

## Contract No. 13/WSD/17 First Stage of Tseung Kwan O Desalination Plant

AS-BUILT DRAWINGS ON LANDSCAPE AND VISUAL MITIGATION MEASURES  
(EXCLUDING SLOPE MITIGATION WORKS)



Submitted to: Water Supplies Department  
Submitted by: AJC Joint Venture  
Date: 17 JUNE 2024





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## AS-BUILT DRAWINGS ON LANDSCAPE AND VISUAL MITIGATION MEASURES (EXCLUDING SLOPE MITIGATION WORKS)

**Revision Number:** A1

**Issue Date:** 01 Jun2024

The as-built drawings herewith record for relevant landscape and visual mitigation works of the Project (excluding the slope mitigation works) under the Contract No. 13/WSD/17 which were already completed by end of April 2024 in compliance with the approved Landscape and Visual Mitigation Proposal under Condition 2.11 of both Environmental Permit Nos. EP-503/2015/B and FEP-01/503/2015/B. The commencement date of operation of the Project would be on 1st July 2024.

Document History

Revision	Description	Prepared by	Reviewed by	Approved by	Date
A0	First Issue	Ivan Ting	Laurence Wong	Stephen Yeung	30 Apr 2024
A1	Second Issue	Ivan Ting	Laurence Wong	Stephen Yeung	01 Jun 2024

**Notes:**

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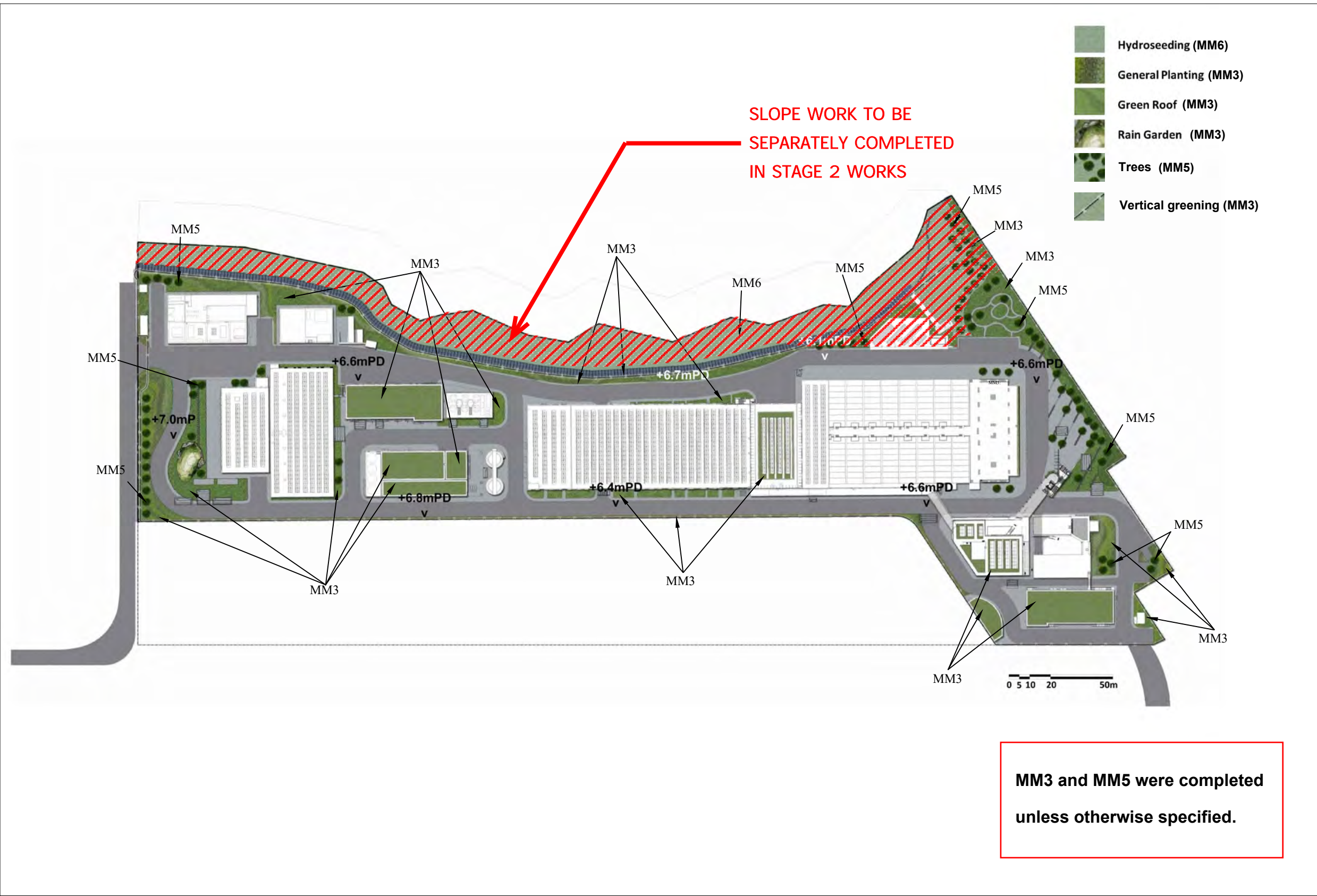






## **Appendix D – DPTKO Building Layout Plan**





-  Hydroseeding (MM6)
-  General Planting (MM3)
-  Green Roof (MM3)
-  Rain Garden (MM3)
-  Trees (MM5)
-  Vertical greening (MM3)

**SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS**

**MM3 and MM5 were completed unless otherwise specified.**

**Mitigation Measure:**

**MM3:**  
Design principle was adopted to take into account the surrounding area particularly Clear Water Bay Country Park behind and the nearby waterfront, with due consideration given to:

- green roofs where practical (ie without equipment on the roof);
- roadside planting;
- aesthetic treatment of all structures;
- vertical greening;
- screen planting along application site; and
- landscape enhancement with amenity planting where practical, including planting along the edge (site boundary) fence with native shrubs where feasible, to reduce their visual impact and blend them into the surrounding landscape.

**MM5:**  
No Trees within the Country Park were felled. Trees within the Site unavoidably affected by the works would be transplanted where practical. For trees that need to be felled, compensatory planting was provided to the satisfaction of relevant Government departments.

A compensatory tree planting proposal including locations of tree compensation was submitted to seek relevant government department's approval, in accordance with DEVB TC(W) No.4/2020.

**MM6:**  
Any slope mitigation works necessary to address natural terrain hazards, was minimized to minimize any potential environmental impact to the Country Park e.g. soil nailing and rock stabilization were aimed to avoid existing trees e.g. should any restoration of vegetation be necessary, the best planting matrix with native species was established, with the aim of resembling the existing vegetation.

- Remark:**
1. The mitigation measure only include operation stage mitigation measure
  2. Detail of MM8 could be refer to Appendix G.

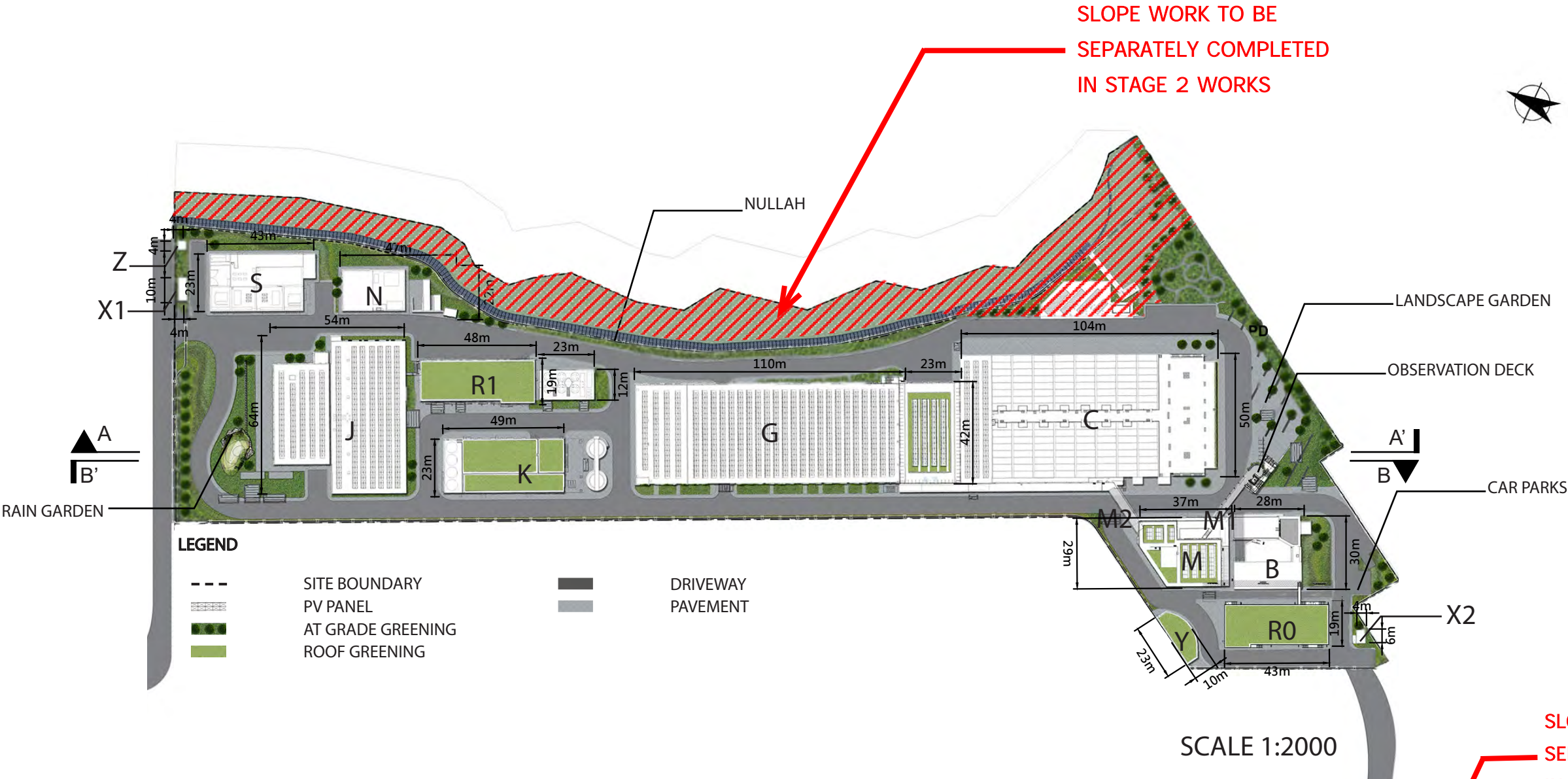
Project:  
Contract No. 13/WSD/17  
Design, Build and Operation of Tseung Kwan O Desalination Plant

**Implementation of L&V Mitigation Measure (Operational Stage)**

Scale  
A4 1:500



Appendix D - Layout Plan of TKO Desalination Plant REV. 01

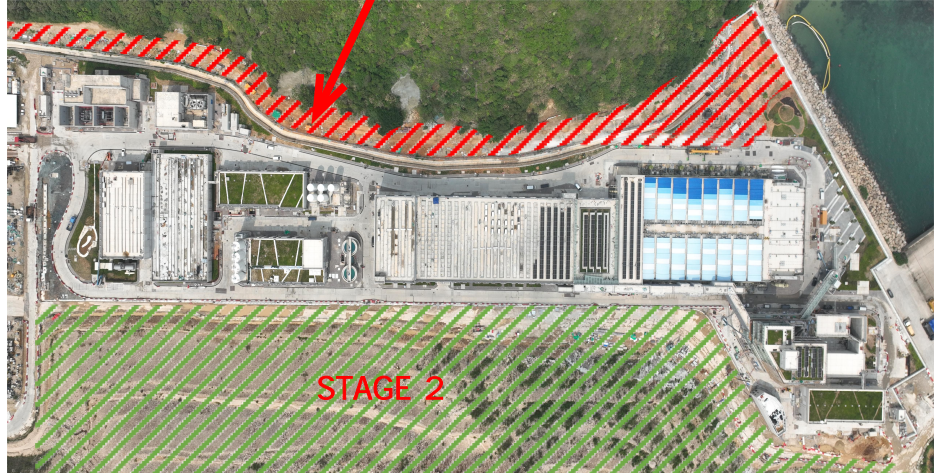


SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

LEGEND

- M - ADMINISTRATION BUILDING
- M1- ELEVATED WALKWAY
- V- INSPECTION CORRIDOR
- B - COMBINED INTAKE & OUTFALL SHAFT
- R0 - CHEMICAL BUILDING
- C - ACTIDAFF
- G - REVERSE OSMOSIS & ELECTRICAL BUILDING
- K - POST-TREATMENT BUILDING
- J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
- R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA

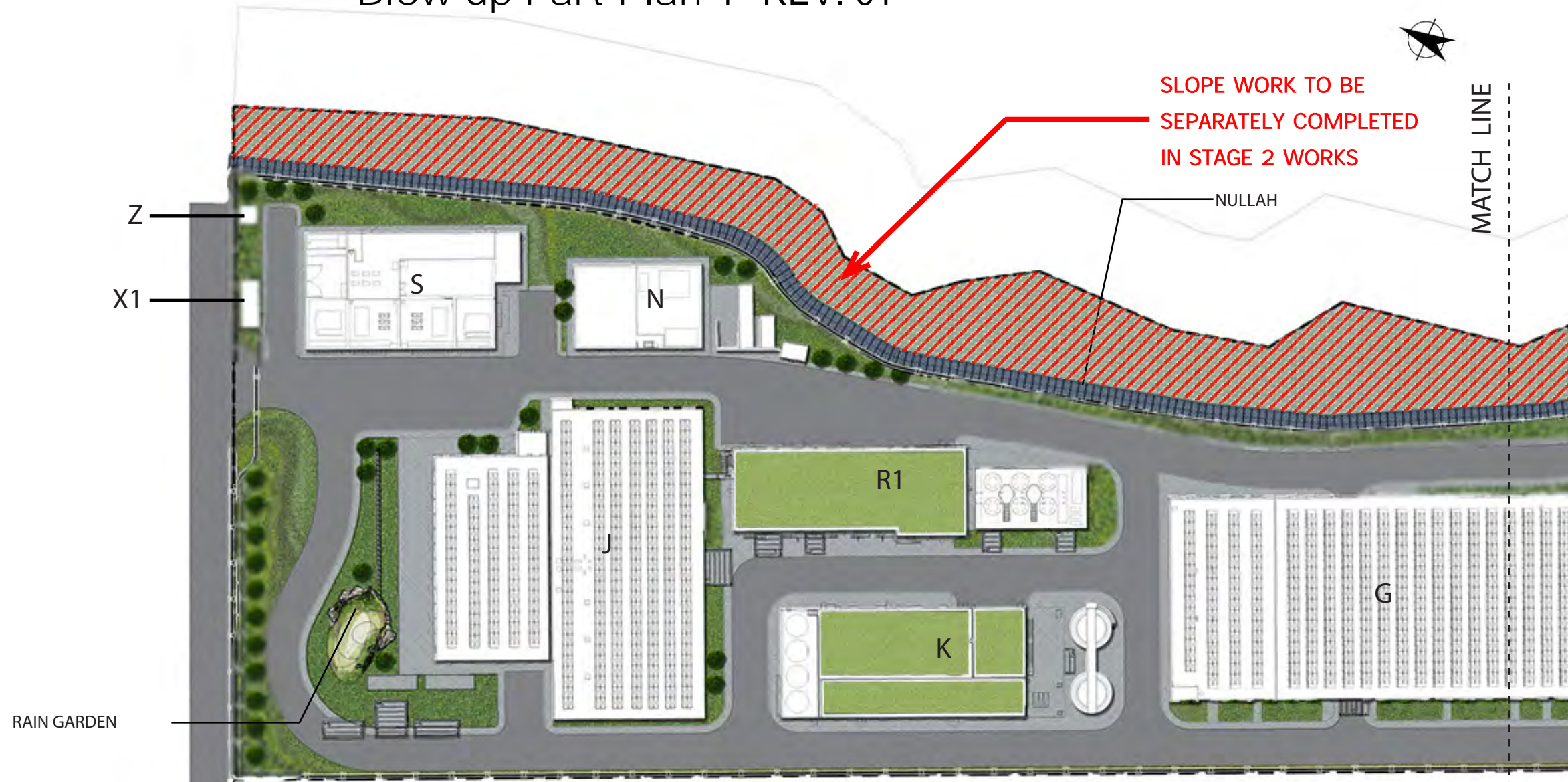
- N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
- S - TKO DESALINATION PLANT SUBSTATION
- Z - MASTER METER ROOM
- X1 - GUARD HOUSE A
- X2 - GUARD HOUSE B
- Y - WORKSHOP





# Appendix D - Layout Plan of TKO Desalination Plant

## - Blow-up Part Plan 1 REV. 01



SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

NULLAH

MATCH LINE

Z  
X1

RAIN GARDEN

- LEGEND**
- M - ADMINISTRATION BUILDING
  - M1- ELEVATED WALKWAY
  - V- INSPECTION CORRIDOR
  - B - COMBINED INTAKE & OUTFALL SHAFT
  - R0 - CHEMICAL BUILDING
  - C - ACTIDAFF
  - G - REVERSE OSMOSIS & ELECTRICAL BUILDING
  - K - POST-TREATMENT BUILDING
  - J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
  - R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA
  - N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
  - S - TKO DESALINATION PLANT SUBSTATION
  - Z - MASTER METER ROOM
  - X1 - GUARD HOUSE A
  - X2 - GUARD HOUSE B

- LEGEND**
- - - SITE BOUNDARY
  - [Hatched] PV PANEL
  - [Green with dots] AT GRADE GREENING
  - [Green] ROOF GREENING
  - [Dark grey] DRIVEWAY
  - [Light grey] PAVEMENT

SCALE 1:1000



# Appendix D - Layout Plan of TKO Desalination Plant

- Blow-up Part Plan 2 REV. 01

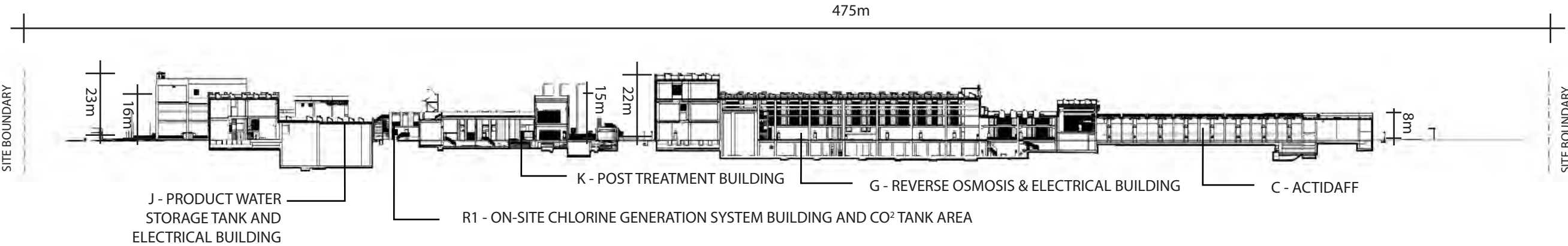


SCALE 1:1000

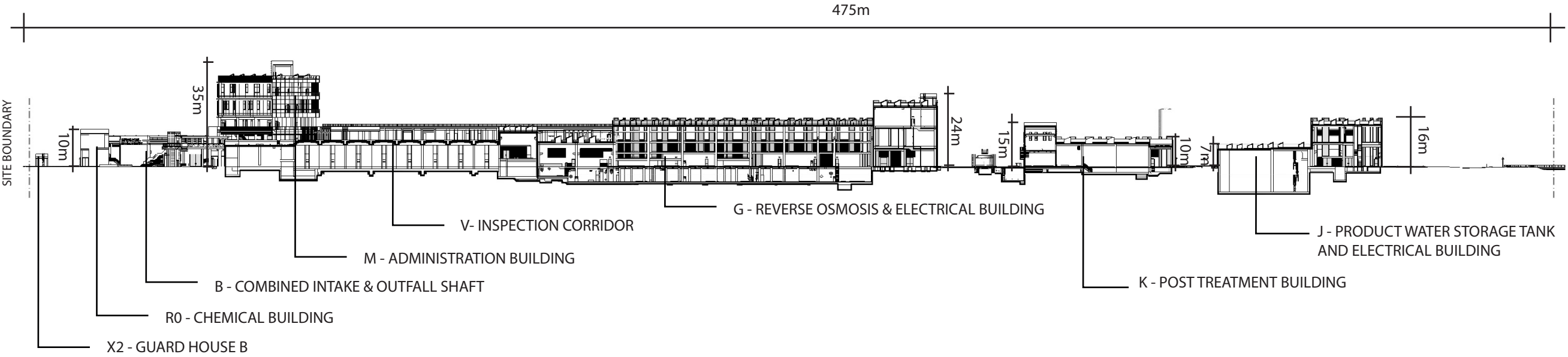


# Appendix D - Layout Plan of TKO Desalination Plant

## - Site Section



SITE SECTION A-A (SCALE 1:500)

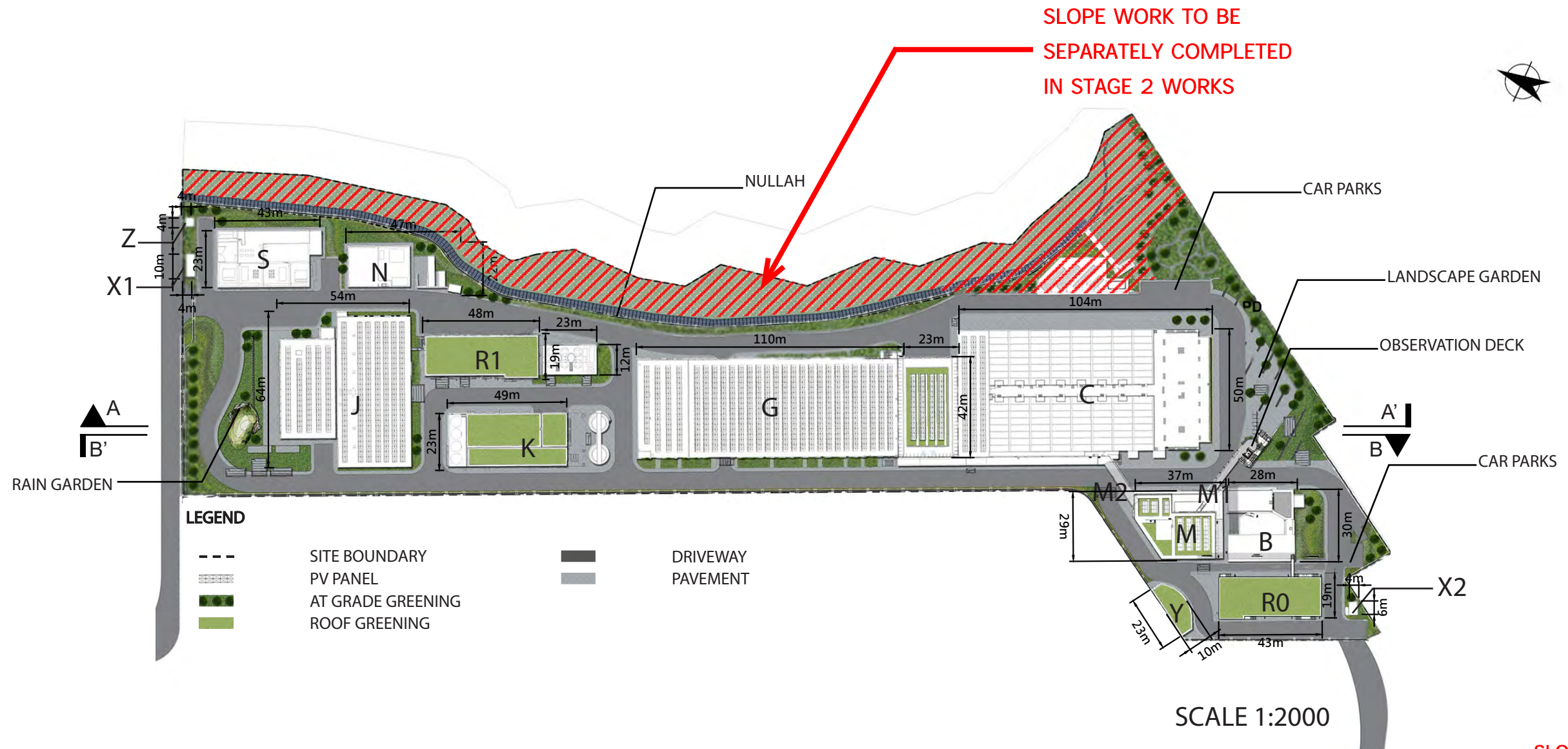


SITE SECTION B-B (SCALE 1:500)

## **Appendix E – Soft Landscape Design**



# Appendix E - Soft Landscape Design (Overview-Building) REV. 01



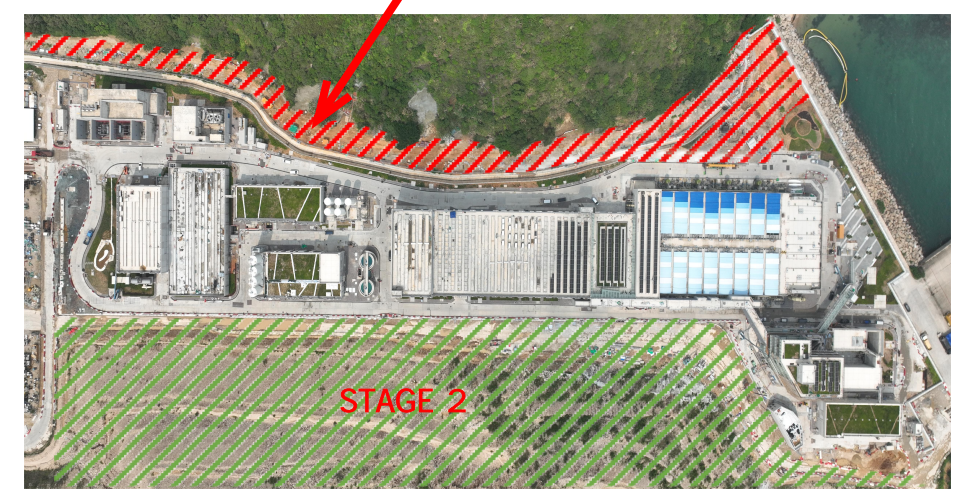
SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

**LEGEND**

- M - ADMINISTRATION BUILDING
- M1- ELEVATED WALKWAY
- V- INSPECTION CORRIDOR
- B - COMBINED INTAKE & OUTFALL SHAFT
- R0 - CHEMICAL BUILDING
- C - ACTIDAFF
- G - REVERSE OSMOSIS & ELECTRICAL BUILDING
- K - POST-TREATMENT BUILDING
- J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
- R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA

- N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
- S - TKO DESALINATION PLANT SUBSTATION
- Z - MASTER METER ROOM
- X1 - GUARD HOUSE A
- X2 - GUARD HOUSE B
- Y - WORKSHOP

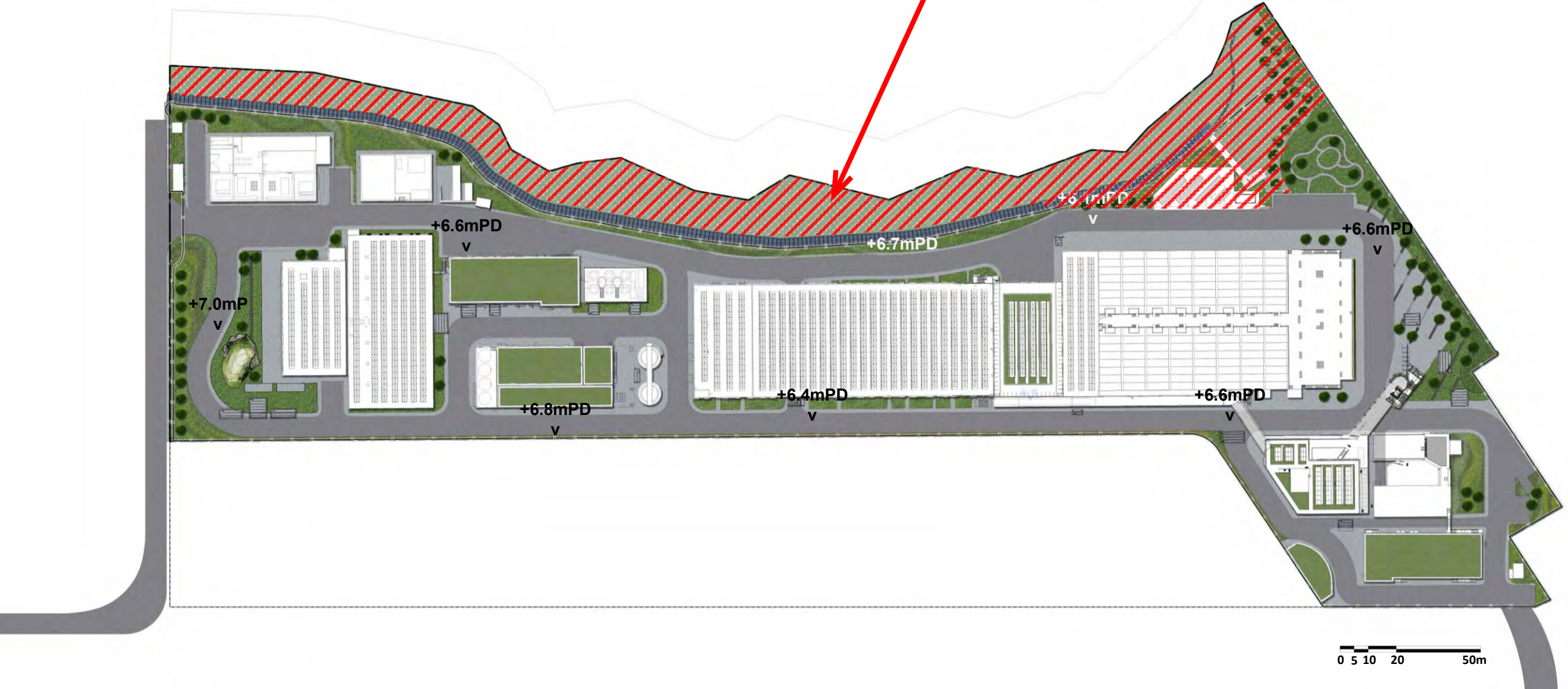




Appendix E - Soft Landscape Design  
(Overview-Landscape) REV. 01

- Hydroseeding
- General Planting
- Green Roof
- Rain Garden

SLOPE WORK TO BE  
SEPARATELY COMPLETED  
IN STAGE 2 WORKS






PLANTING LIST

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	胸徑 DBH (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)	Admin Building 1/F Qty. (nos.)	總數量 Total Qty. (nos.)	備註 Remark
<b>Trees</b>										
BJ	<i>Bischofia javanica</i>	秋楓	5000	3000	100	7000	19	-	19	Native
IR	<i>Ilex rotunda var. microcarpa</i>	小果鐵冬青	3000	2000	60	5000	6	2	8	Native
LF	<i>Liquidambar formosana</i>	楓香	5000	3000	90	5000	6	-	6	Native
PP	<i>Pongamia pinnata</i>	水黃皮	4000	3000	80	5000	12	-	12	Native
SL	<i>Sterculia lanceolata</i>	假蘋婆	5000	3000	90	6000	17	-	17	Native
TM	<i>Terminalia mantaly</i>	小葉欖仁	5000	2500	90	5000	18	-	18	Exotic
TS	<i>Triadica sebifera</i>	烏柏	4000	2000	80	5000	8	-	8	Native
<b>Total</b>									88	

Appendix E - Soft Landscape Design  
(Planting List)

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)	R/F 數量 R/F Qty. (nos.)	Admin Building				總數量 Total Qty. (nos.)	本地品種/外來品種 Native / Exotic	備註 Remark	
								1/F Qty. (nos.)	2/F Qty. (nos.)	3/F Qty. (nos.)	4/F Qty. (nos.)				
<b>Groundcovers</b>															
Adu	<i>Arachis duranensis</i>	蔓花生	100	100	200	630	10913	-	-	-	-	11543	Exotic	-	
Ccm	<i>Chlorophytum comosum cv. Marginatum</i>	金邊吊蘭	200	200	200	-	9303	-	-	-	-	9303	Exotic	-	
Lmo	<i>Lantana montevidensis</i>	紫花馬纓丹	200	200	200	2797	16692	-	-	-	-	19489	Exotic	-	
Nau	<i>Nephrolepis auriculata</i>	腎蕨	250	200	200	8918	9903	210	93	-	-	19124	Native	-	
Oja	<i>Ophiopogon japonicus</i>	麥冬	250	200	200	-	6024	-	-	-	-	6024	Native	-	
Ojs	<i>Ophiopogon jaburan (Siebold) Lodd.</i>	花葉沿階草	250	200	200	446	13208	-	-	-	-	13654	Exotic	-	
Pmy	<i>Phyllanthus myrtifolius</i>	錫蘭葉下珠	250	200	150	8147	17537	-	148	-	-	25832	Exotic	-	
<b>Shrubs</b>															
Aca	<i>Allamanda cathartica</i>	軟枝黃蟬	400	300	200	10834	-	-	-	-	-	10834	Exotic	-	
Acu	<i>Asclepias curassavica</i>	馬利筋	300	200	200	14651	-	-	-	-	-	14651	Exotic	-	
Aod	<i>Aglaia odorata</i>	米仔蘭	400	300	200	5575	-	70	122	-	-	5767	Exotic	-	
Cal	<i>Cassia alata</i>	翅莢決明	1200	800	600	576	-	-	-	-	-	576	Exotic	-	
Drg	<i>Duranta repens 'golden'</i>	金連翹	300	250	150	28249	-	-	102	-	-	28351	Exotic	-	
Drv	<i>Duranta repens 'Variegata'</i>	花葉連翹	300	250	200	3482	-	-	-	-	-	3482	Exotic	-	
Fja	<i>Fatsia japonica</i>	八角金盤	500	350	300	6043	-	30	-	-	-	6073	Exotic	-	
Gja	<i>Gardenia jasminoides</i>	梔子花	500	350	250	1692	-	30	147	-	-	1869	Native	-	
Ich	<i>Ixora chinensis</i>	龍船花	500	300	200	13092	-	130	-	-	-	13222	Native	-	
Lcr	<i>Loropetalum chinensis var. rubrum</i>	紅繼木	300	200	150	10387	-	-	-	-	-	10387	Exotic	-	
Lsi	<i>Ligustrum sinense</i>	山指甲	500	350	250	9191	-	-	-	-	-	9191	Exotic	-	
Msa	<i>Melastoma sanguineum</i>	毛萼	500	300	200	13910	-	-	41	-	-	13951	Native	-	
Rsi	<i>Rhododendron simsii</i>	紅杜鵑	400	300	200	19040	-	-	67	-	-	19107	Native	-	
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	500	300	200	19705	-	-	-	-	-	19705	Native	-	
She	<i>Schefflera heptaphylla</i>	鵝掌柴	400	300	250	17750	-	40	17	-	-	17807	Native	-	
Zpo	<i>Zanthoxylum piperitum cv 'odorum'</i>	胡椒木	300	200	150	3964	-	-	116	-	-	4080	Exotic	-	
<b>Rain Garden</b>															
Cin	<i>Canna indica</i>	美人蕉	400	300	200	1167	-	-	-	-	-	1167	Exotic	-	
Hfu	<i>Hemerocallis fulva</i>	萱草	400	300	200	603	-	-	-	-	-	603	Exotic	-	
Ite	<i>Iris tectorum</i>	鳶尾	500	300	200	510	-	-	-	-	-	510	Exotic	-	
Lsa	<i>Lythrum salicaria</i>	千屈菜	400	400	200	826	-	-	-	-	-	826	Exotic	-	
Msi	<i>Miscanthus sinensis</i>	細葉芒	400	300	200	595	-	-	-	-	-	595	Exotic	-	
<b>Climber</b>															
BcoC	<i>Bauhinia corymbosa</i>	首冠藤	800	300	500	550	-	-	-	-	-	550	Exotic	-	
LjaC	<i>Lonicera japonica</i>	金銀花	800	300	500	550	-	-	-	-	-	550	Native	-	
QinC	<i>Quisqualis indica</i>	使君子	1000	300	500	700	-	-	-	10	10	720	Exotic	-	
<b>Hydroseed</b>															
Cga	<i>Chloris gayana</i>	非洲虎尾草	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Exotic	按平方米計算(m <sup>2</sup> )	
Cda	<i>Cynodon dactylon</i>	狗牙根	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Native	按平方米計算(m <sup>2</sup> )	
Lpe	<i>Lolium perenne</i>	黑麥草	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Exotic	按平方米計算(m <sup>2</sup> )	
Msa	<i>Melastoma sanguineum</i>	毛萼	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Native	按平方米計算(m <sup>2</sup> )	
Rhi	<i>Rhus chinensis</i>	鹽膚木	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Native	按平方米計算(m <sup>2</sup> )	
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	-	-	-	1130m <sup>2</sup>	-	-	-	-	-	1130m <sup>2</sup>	Native	按平方米計算(m <sup>2</sup> )	
<b>Lawn</b>															
Zja	<i>Zoysia japonica</i>	台灣草	-	-	-	410m <sup>2</sup>	-	-	-	-	-	410m <sup>2</sup>	Exotic	按平方米計算(m <sup>2</sup> )	

AS-BUILT

A	GENERAL REVISION	AC	2021/11/11
Rev	Description	By	Date
Employer			
			
Supervising Officer designate			
			
Design Checker			
			
Contractor			
			
Designer			
 In Association with APU			
Project title			
CONTRACT NO. 13/WSD/17			
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT			
Drawing title			
PLANTING LIST			
Drawing no.			
TKOD1-DWG-A000-WLA3101			
Rev.			
A			
Drawn	Date	Checked	Approved
AC	10 MAY 2021	XL	-
Scale	N.T.S.	Status	DETAILED DESIGN APPROVAL
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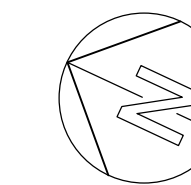
## Appendix E - Soft Landscape Design (Tree Planting Plan)

### PLANTING LIST

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	胸徑 DBH (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)
BJ	<i>Bischofia javanica</i>	秋楓	5000	3000	100	7000	19
IR	<i>Ilex rotunda var. microcarpa</i>	小果鐵冬青	3000	2000	60	5000	6
LF	<i>Liquidambar formosana</i>	楓香	5000	3000	90	5000	6
PP	<i>Pongamia pinnata</i>	水黃皮	4000	3000	80	5000	12
SL	<i>Sterculia lanceolata</i>	假蘋婆	5000	3000	90	6000	17
TM	<i>Terminalia mantaly</i>	小葉欖仁	5000	2500	90	5000	18
TS	<i>Triadica sebifera</i>	烏柏	4000	2000	80	5000	8

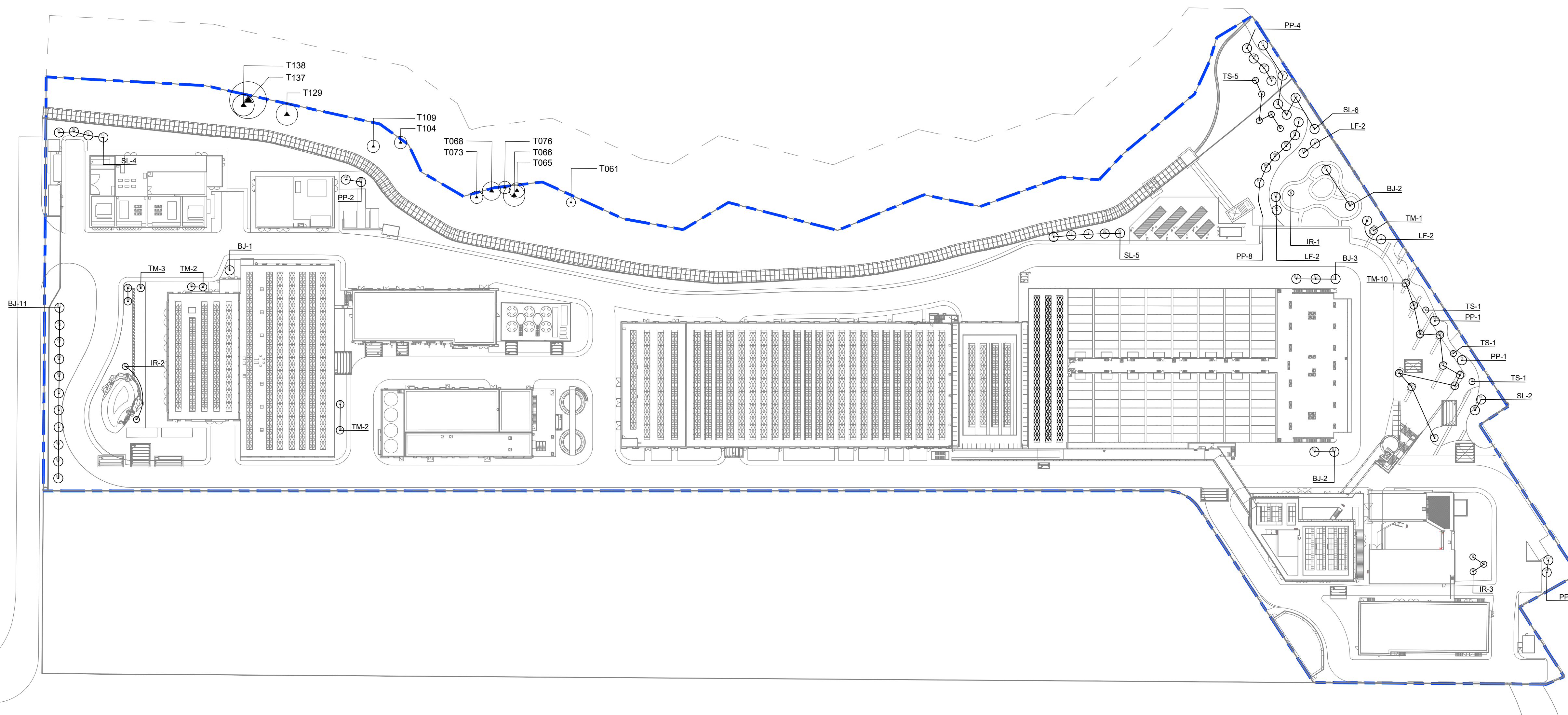
### LEGEND:

- SITE BOUNDARY
- PROPOSED NEW TREE
- RETAINED TREE



AS-BUILT

**REMARKS:**  
NOT LESS THAN 1200mm CLEAR SOIL WIDTH AND DEPTH SHOULD BE PROVIDED FOR ALL TREE PLANTING AREAS.



	A GENERAL REVISION	AC	2021/11/11
Rev	Description	By	Date
Employer			
Supervising Officer designate			
Design Checker			
Contractor			
Designer			
In Association with APU			
Project title			
CONTRACT NO. 13/WSD/17			
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT			
Drawing title			
TREE PLAN – GROUND FLOOR			
Drawing no.			
TKOD1-DWG-A000-WLA3111			
Rev.			A
Drawn	Date	Checked	Approved
AC	10 MAY 2021	XL	—
Scale		Status	
1:800@A1		DETAILED DESIGN APPROVAL	
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Appendix E - Soft Landscape Design  
(Shrubs Planting Plan)

PLANTING LIST

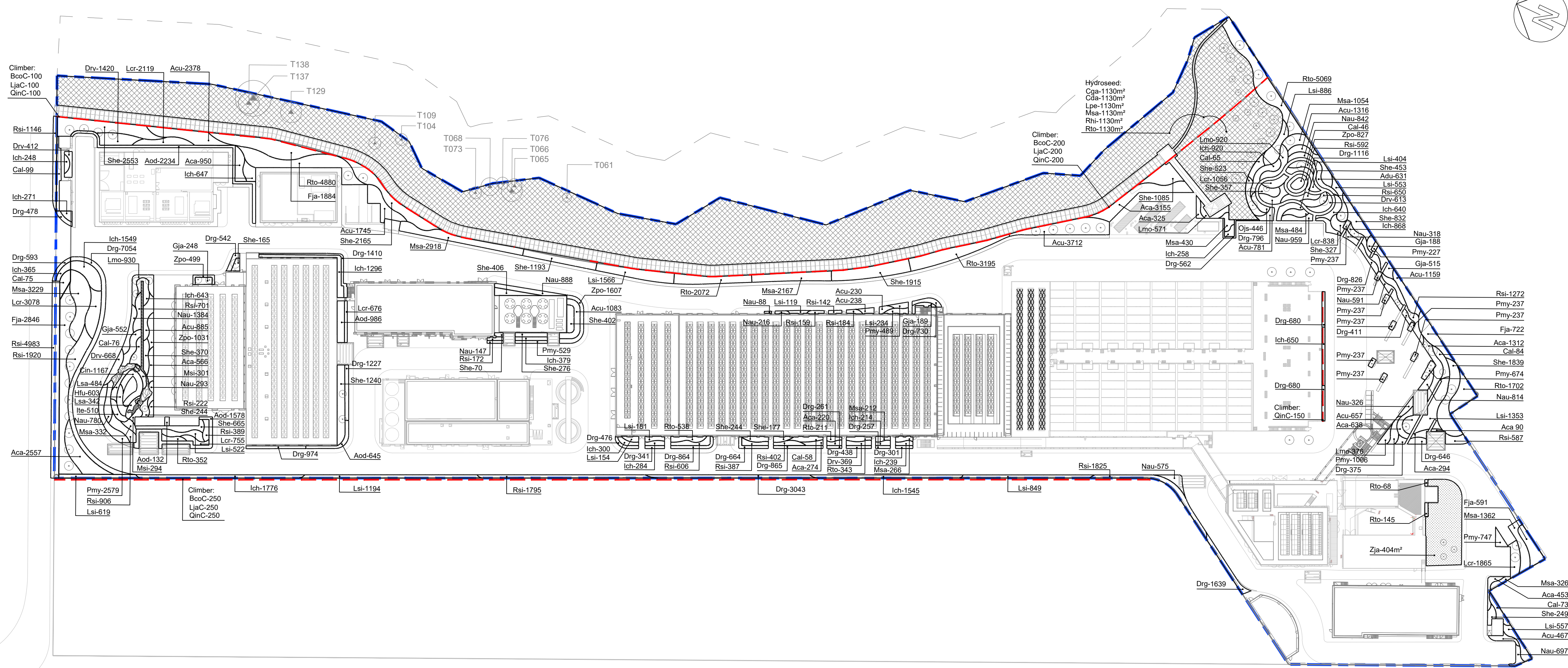
序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)
<b>Groundcovers</b>						
Adu	<i>Arachis duranensis</i>	蔓花生	100	100	200	630
Lmo	<i>Lantana montevidensis</i>	紫花馬纓丹	200	200	200	2797
Nau	<i>Nephrolepis auriculata</i>	腎蕨	250	200	200	8918
Ojs	<i>Ophiopogon jaburan (Siebold) Lodd.</i>	花葉沿階草	250	200	200	446
Pmy	<i>Phyllanthus myrtifolius</i>	錫蘭葉下珠	250	200	150	8147
<b>Shrubs</b>						
Aca	<i>Allamanda cathartica</i>	軟枝黃蟬	400	300	200	10834
Acu	<i>Asclepias curassavica</i>	馬利筋	300	200	200	14651
Aod	<i>Aglai odorata</i>	米仔蘭	400	300	200	5575
Cal	<i>Cassia alata</i>	翅莢決明	1200	800	600	576
Drg	<i>Duranta repens 'golden'</i>	金連翹	300	250	150	28249
Drv	<i>Duranta repens 'Variegata'</i>	花葉連翹	300	250	200	3482
Fja	<i>Fatsia japonica</i>	八角金盤	500	350	300	6043
Gja	<i>Gardenia jasminoides</i>	梔子花	500	350	250	1692
Ich	<i>Ixora chinensis</i>	龍船花	500	300	200	13092
Lcr	<i>Loropetalum chinensis var. rubrum</i>	紅繼木	300	200	150	10387
Lsi	<i>Ligustrum sinense</i>	山指甲	500	350	250	9191
Msa	<i>Melastoma sanguineum</i>	毛蕊	500	300	200	13910
Rsi	<i>Rhododendron simsii</i>	紅杜鵑	400	300	200	19040
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	500	300	200	19705
She	<i>Schefflera heptaphylla</i>	鵝掌柴	400	300	250	17750
Zpo	<i>Zanthoxylum piperitum cv 'odorum'</i>	胡椒木	300	200	150	3964

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)	備註 Remark
<b>Rain Garden</b>							
Cin	<i>Canna indica</i>	美人蕉	400	300	200	1167	-
Hfu	<i>Hemerocallis fulva</i>	萱草	400	300	200	603	-
Ite	<i>Iris tectorum</i>	鳶尾	500	300	200	510	-
Lsa	<i>Lythrum salicaria</i>	千屈菜	400	400	200	826	-
Msi	<i>Miscanthus sinensis</i>	細葉芒	400	300	200	595	-
<b>Climber</b>							
BcoC	<i>Bauhinia corymbosa</i>	首冠藤	800	300	500	550	-
LjaC	<i>Lonicera japonica</i>	金銀花	800	300	500	550	-
QinC	<i>Quisqualis indica</i>	使君子	1000	300	500	700	-
<b>Hydroseed</b>							
Cga	<i>Chloris gayana</i>	非洲虎尾草	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Cda	<i>Cynodon dactylon</i>	狗牙根	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Lpe	<i>Lolium perenne</i>	黑麥草	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Msa	<i>Melastoma sanguineum</i>	毛蕊	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Rhi	<i>Rhus chinensis</i>	鹽膚木	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
<b>Lawn</b>							
Zja	<i>Zoysia japonica</i>	台灣草	-	-	-	410m <sup>2</sup>	按平方米計算(m <sup>2</sup> )

- LEGEND:
- SITE BOUNDARY
  - SHRUBS & GROUNDCOVERS
  - LAWN
  - PLANTING AREA FOR HYDROSEED
  - CLIMBER
  - PROPOSED NEW TREE
  - RETAINED TREE

**AS-BUILT**

REMARKS:  
NOT LESS THAN 600mm SOIL DEPTH SHOULD BE PROVIDED FOR THOSE AREAS PLANTED WITH SHRUBS AND 300mm SOIL DEPTH FOR GROUNDCOVERS.

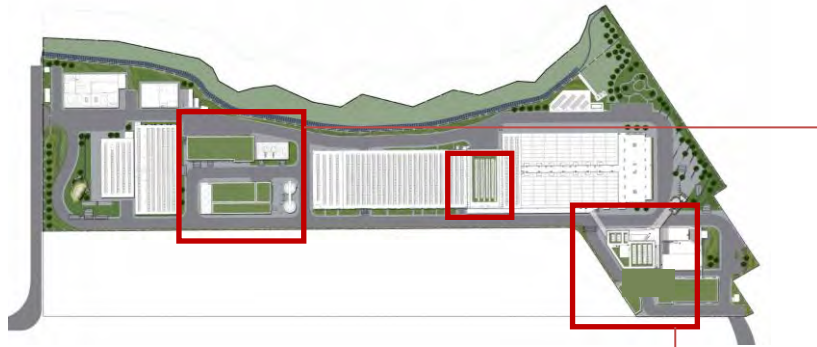


A	GENERAL REVISION	AC	2021/11/11
Rev	Description	By	Date
Employer			
Supervising Officer designate			
Design Checker			
Contractor			
Designer			
Project title			
CONTRACT NO. 13/WSD/17			
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT			
Drawing title			
SHRUBS PLAN - GROUND FLOOR			
Drawing no.			
TKOD1-DWG-A000-WLA3112			
Rev.			
A			
Drawn	Date	Checked	Approved
AC	10 MAY 2021	XL	-
Scale	1:800@A1	Status	DETAILED DESIGN APPROVAL
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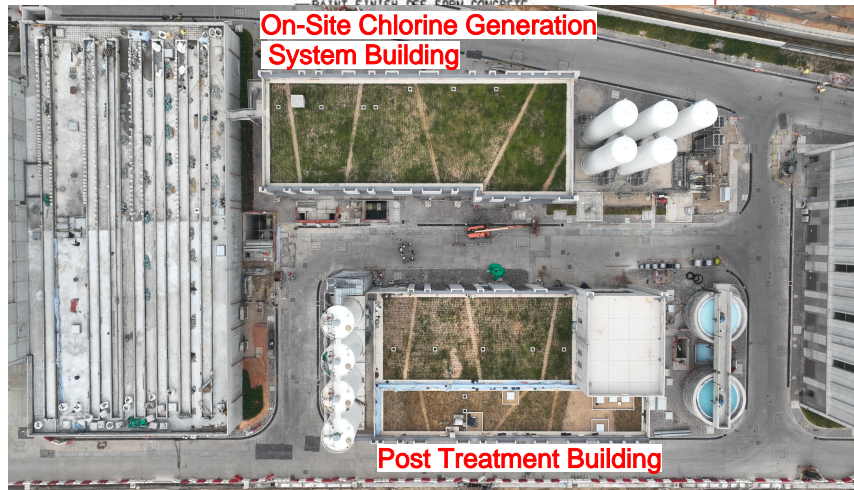
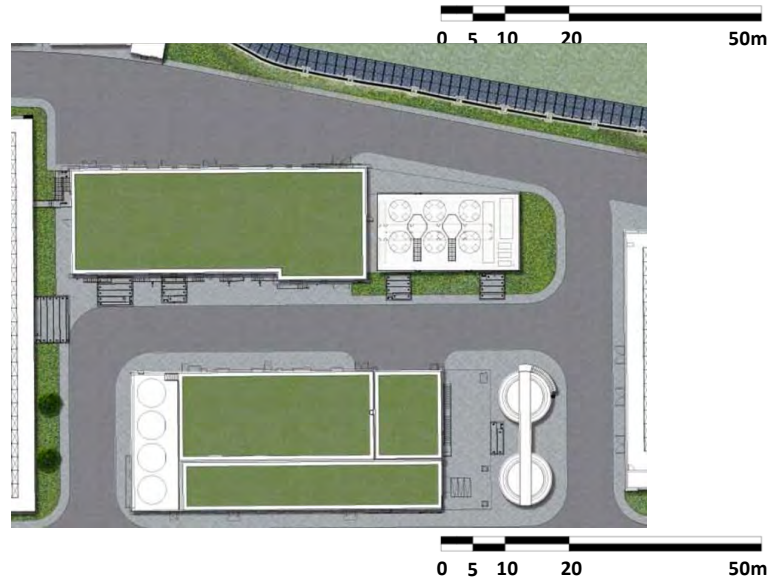


# Appendix E - Soft Landscape Design (Green Roof)

**AS-BUILT**



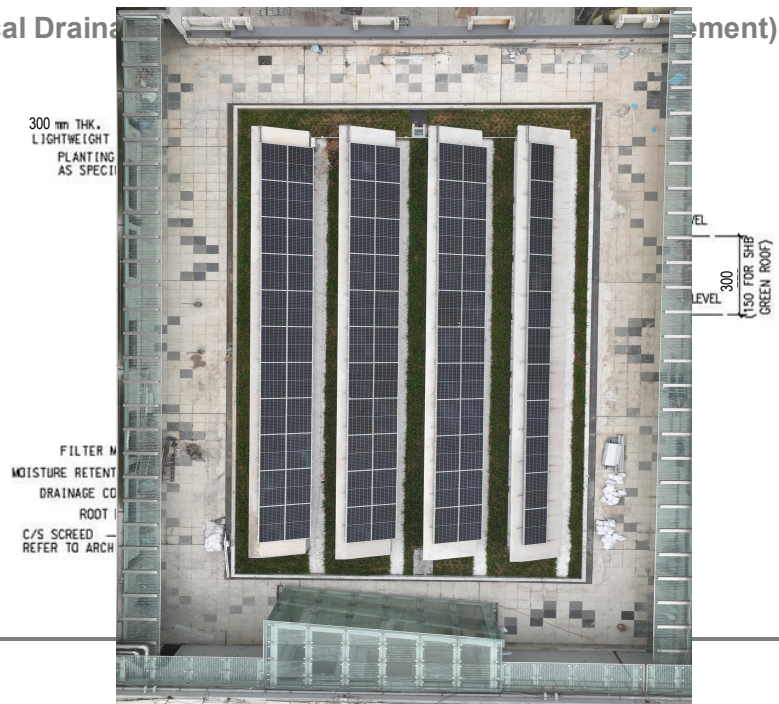
Typical Edge Detail



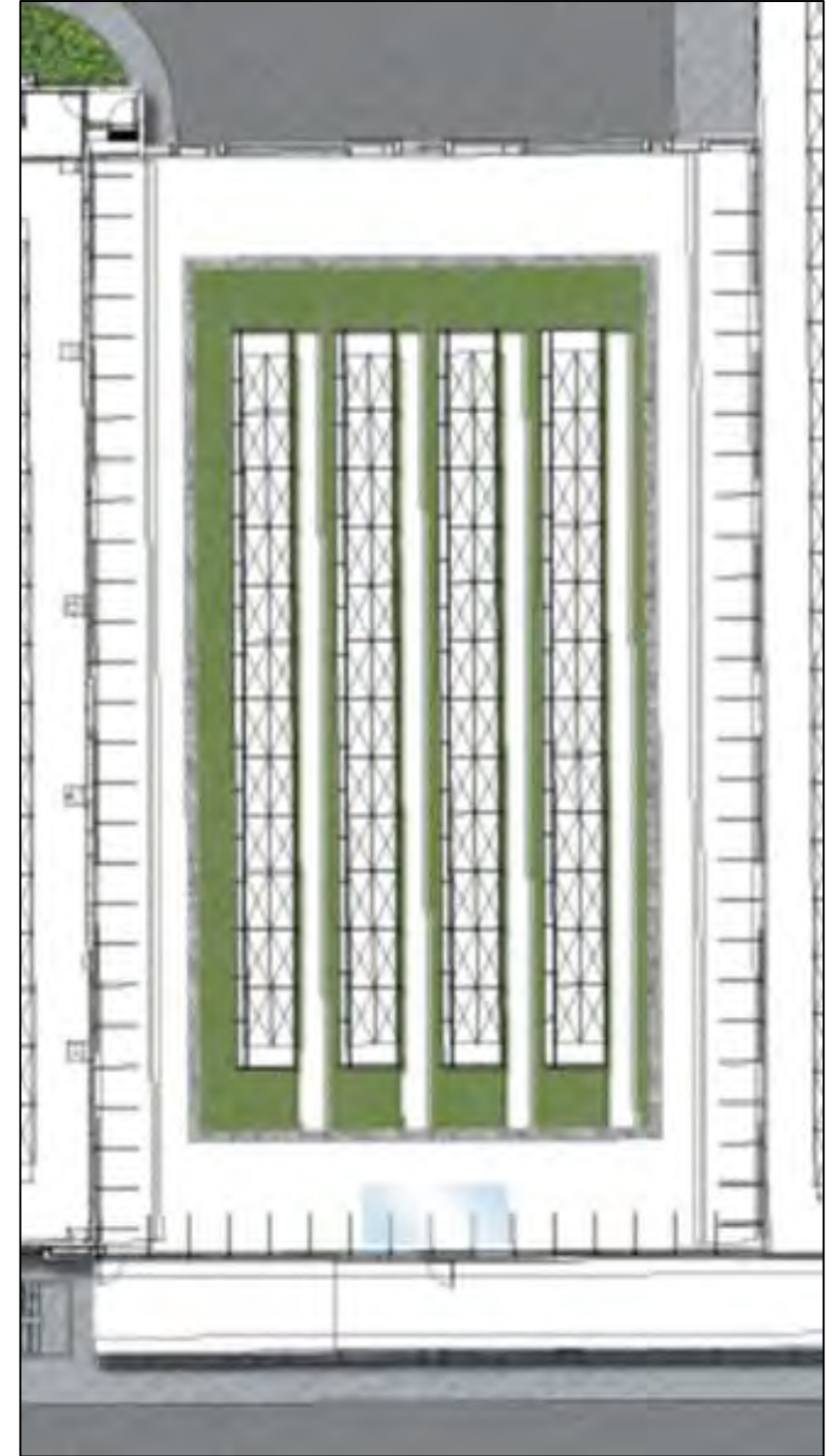
Typical Green Roof Detail



Typical Drainage Detail (Continuation)

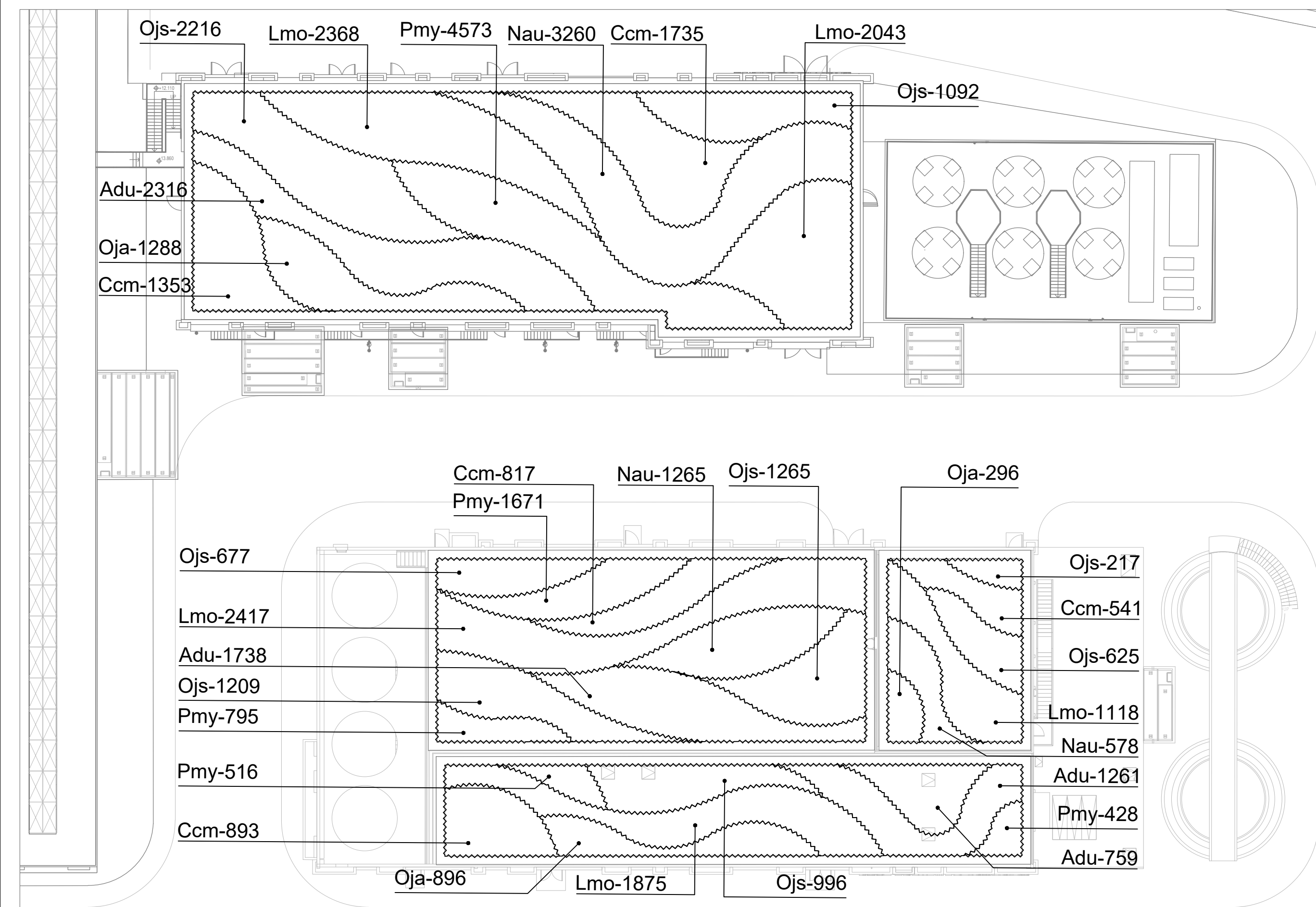


RO LOWER ROOF

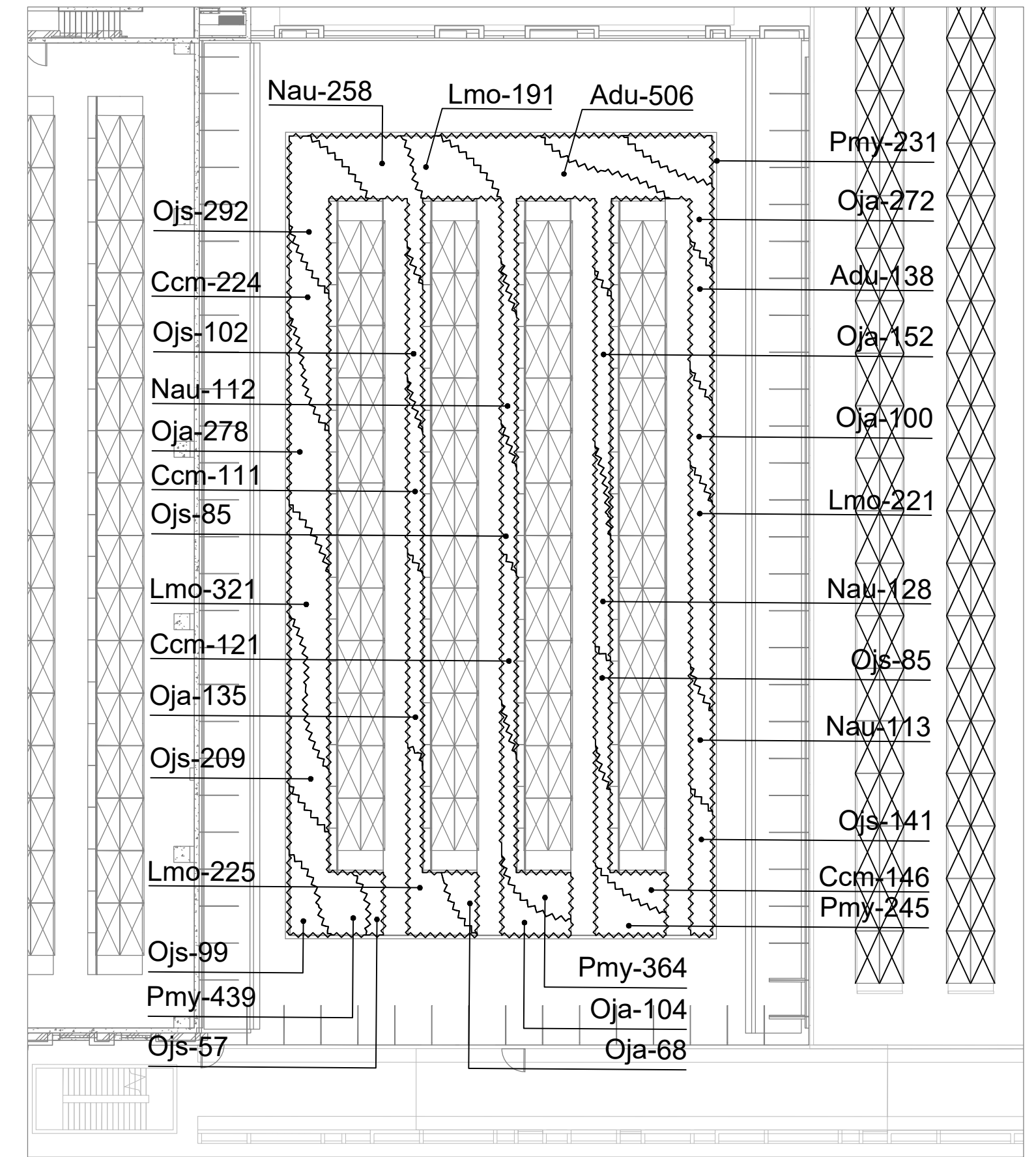


0 5 10m

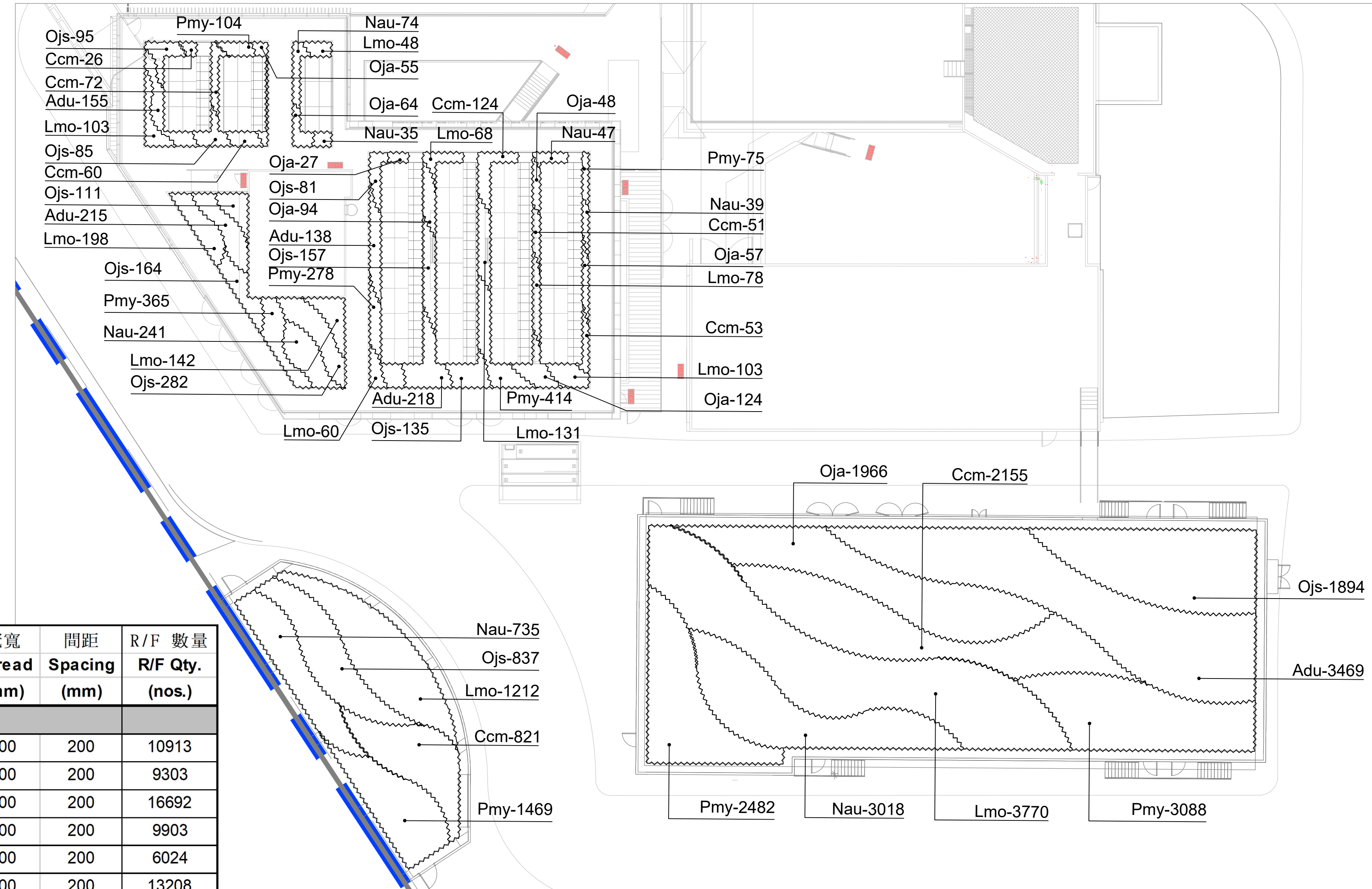




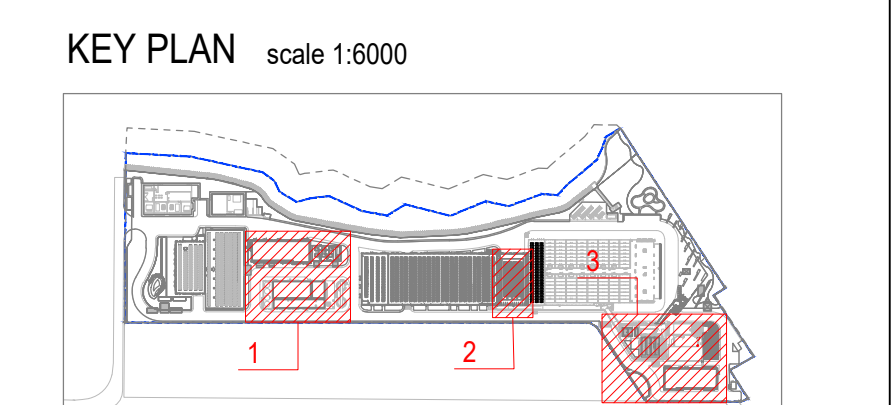
BLOW UP 1 SCALE 1:250

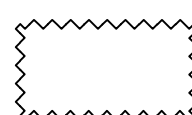


BLOW UP 2 SCALE 1:200



BLOW UP 3 SCALE 1:200








LEGEND:  
 SHRUBS & GROUNDCOVERS

**AS-BUILT**

REMARKS:  
 NOT LESS THAN 300mm SOIL DEPTH SHOULD BE PROVIDED FOR THOSE AREAS PLANTED WITH FOR GROUNDCOVERS.

PLANTING LIST

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	R/F 數量 R/F Qty. (nos.)
<b>Groundcovers</b>						
Adu	<i>Arachis duranensis</i>	蔓花生	100	100	200	10913
Ccm	<i>Chlorophytum comosum cv. Marginatum</i>	金邊吊蘭	200	200	200	9303
Lmo	<i>Lantana montevidensis</i>	紫花馬纓丹	200	200	200	16692
Nau	<i>Nephrolepis auriculata</i>	腎蕨	250	200	200	9903
Oja	<i>Ophiopogon japonicus</i>	麥冬	250	200	200	6024
Ojs	<i>Ophiopogon jaburan (Siebold) Lodd.</i>	花葉沿階草	250	200	200	13208
Pmy	<i>Phyllanthus myrtifolius</i>	錫蘭葉下珠	250	200	150	17537

A	GENERAL REVISION	AC	2021/11/11
Rev	Description	By	Date
Employer			
			
Supervising Officer designate			
			
Design Checker			
			
Contractor			
			
Designer			
			
In Association with APU			
Project title			
CONTRACT NO. 13/WSD/17			
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT			
Drawing title			
SHRUBS PLAN - ROOF FLOOR			
Drawing no.			
TKOD1-DWG-A000-WLA3113			
Drawn	Date	Checked	Approved
AC	10 MAY 2021	XL	-
Scale	AS SHOWN@A1	Status	DETAILED DESIGN APPROVAL
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PLANTING LIST

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)
<b>Groundcovers</b>						
Adu	<i>Arachis duranensis</i>	蔓花生	100	100	200	630
Lmo	<i>Lantana montevidensis</i>	紫花馬纓丹	200	200	200	2797
Nau	<i>Nephrolepis auriculata</i>	腎蕨	250	200	200	8918
Ojs	<i>Ophiopogon jaburan (Siebold) Lodd.</i>	花葉沿階草	250	200	200	446
Pmy	<i>Phyllanthus myrtifolius</i>	錫蘭葉下珠	250	200	150	8147
<b>Shrubs</b>						
Aca	<i>Allamanda cathartica</i>	軟枝黃蟬	400	300	200	10834
Acu	<i>Asclepias curassavica</i>	馬利筋	300	200	200	14651
Aod	<i>Aglaia odorata</i>	米仔蘭	400	300	200	5575
Cal	<i>Cassia alata</i>	翅莢決明	1200	800	600	576
Drg	<i>Duranta repens 'golden'</i>	金連翹	300	250	150	28249
Drv	<i>Duranta repens 'Variegata'</i>	花葉連翹	300	250	200	3482
Fja	<i>Fatsia japonica</i>	八角金盤	500	350	300	6043
Gja	<i>Gardenia jasminoides</i>	梔子花	500	350	250	1692
Ich	<i>Ixora chinensis</i>	龍船花	500	300	200	13092
Lcr	<i>Loropetalum chinensis var. rubrum</i>	紅繼木	300	200	150	10387
Lsi	<i>Ligustrum sinense</i>	山指甲	500	350	250	9191
Msa	<i>Melastoma sanguineum</i>	毛蕊	500	300	200	13910
Rsi	<i>Rhododendron simsii</i>	紅杜鵑	400	300	200	19040
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	500	300	200	19705
She	<i>Schefflera heptaphylla</i>	鵝掌柴	400	300	250	17750
Zpo	<i>Zanthoxylum piperitum cv 'odorum'</i>	胡椒木	300	200	150	3964

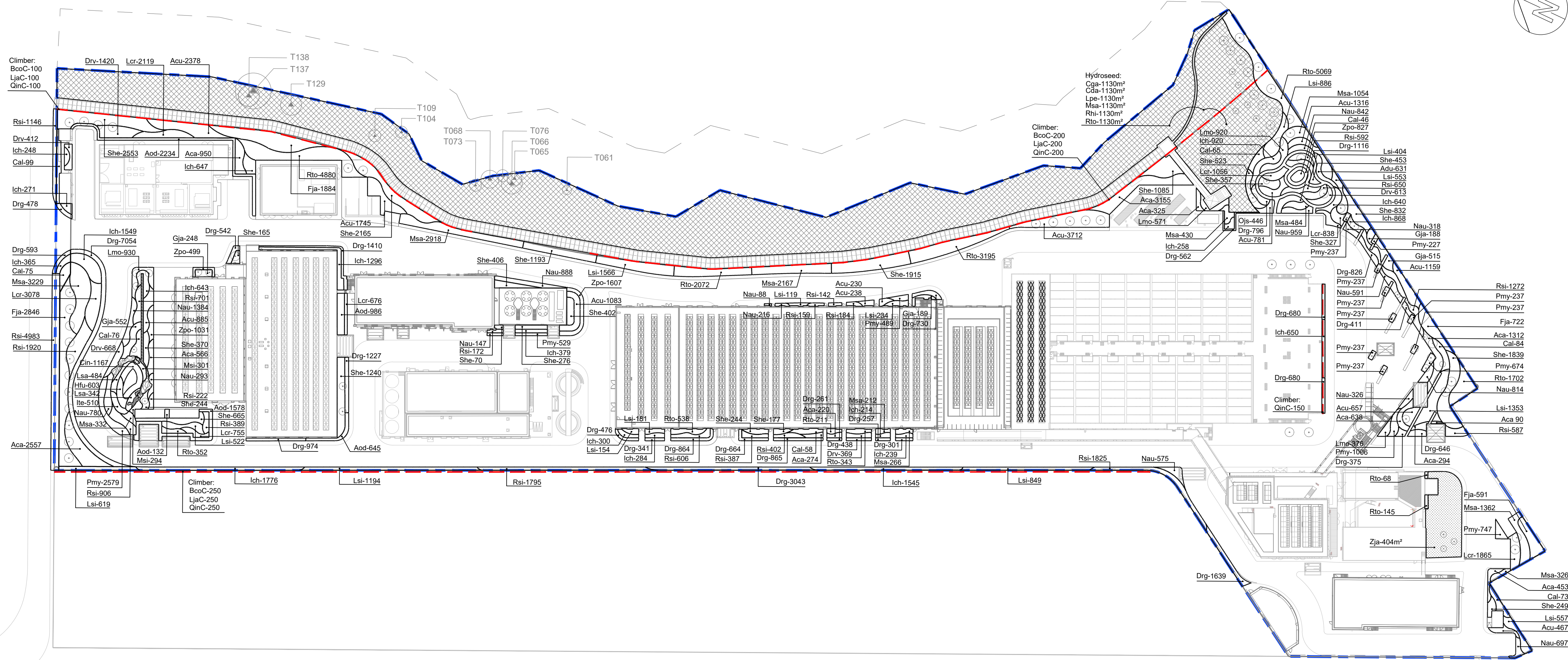
序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	G/F 數量 G/F Qty. (nos.)	備註 Remark
<b>Rain Garden</b>							
Cin	<i>Canna indica</i>	美人蕉	400	300	200	1167	-
Hfu	<i>Hemerocallis fulva</i>	萱草	400	300	200	603	-
Ite	<i>Iris tectorum</i>	鳶尾	500	300	200	510	-
Lsa	<i>Lythrum salicaria</i>	千屈菜	400	400	200	826	-
Msi	<i>Miscanthus sinensis</i>	細葉芒	400	300	200	595	-
<b>Climber</b>							
BcoC	<i>Bauhinia corymbosa</i>	首冠藤	800	300	500	550	-
LjaC	<i>Lonicera japonica</i>	金銀花	800	300	500	550	-
QinC	<i>Quisqualis indica</i>	使君子	1000	300	500	700	-
<b>Hydroseed</b>							
Cga	<i>Chloris gayana</i>	非洲虎尾草	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Cda	<i>Cynodon dactylon</i>	狗牙根	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Lpe	<i>Lolium perenne</i>	黑麥草	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Msa	<i>Melastoma sanguineum</i>	毛蕊	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Rhi	<i>Rhus chinensis</i>	鹽膚木	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
Rto	<i>Rhodomyrtus tomentosa</i>	桃金娘	-	-	-	1130m <sup>2</sup>	按平方米計算(m <sup>2</sup> )
<b>Lawn</b>							
Zja	<i>Zoysia japonica</i>	台灣草	-	-	-	410m <sup>2</sup>	按平方米計算(m <sup>2</sup> )

**LEGEND:**

- SITE BOUNDARY
- SHRUBS & GROUNDCOVERS
- LAWN
- PLANTING AREA FOR HYDROSEED
- CLIMBER
- PROPOSED NEW TREE
- RETAINED TREE

**AS-BUILT**

**REMARKS:**  
NOT LESS THAN 600mm SOIL DEPTH SHOULD BE PROVIDED FOR THOSE AREAS PLANTED WITH SHRUBS AND 300mm SOIL DEPTH FOR GROUNDCOVERS.



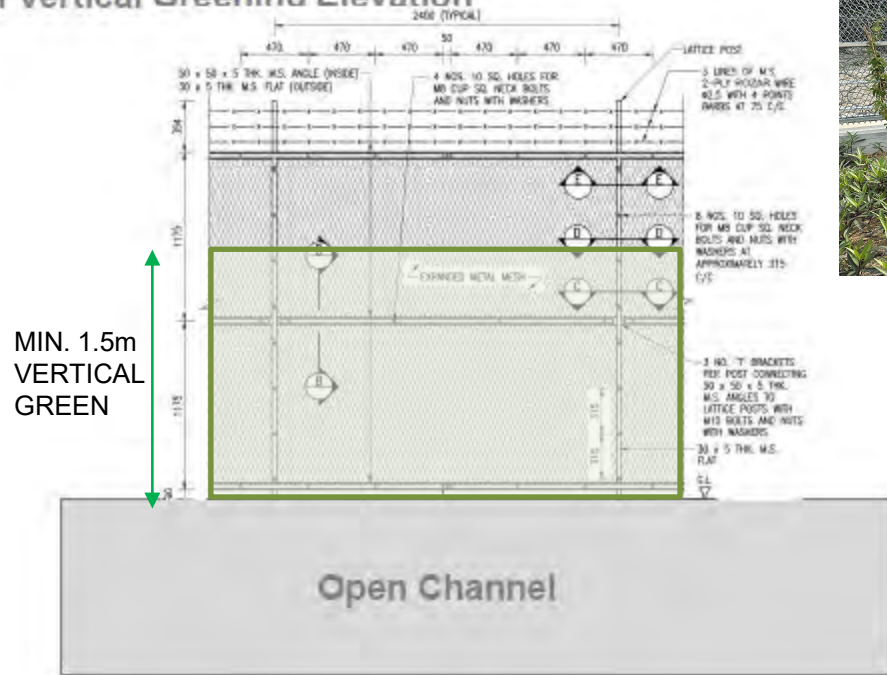
Rev	Description	By	Date
A	GENERAL REVISION	AC	2021/11/11
Employer			
Supervising Officer designate			
Design Checker			
Contractor			
Designer			
Project title			
CONTRACT NO. 13/WSD/17			
DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT			
Drawing title			
SHRUBS PLAN - GROUND FLOOR			
Drawing no.			
TKOD1-DWG-A000-WLA3112			
Rev.			
A			
Drawn	Date	Checked	Approved
AC	10 MAY 2021	XL	-
Scale		Status	
1:800@A1		DETAILED DESIGN APPROVAL	



## - Open Channel Fence Wall

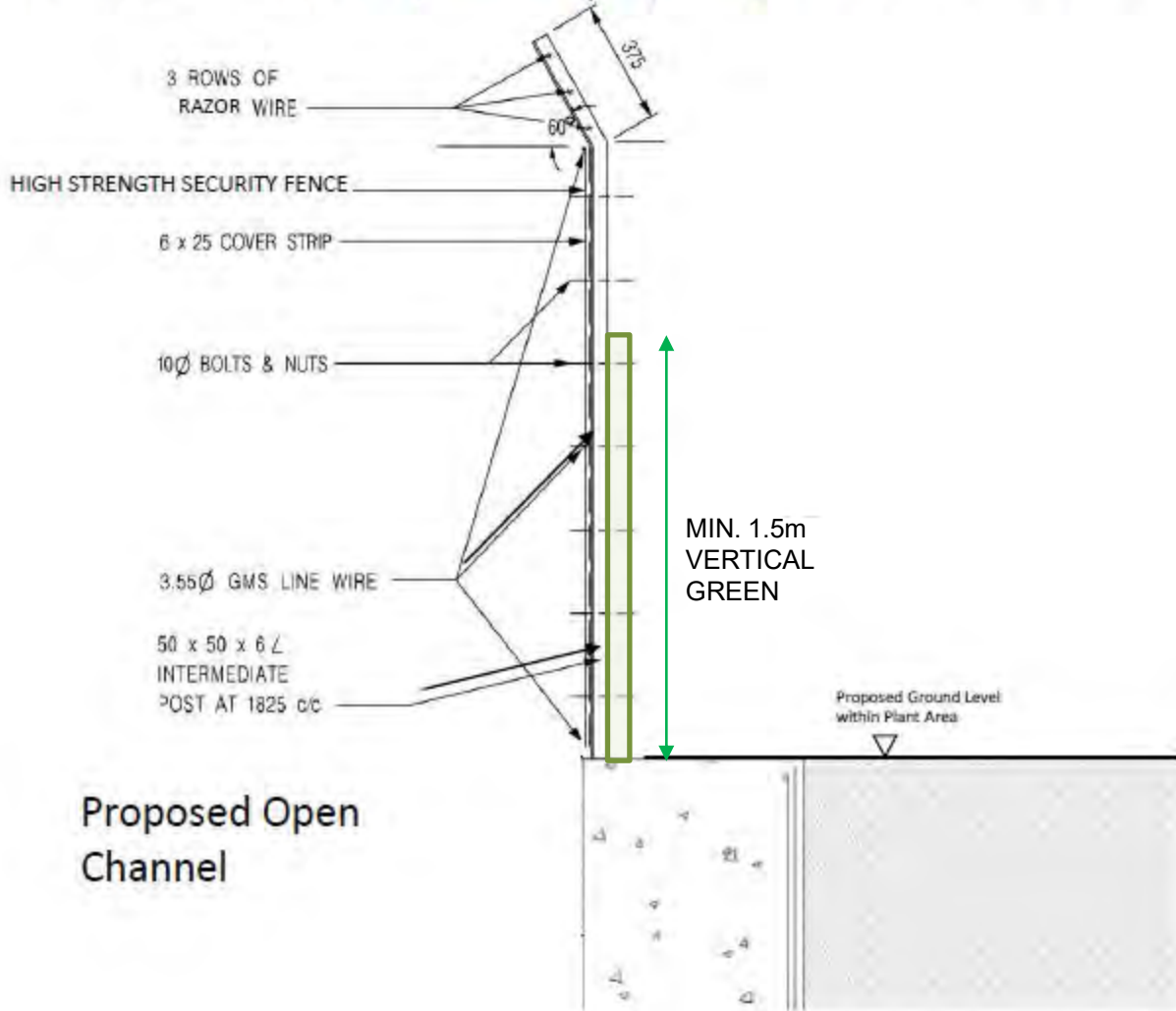


Typical Vertical Greening Elevation

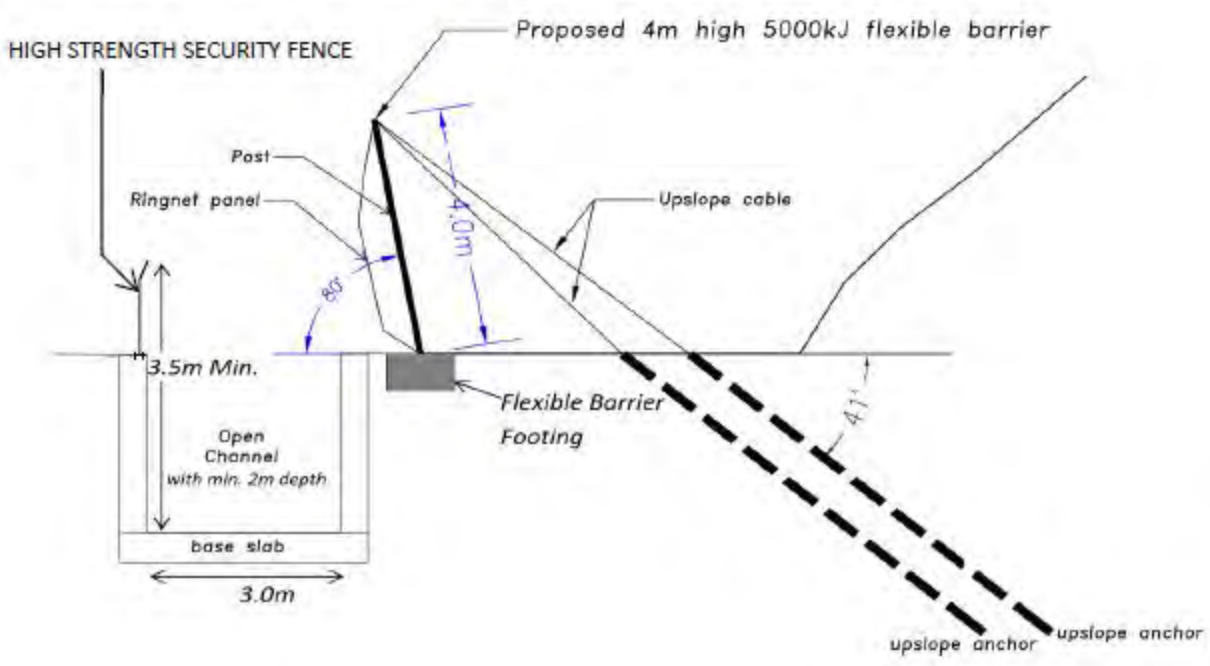


Typical Vertical Greening Section

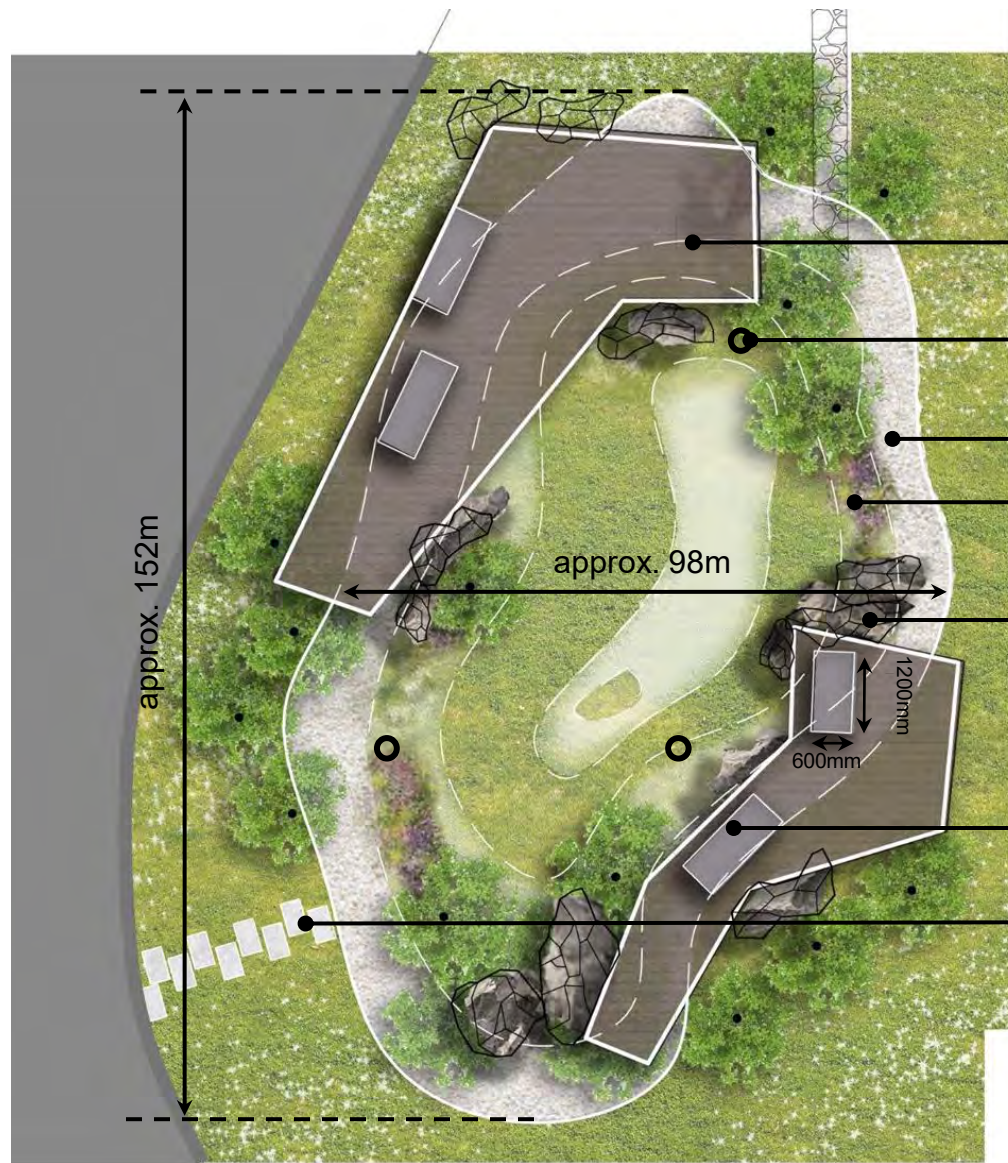
OUTSIDE – Hillside ← → INSIDE – Plant Area



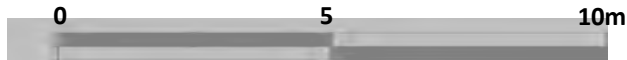
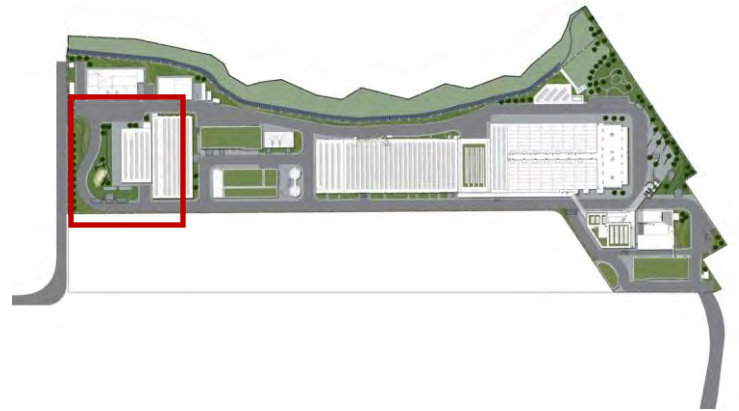
Vertical Greening adjacent to Open Channel







- CONCRETE PAVER BLOCK
- OVERFLOW DRAIN
- PEBBLES W/ 15 - 20mm DIA
- RAIN GARDEN PLANTING
- FEATURE ROCK (NATURAL ROCK)
- STONE BENCH
- MAINTENANCE





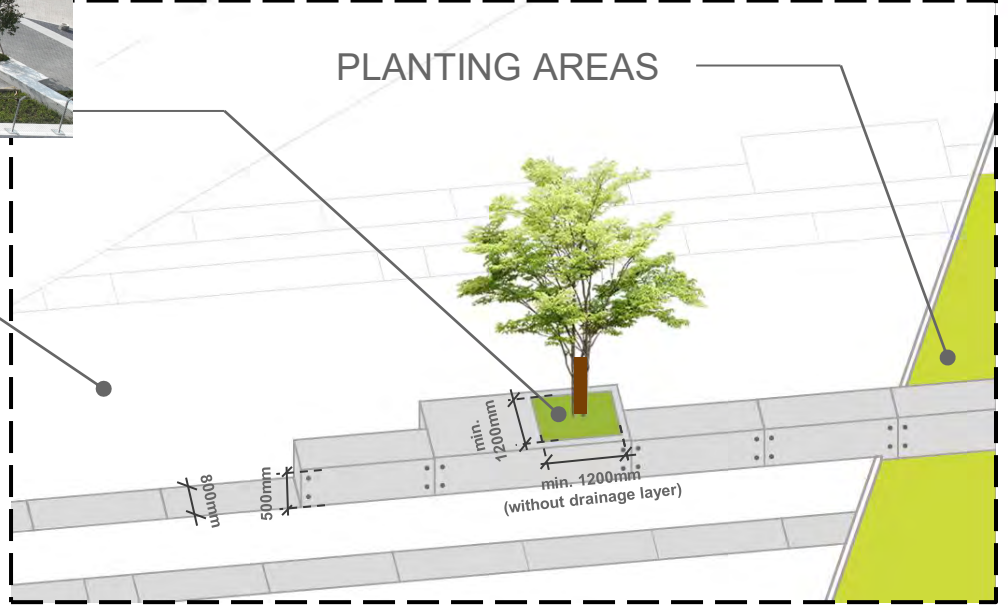






LOW UP AXON

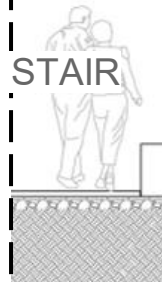
- MIN 1200mm (WITHOUT DRAINAGE LAYER) SOIL DEPTH
- PAVER BLOCK WITH RANDOM MIXING
- FAIR FACE CONC. FEATURE (800MM WIDTH)
- PLANTER BOX FAIR FACE CONC. FEATURE (1500MM WIDTH)



SECTION

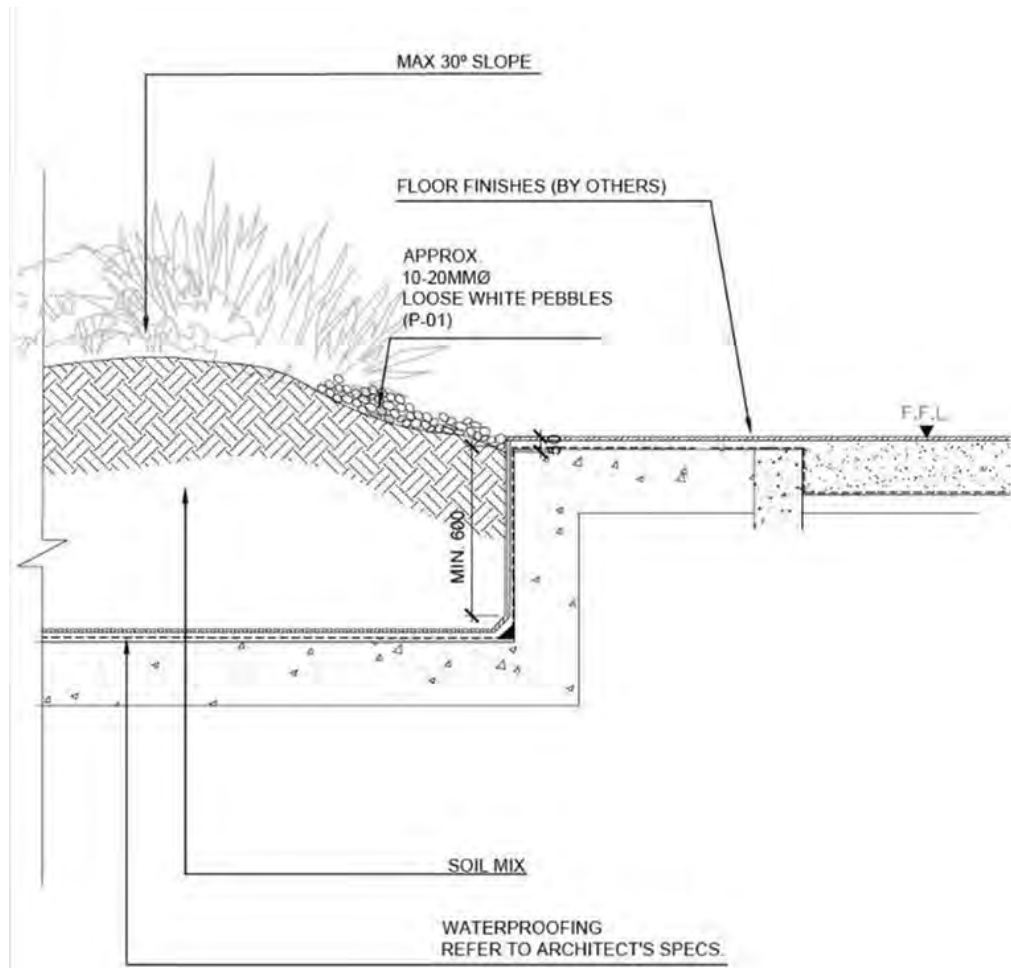


- MANHOLE WITH MATCHING COVER
- GRANOLITHIC FINISH
- PLANTER ALONG STAIR

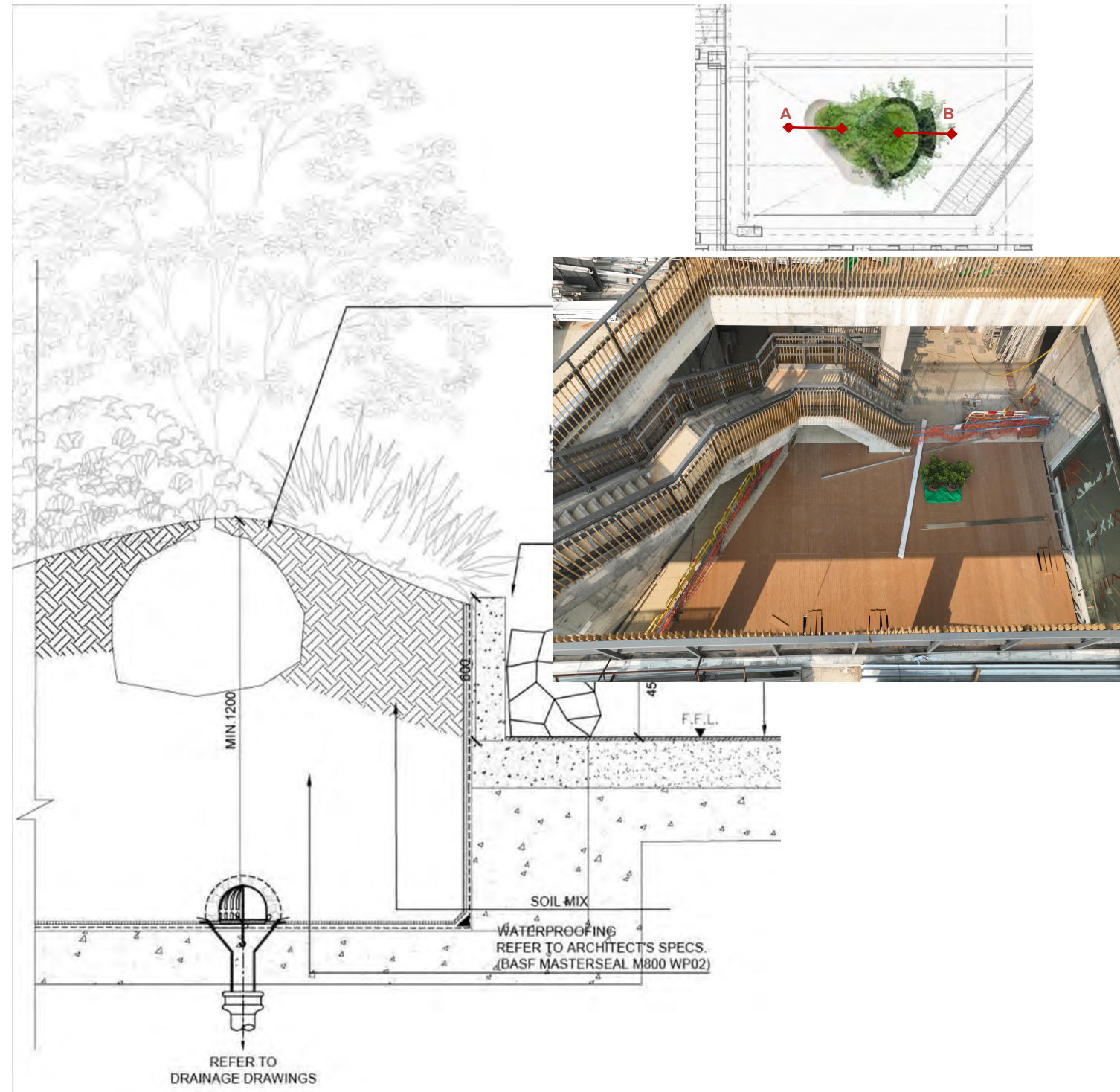




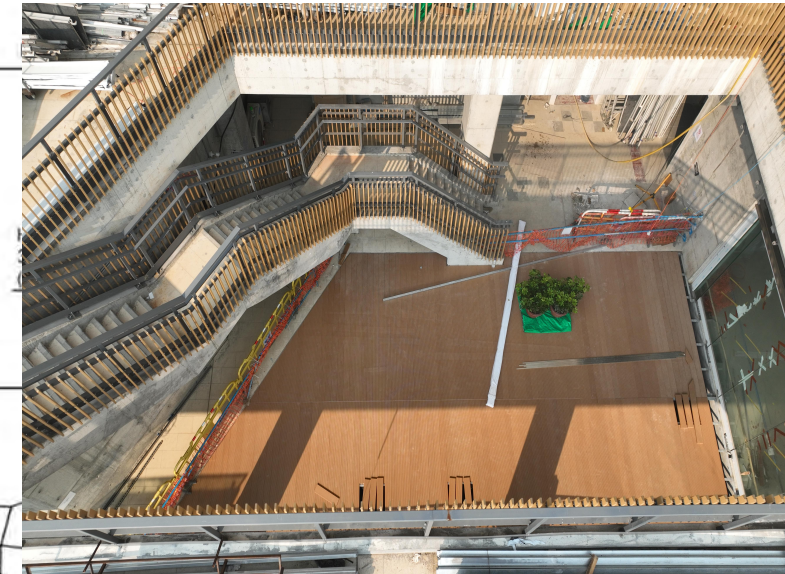
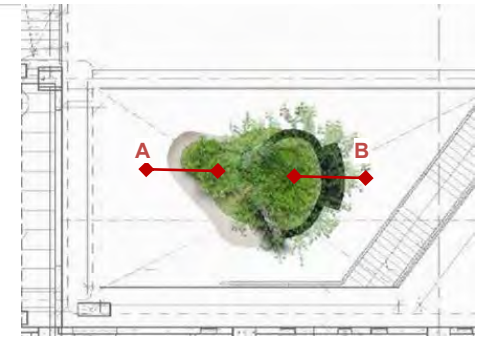
## Section Details



Section A



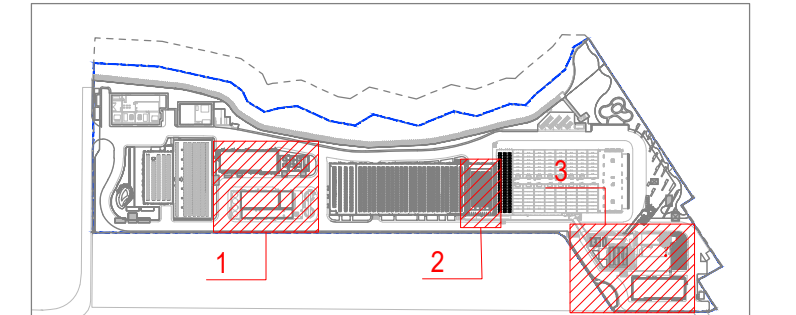
Section B





# Appendix E - Soft Landscape Design (Admin Building)

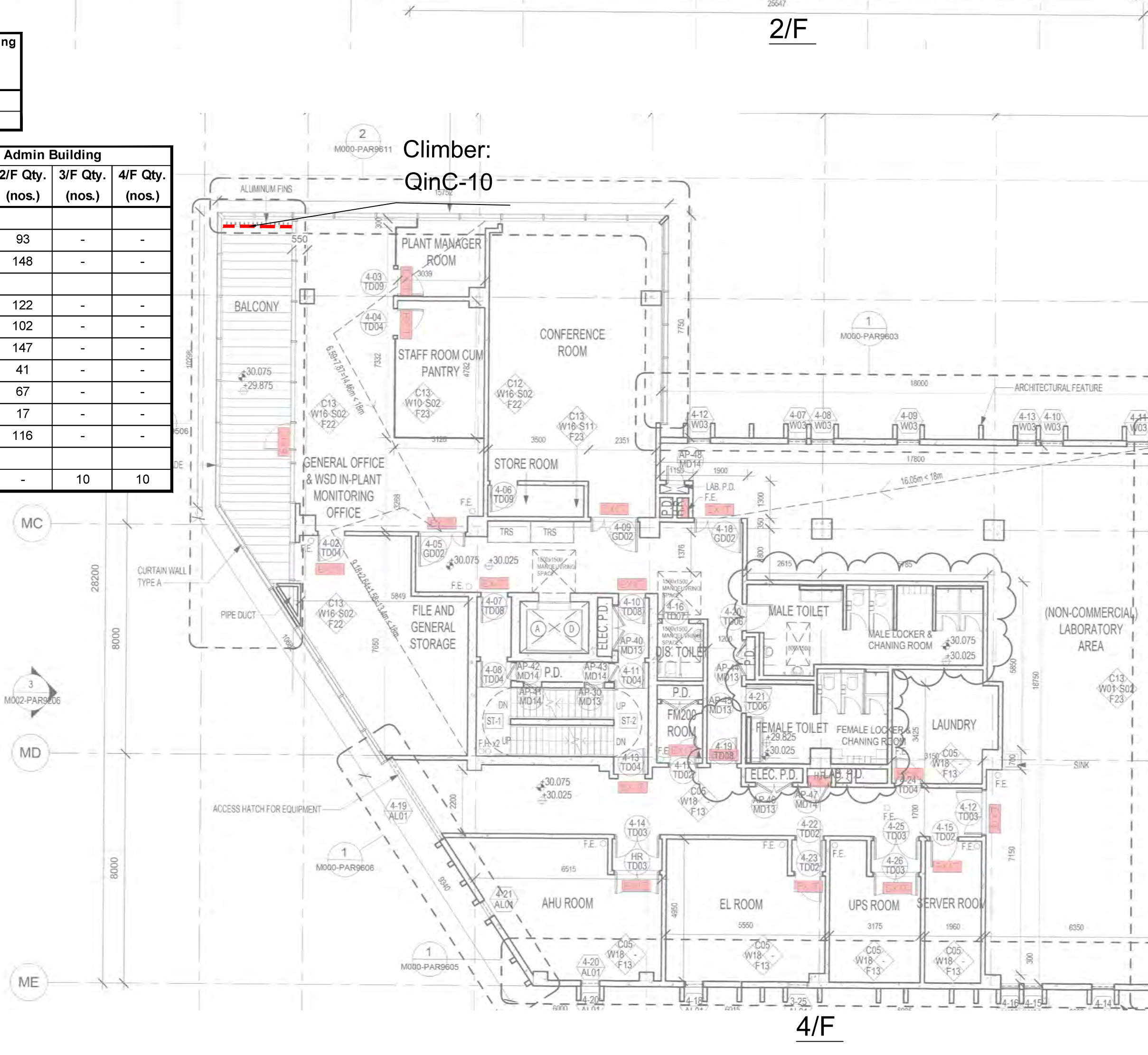
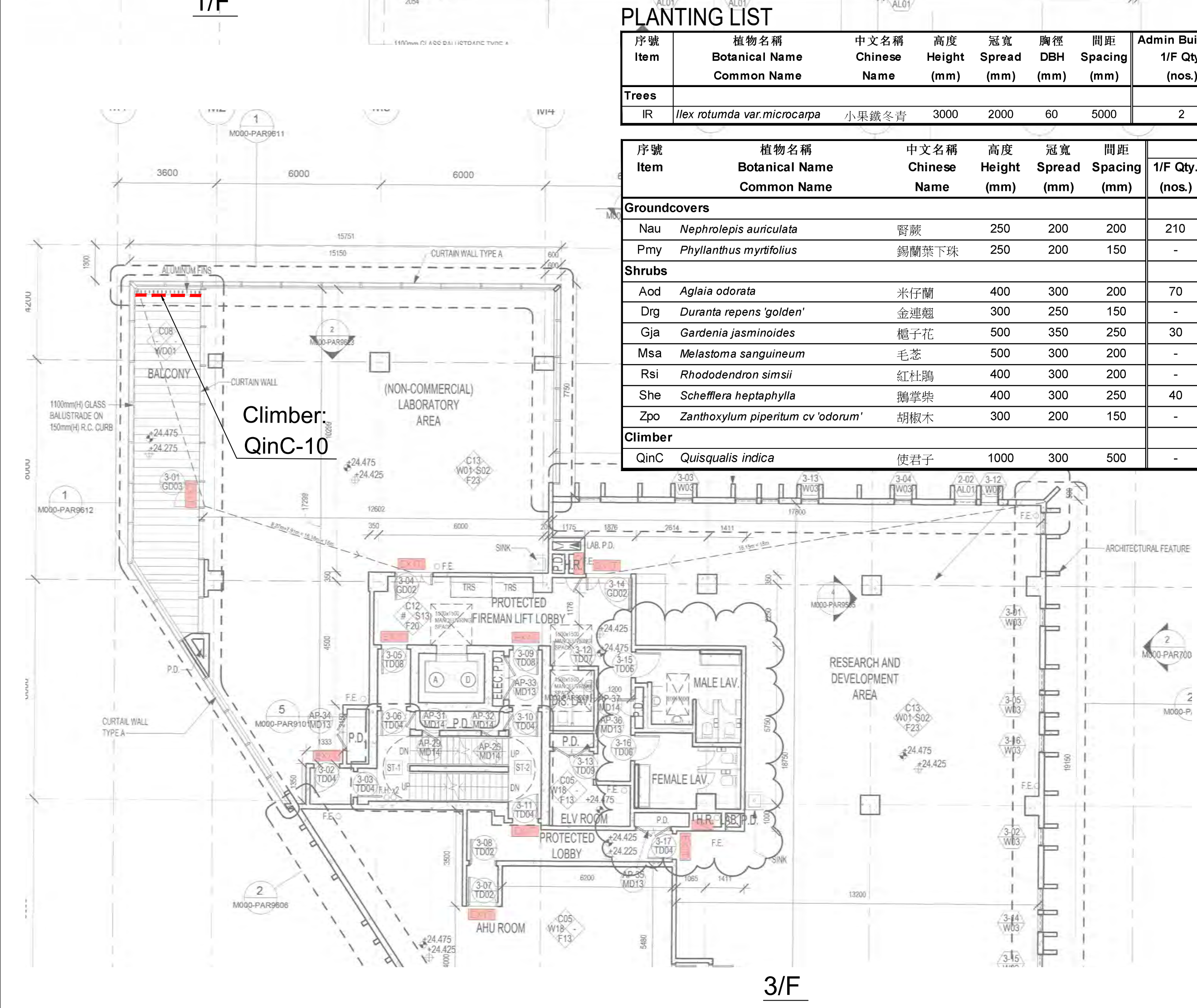
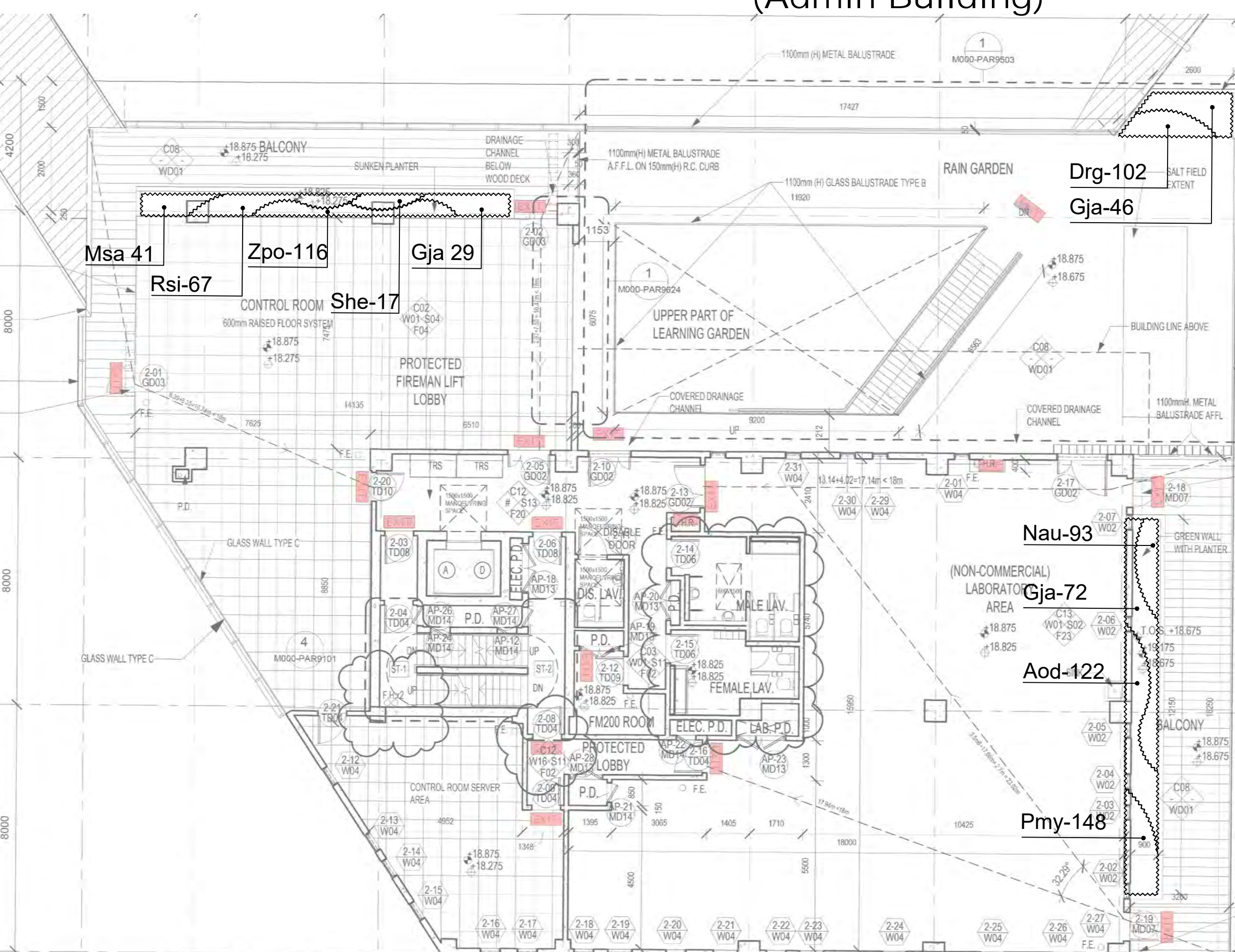
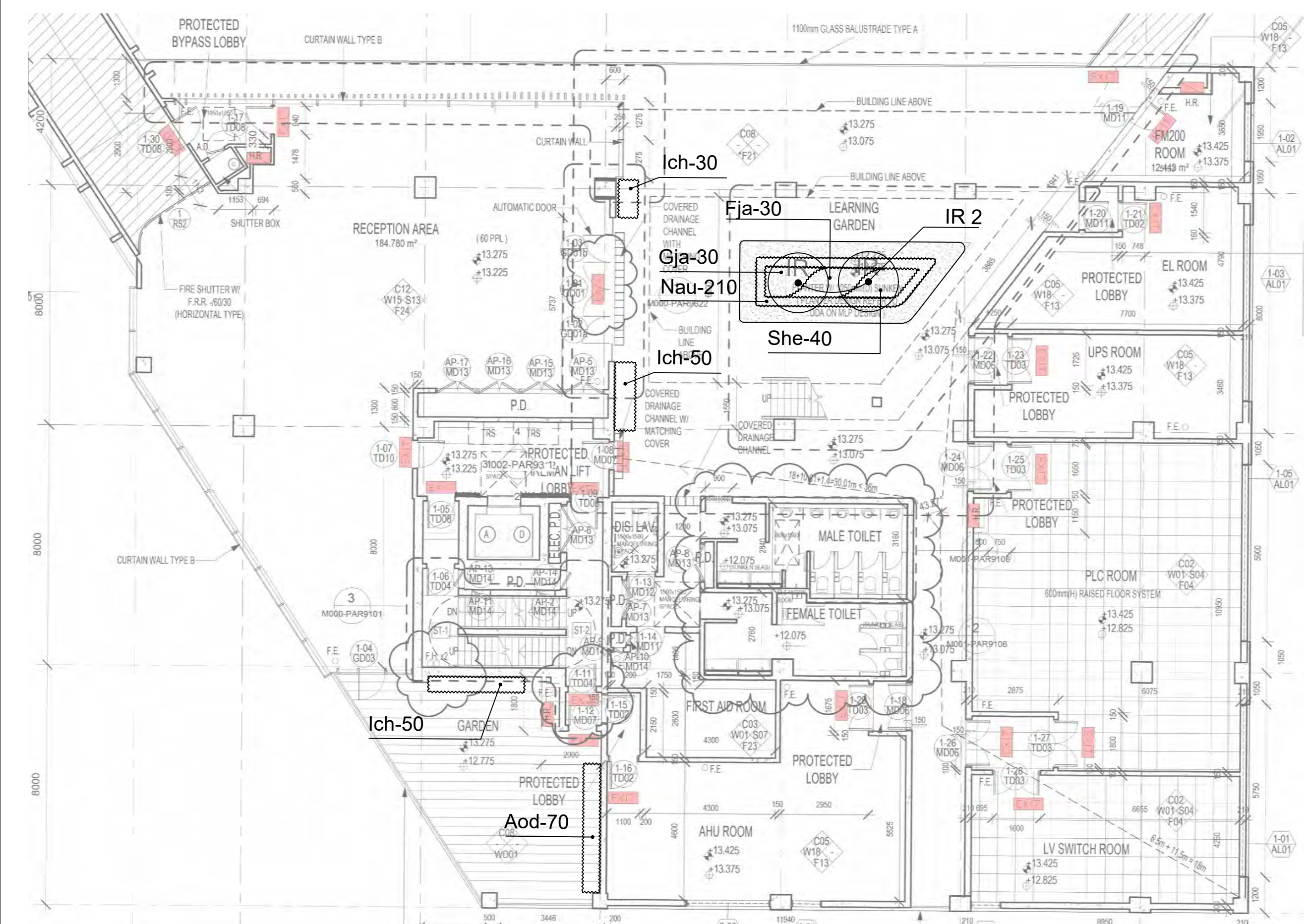
KEY PLAN scale 1:6000



- LEGEND:
- TREE
  - SHRUBS & GROUNDCOVERS
  - CLIMBER

AS-BUILT

REMARKS:  
 NOT LESS THAN 1200mm CLEAR SOIL WIDTH AND DEPTH SHOULD BE PROVIDED FOR ALL TREE PLANTING AREAS AND 600mm SOIL DEPTH FOR SHRUBS AND 300mm SOIL DEPTH FOR GROUNDCOVERS.



**PLANTING LIST**

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	胸徑 DBH (mm)	間距 Spacing (mm)	Admin Building 1/F Qty. (nos.)
<b>Trees</b>							
IR	<i>Ilex rotunda var. microcarpa</i>	小果鐵冬青	3000	2000	60	5000	2

序號 Item	植物名稱 Botanical Name Common Name	中文名稱 Chinese Name	高度 Height (mm)	冠寬 Spread (mm)	間距 Spacing (mm)	Admin Building 1/F Qty. (nos.)	2/F Qty. (nos.)	3/F Qty. (nos.)	4/F Qty. (nos.)
<b>Groundcovers</b>									
Nau	<i>Nepenthes auriculata</i>	野蕨	250	200	200	210	93	-	-
Pmy	<i>Phyllanthus myrsinifolius</i>	錦蘭葉下珠	250	200	150	-	148	-	-
<b>Shrubs</b>									
Aod	<i>Aglaia odorata</i>	米仔蘭	400	300	200	70	122	-	-
Drg	<i>Duranta repens 'golden'</i>	金蓮翹	300	250	150	-	102	-	-
Gja	<i>Gardenia jasminoides</i>	梔子花	500	350	250	30	147	-	-
Msa	<i>Melastoma sanguineum</i>	毛蕊	500	300	200	-	41	-	-
Rsi	<i>Rhododendron simsii</i>	紅杜鵑	400	300	200	-	67	-	-
She	<i>Schefflera heptaphylla</i>	鶴掌柴	400	300	250	40	17	-	-
Zpo	<i>Zanthoxylum piperitum cv 'odorum'</i>	胡椒木	300	200	150	-	116	-	-
<b>Climber</b>									
QinC	<i>Quisqualis indica</i>	使君子	1000	300	500	-	-	10	10

Rev	Description	By	Date

Employer  
 水務署  
 Water Supplies Department

Supervising Officer designate  
 binnies

Design Checker  
 ARCADIS  
 Design & Consultancy for natural and built assets

Contractor  
 acciona JEC CCCC  
 AJC JOINT VENTURE

Designer  
 wsp  
 In Association with APU

Project title  
 CONTRACT NO. 13/WSD/17  
 DESIGN, BUILD AND OPERATE FIRST STAGE OF TSEUNG KWAN O DESALINATION PLANT

Drawing title  
 PLANTING PLAN – ADMIN BUILDING

Drawing no.  
 TKOD1-DWG-A000-WLA3114

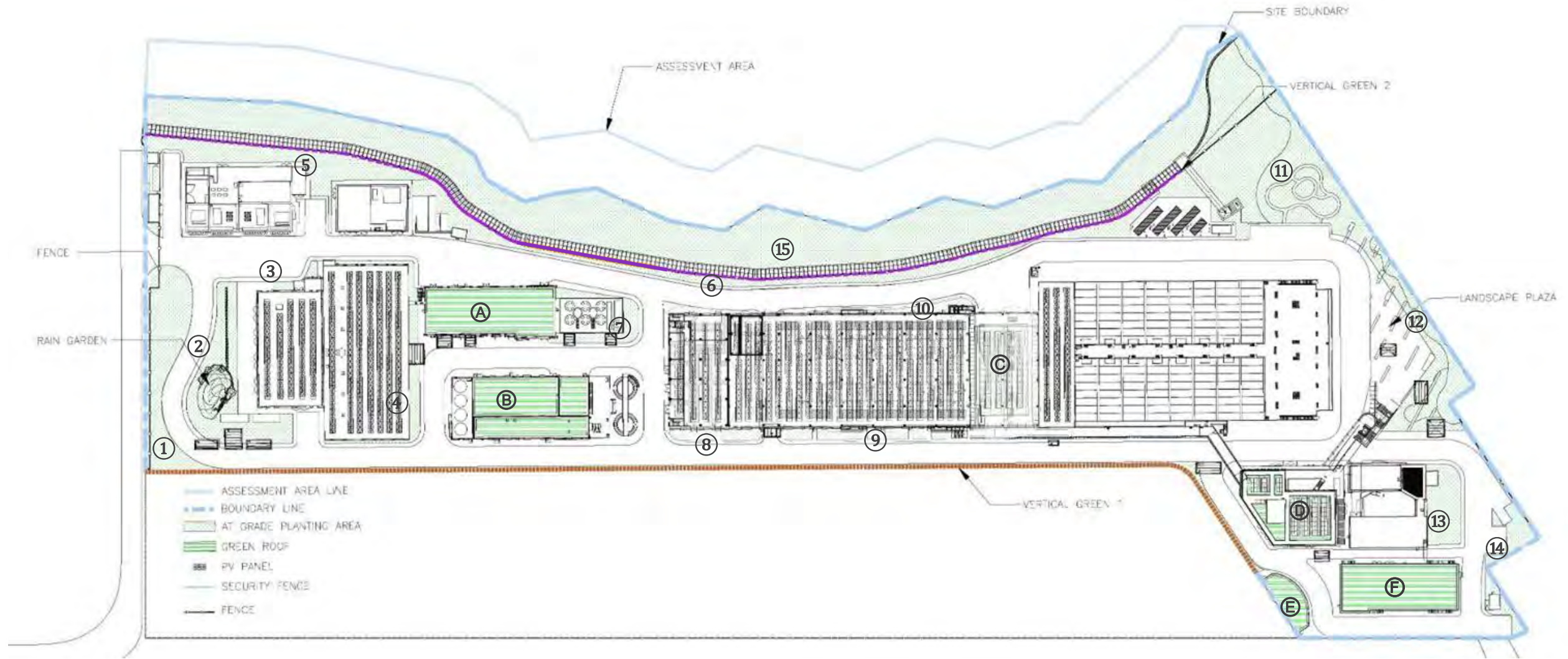
Drawn AC	Date 10 MAY 2021	Checked XL	Approved -
Scale 1:125@A1	Status DETAILED DESIGN APPROVAL		

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# Appendix E - Soft Landscape Design (Green Area Calculation)

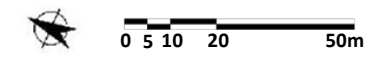
AS-BUILT



ITEM	AREA (m <sup>2</sup> )
①	1252.578
②	736.357
③	42.288
④	250.301
⑤	805.819
⑥	1101.13
⑦	196.241
⑧	109.888

ITEM	AREA (m <sup>2</sup> )
⑨	200.463
⑩	91.075
⑪	2245.921
⑫	663.355
⑬	318.392
⑭	259.803
⑮	5426.849
TOTAL	13700.46

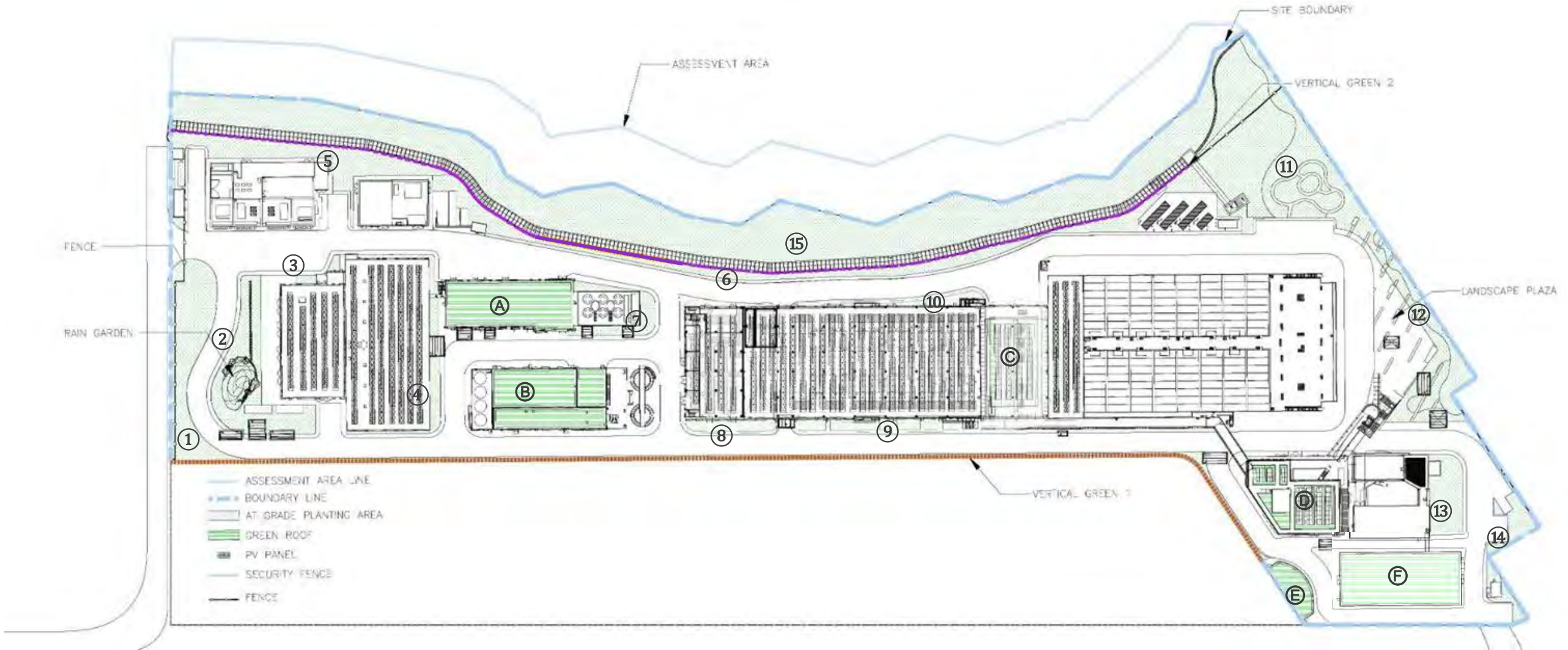
ITEM	AREA (m <sup>2</sup> )
A	696.932
B	736.342
C	197.214
D	162.64
E	152.508
F	622.136
TOTAL	2,567.772





# Appendix E - Soft Landscape Design (Green Area Calculation)

**AS-BUILT**



SITE BOUNDARY: 56,120.8 SQM  
 30% GREENERY REQUIREMENT: 16,836.2 SQM  
 15% AT GRADE REQUIREMENT: 8,418.12 SQM  
 MAX. 30% CAP OF ALL GREENERY (VERTICAL GREEN, GRASS PAVER, COVERED PLANTING AREA): 5,050.86 SQM

AT GRADE TOTAL PLANTING AREA (EXCLUDING VERTICAL GREENING) : 13,700.46 SQM (Hence, the at grade greenery calculation requirement is achieved)  
[1+2+3+4+5+6+7+8+9+10+11+12+13+14+15]  

 GREEN ROOF (EXCLUDING VERTICAL GREENING) : 2,567.772 SQM  
[A+B+C+D+E+F]



VERTICAL GREEN 1: 585.137(L) X 3(H) = 1,755.411 SQM (Detail refer to A15 and A16)

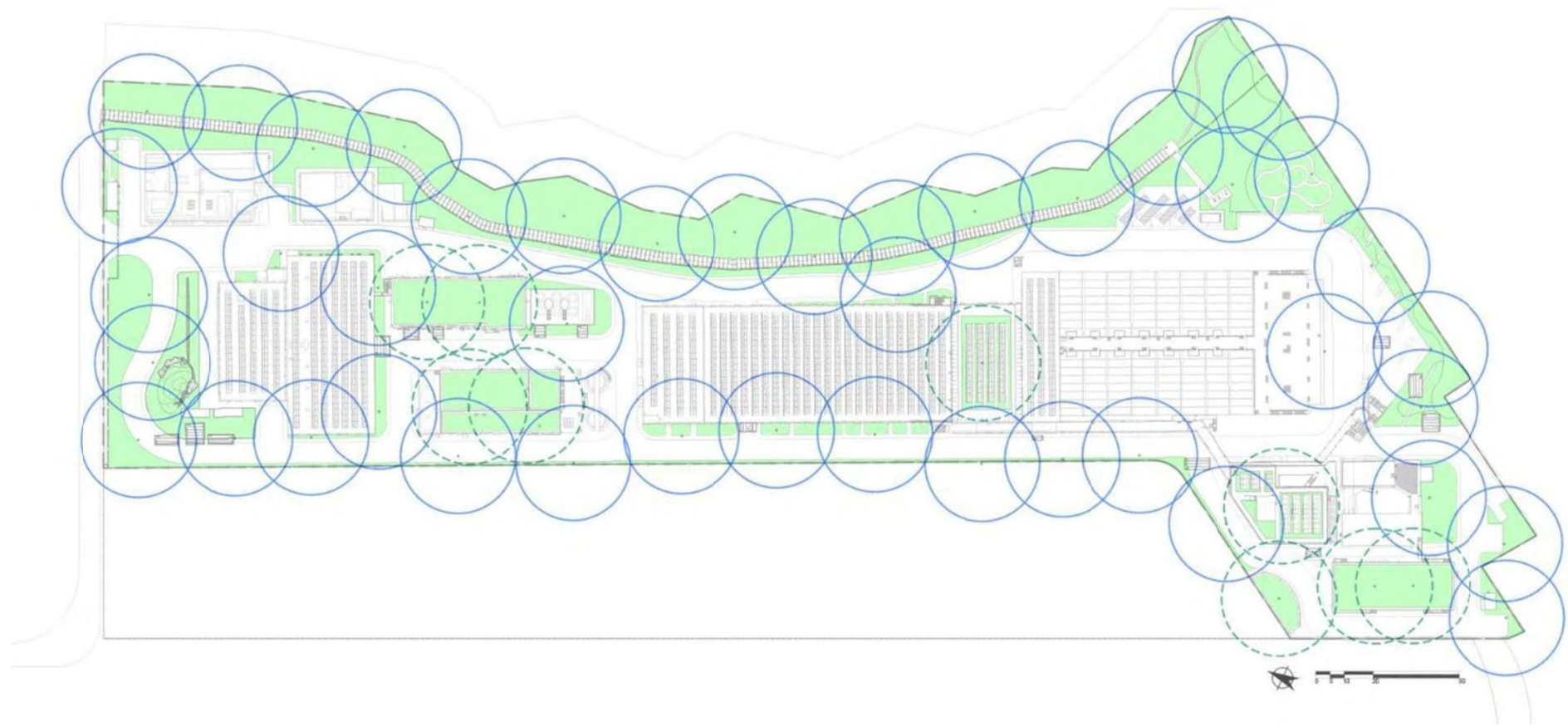
VERTICAL GREEN 2: 222.689(L) X 1.5(H) = 334.034 SQM (Detail refer to A14)

TOTAL GREENERY AREA: 13,700.46 + 2,567.772 + 1,755.411 + 334.034 = 18,357.677 SQM (32.71%)

**Proposed GAC 32.7% (18358 SQ.M.) > Required GAC 30% (16836 SQ.M.)**



-  20m radius irrigation point on G/F
-  20m radius irrigation point on Rooftop

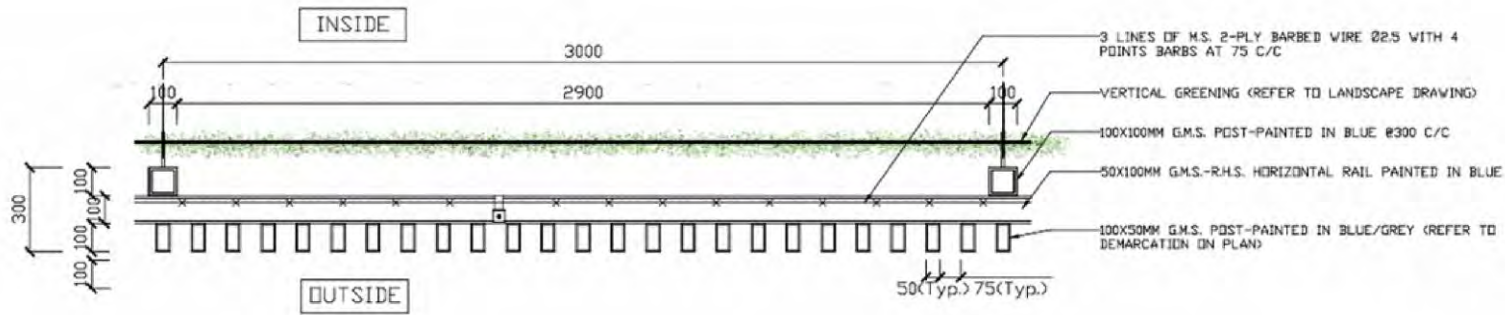




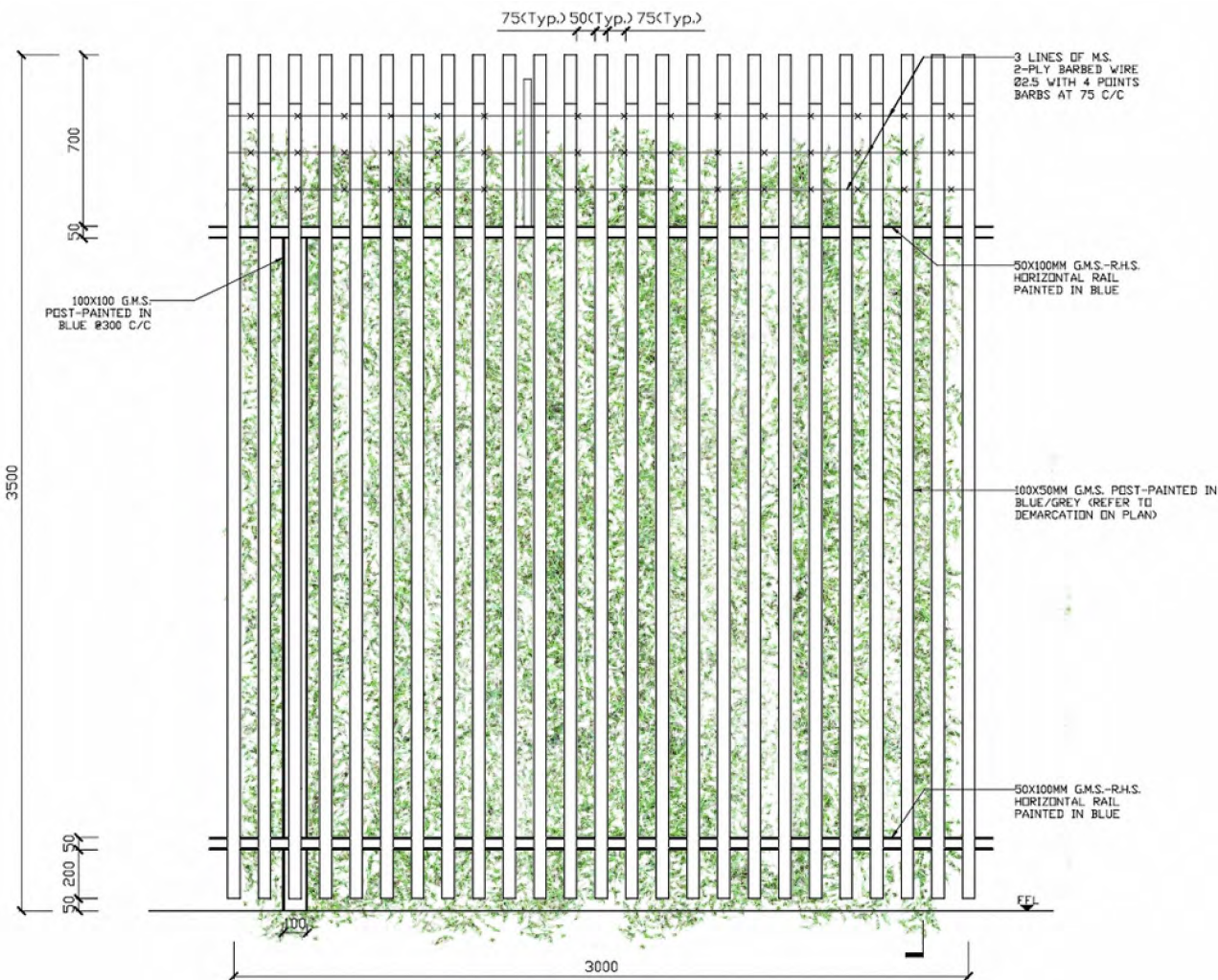
# Appendix E - Soft Landscape Design (Vertical Greening)

AS-BUILT

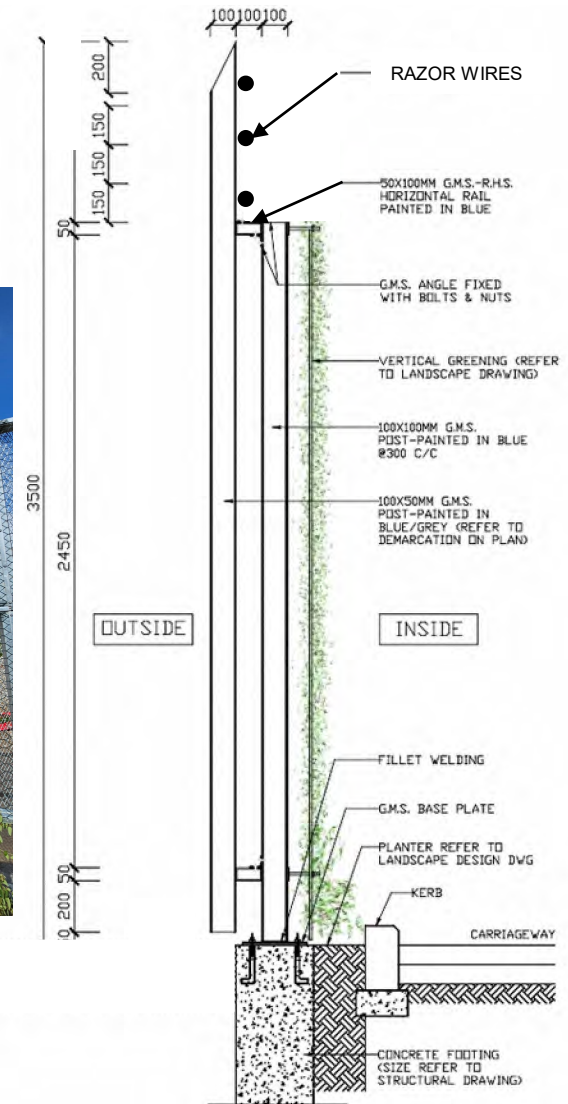
Typical Vertical Greening Zoomin Plan



Typical Vertical Greening Elevation



Typical Vertical Greening Section

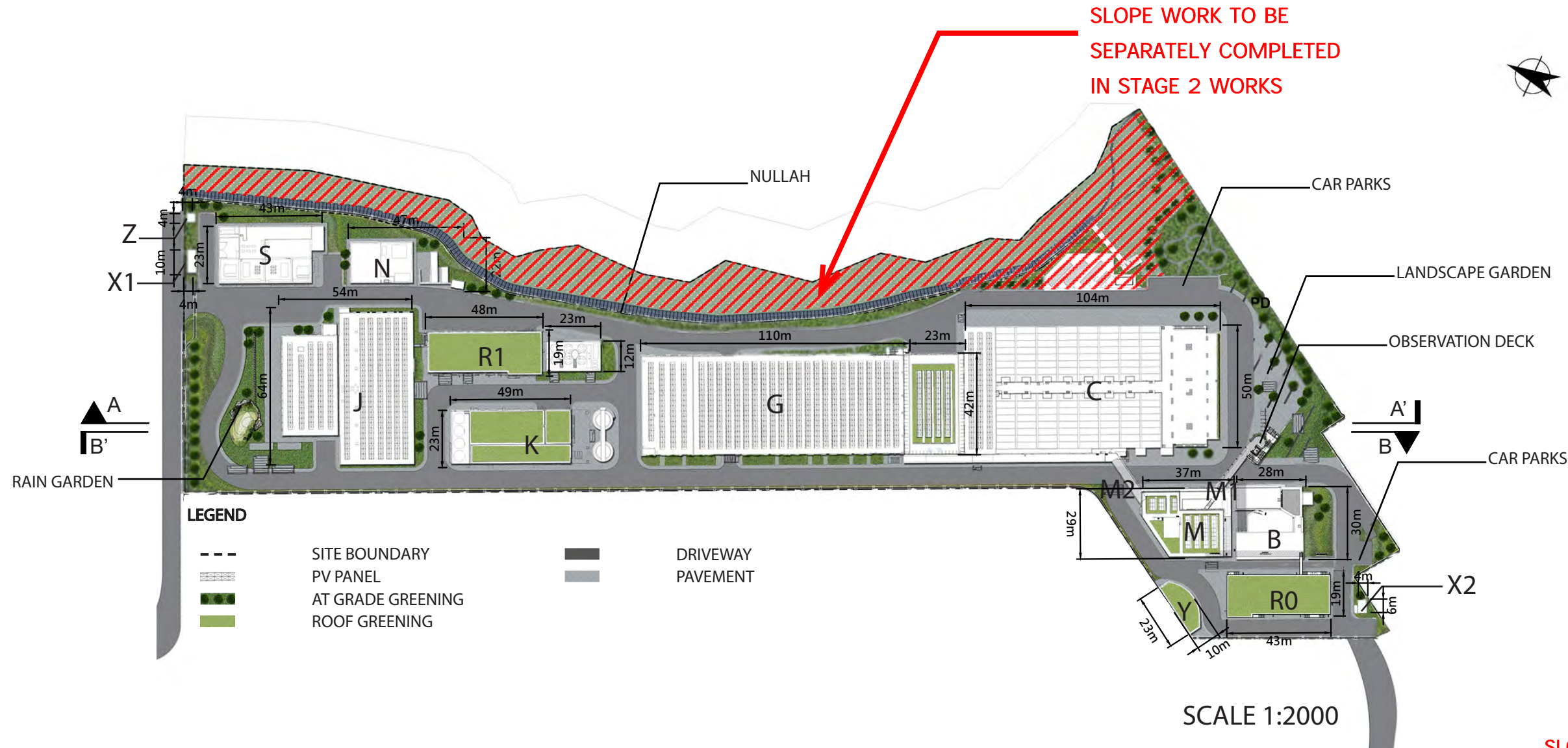




## **Appendix F – Hard Landscape Design**



# App F - Hard Landscape Design (Overview) REV. 01



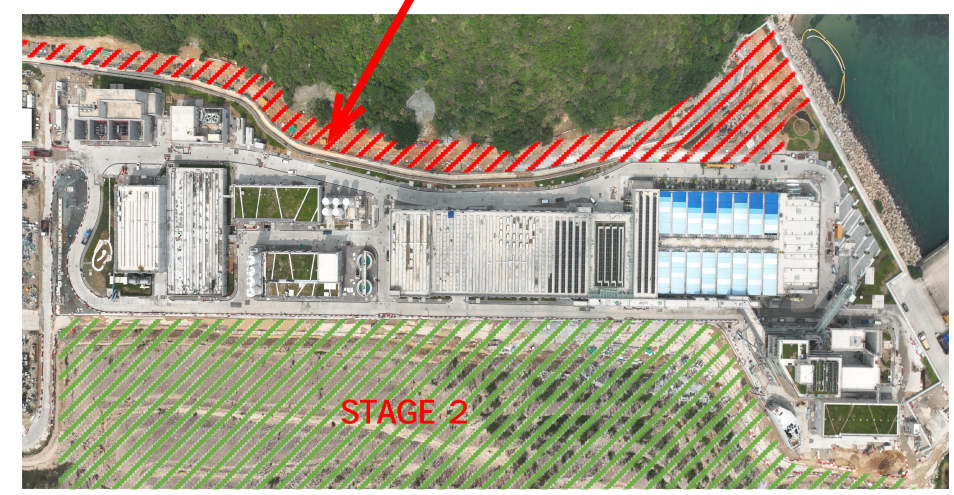
SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

SLOPE WORK TO BE SEPARATELY COMPLETED IN STAGE 2 WORKS

**LEGEND**

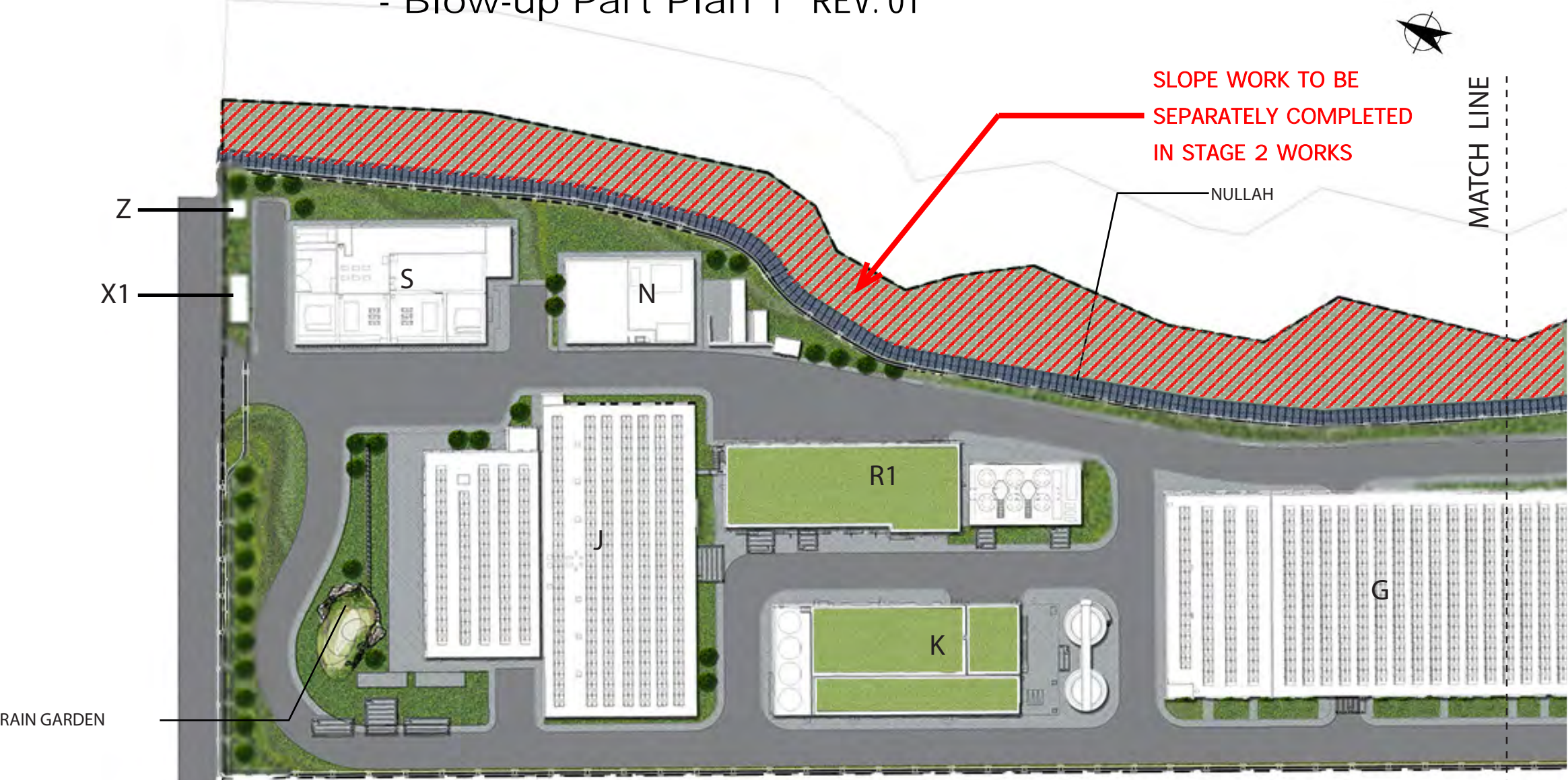
- M - ADMINISTRATION BUILDING
- M1- ELEVATED WALKWAY
- V- INSPECTION CORRIDOR
- B - COMBINED INTAKE & OUTFALL SHAFT
- R0 - CHEMICAL BUILDING
- C - ACTIDAFF
- G - REVERSE OSMOSIS & ELECTRICAL BUILDING
- K - POST-TREATMENT BUILDING
- J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
- R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA

- N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
- S - TKO DESALINATION PLANT SUBSTATION
- Z - MASTER METER ROOM
- X1 - GUARD HOUSE A
- X2 - GUARD HOUSE B
- Y - WORKSHOP





Appendix F - Hard Landscape Design (Overview)  
 - Blow-up Part Plan 1 REV. 01



LEGEND

- M - ADMINISTRATION BUILDING
- M1- ELEVATED WALKWAY
- V- INSPECTION CORRIDOR
- B - COMBINED INTAKE & OUTFALL SHAFT
- R0 - CHEMICAL BUILDING
- C - ACTIDAFF
- G - REVERSE OSMOSIS & ELECTRICAL BUILDING
- K - POST-TREATMENT BUILDING
- J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
- R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA
- N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
- S - TKO DESALINATION PLANT SUBSTATION
- Z - MASTER METER ROOM
- X1 - GUARD HOUSE A
- X2 - GUARD HOUSE B

LEGEND

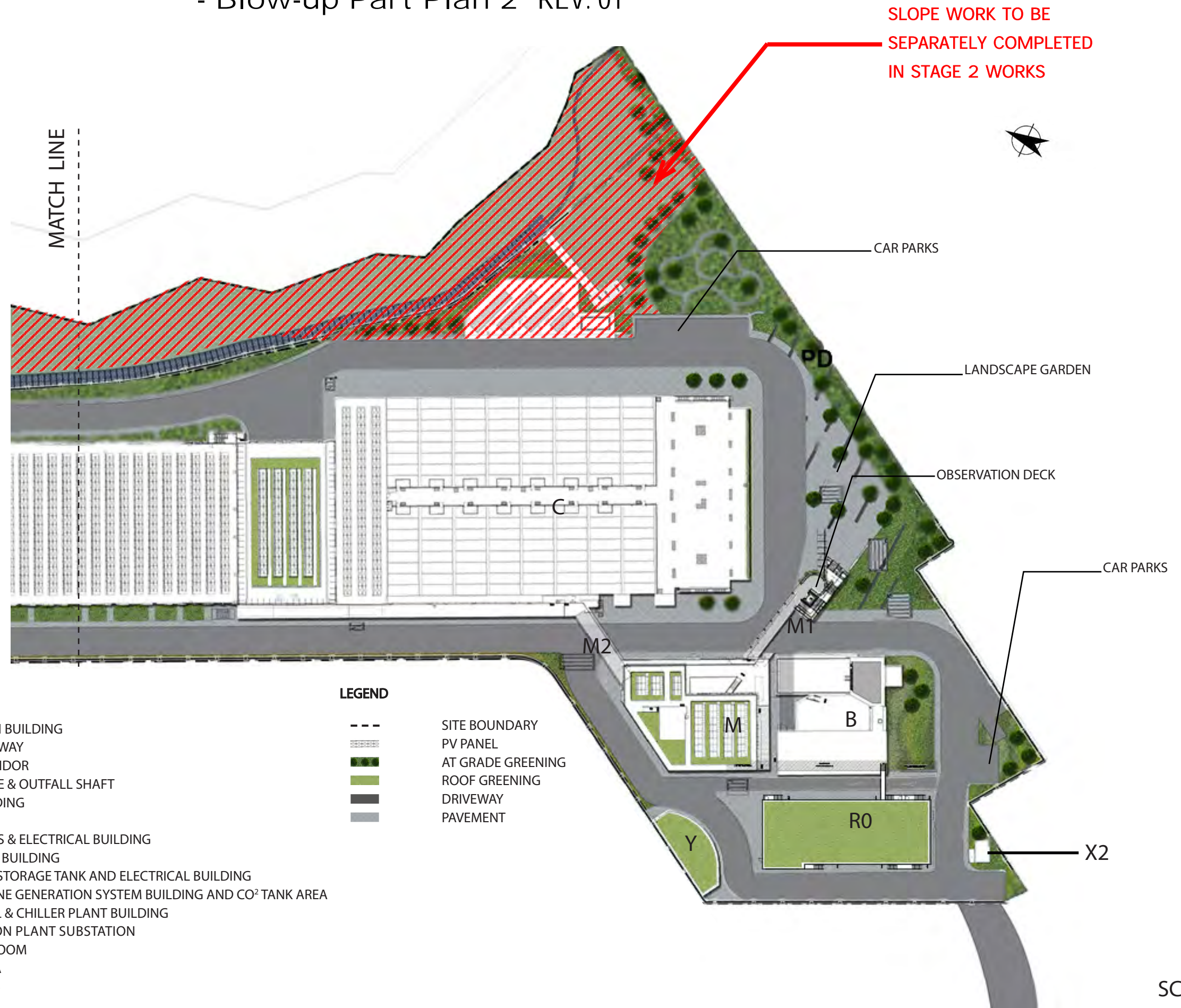
- SITE BOUNDARY
- [Hatched Box] PV PANEL
- [Green Box] AT GRADE GREENING
- [Light Green Box] ROOF GREENING
- [Dark Grey Box] DRIVEWAY
- [Light Grey Box] PAVEMENT

SCALE 1:1000



# Appendix F - Hard Landscape Design (Overview)

## - Blow-up Part Plan 2 REV. 01



SLOPE WORK TO BE  
SEPARATELY COMPLETED  
IN STAGE 2 WORKS

**LEGEND**

- M - ADMINISTRATION BUILDING
- M1- ELEVATED WALKWAY
- V- INSPECTION CORRIDOR
- B - COMBINED INTAKE & OUTFALL SHAFT
- R0 - CHEMICAL BUILDING
- C - ACTIDAFF
- G - REVERSE OSMOSIS & ELECTRICAL BUILDING
- K - POST-TREATMENT BUILDING
- J - PRODUCT WATER STORAGE TANK AND ELECTRICAL BUILDING
- R1 - ON-SITE CHLORINE GENERATION SYSTEM BUILDING AND CO<sup>2</sup> TANK AREA
- N - MAIN ELECTRICAL & CHILLER PLANT BUILDING
- S - TKO DESALINATION PLANT SUBSTATION
- Z - MASTER METER ROOM
- X1 - GUARD HOUSE A
- X2 - GUARD HOUSE B

**LEGEND**

- SITE BOUNDARY
- [Pattern] PV PANEL
- [Green] AT GRADE GREENING
- [Light Green] ROOF GREENING
- [Dark Grey] DRIVEWAY
- [Light Grey] PAVEMENT

SCALE 1:1000





# Appendix F - Hard Landscape Design (Administration Building)



**LEGEND**

- FC FAIRFACED CONCRETE
- SS S.S. (BEAD BLASTED)
- P1 PAINT IN GRAY
- A1 ALUMINIUM (BRIGHT COPPER)
- G1 CURTAIN WALL
- P2 TEXTURED PAINT IN GRAY
- A2 ALUMINIUM (BLUE)
- G2 GLASS WALL
- D1 DFMA CONCRETE PAN

GRAIN PATTERN)

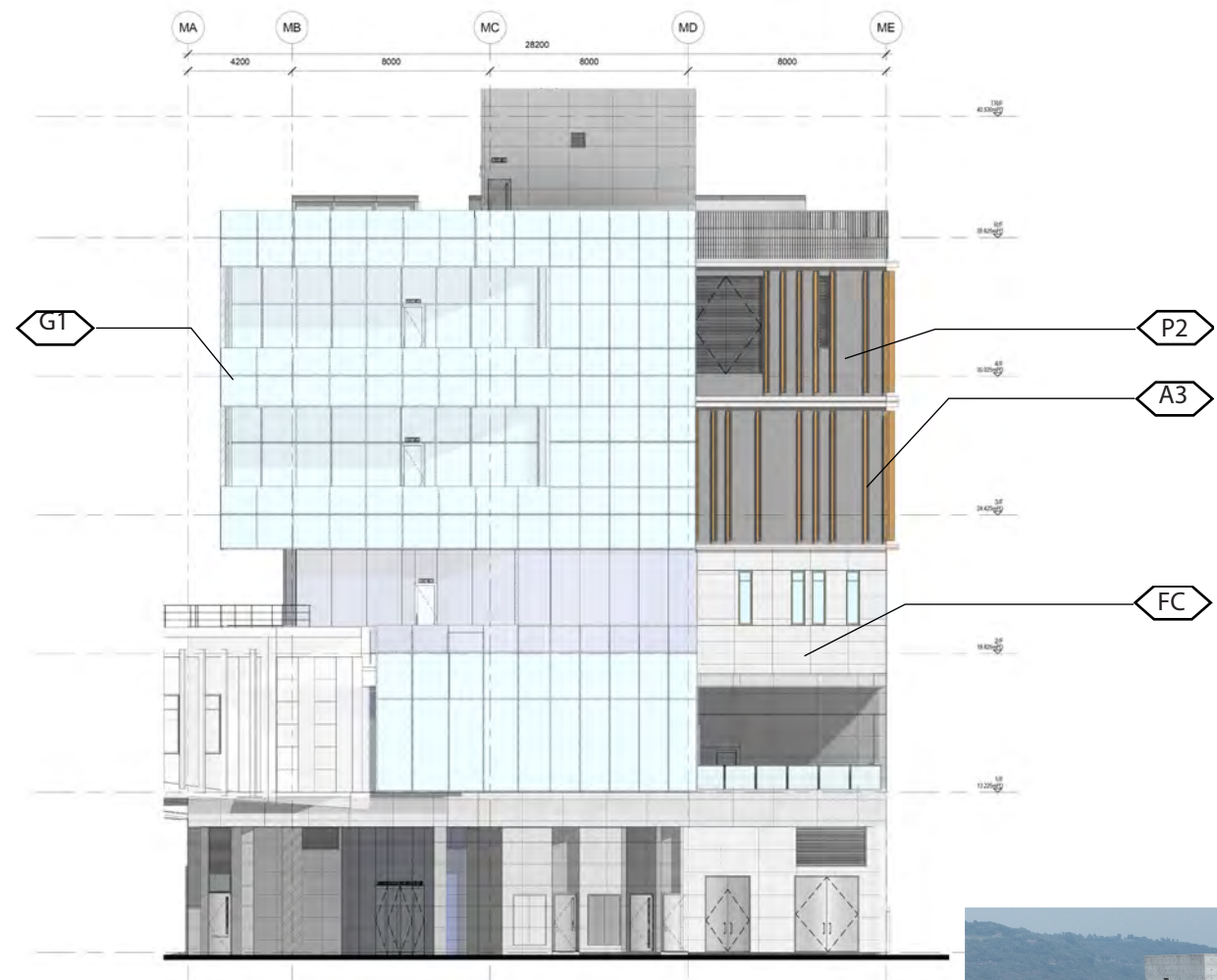
(LIGHT GRAY, BRUSHED)

- A4 ALUMINIUM (WHITE)
- G4 GLASS WALL W/. REFLECTIVE COATING
- D3 DFMA CONCRETE PANEL (DARK GRAY, RIBBED)
- A5 ALUMINIUM (GREY)





# Appendix F - Hard Landscape Design (Administration Building)



ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)



**LEGEND**

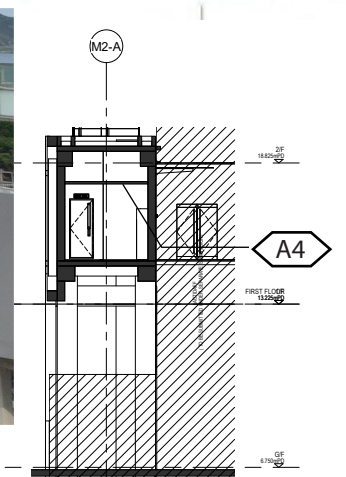
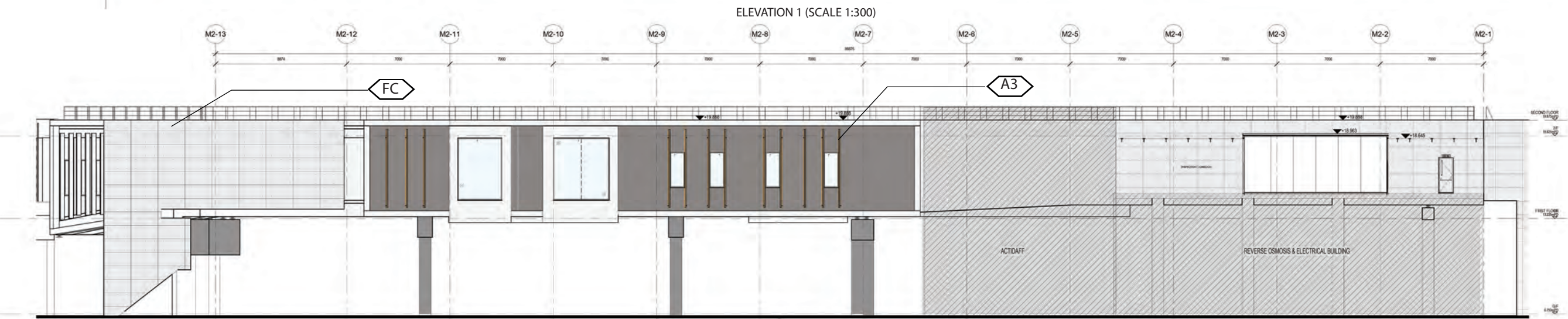
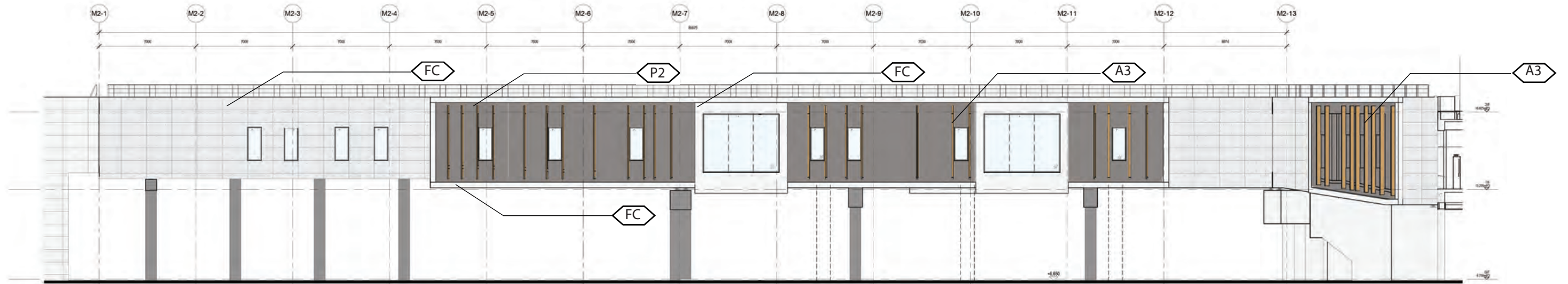
- |                     |                           |   |   |                                   |                  |
|---------------------|---------------------------|---|---|-----------------------------------|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | ALUMINIUM (WHITE)                 | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | DFMA CONCRETE PANEL (DARK GRAY, RIBBED)   | GLASS WALL W/. REFLECTIVE COATING |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |   |                                   |                  |





# Appendix F - Hard Landscape Design (Inspection Corridor)

**AS-BUILT**



SECTION A-A

**LEGEND**

- FAIRFACED CONCRETE
- S.S. (BEAD BLASTED)
- PAINT IN GRAY

- ALUMINIUM (WHITE)
- GLASS (REFLECTIVE COATING)
- PAINT IN GRAY



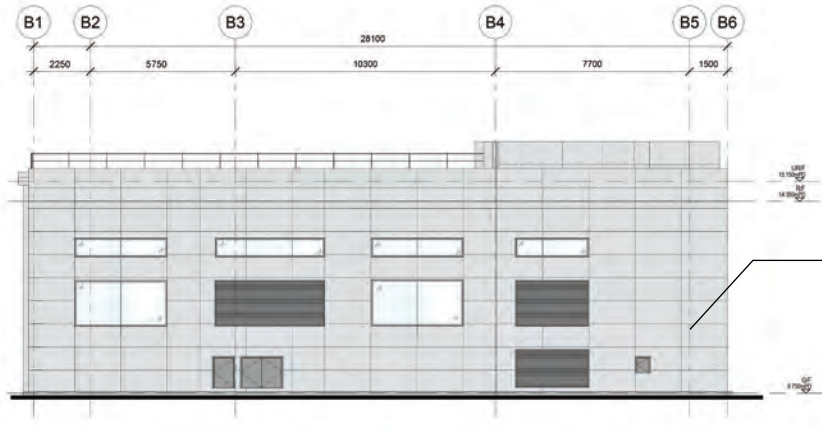
- ALUMINIUM (GREY)
- CONCRETE PANEL (DARK GRAY, RIBBED)

M2-03 - ELEVATION AND SECTION

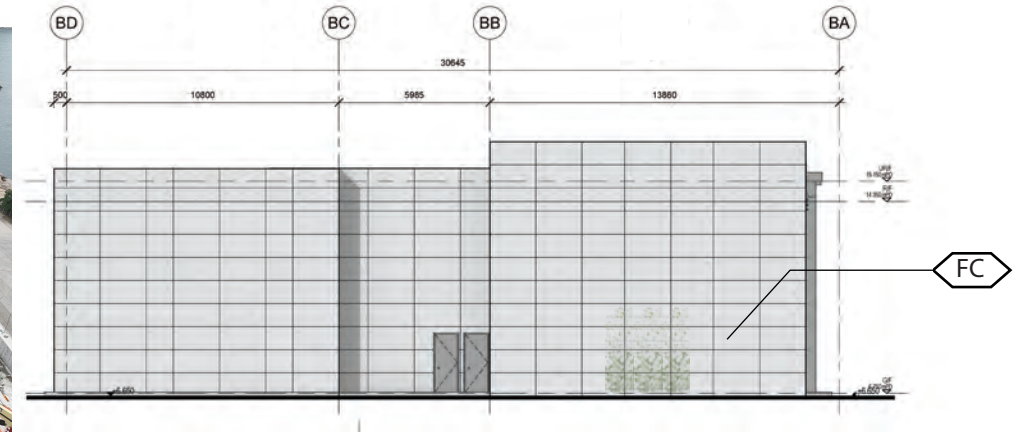




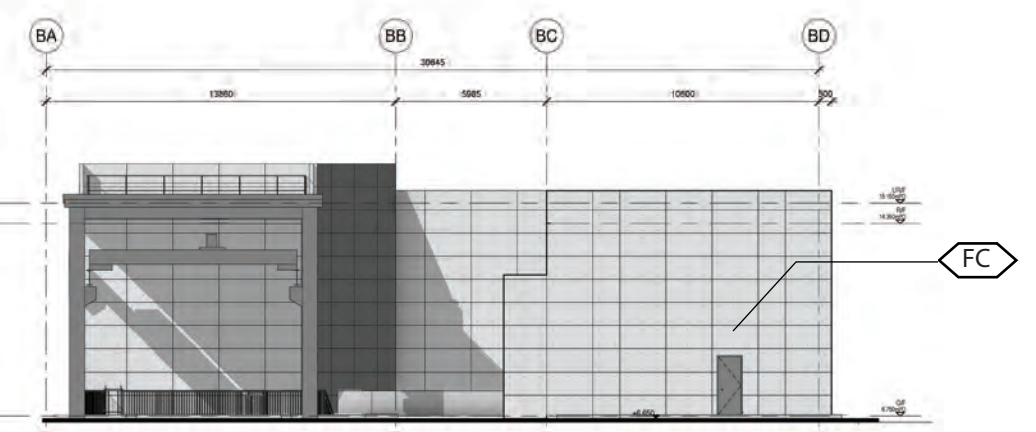
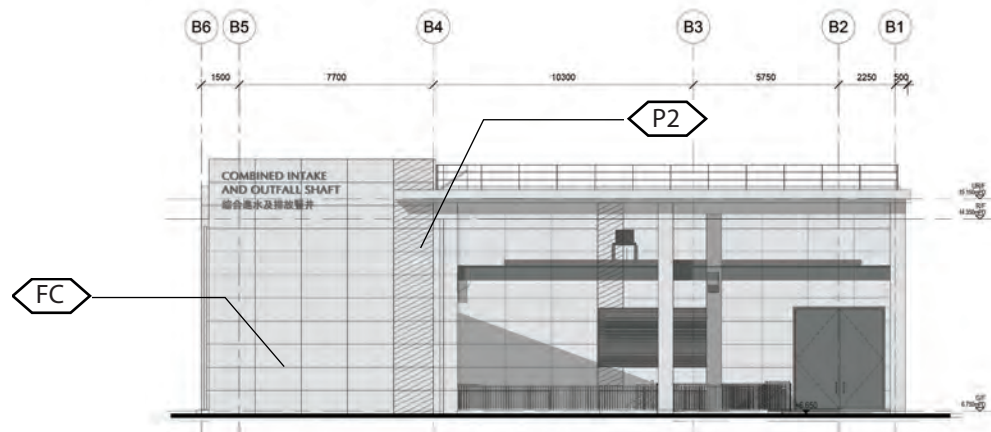
## Appendix F - Hard Landscape Design (Combined Intake & Outfall Shaft)



ELEVATION 1 (SCALE 1:300)



ELEVATION 2 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)

**LEGEND**

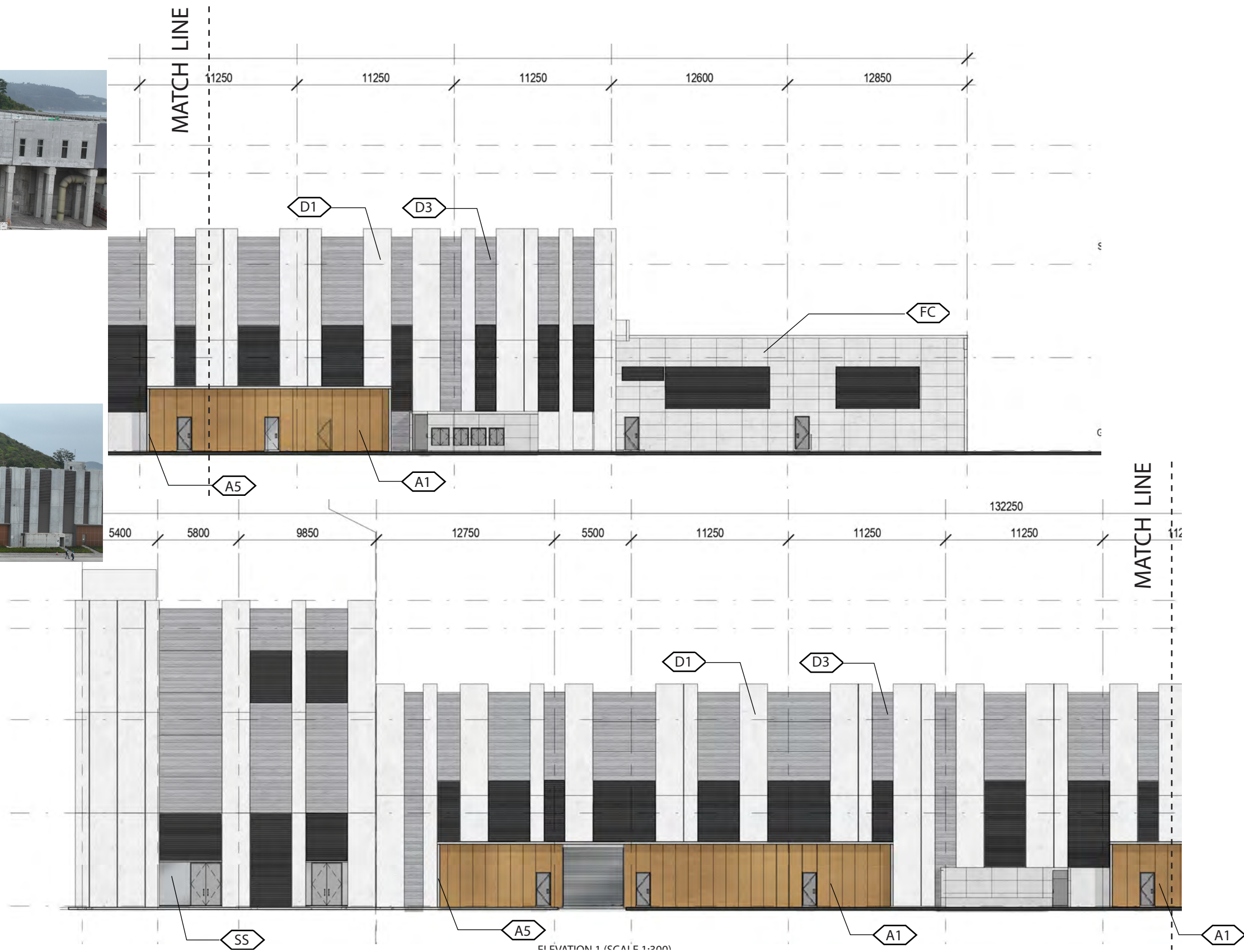
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





# Appendix F - Hard Landscape Design (Reverse Osmosis & Electrical Building)

**AS-BUILT**



**LEGEND**

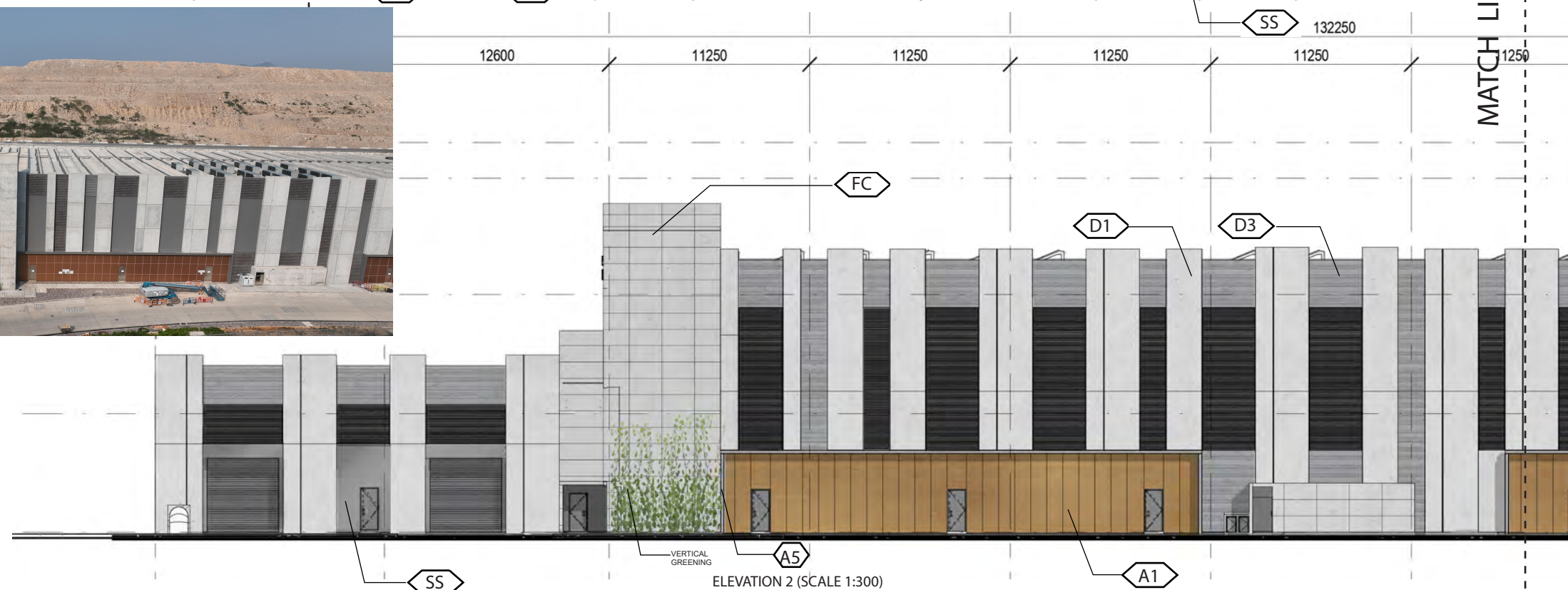
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





# Appendix F - Hard Landscape Design (Reverse Osmosis & Electrical Building)

**AS-BUILT**



**LEGEND**

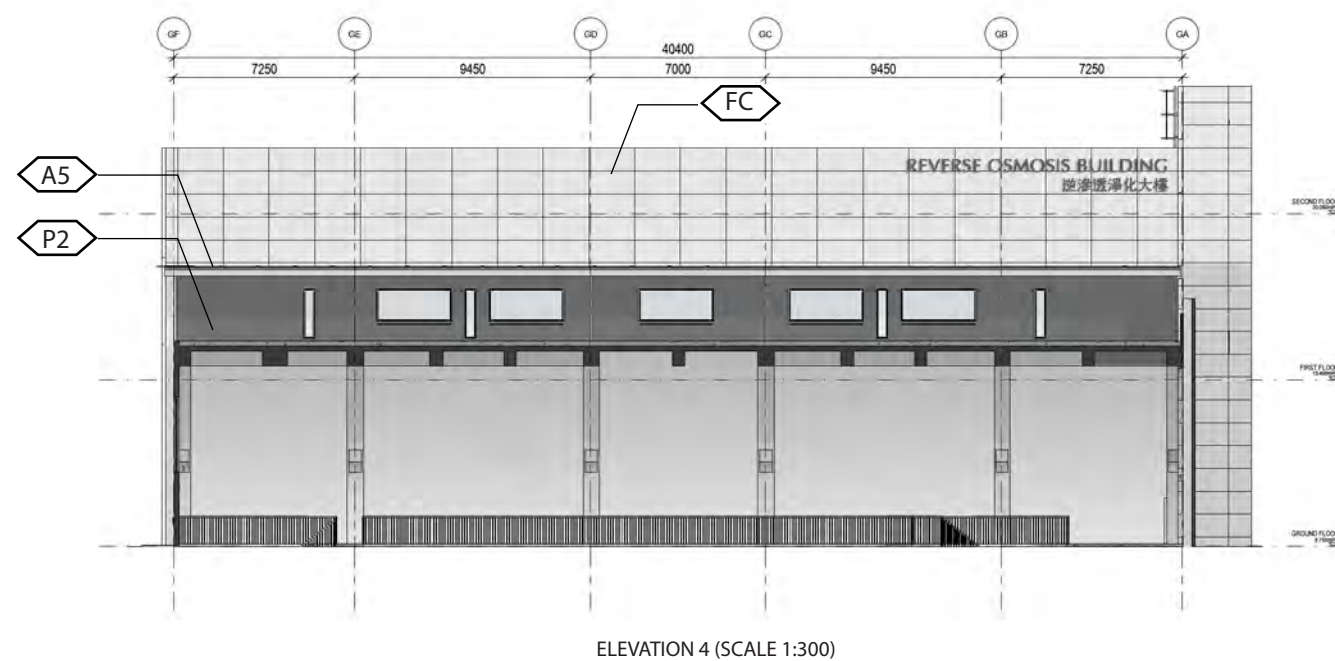
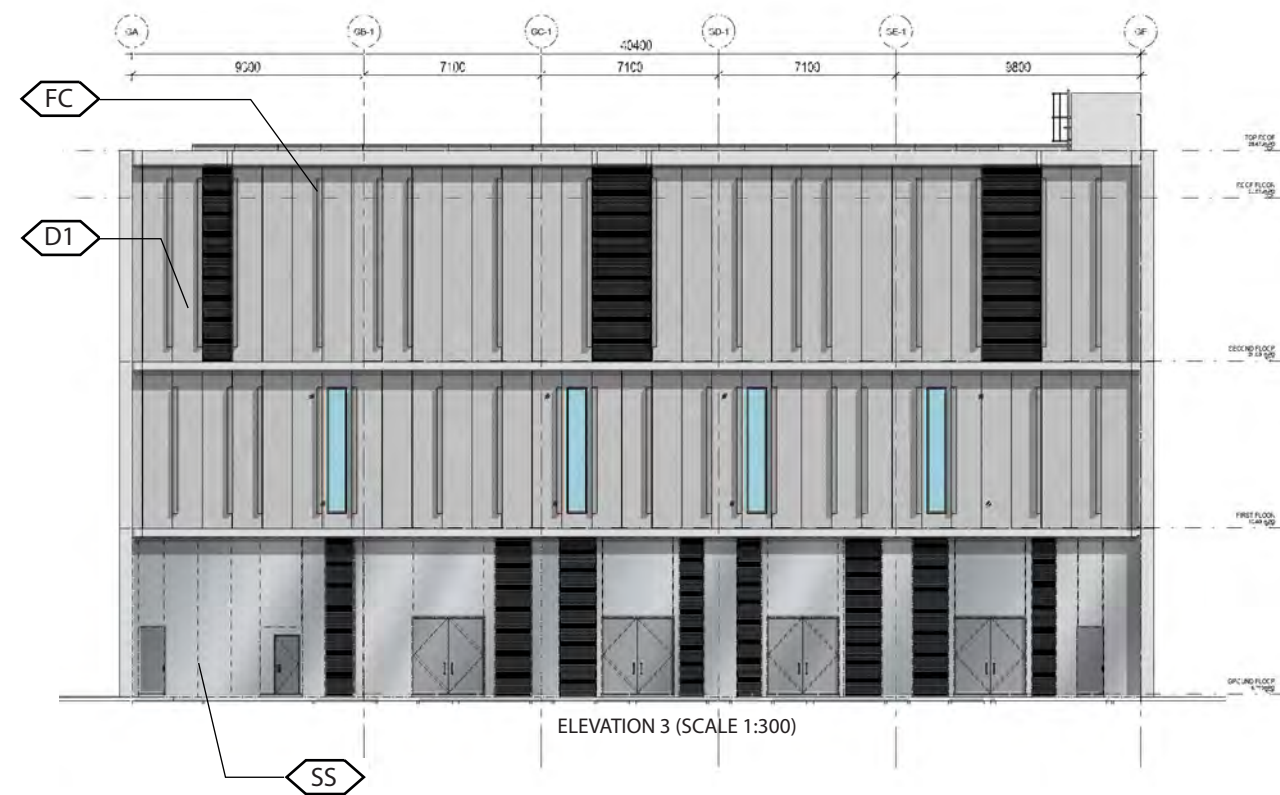
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





# Appendix F - Hard Landscape Design (Reverse Osmosis & Electrical Building)

**AS-BUILT**



**LEGEND**

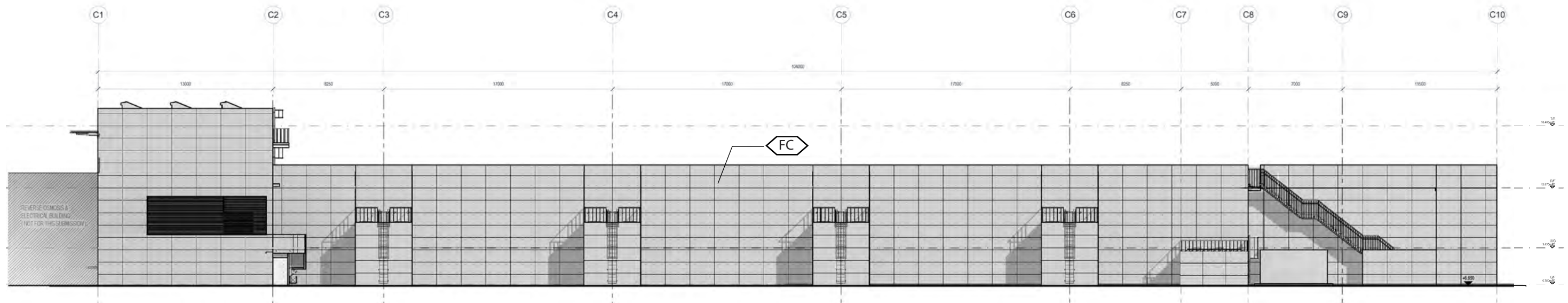
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |



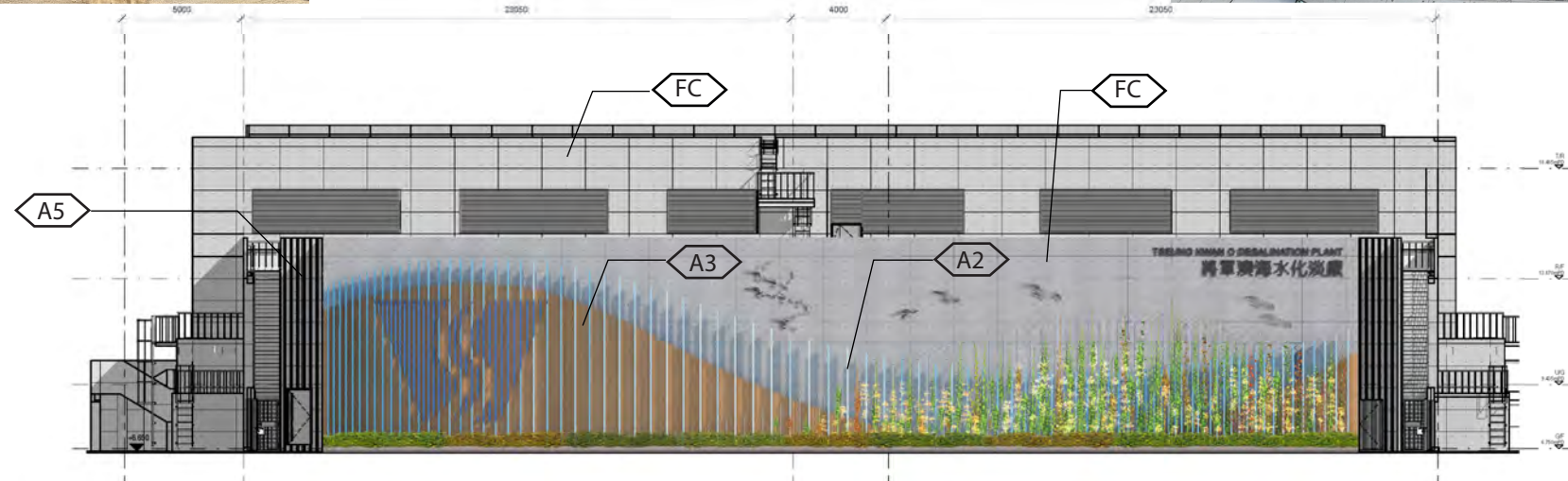
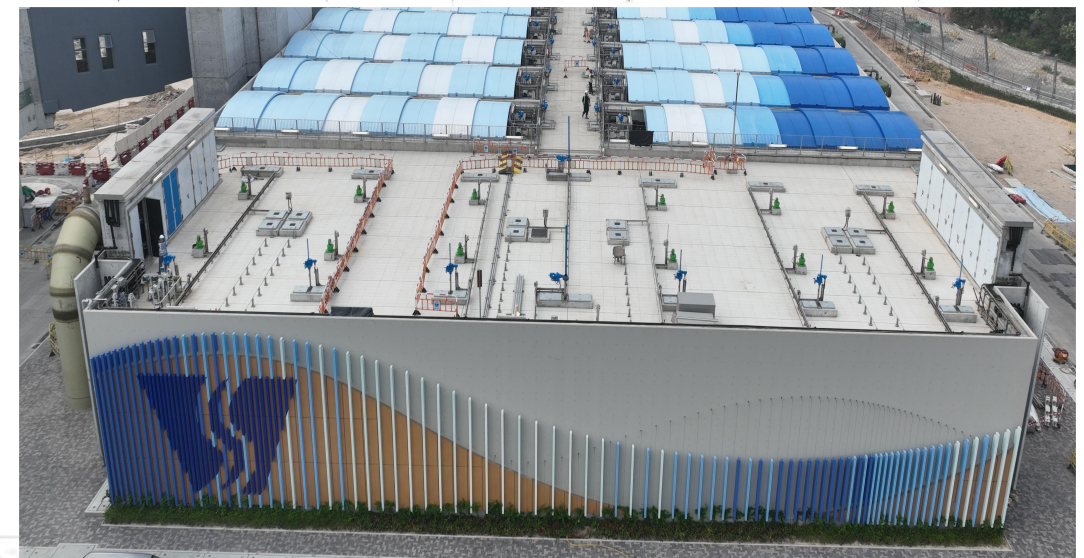


# Appendix F - Hard Landscape Design (Actidaff)

**AS-BUILT**



ELEVATION 1 (SCALE 1:300)



ELEVATION 2 (SCALE 1:300)

**LEGEND**

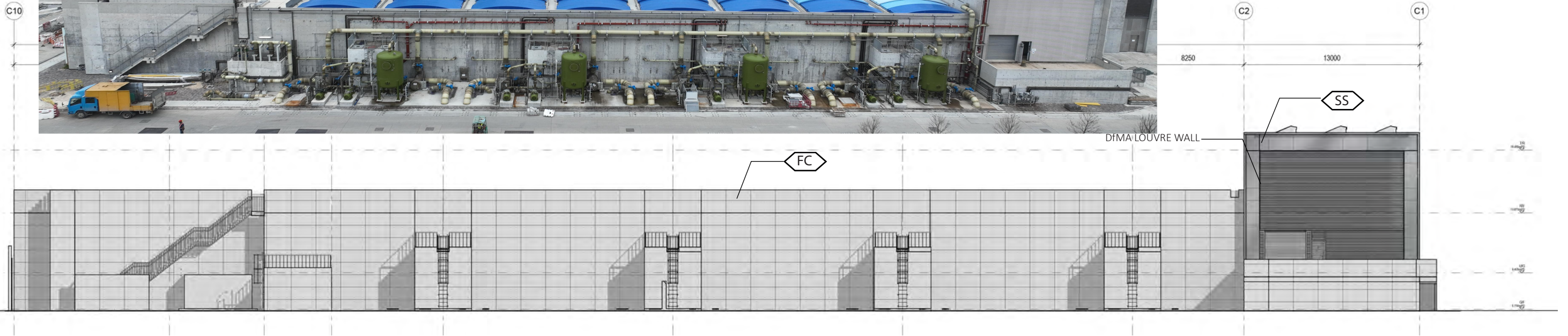
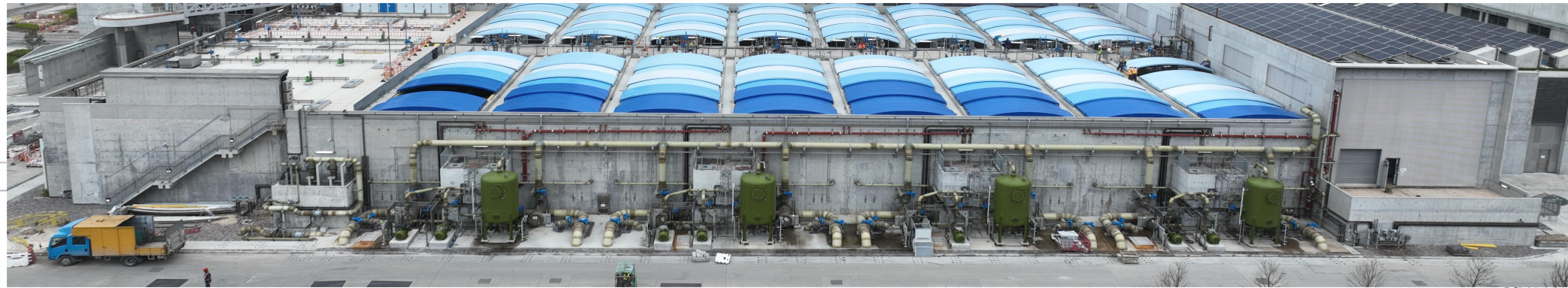
FAIRFACED CONCRETE	ALUMINIUM (BRIGHT COPPER)	ALUMINIUM (BLUE)	ALUMINIUM (W/. WOOD GRAIN PATTERN)	ALUMINIUM (WHITE)	ALUMINIUM (GREY)
S.S. (BEAD BLASTED)	CURTAIN WALL	GLASS WALL	GLASS BLOCK	GLASS WALL W/. REFLECTIVE COATING	
PAINT IN GRAY	TEXTURED PAINT IN GRAY	DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	



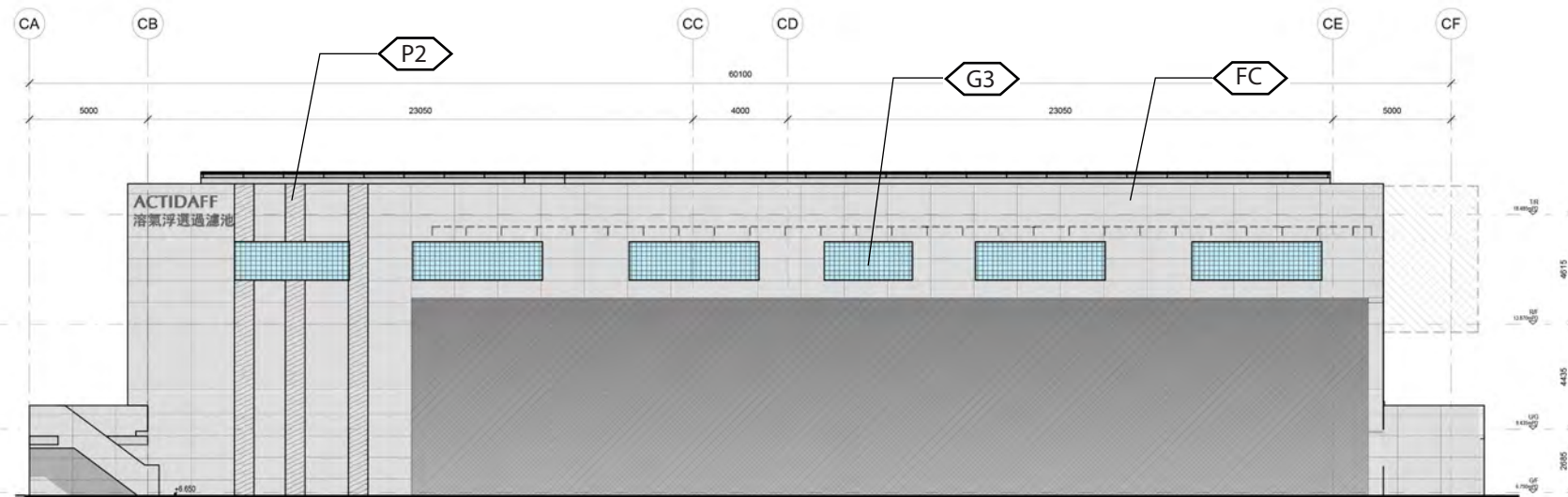


# Appendix F - Hard Landscape Design (Actidaff)

**AS-BUILT**



ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)

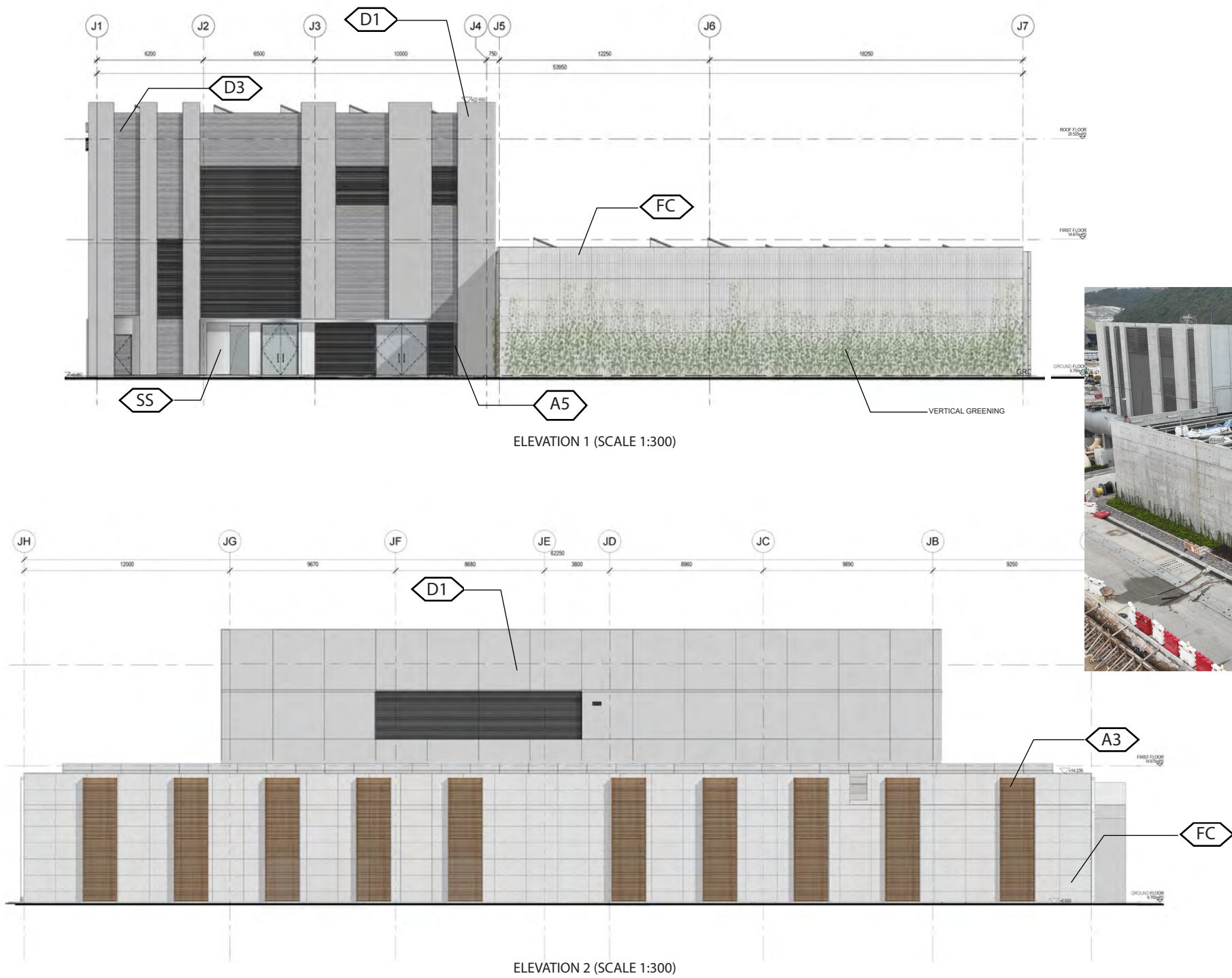
**LEGEND**

- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





# Appendix F - Hard Landscape Design (Product Water Storage Tank and Electrical Building)



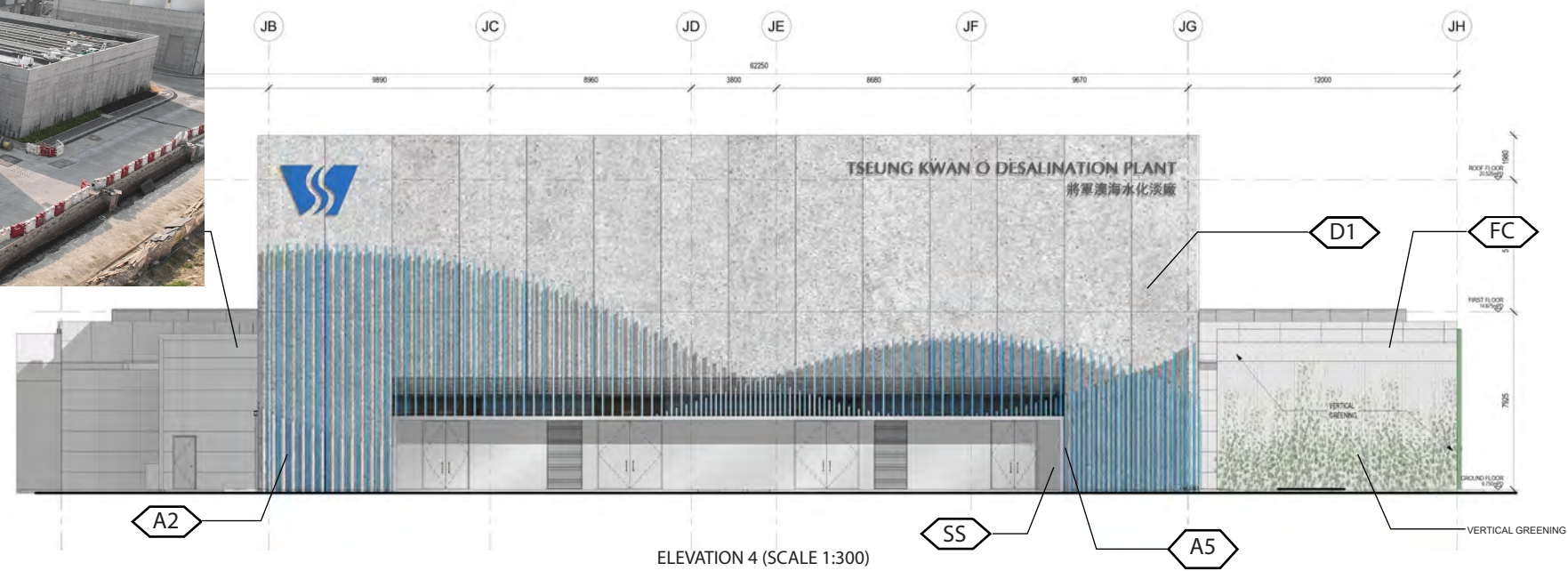
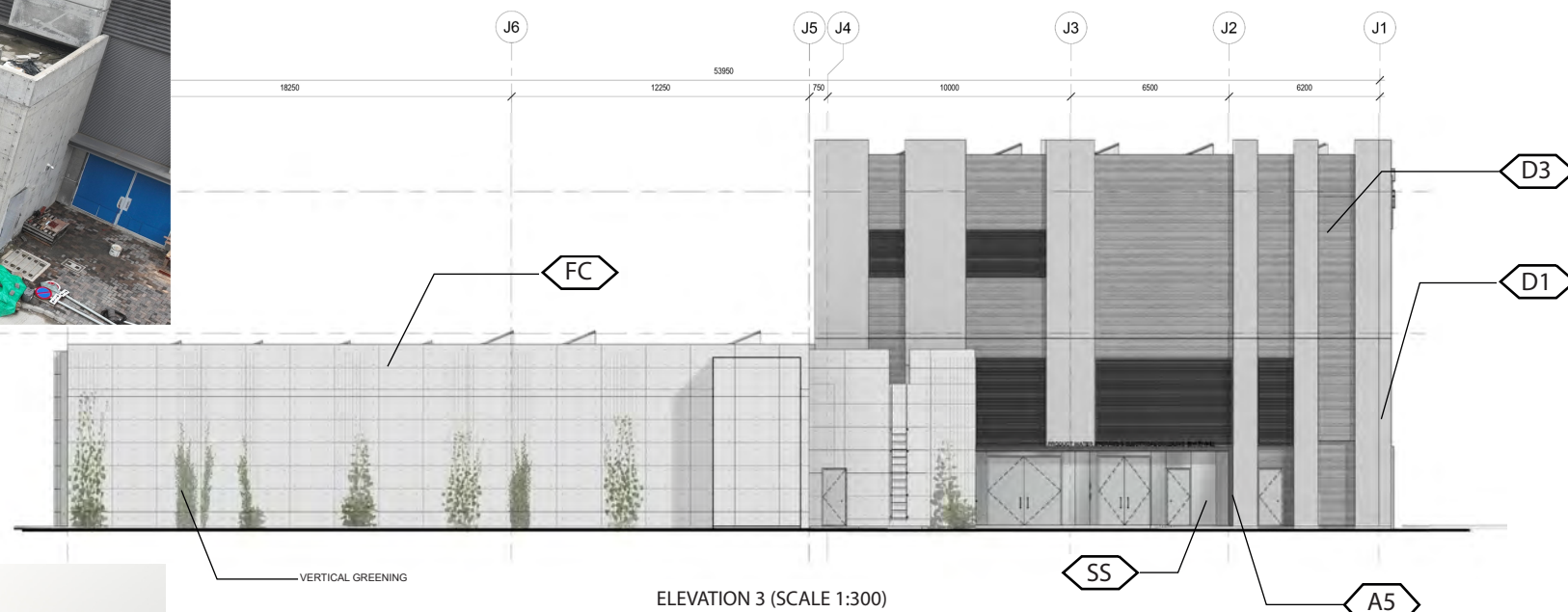
**LEGEND**

FAIRFACED CONCRETE	ALUMINIUM (BRIGHT COPPER)	ALUMINIUM (BLUE)	ALUMINIUM (W/. WOOD GRAIN PATTERN)	ALUMINIUM (WHITE)	ALUMINIUM (GREY)
S.S. (BEAD BLASTED)	CURTAIN WALL	GLASS WALL	GLASS BLOCK	GLASS WALL W/. REFLECTIVE COATING	
PAINT IN GRAY	TEXTURED PAINT IN GRAY	DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	





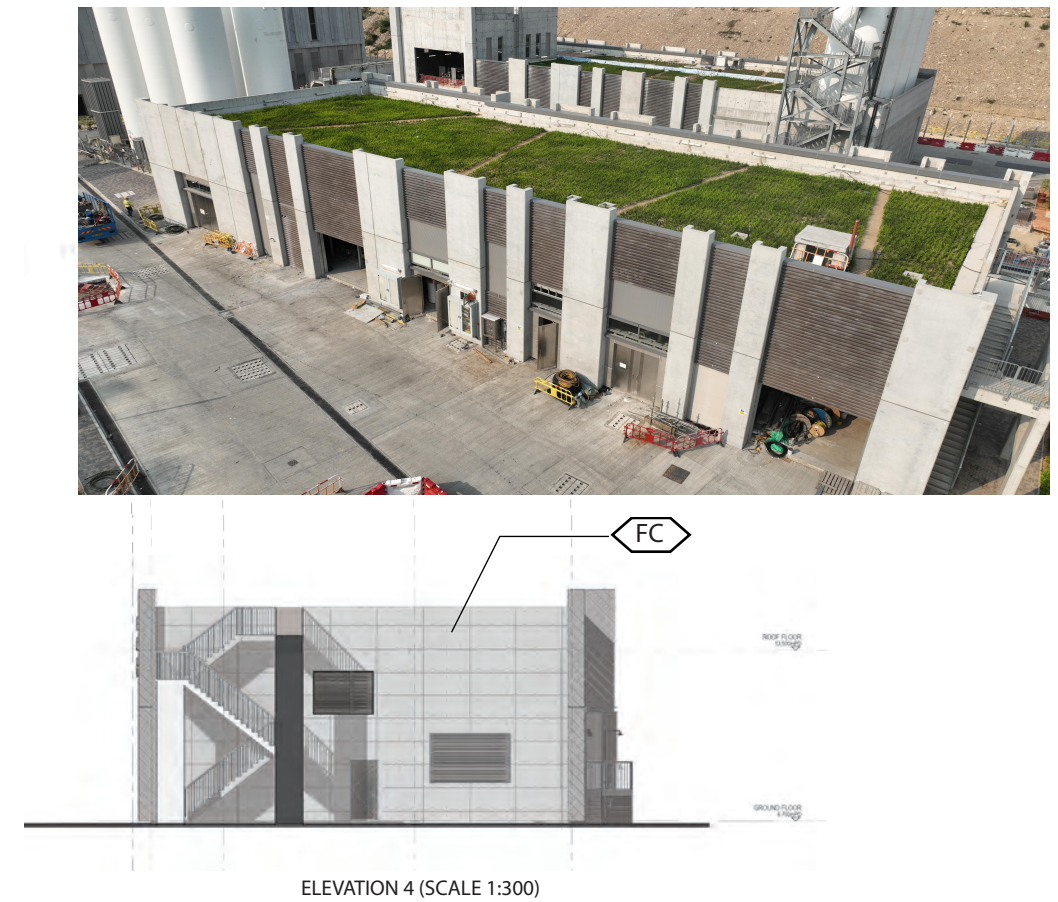
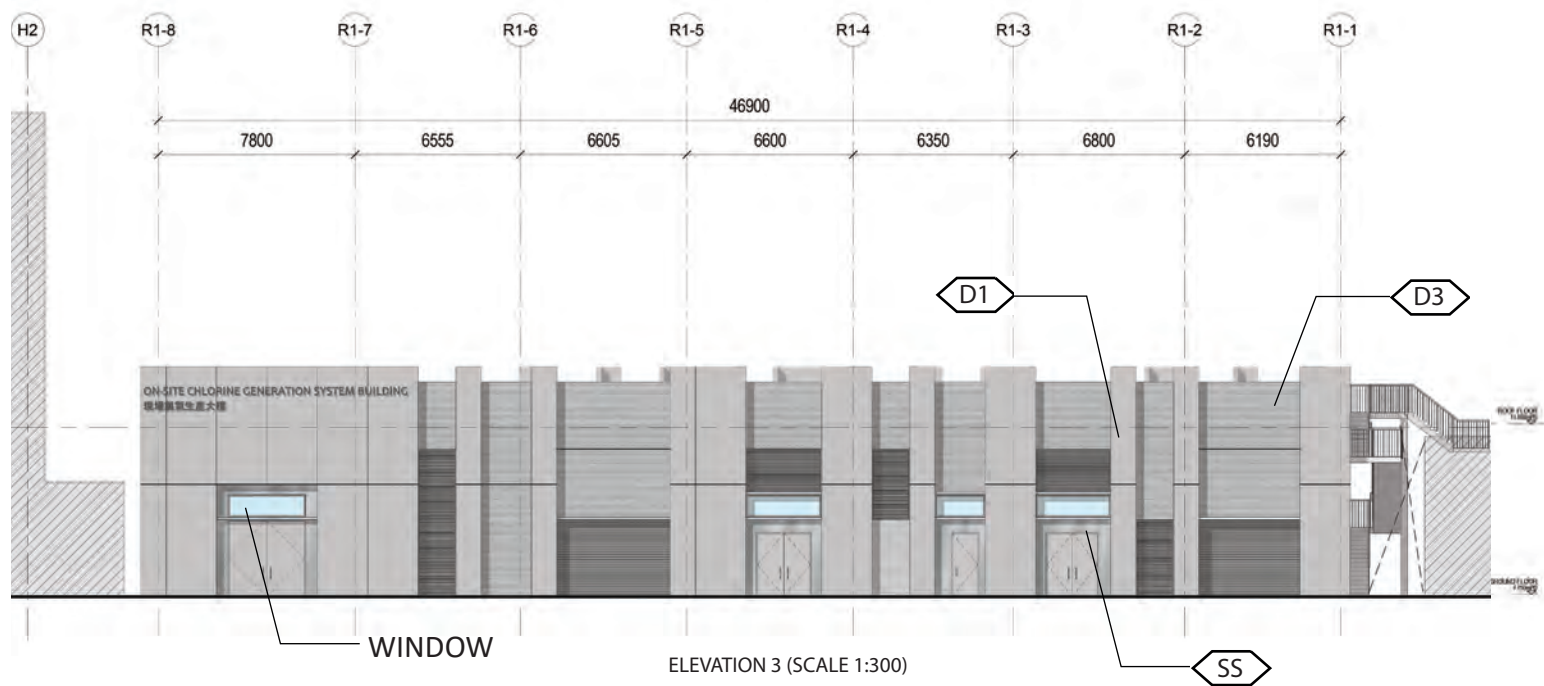
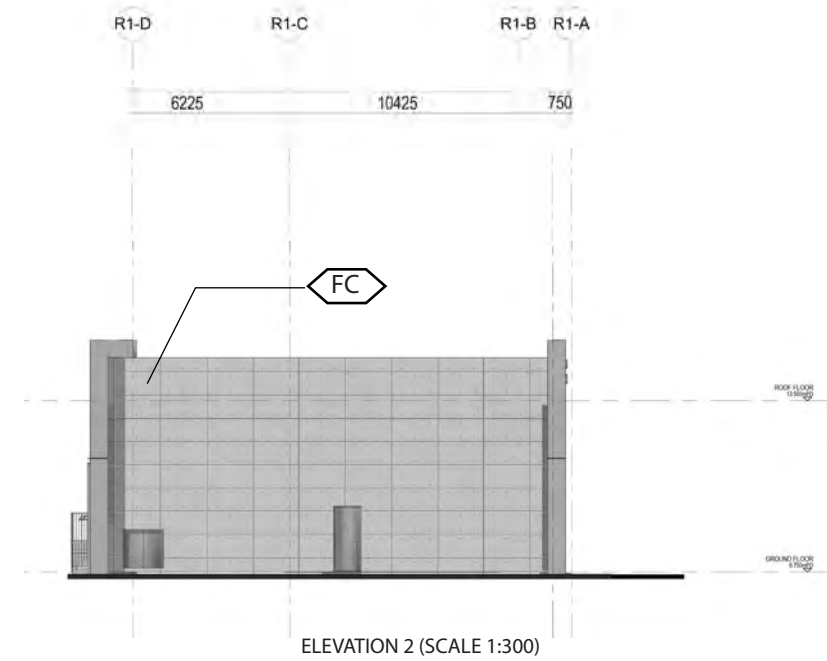
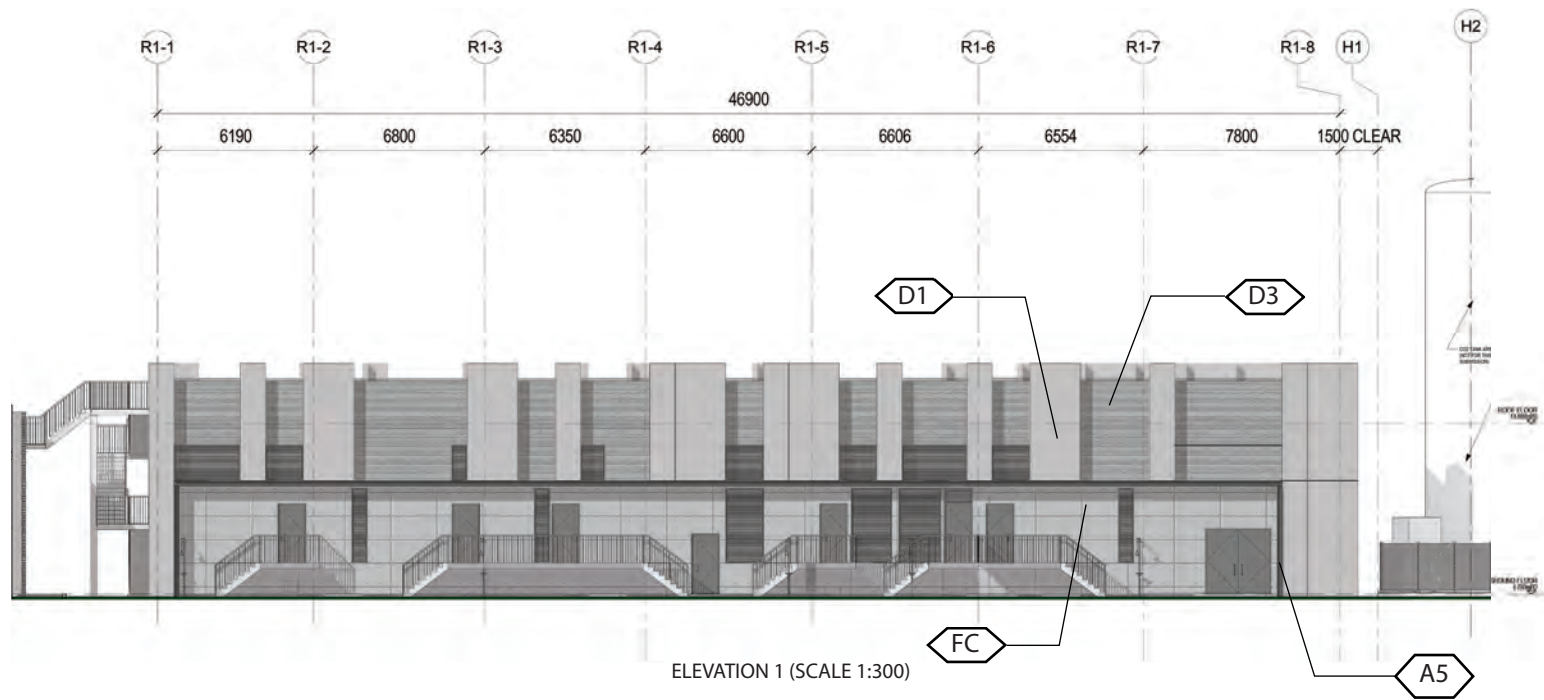
## (Product Water Storage Tank and Electrical Building)



**LEGEND**

FAIRFACED CONCRETE	ALUMINIUM (BRIGHT COPPER)	ALUMINIUM (BLUE)	ALUMINIUM (W/. WOOD GRAIN PATTERN)	ALUMINIUM (WHITE)	ALUMINIUM (GREY)
S.S. (BEAD BLASTED)	CURTAIN WALL	GLASS WALL	GLASS BLOCK	GLASS WALL W/. REFLECTIVE COATING	
PAINT IN GRAY	TEXTURED PAINT IN GRAY	DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	





**LEGEND**

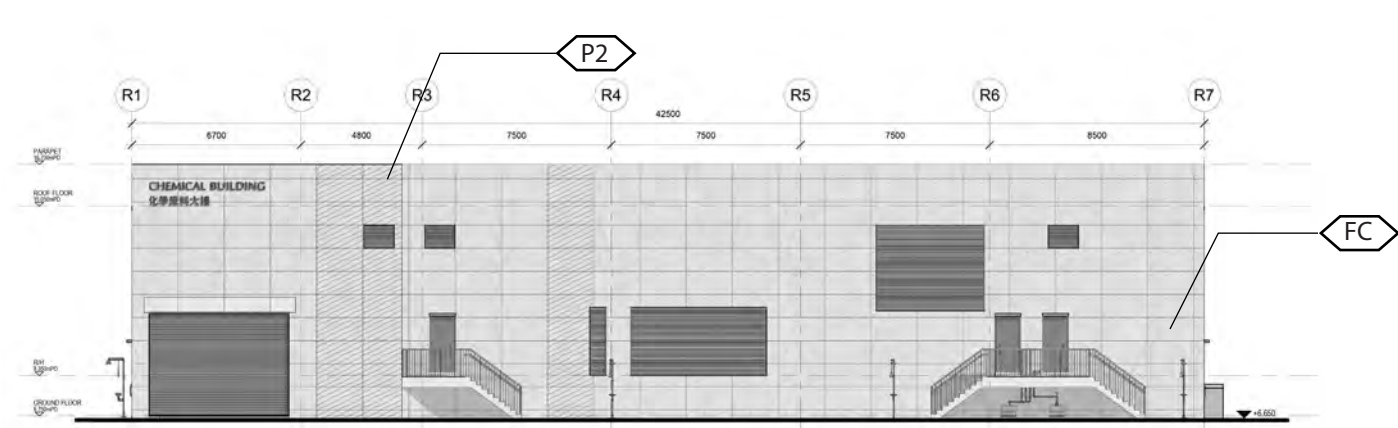
FAIRFACED CONCRETE	ALUMINIUM (BRIGHT COPPER)	ALUMINIUM (BLUE)	ALUMINIUM (W/. WOOD GRAIN PATTERN)	ALUMINIUM (WHITE)	ALUMINIUM (GREY)
S.S. (BEAD BLASTED)	CURTAIN WALL	GLASS WALL	GLASS BLOCK	GLASS WALL W/. REFLECTIVE COATING	
PAINT IN GRAY	TEXTURED PAINT IN GRAY	DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	



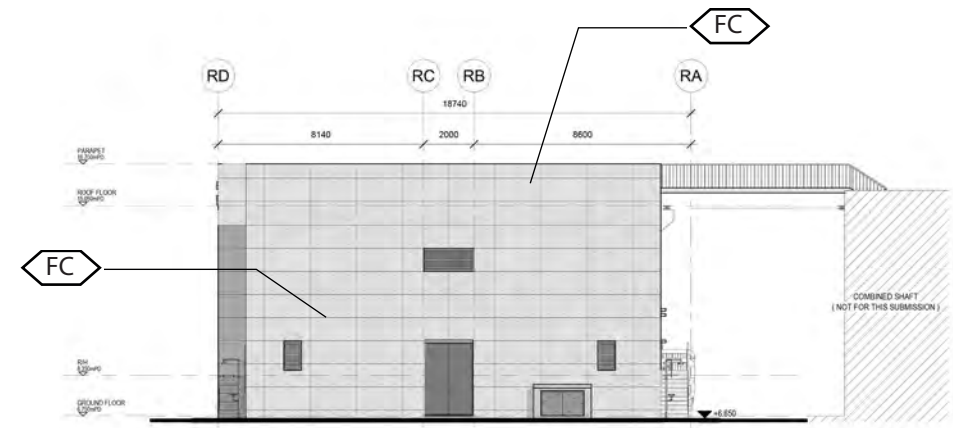


# Appendix F - Hard Landscape Design (Chemical Building)

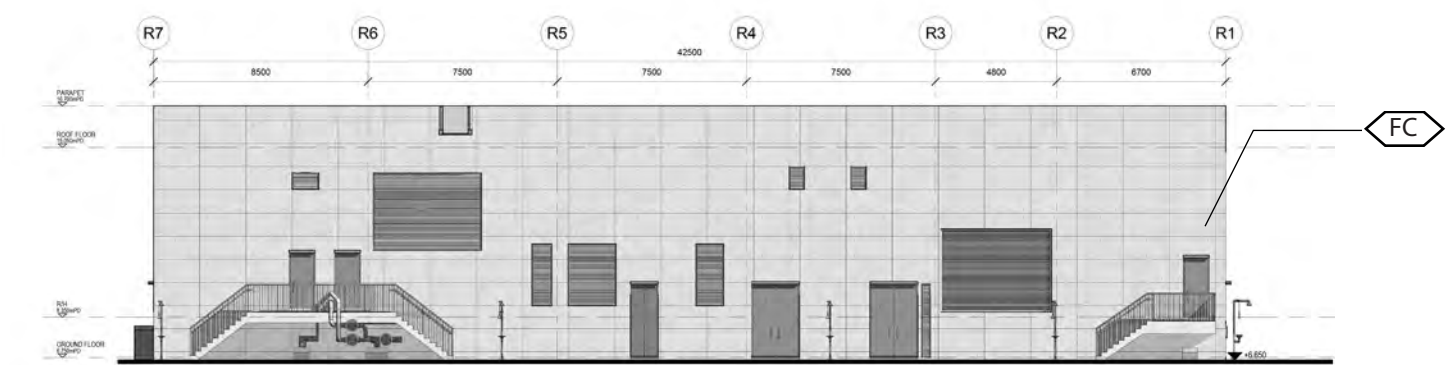
**AS-BUILT**



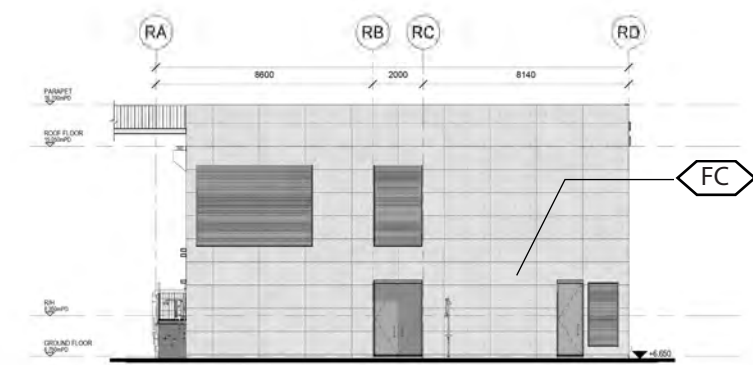
ELEVATION 1 (SCALE1:300)



ELEVATION 2 (SCALE1:300)



ELEVATION 3 (SCALE1:300)



ELEVATION 4 (SCALE1:300)

**LEGEND**

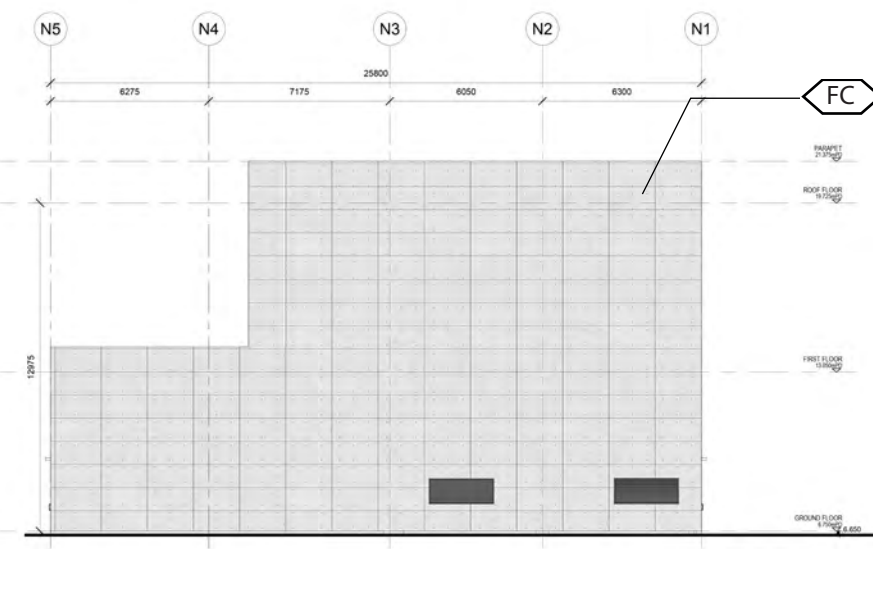
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |



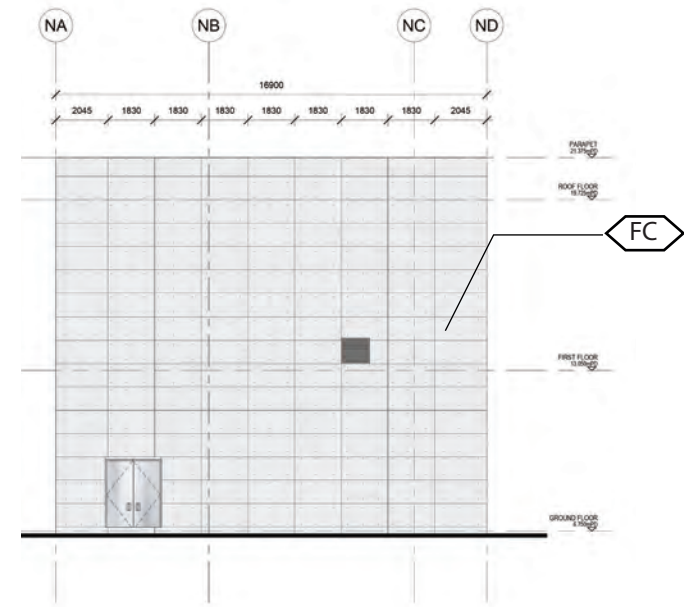


# Appendix F - Hard Landscape Design (Main Electrical&Chiller Plant Building)

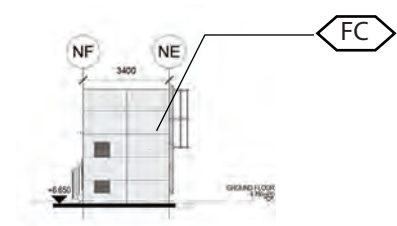
**AS-BUILT**



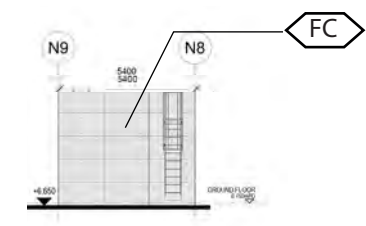
ELEVATION 1 (SCALE 1:300)



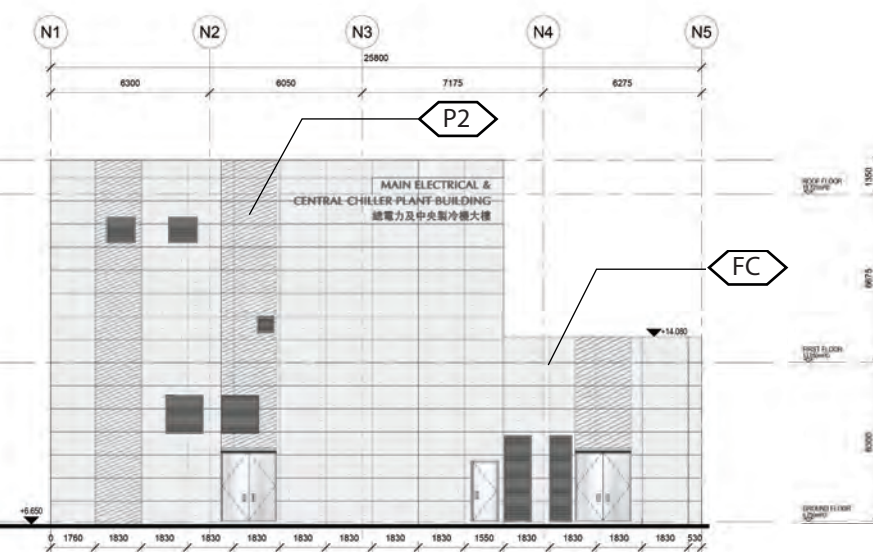
ELEVATION 2 (SCALE 1:300)



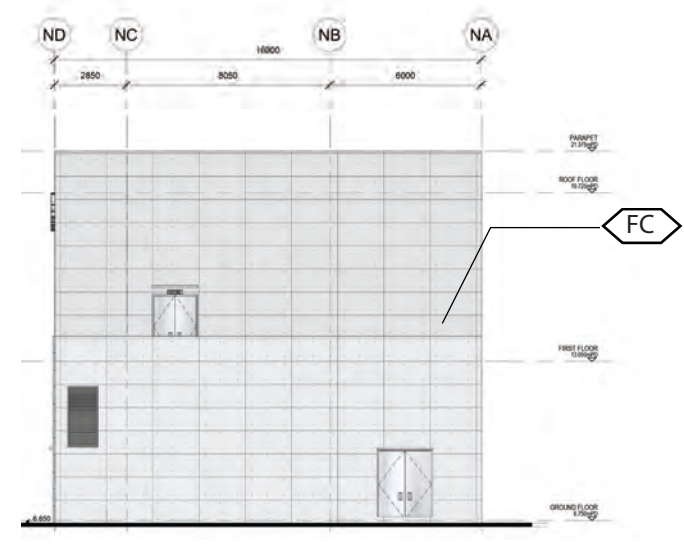
ELEVATION 5 (SCALE 1:300)



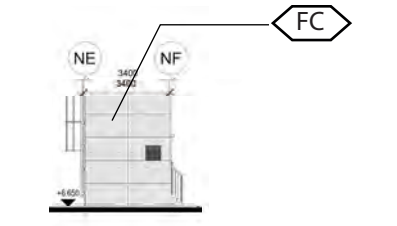
ELEVATION 6 (SCALE 1:300)



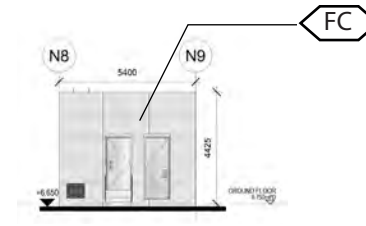
ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)



ELEVATION 7 (SCALE 1:300)



ELEVATION 8 (SCALE 1:300)



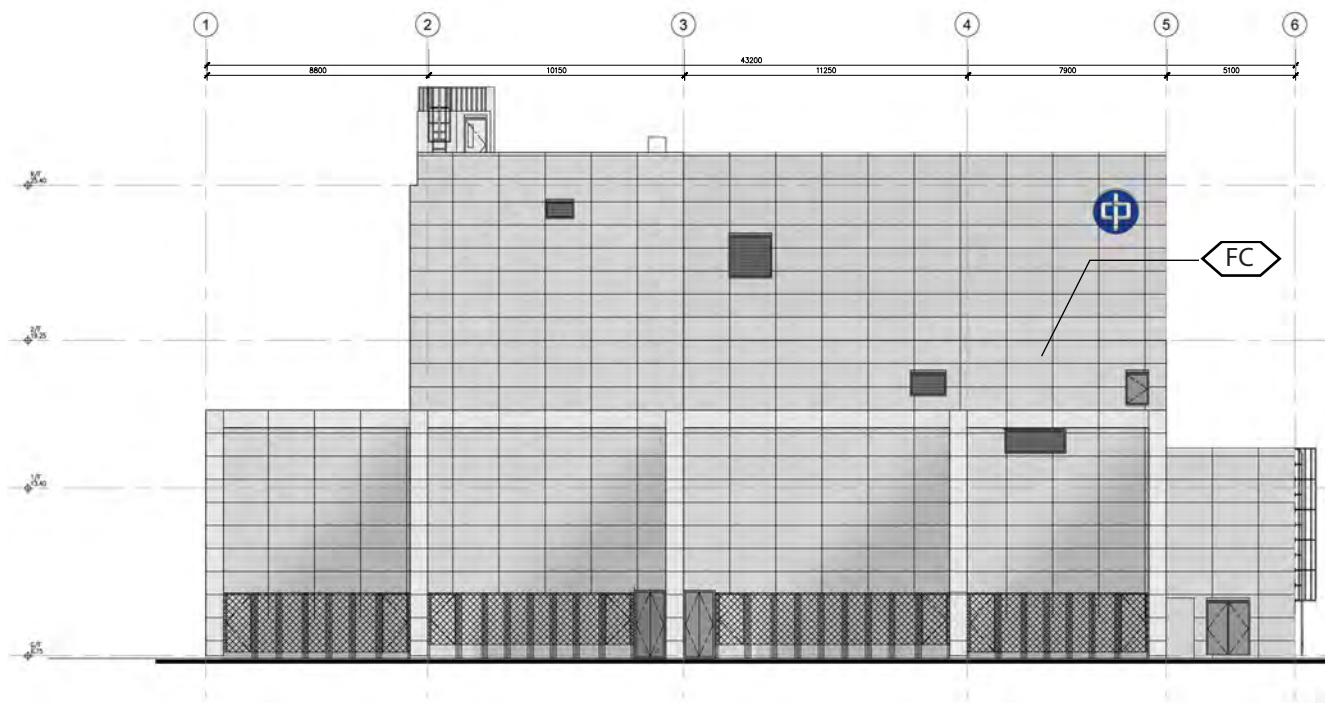
- LEGEND**
- FAIRFACED CONCRETE
  - S.S. (BEAD BLASTED)
  - PAINT IN GRAY
  - ALU...
  - CUP...
  - TEX...

- ALUMINIUM (BLUE)
- SS WALL
- IA CONCRETE PANEL (LIGHT GRAY, PLAIN)

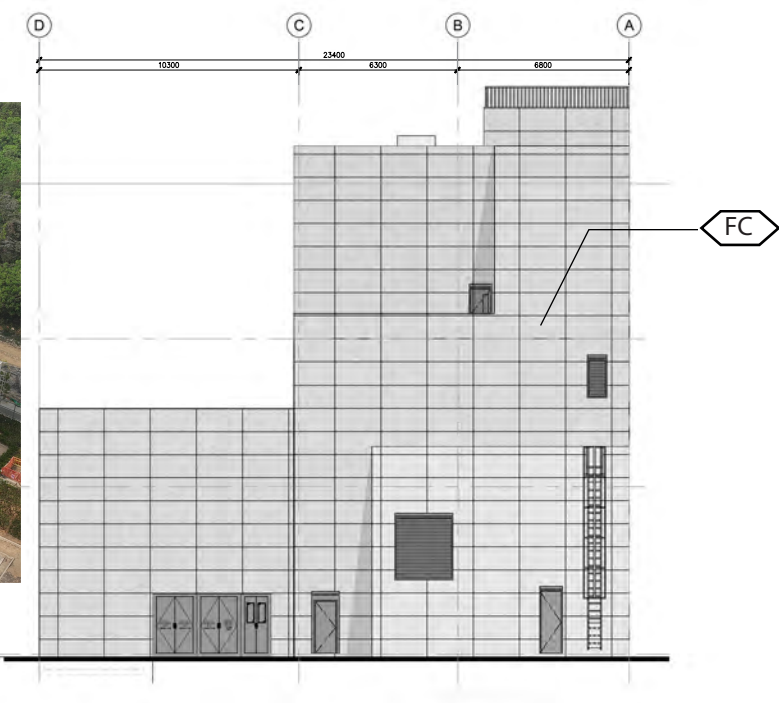
- ALUMINIUM (W/. WOOD GRAIN PATTERN)
- GLASS BLOCK
- DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)

- ALUMINIUM (GREY)
- VE COATING
- DARK GRAY, RIBBED)

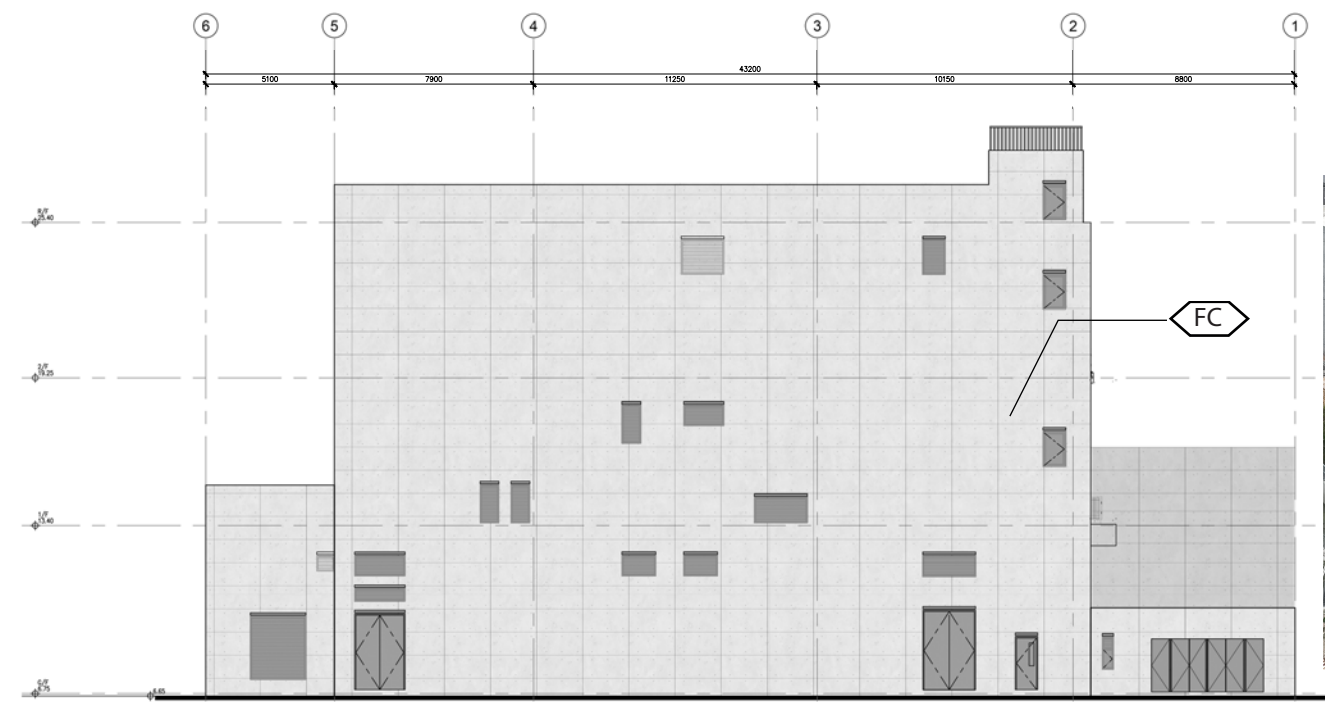




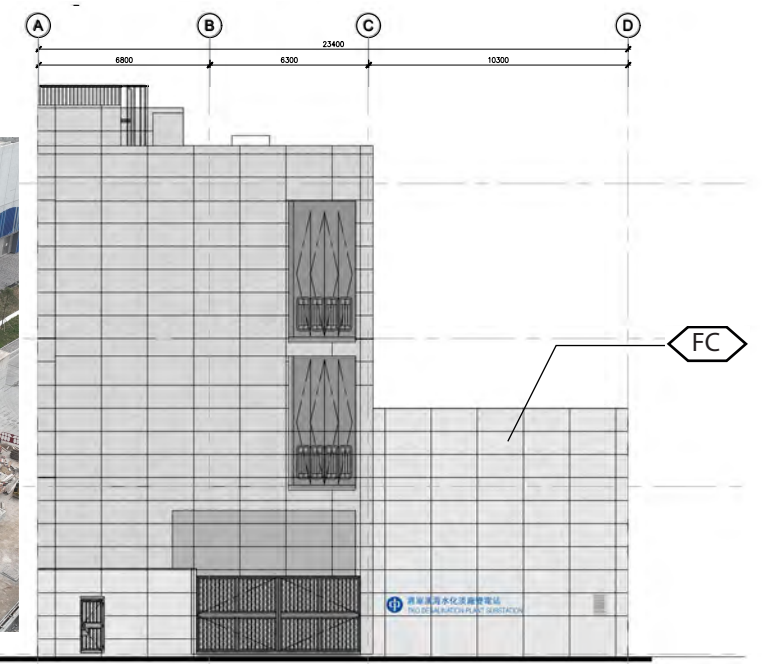
ELEVATION 1 (SCALE 1:300)



ELEVATION 2 (SCALE 1:300)



ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)

**LEGEND**

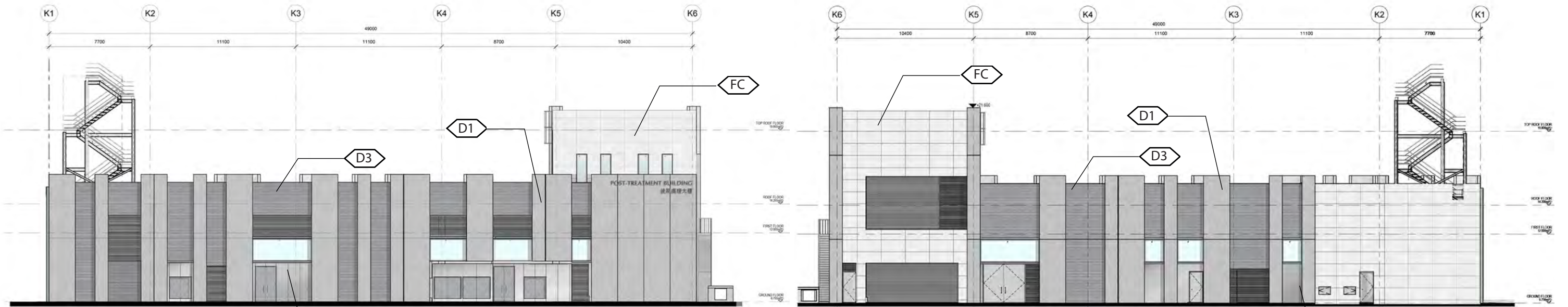
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





# Appendix F - Hard Landscape Design (Post Treatment Building)

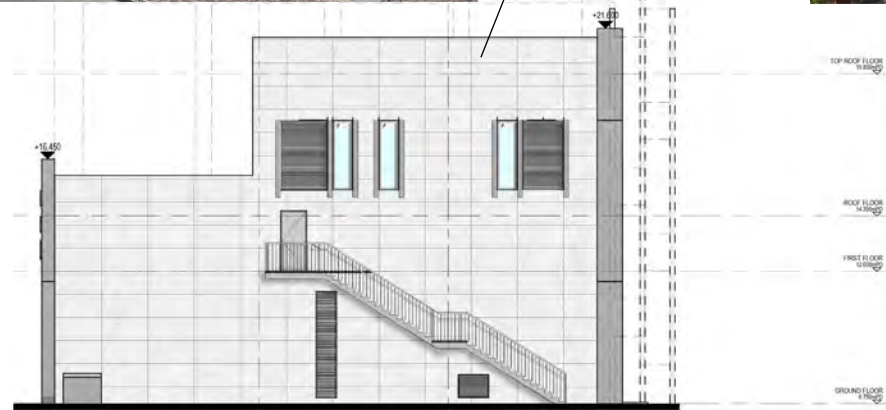
**AS-BUILT**



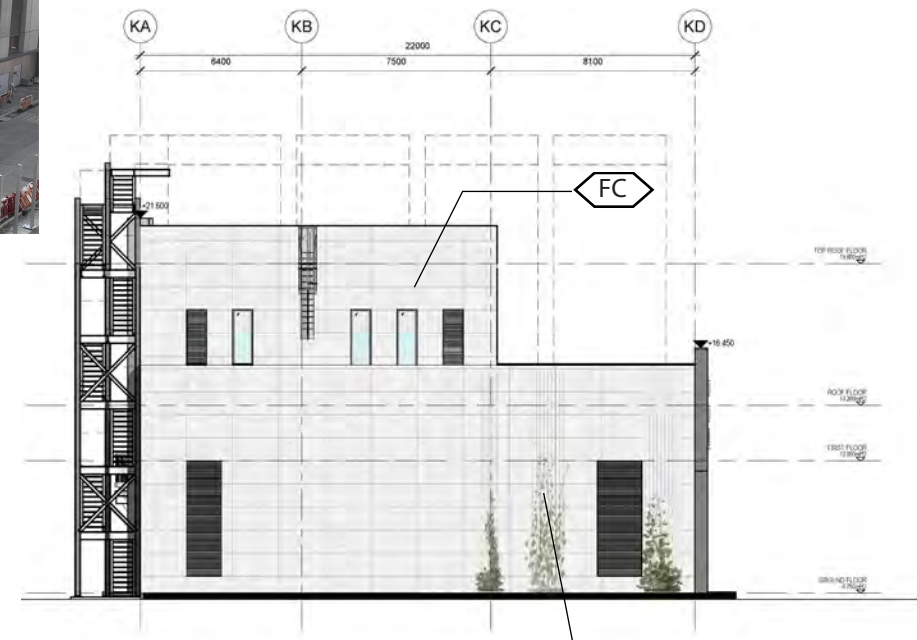
SCALE 1:300



ELEVATION 2 (SCALE 1:300)



ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)

**LEGEND**

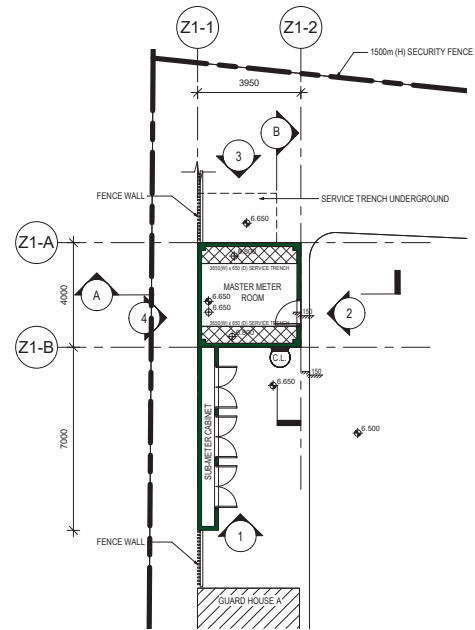
- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |



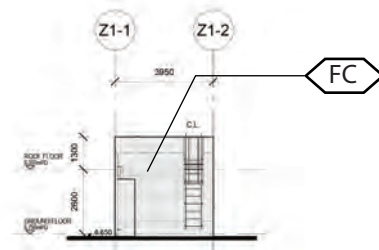


# Appendix F - Hard Landscape Design (Master Meter Room)

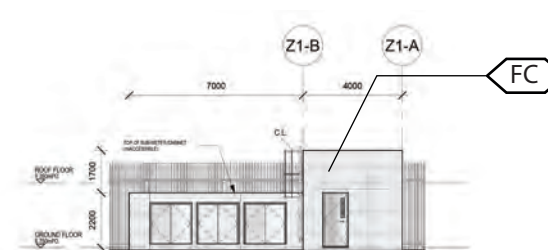
**AS-BUILT**



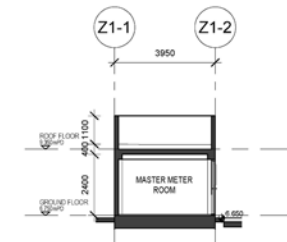
GROUND FLOOR PLAN (SCALE 1:300)



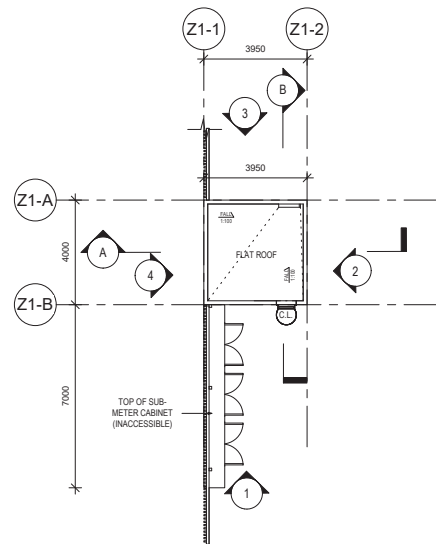
ELEVATION 1 (SCALE 1:300)



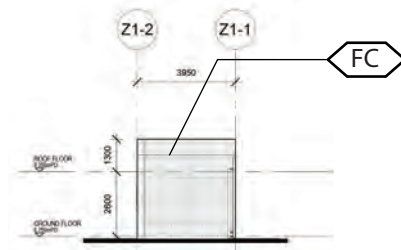
ELEVATION 2 (SCALE 1:300)



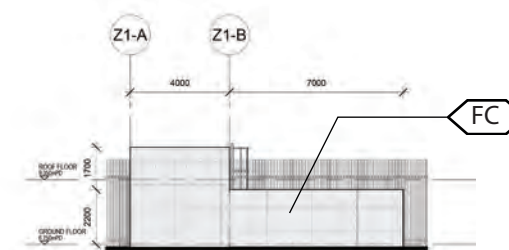
SECTION A-A (SCALE 1:300)



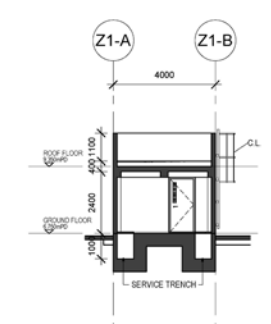
ROOF FLOOR PLAN (SCALE 1:300)



ELEVATION 3 (SCALE 1:300)



ELEVATION 4 (SCALE 1:300)



SECTION B-B (SCALE 1:300)

**LEGEND**

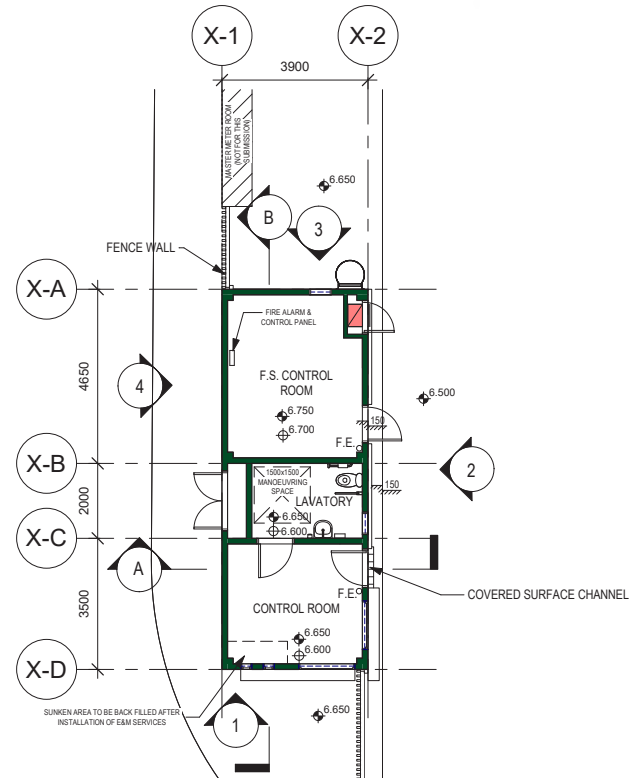
FC FAIRFACED CONCRETE	A1 ALUMINIUM (BRIGHT COPPER)	A2 ALUMINIUM (BLUE)	A3 ALUMINIUM (W/. WOOD GRAIN PATTERN)	A4 ALUMINIUM (WHITE)	A5 ALUMINIUM (GREY)
SS S.S. (BEAD BLASTED)	G1 CURTAIN WALL	G2 GLASS WALL	G3 GLASS BLOCK	G4 GLASS WALL W/. REFLECTIVE COATING	
P1 PAINT IN GRAY	P2 TEXTURED PAINT IN GRAY	D1 DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	D2 DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	D3 DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	





# Appendix F - Hard Landscape Design (Guard House A)

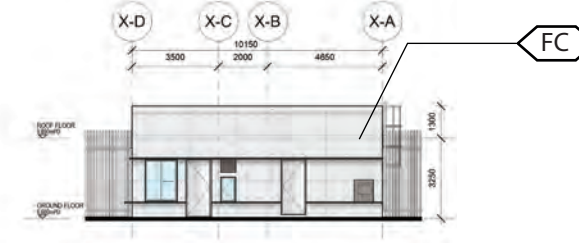
**AS-BUILT**



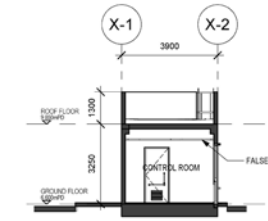
GUARD HOUSE A GROUND FLOOR PLAN (SCALE 1:300)



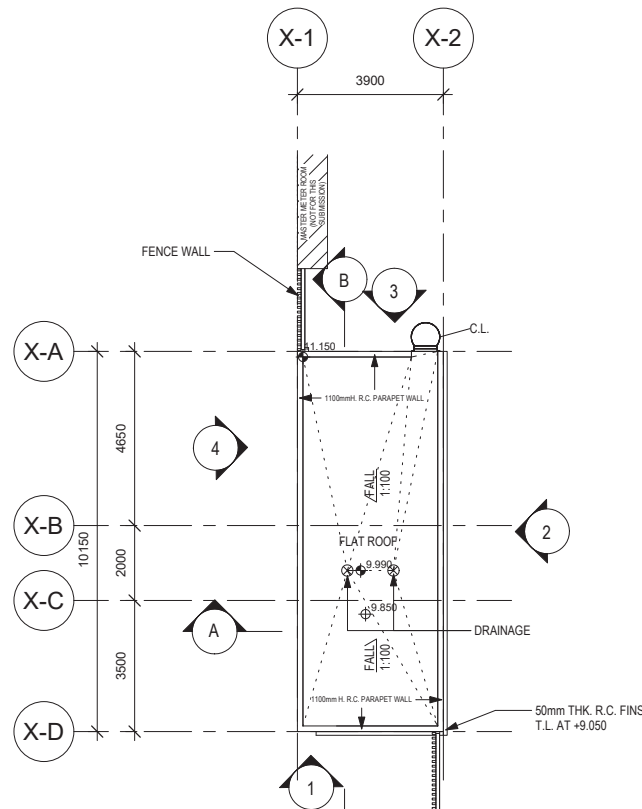
GUARD HOUSE A ELEVATION 1 (SCALE 1:300)



GUARD HOUSE A ELEVATION 2 (SCALE 1:300)



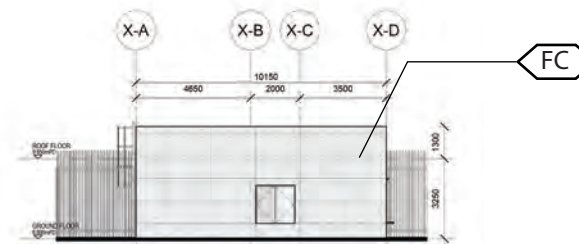
GUARD HOUSE A SECTION A-A (SCALE 1:300)



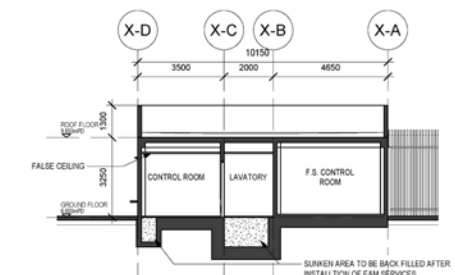
GUARD HOUSE A ROOF FLOOR PLAN (SCALE 1:300)



GUARD HOUSE A ELEVATION 3 (SCALE 1:300)



GUARD HOUSE A ELEVATION 4 (SCALE 1:300)



GUARD HOUSE A SECTION B-B (SCALE 1:300)

**LEGEND**

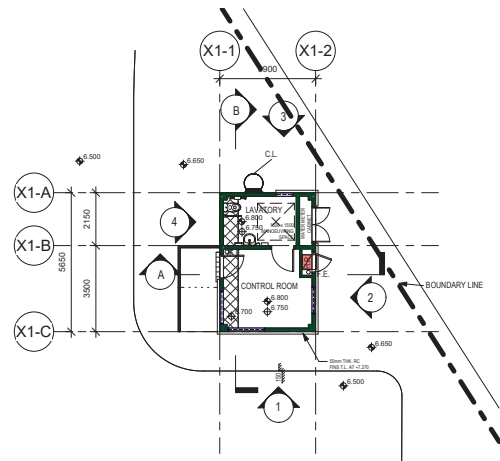
FAIRFACED CONCRETE	ALUMINIUM (BRIGHT COPPER)	ALUMINIUM (BLUE)	ALUMINIUM (W/. WOOD GRAIN PATTERN)	ALUMINIUM (WHITE)	ALUMINIUM (GREY)
S.S. (BEAD BLASTED)	CURTAIN WALL	GLASS WALL	GLASS BLOCK	GLASS WALL W/. REFLECTIVE COATING	
PAINT IN GRAY	TEXTURED PAINT IN GRAY	DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN)	DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED)	DFMA CONCRETE PANEL (DARK GRAY, RIBBED)	



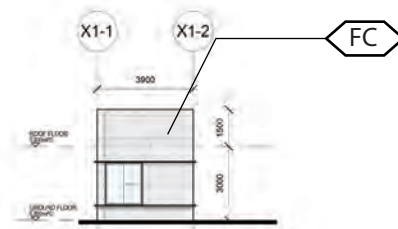


# Appendix F - Hard Landscape Design (Guard House B)

**AS-BUILT**



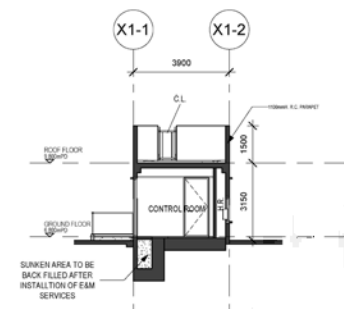
GUARD HOUSE B GROUND FLOOR PLAN (SCALE 1:300)



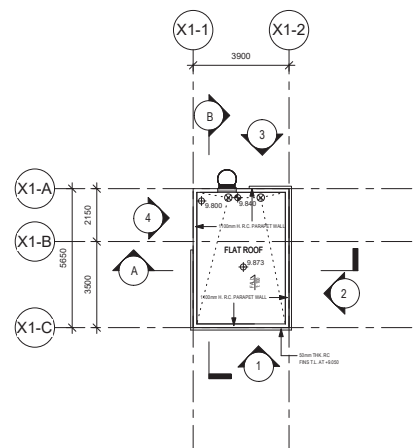
GUARD HOUSE B ELEVATION 1 (SCALE 1:300)



GUARD HOUSE B ELEVATION 2 (SCALE 1:300)



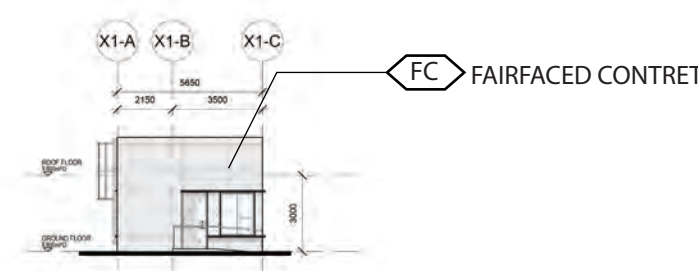
GUARD HOUSE B SECTION A-A (SCALE 1:300)



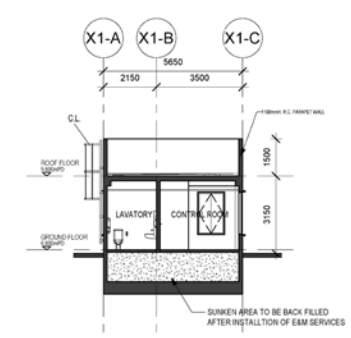
GUARD HOUSE B ROOF FLOOR PLAN (SCALE 1:300)



GUARD HOUSE B ELEVATION 3 (SCALE 1:300)



GUARD HOUSE B ELEVATION 4 (SCALE 1:300)

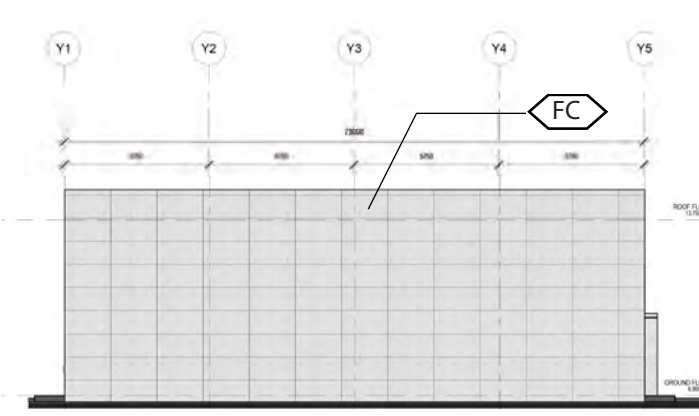


GUARD HOUSE B SECTION B-B (SCALE 1:300)

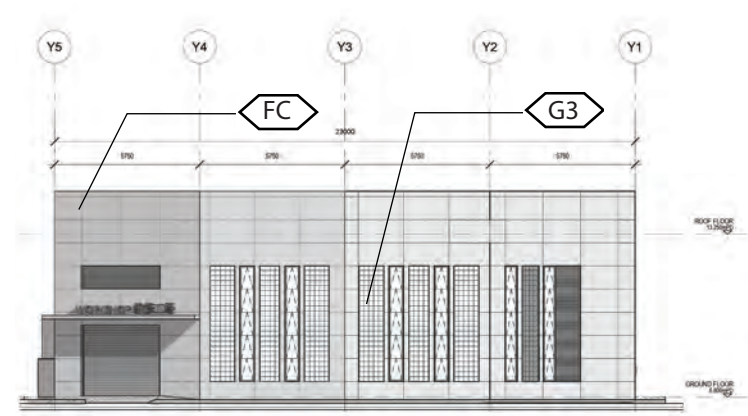
**LEGEND**

- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |

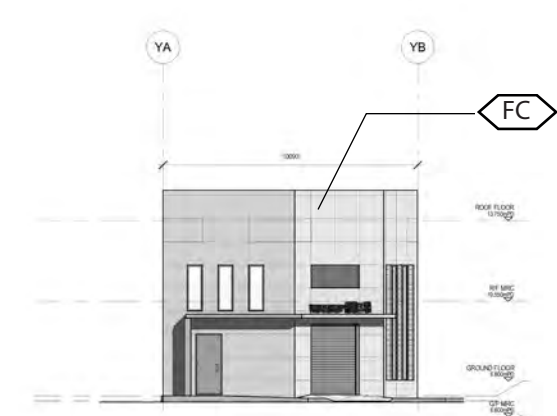




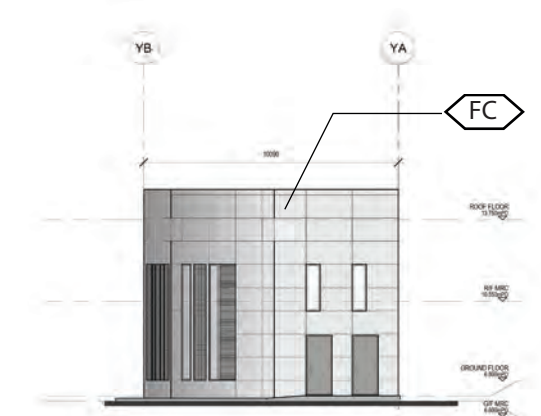
ELEVATION 1 (SCALE 1:300)



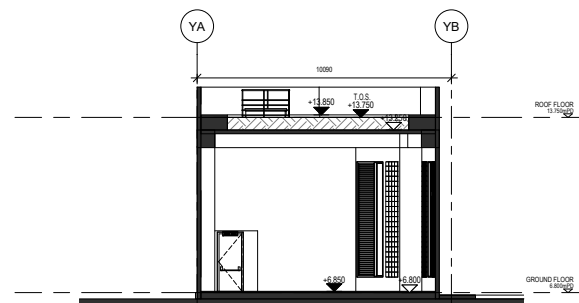
ELEVATION 2 (SCALE 1:300)



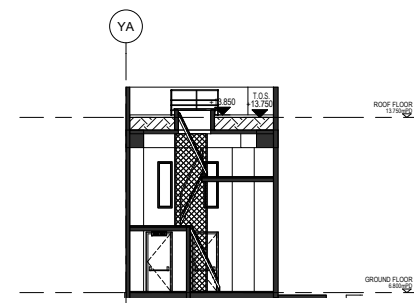
ELEVATION 3 (SCALE 1:300)



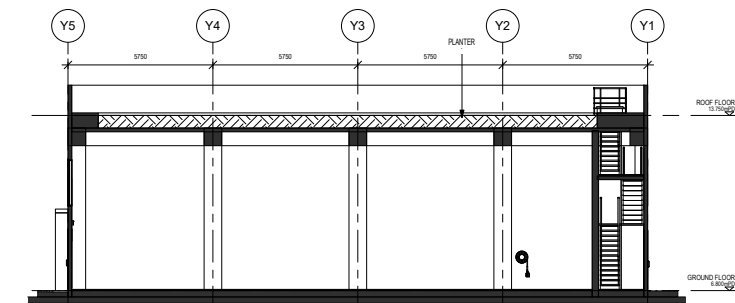
ELEVATION 4 (SCALE 1:300)



SECTION A-A (SCALE 1:300)



SECTION B-B (SCALE 1:300)



SECTION C-C (SCALE 1:300)

**LEGEND**

- |                     |                           |   |   |   |                  |
|---------------------|---------------------------|---|---|---|------------------|
| FAIRFACED CONCRETE  | ALUMINIUM (BRIGHT COPPER) | ALUMINIUM (BLUE)                        | ALUMINIUM (W/. WOOD GRAIN PATTERN)        | ALUMINIUM (WHITE)                       | ALUMINIUM (GREY) |
| S.S. (BEAD BLASTED) | CURTAIN WALL              | GLASS WALL                              | GLASS BLOCK                               | GLASS WALL W/. REFLECTIVE COATING       |                  |
| PAINT IN GRAY       | TEXTURED PAINT IN GRAY    | DFMA CONCRETE PANEL (LIGHT GRAY, PLAIN) | DFMA CONCRETE PANEL (LIGHT GRAY, BRUSHED) | DFMA CONCRETE PANEL (DARK GRAY, RIBBED) |                  |





DfMA CONCRETE PANEL  
 (TYPE A1, PLAIN)

D1



DfMA CONCRETE PANEL  
 (TYPE B, RIBBED)

D3



ALUMINIUM CLADDING  
 (BRIGHT COPPER)

A1



ALUMINIUM CLADDING  
 (GRAY TIMBER WOLF)

A5



M04 3mm ALUMINIUM WOOD GRAIN PATTERN FINISH  
 FOR ALUMINIUM FINS/ PANEL WITH TIMBER FINISH & FOR  
 EXTERNAL CEILING AT ADMINISTRATION BUILDING

A3



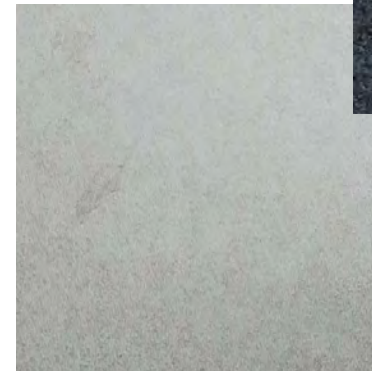
DfMA CONCRETE PANEL  
 (TYPE A2, BRUSHED)

D2



STAINLESS STEEL ( SATIN )

SS



F38 300x600x10mm OUTDOOR FULL-BODY  
 PORCELAIN TILE ON (IVORY FLOW L2)  
 STEPS AT GRAND STAIRCASE



ST02 BLACK GRANITE  
 WITH BUSH HAMMERED FINISH  
 EDGE OF STEPS AT SAIRCASE AND  
 PLANTER





# Appendix F - Hard Landscape Design

## Material Board (Exterior)

**AS-BUILT**



**PANTONE**

649CP



552CP



292CP



2386CP



**PANTONE WHITE 000C**

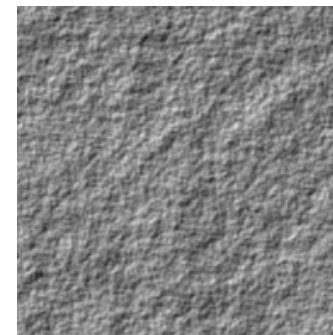
**A2** ALUMINIUM (BLUE)

**A4** ALUMINIUM (WHITE)



**PANTONE COOL GRAY 9C**

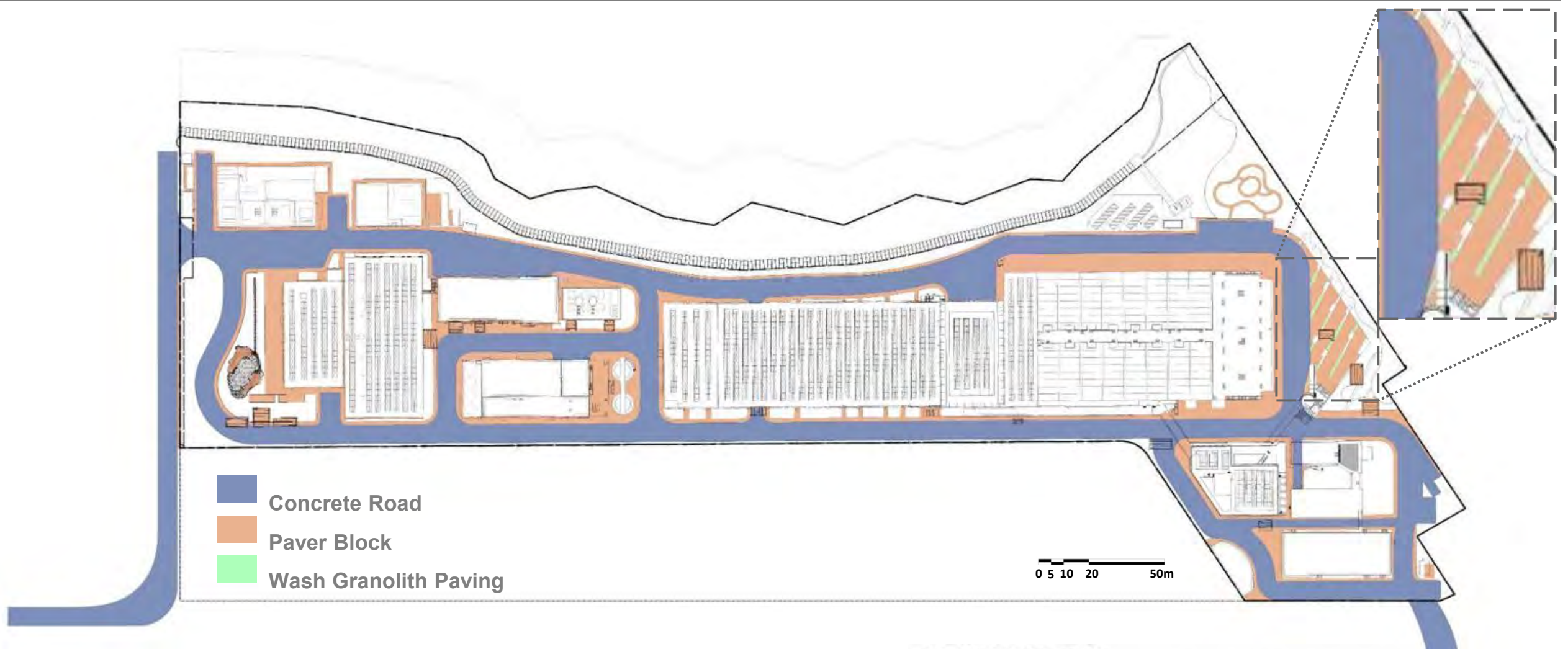
**P1** GRAY PAINT



**STONE TEXTURED PAINT**

**P2** TEXTURED PAINT

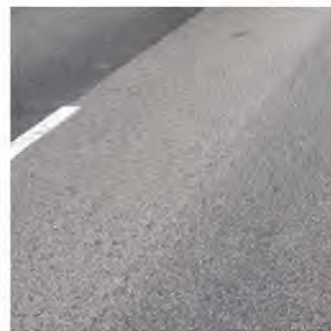




**MATERIAL SCHEDULE**



PAVER BLOCK



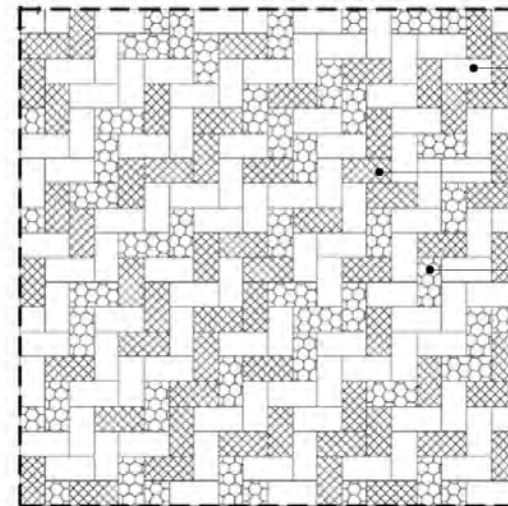
CONCRETE ROAD  
(FOR VEHICULAR)



WASH GRANOLITH PAVING

**PAVING MODULE PLAN**

(ILLUSTRATION OF DIFFERENT COLOURS OF THE RANDOM MIX OF PAVING BLOCKS)

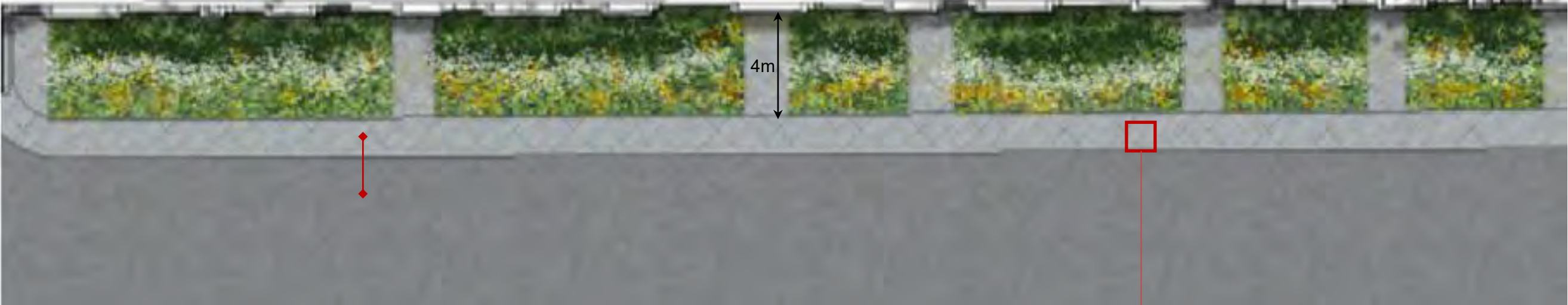
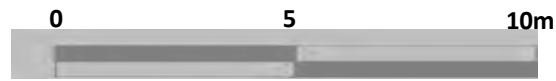


100x200x60mm THK.  
COLOUR: BROWN  
PERCENTAGE: 50%

100x200x60mm THK.  
COLOUR: LIGHT BROWN  
PERCENTAGE: 30%

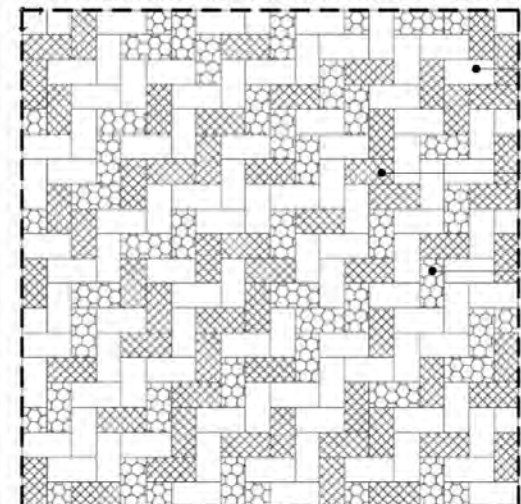
100x200x60mm THK.  
COLOUR: GREY  
PERCENTAGE: 20%





### Paving Pattern

(ILLUSTRATION OF DIFFERENT COLOURS OF THE RANDOM MIX OF PAVING BLOCKS)



- 100x200x60mm THK.  
COLOUR: BROWN  
PERCENTAGE: 50%
- 100x200x60mm THK.  
COLOUR: LIGHT BROWN  
PERCENTAGE: 30%
- 100x200x60mm THK.  
COLOUR: GREY  
PERCENTAGE: 20%

