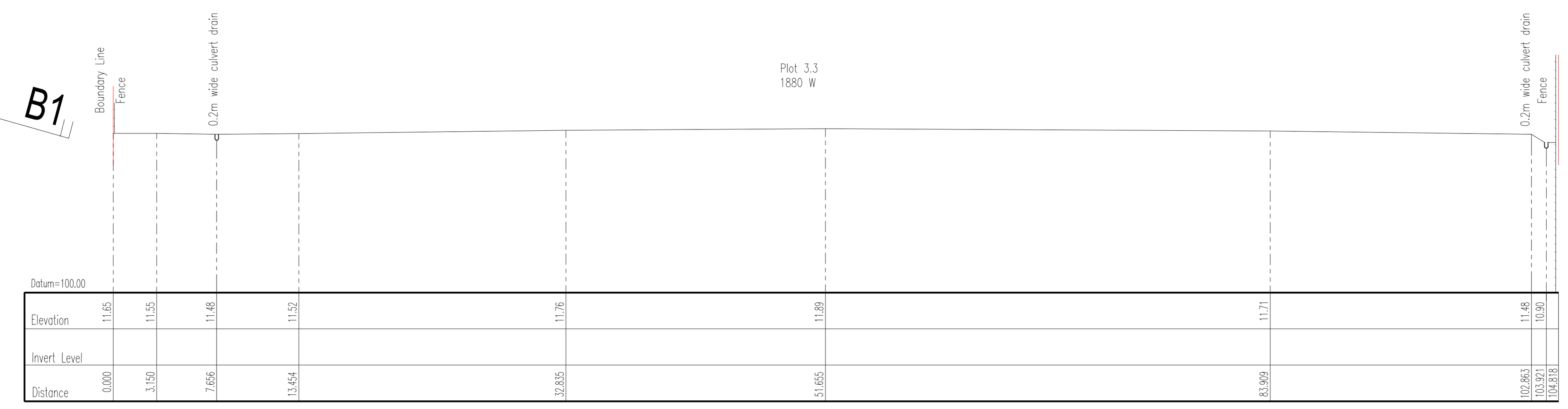
NO.	TREE_NAME	GIRTH	HEIGHT
E1	Buta Buta Tree	0.50m	5.0m
E2	Buta Buta Tree	0.50m	4.0m
E3	Buta Buta Tree	0.50m	5.0m
E4	Buta Buta Tree	0.50m	5.0m
E5	Buta Buta Tree	0.30m	4.0m
E6	Buta Buta Tree	0.30m	4.0m
E7	Buta Buta Tree	0.30m	4.0m
E8	Buta Buta Tree	0.30m	4.0m
E9	Buta Buta Tree	0.30m	4.0m
E10	Buta Buta Tree	0.30m	4.0m
E11	Buta Buta Tree	0.30m	4.0m
E12	Buta Buta Tree	0.30m	4.0m
E13	Buta Buta Tree	0.30m	4.0m
E14	Buta Buta Tree	0.30m	4.0m
E15	Buta Buta Tree	0.30m	4.0m
E16	Buta Buta Tree	0.30m	4.0m
E17	Kelat Oil	0.30m	5.0m
E18	Kelat Oil	0.30m	5.0m
E19	Kelat Oil	0.30m	5.0m
E20	Kelat Oil	0.30m	5.0m
E21	Kelat Oil	0.30m	5.0m
E22	Kelat Oil	0.30m	5.0m
E23	Kelat Oil	0.30m	5.0m
E24	Kelat Oil	0.30m	5.0m
E25	Kelat Oil	0.30m	5.0m
E26	Kelat Oil	0.30m	5.0m
E27	Kelat Oil	0.30m	5.0m
E28	Kelat Oil	0.30m	5.0m
E29	Kelat Oil	0.30m	5.0m
E30	Kelat Oil	0.30m	5.0m
E31	Kelat Oil	0.30m	5.0m
E32	Kelat Oil	0.30m	5.0m
E33	Kelat Oil	0.30m	5.0m
E34	Kelat Oil	0.30m	5.0m
E35	Kelat Oil	0.30m	5.0m
E36	Kelat Oil	0.30m	5.0m
E37	Kelat Oil	0.30m	5.0m
E38	Kelat Oil	0.30m	5.0m
E39	Kelat Oil	0.30m	5.0m
E40	Kelat Oil	0.30m	5.0m
E41	Kelat Oil	0.30m	5.0m
E42	Kelat Oil	0.30m	5.0m
E43	Kelat Oil	0.30m	5.0m
E44	Kelat Oil	0.30m	5.0m
E45	Kelat Oil	0.30m	5.0m
E46	Kelat Oil	0.30m	5.0m
E47	Kelat Oil	0.30m	5.0m
E48	Kelat Oil	0.30m	5.0m
E49	Kelat Oil	0.30m	5.0m
E50	Kelat Oil	0.30m	5.0m
E51	Kelat Oil	0.30m	5.0m
E52	Kelat Oil	0.30m	5.0m
E53	Kelat Oil	0.30m	5.0m
E54	Kelat Oil	0.30m	5.0m
E55	Kelat Oil	0.30m	5.0m
E56	Kelat Oil	0.30m	5.0m
E57	Kelat Oil	0.30m	5.0m





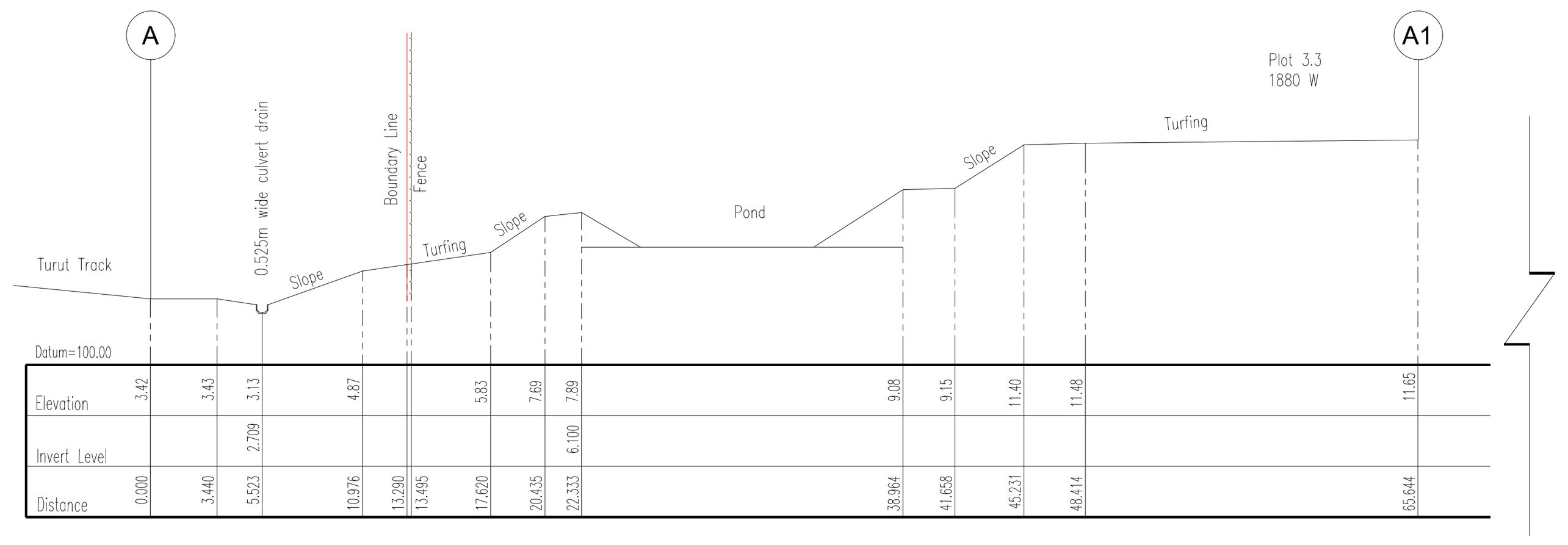
CROSS SECTION C - C1

VERTICAL SCALE 1:400
HORIZONTAL SCALE 1:400



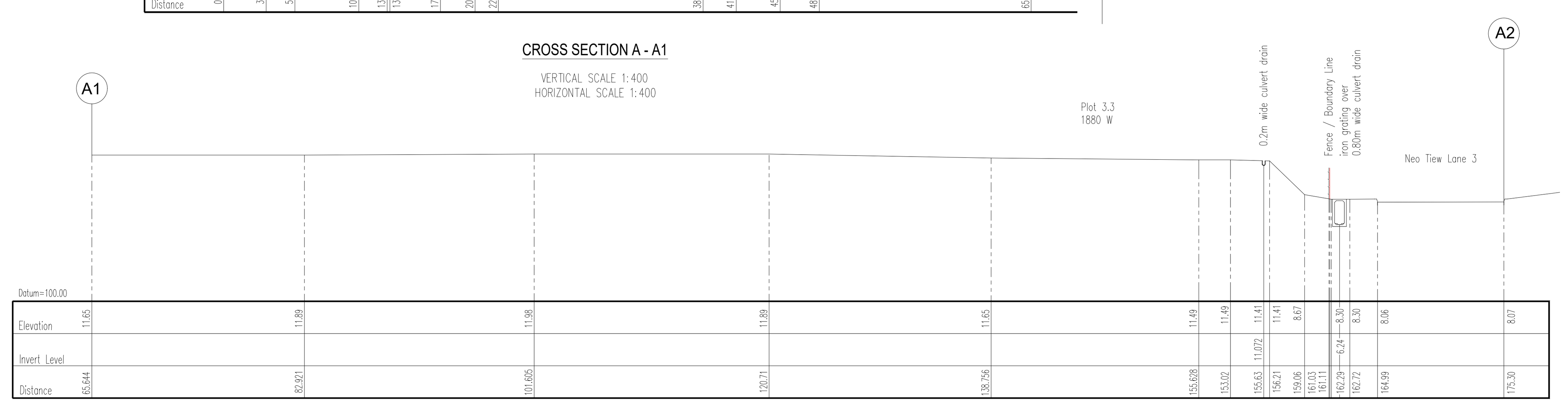
CROSS SECTION B - B1

VERTICAL SCALE 1:400
HORIZONTAL SCALE 1:400



CROSS SECTION A - A1

VERTICAL SCALE 1:400
HORIZONTAL SCALE 1:400



LEGENDS:

- INSPECTION CHAMBER (SQUARE)
- BOLLARD
- MANHOLE (SEW)
- TAS
- MANHOLE (TAS)
- FIRE HYDRANT
- MIRROR
- TREE
- WATER VALVE
- GATE
- ROAD SIDE GRATING
- POLE
- WATER PIPE
- DRAIN GRATING
- SLOPE
- BUSHES

NOTES :

01. Surveyed in SVY21 datum
02. Areas are adopted from Setting out plan 3.3, Npark drawing
03. Area and boundary information shown hereon are provisional and subject to alteration on final survey in SVY21 datum
04. Position of sewer manholes shown hereon are indicative only, the final positions of sewer manholes connection, pipe alignment are to be decided and confirmed by the Licensed Plumber and Consultants.
05. Services visible above ground are surveyed.
06. User is to verify value for temporary bench marks shown on this plan before adopting for use.
07. All level informations shown are M.S.L. (+0.0m).
08. Species of trees, as indicated on this plan, are correct to the best of our ability and knowledge with reference to NParks Board's Publication Books.
09. All information as shown on plan is correct at the time of survey.
10. This is not an encroachment survey

DING LIDONG
REGISTERED SURVEYOR (Singapore)
Msc. Hydro (UK)
Bsc.(Hons) Surv (UK)

Rev. No.	Revision	Signed	Date

SURVEY BY :

LANDVISION
REGISTERED SURVEYOR
5A JASMINE ROAD SINGAPORE 576580
Email: Lidong@ldv.com.sg

PROJECT TITLE :
PROPOSED DEVELOPMENT ON MK12 LOT 1880W
NEO TIEW LANE 3 (LIM CHU KANG)

DRAWING TITLE :

TOPOGRAPHICAL SURVEY PLAN

Surveyed By	:	MIC	Drawn By	:	WF
Date	:		Checked By	:	LD
Paper size	:	A1	Scale	:	1 : 4 0 0

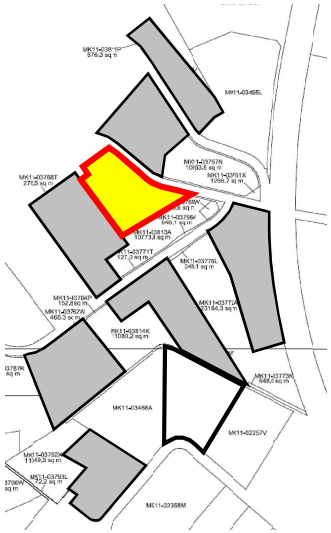
DRAWING NO. : LDV20-991_NeoTiewLane3_tp5

Plot 9.4

A. Locations of Existing Structures
B. Baseline Trial Pit Test Report

Land With Buildings

Plot 9.4

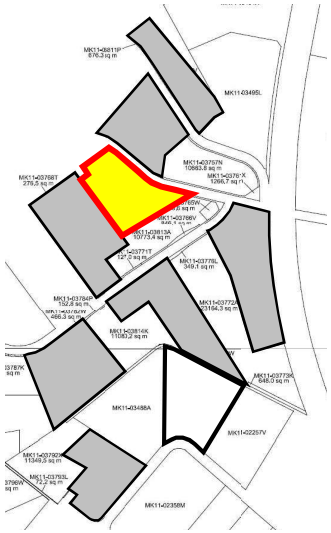




Building #	GBR ID	Previous Use	GFA
A	GB016734T	Ancillary Facility	400.00 Sqm
B	GB016733S	Dwelling House	182.40 Sqm

Land With Buildings

Plot 9.4

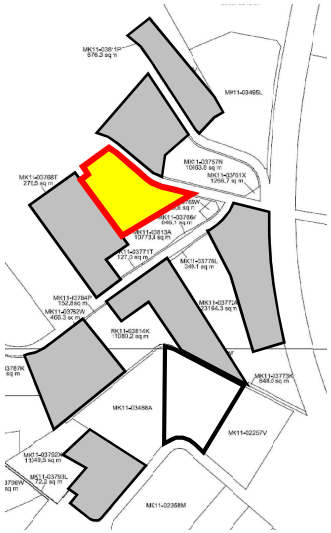




Building #	GBR ID	Previous Use	GFA
A	GB016734T	Ancillary Facility	400.00 Sqm
B	GB016733S	Dwelling House	182.40 Sqm

Land With Buildings

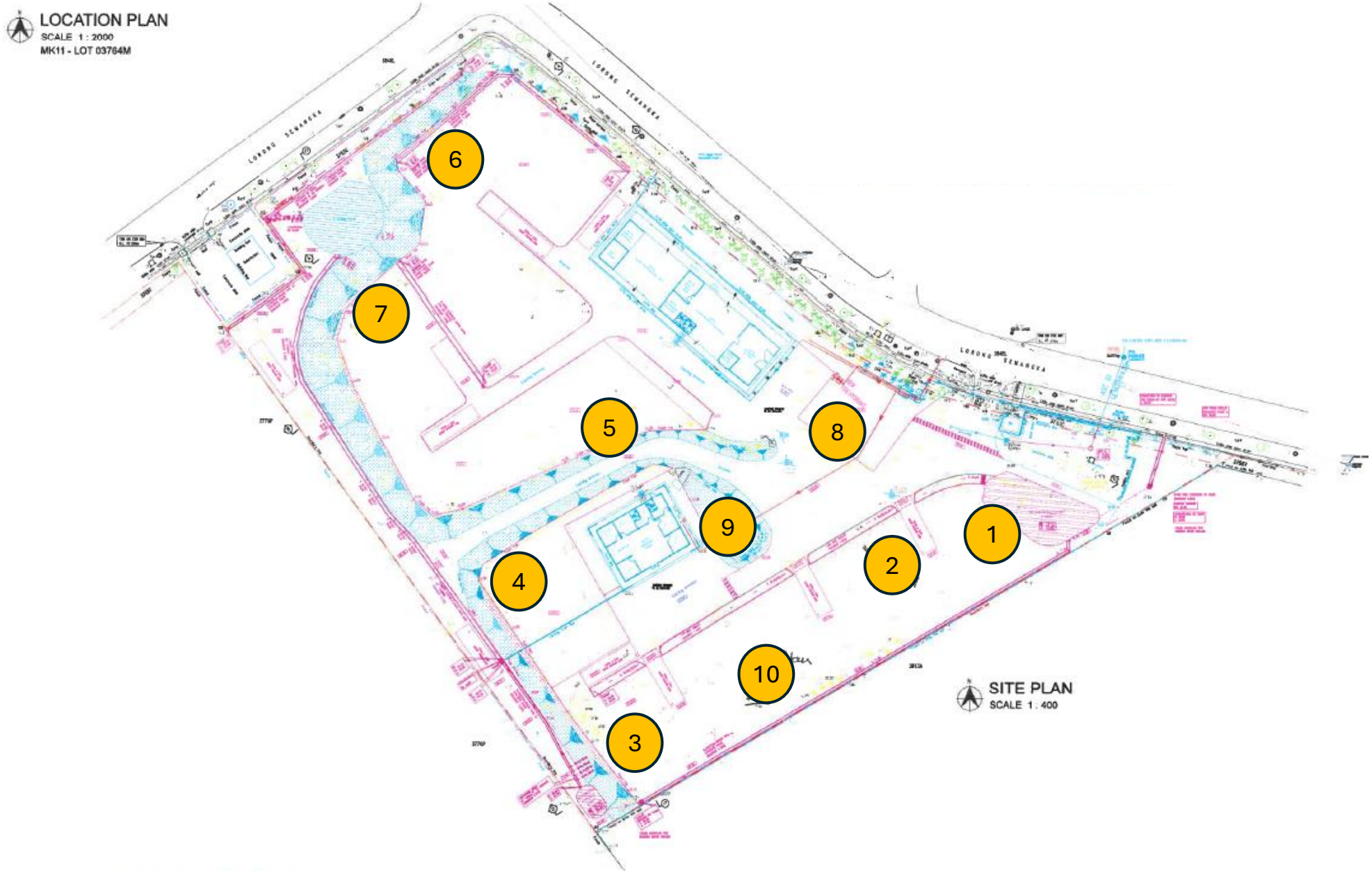
Plot 9.4





Building #	GBR ID	Previous Use	GFA
A	GB016734T	Ancillary Facility	400.00 Sqm
B	GB016733S	Dwelling House	182.40 Sqm

Baseline Trial Pit Test Report (2025) – Trial Pit Locations



Baseline Trial Pit Test Report (2025) – Soil Condition / Findings

Pit No.	Depth	Soil Type	Findings
1	1.5m	Red earth, Grey sand (cement mortar) below the concrete layer	• Concrete layer found at 1.5m depth. Excavator unable to break through. • Broken red bricks, broken concrete blocks and pieces, broken timber pieces.
2	1.7m	Red earth, Grey sand (cement mortar)	• Concrete layer found at 1.7m depth. Excavator unable to break through. • Broken red bricks, broken concrete blocks and pieces, broken timber pieces, broken PVC pipe, pieces of nylon rope.
3	1.7m	Red and grey clay below dry earth	• Concrete layer found at 1.7m depth. Excavator unable to break through. • Broken red bricks, broken concrete blocks and pieces, broken timber pieces, broken PVC pipe.
4	1.7m	Red & Purple earth	• Concrete layer found at 1.7m depth. Excavator unable to break through. • Broken pavement bricks, broken bicycle frame, broken concrete blocks and pieces, pieces of bitumen, some concrete tiles.
5	8cm	Red & Purple earth	• Concrete layer found at 8cm depth. Excavator unable to break through. • Broken timber pieces.
6	1.5m	Clean red earth	• Some rocks, broken concrete blocks and pieces.
7	30cm	Red & Purple earth	• Concrete layer found at 30cm depth. Excavator unable to break through. • Concrete tiles.
8	30cm	Red & Purple earth	• Concrete layer found at 30cm depth. Excavator unable to break through. • Broken timber pieces.
9	1m	Red & Purple earth	• Concrete layer found at 1m depth. Excavator unable to break through. • Square concrete tiles.
10	1.7m	Red & Purple earth	• Concrete layer found at 1.7m depth. Excavator unable to break through. • Broken red bricks, broken concrete blocks and pieces.

Pit #1



Dug out #1



Findings from Pit #1:

- Concrete layer found at 1.5m depth. Excavator unable to break through.
- Broken red bricks, broken concrete blocks and pieces, broken timber pieces.

Pit #2



Dug out #2



Findings from Pit #2:

- Concrete layer found at 1.7m depth. Excavator unable to break through.
- Broken red bricks, broken concrete blocks and pieces, broken timber pieces, broken PVC pipe, pieces of nylon rope.

Pit #3



Dug out #3



Findings from Pit #3:

- Concrete layer found at 1.7m depth. Excavator unable to break through.
- Broken red bricks, broken concrete blocks and pieces, broken timber pieces, broken PVC pipe.

Pit #4



Dug out #4



Findings from Pit #4:

- Concrete layer found at 1.7m depth. Excavator unable to break through.
- Broken pavement bricks, broken bicycle frame, broken concrete blocks and pieces, pieces of bitumen, some concrete tiles.

Pit #5



Dug out #5



Findings from Pit #5:

- Concrete layer found at 8cm depth. Excavator unable to break through.
- Broken timber pieces.

Pit #6



Dug out #6



<u>Findings from Pit #6:</u>

- Rocks, broken concrete blocks and pieces.

Pit #7



Dug out #7

<u>Findings from Pit #7:</u>

- Concrete layer found at 30cm depth. Excavator unable to break through.
- Concrete tiles.

Pit #8



Dug out #8



<u>Findings from Pit #8:</u>

- Concrete layer found at 30cm depth. Excavator unable to break through.
- Broken timber pieces.

Pit #9



Dug out #9



<u>Findings from Pit #9:</u>

- Concrete layer found at 1m depth. Excavator unable to break through.
- Square concrete tiles.

Pit #10



Dug out #10



<u>Findings from Pit #10:</u>

- Concrete layer found at 1.7m depth. Excavator unable to break through.
- Broken red bricks, broken concrete blocks and pieces.

Topographic Survey – Plot 9.22


MK11-03488A
MK11-03794C
MK11-03792X
MK11-04136X
MK11-02358M
SURVEY AREA = 17799.8 Sq m
SUNGEI TENGAH ROAD
SUNGEI TENGAH ROAD
SUNGEI TENGAH ROAD
GAS STATION
Turfing
Turfing
Turfing