



DESIGN TRAFFIC OF 1×10^7 ESA's
DESIGN CBR VALUE OF 2%
CBR OF SUBGRADE TO BE CONFIRMED TO ENGINEER FOR
FINAL PAVEMENT OPTIMISATION AND DESIGN.

ESTATE ACCESS ROAD PAVEMENT
EXTENT SHOWN THUS ON PLAN:

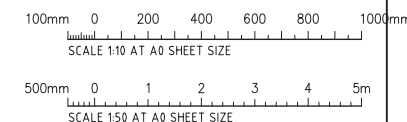
NOTE:
CONFIRMATION OF PAVEMENT DESIGN
THROUGH HOLLINSWORTH ROAD SUBJECT TO
COUNCIL APPROVAL & CONFIRMATION OF
EXISTING HOLLINSWORTH ROAD PAVEMENT.



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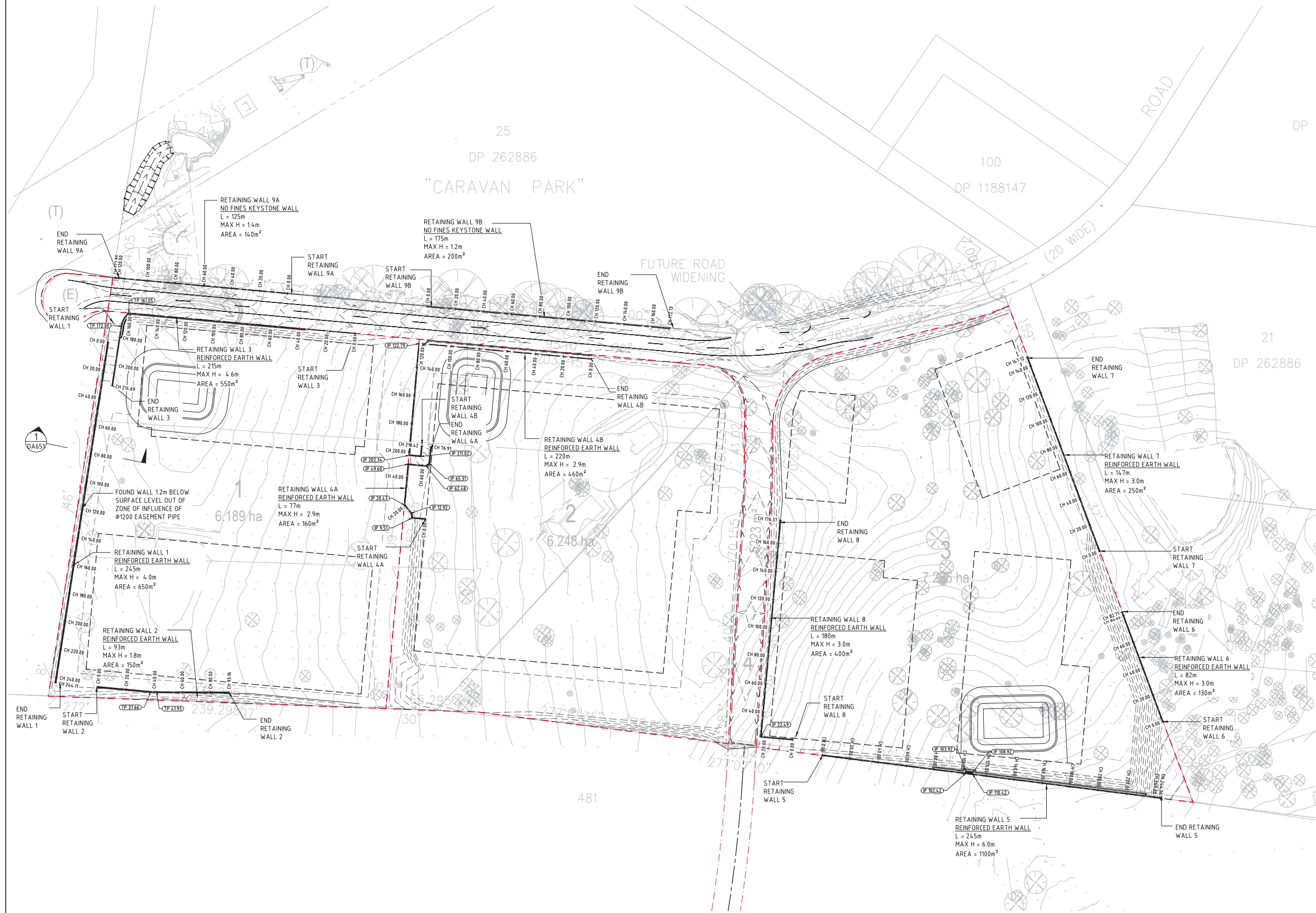
ESTATE ACCESS ROAD PAVEMENT
EXTENT SHOWN THUS ON PLAN:

NOTE:
CONFIRMATION OF PAVEMENT DESIGN
THROUGH HOLLINSWORTH ROAD SUBJECT TO
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EXISTING HOLLINSWORTH ROAD PAVEMENT.



FOR SECTION 96

[illegible]



REINFORCED EARTH RETAINING WALL NOTES:

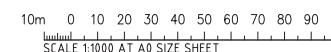
- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
- MINIMUM HEIGHT (H) TO GEOGRID REINFORCEMENT LENGTH (L) TO BE 1.0.
- MINIMUM BEARING CAPACITY OF FOUNDATION (BASED ON MINIMUM H/L RATIO OF 1.0) TO BE AS FOLLOWS:
 - H MAX. 2M = 100 KPA
 - H MAX. 3.5M = 150 KPA
 - H MAX. 5M = 200 KPA
- BEFORE COMMENCEMENT OF CONSTRUCTION THE FOUNDATION SHALL BE INSPECTED AND VERIFIED BY A QUALIFIED GEOTECHNICAL ENGINEER.
- WHERE MINIMUM BEARING IS NOT ACHIEVABLE OR NOT MEETING DESIGN REQUIREMENT, THE FOUNDATION MATERIAL IS TO BE EXCAVATED AND REPLACED WITH APPROVED MATERIAL PLACED IN ACCORDANCE WITH THE FILLING SPECIFICATION TO A MINIMUM COMPACTION OF 100% SMDD AND PLACED WITHIN 2% OF OMC.
- MINIMUM SURCHARGE LOADS TO BE APPLIED AS FOLLOWS U.N.O. ON PLAN:
 - LIVE LOAD = 20 KPA
 - DEAD LOAD = 5 KPA
 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 KPA
- THE GEOGRIDS SHALL BE OF THE TYPE AND INDEX STRENGTH NOMINATED ON THE DRAWINGS. THE MINIMUM GEOGRIDS SHALL BE A SINGLE LENGTH IN THE DIRECTION OF DESIGN TENSION, NOT LAPPED, MAKING PROVISION FOR CONNECTION TO THE FACING ACROSS THE WHOLE WIDTH OF THE FACING AND PROVIDING FOR THE SPECIFIED ANCHORAGE WITHIN THE DESIGNATED ANCHORAGE ZONE. GEOGRIDS SHALL COVER THE WHOLE OF THE PLAN AREA BEHIND THE WALL FOR THE SPECIFIED ANCHORAGE LENGTH AND SHALL BE LAPPED WITH ADJACENT SECTIONS IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
- MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300MM.
- DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
- SELECT BACKFILL MATERIAL WITHIN THE REINFORCED SOIL BLOCK SHALL BE SOUND GRANULAR MATERIAL OF NATURAL OR INDUSTRIAL ORIGIN, NON-EXPANSIVE, FREE FROM ORGANIC OR OTHER DELETERIOUS MATERIAL CONFORMING TO THE PHYSICAL, CHEMICAL AND ELECTROCHEMICAL LIMITS AS SPECIFIED AND SHALL NOT BE SUBJECT TO BREAKDOWN UNDER COMPACTION. THE SELECT BACKFILL MATERIAL IS TO HAVE THE FOLLOWING PARAMETERS:
 - MINIMUM INTERNAL FRICTION, $\phi = 34^\circ$
 - EFFECTIVE COHESION, $c = 0$ KPA
 - UNIT WEIGHT = 21 KN/M³
 - PH BETWEEN 4 AND 9
- SELECT BACKFILL IS TO BE PLACED AND COMPACTED IN LAYERS NOT MORE THAN 300MM (LOOSE) COMPACTION TO NOT LESS THAN 100% SMDD WILL BE ACHIEVED AND MATERIAL PLACED WITHIN 2% OF OMC. DENSITY TESTING SHALL BE PERFORMED IN EACH COMPACTED LIFT IN ACCORDANCE WITH AS3798.
- PROVIDE A DRAINAGE LAYER DIRECTLY BEHIND THE FACING UNITS IN A MINIMUM 300MM WIDE 12-20MM AGGREGATE LAYER. FACING UNIT VOIDS TO BE FILLED WITH AGGREGATE. PROVIDE 100MM MINIMUM AG. DRAIN IN GEOTEXTILE SOCK AT TOE OF WALL FACING AND CONNECT TO DRAINAGE SYSTEM AT 30M MAX. SPACING.
- THE NEED FOR A CHIMNEY DRAIN OR DRAINAGE AT THE REAR OF THE MASS SOIL BLOCK IS TO BE CONFIRMED ON SITE BY THE GEOTECHNICAL ENGINEER AND DESIGNER FOLLOWING PREPARATION OF THE FOUNDATION AND PRIOR TO CONSTRUCTION OF THE MASS SOIL BLOCK.
- CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 15 METRES FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 15 METRE STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
- ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.

RETAINING WALL NOTES:

- ALL COMPONENTS AND INSTALLATION SHALL COMPLY WITH AS4678 AND THE STANDARDS REFERRED TO THEREIN.
- MINIMUM BEARING CAPACITY OF FOUNDATION TO BE AS FOLLOWS:
 - H MAX. 2.0m = 100 kPa
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 - CONSTRUCTION TRAFFIC LIVE LOAD = 10 kPa
- MINIMUM WALL EMBEDMENT AT THE TOE OF THE WALL TO BE 300MM MINIMUM UNLESS NOTED OTHERWISE.
- DESIGN LIFE OF STRUCTURE IS TO BE 100 YEARS.
- CONSTRUCTION EQUIPMENT WEIGHING MORE THAN 500KG STATIC WEIGHT IS TO BE KEPT BACK 15m FROM THE REAR FACE OF THE WALL FACING UNITS. COMPACTION OF THE SELECT FILL MATERIAL WITHIN THE 15m STRIP ADJACENT TO THE WALL SHALL BE ACHIEVED BY LIGHT MECHANICAL TAMPERS (VIBRATING PLATE, TRENCH COMPACTOR OR SIMILAR) TO GIVE THE SAME DENSITY AS IN THE REMAINDER OF THE SELECT FILL.
- ALL DESIGN AND CONSTRUCT WALL SYSTEM TO BE COMPLETED IN ACCORDANCE WITH THESE NOTES.

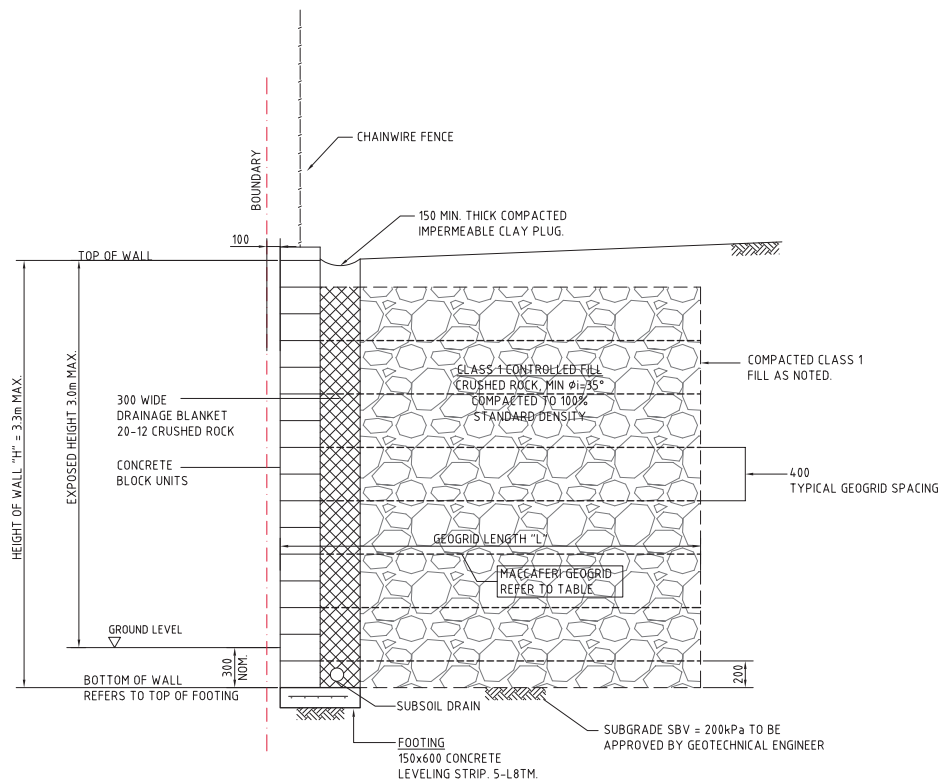
LEVELS NOTE:

LEVELS SHOWN TO BE ± 500 mm FROM THOSE SHOWN.
FINAL LEVELS SUBJECT TO FINAL GEOTECHNICAL INVESTIGATIONS, ARCHITECTURAL LAYOUT AND ACHIEVING A CUT TO FILL EARTHWORKS BALANCE OVER THE PROPERTY.

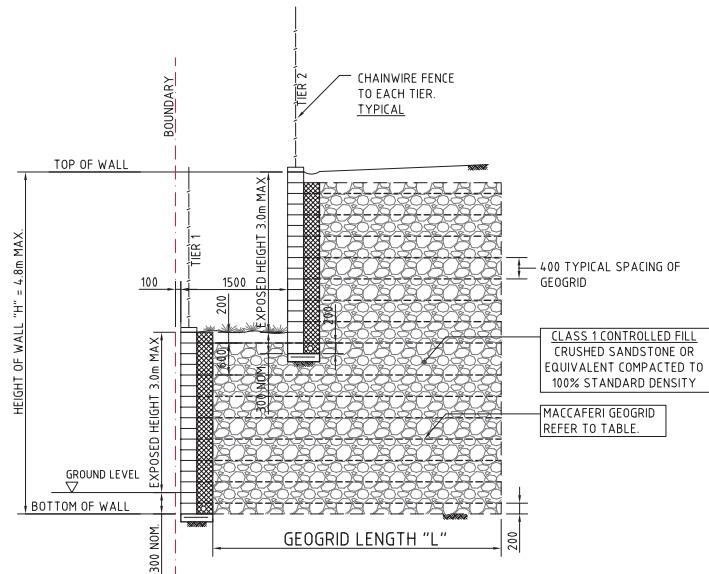


FOR SECTION 96

ISSUED FOR SECTION 96 APPLICATION REVISED FOR UPDATED MASTERPLAN REVISED AS CLOUDED FOR UPDATED RETAINING WALLS ISSUED FOR INFORMATION AMENDMENTS				22.11.17 09.10.17 15.08.17 01.08.17 DATE				D C B A ISSUE				AMENDMENTS				DATE				ISSUE			
ARCHITECT				CLIENT				PROJECT				COSTIN ROE CONSULTING PTY LTD.				DRAWING TITLE				DRAWING NO.			
[watch this SPACE design]				LOGOS				INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS HOLLINGSWORTH ROAD MARSDEN PARK NSW				Level 1, 8 Widdowall Street Wahah Bay, Sydney NSW 2000 Tel: (02) 8551-7699 Fax: (02) 8541-3721 email: mail@costinroe.com.au				RETAINING WALL LAYOUT PLAN				12829.06-DA610			
DESIGNED				DATE				CHECKED				SCALE				CADD				PRECISION			
DWG				05				XC				A0				C012829.06-DA610				COMMUNICATION			
AS SHOWN				AS SHOWN				AS SHOWN				AS SHOWN				AS SHOWN				ACCOUNTABILITY			



CONCRETE BLOCK REINFORCED EARTH WALL DETAIL
SCALE 120

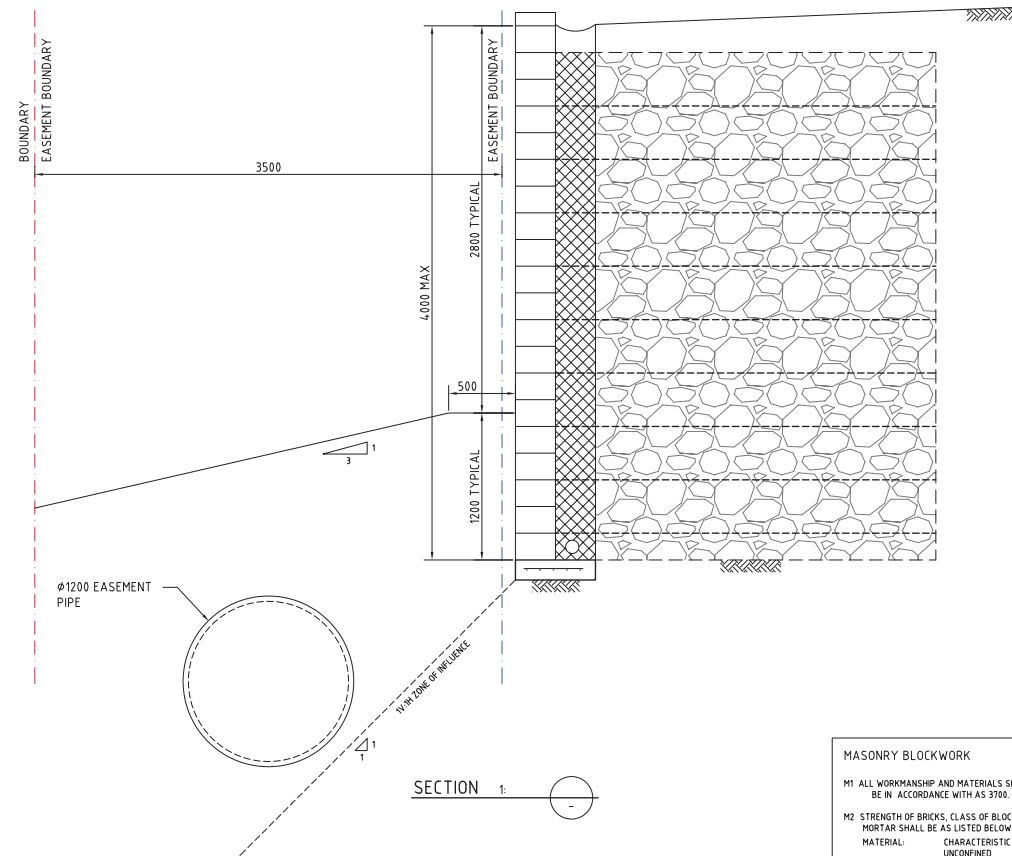


CONCRETE BLOCK REINFORCED EARTH WALL DETAIL
TIERED CONFIGURATION
SCALE 150

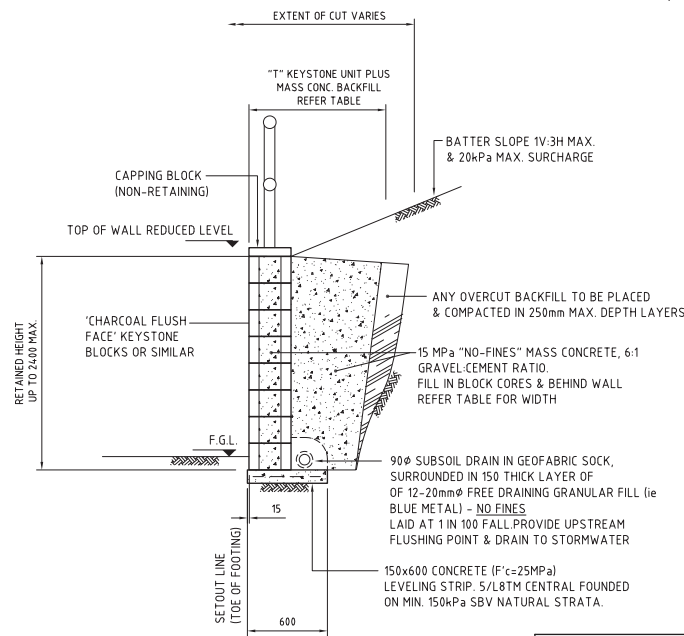
REINFORCED EARTH WALL DETAILS

WALL HEIGHT "H"	GEOGRID LENGTH "L"	GEOGRID TYPE
2300	2600	GX50/30
3300	3500	GX50/30
4300	4700	GX50/30
5300	5800	GX50/30
6300	6900	GX50/30
7300	8000	GX50/30
7800	8500	GX50/30

NOTE :
INDICATIVE REINFORCEMENT LENGTHS SHOWN. DESIGN TO BE CONFIRMED / PROVIDED BY D-C CONTRACTOR.



SECTION 1



'NO-FINES' MASS CONCRETE KEYSTONE RETAINING WALL
(1000 TO 2400 MAXIMUM RETAINED HEIGHT)
SCALE 120

TYPICAL FOR THE FOLLOWING:
RETAINING WALL 1

'NO FINES' KEYSTONE WALL DETAILS

RETAINED HEIGHT (mm)	OVERALL THICKNESS "T" (mm)
UP TO 1000	DESIGN TO BE CONFIRMED / PROVIDED BY D-C CONTRACTOR
1000 TO 1200	
1200 TO 1800	

KEYSTONE RETAINING WALL NOT BE USED IN TIERED CONFIGURATION.

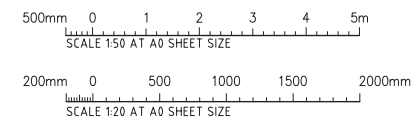
MASONRY BLOCKWORK		
M1	ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3700.	
M2	STRENGTH OF BRICKS, CLASS OF BLOCKS AND TYPE OF MORTAR SHALL BE AS LISTED BELOW	
MATERIAL:	CHARACTERISTIC UNCONFINED COMPRESSIVE STRENGTH, F _{UC}	MORTAR CLASSIFICATION
CONCRETE BLOCKS	15 MPa	M3
M3	MORTAR ADMIXTURES SHALL NOT BE USED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT	
M4	ALL MASONRY WALLS AND PIERS SUPPORTING SLABS AND BEAMS SHALL HAVE A PRE-GREASED GALVANISED STEEL SLIP JOINT BETWEEN CONCRETE SOFFIT AND THE TOP OF THE MASONRY ELEMENT UNDO.	
M5	ALL MASONRY SUPPORTING OR SUPPORTED BY CONCRETE FLOORS SHALL BE PROVIDED WITH VERTICAL JOINTS TO MATCH ALL CONTROL JOINTS IN THE CONCRETE.	
M6	NON LOAD BEARING WALLS SHALL BE SEPARATED FROM CONCRETE ABOVE BY A 12mm THICK CLOSED CELL POLYETHYLENE STRIP.	
M7	NO CHASES OR RECESSES ARE PERMITTED IN LOAD BEARING MASONRY WITHOUT THE APPROVAL OF THE ENGINEER.	
M8	PROVIDE CLEANOUT HOLES AT BASE OF ALL WALLS. HOD CORE HOLES TO REMOVE PROTRUDING MORTAR FOLLOWING APPROVAL FROM THE ENGINEER.	
M9	CORE FILLING GROUT TO HAVE A CHARACTERISTIC STRENGTH OF 20 MPa, 10mm AGGREGATE, 230mm SLUMP. GROUT FILL ALL BLOCK CORES.	
M10	PROVIDE 65mm COVER TO REINFORCING BARS FROM THE OUTSIDE FACE OF THE BLOCKWORK IF REINFORCEMENT IS NOT TO BE PLACED CENTRALLY.	
M11	PROVIDE VERTICAL CONTROL JOINTS AT 10 METRE MAX CENTRES, AND AT 5 METRE MAXIMUM FROM CORNERS IN ALL BRICKWORK WALLS	
M12	PROVIDE VERTICAL CONTROL JOINTS AT 8 METRE MAX CENTRES, AND AT 4 METRE MAXIMUM FROM CORNERS IN ALL CONCRETE BLOCK WALLS.	
M13	BACKFILL TO RETAINING WALLS TO BE FREE DRAINING GRANULAR MATERIAL UNDO. PROVIDE SUBSOIL DRAIN BEHIND WEEP HOLES.	
M14	DO NOT CONSTRUCT MASONRY WALLS ON SUSPENDED CONCRETE UNTIL SLAB HAS BEEN STRIPPED AND DE-PROPPED.	
M15	ALL CAVITY CONSTRUCTION TO HAVE GALVANISED OR STAINLESS STEEL WALL TIES INSTALLED AS PER AS 3700	

NOTE :
ALL BLOCK CORES TO BE FULLY GROUTED.
NOTES SHOWN ARE TYPICAL FOR ALL WALLS.
ALL BASE KEYS TO BE POURED AGAINST UNDISTURBED NATURAL GROUND.

CONCRETE QUALITY				
ELEMENT	SLUMP	AGGREGATE (MAX. SIZE)	CEMENT TYPE	ADMIXTURE
CORE FILL	230	10	GP	NIL
FOOTING	80	20	GP	NIL

NOTE:
COVER TO ALL BASE REINFORCEMENT TO BE MINIMUM 50mm

RETAINING WALL NOTE:
RETAINING WALL HEIGHTS EXPOSED TO PUBLIC BOUNDARY FRONTAGE ARE MAXIMUM 3.0m HIGH PER TIER AND NOMINATED WALL HEIGHTS ALLOW FOR MINIMUM 300mm EMBEDMENT AS PER RETAINING WALL DETAILS ON DRAWING 12826.06-DA610.



FOR SECTION 96

ISSUED FOR SECTION 96 APPLICATION	22.11.17	C
REVISED AS CLOUDED FOR UPDATED PIPE DIAMETER	15.08.17	B
ISSUED FOR INFORMATION	01.08.17	A
AMENDMENTS	DATE	ISSUE

ARCHITECT	CLIENT
[watch this SPACE design]	LOGOS

PROJECT	CLIENT
INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS	LOGOS

DESIGNED	DRAWN	DATE	CHECKED	DATE	SCALE	AS SHOWN	CAD REF:
DS	DS	JUN 17	XC	AS	AS	AS	C012829.06-DA651

PROJECT	CLIENT
INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS	LOGOS

PROJECT	CLIENT
INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS	LOGOS

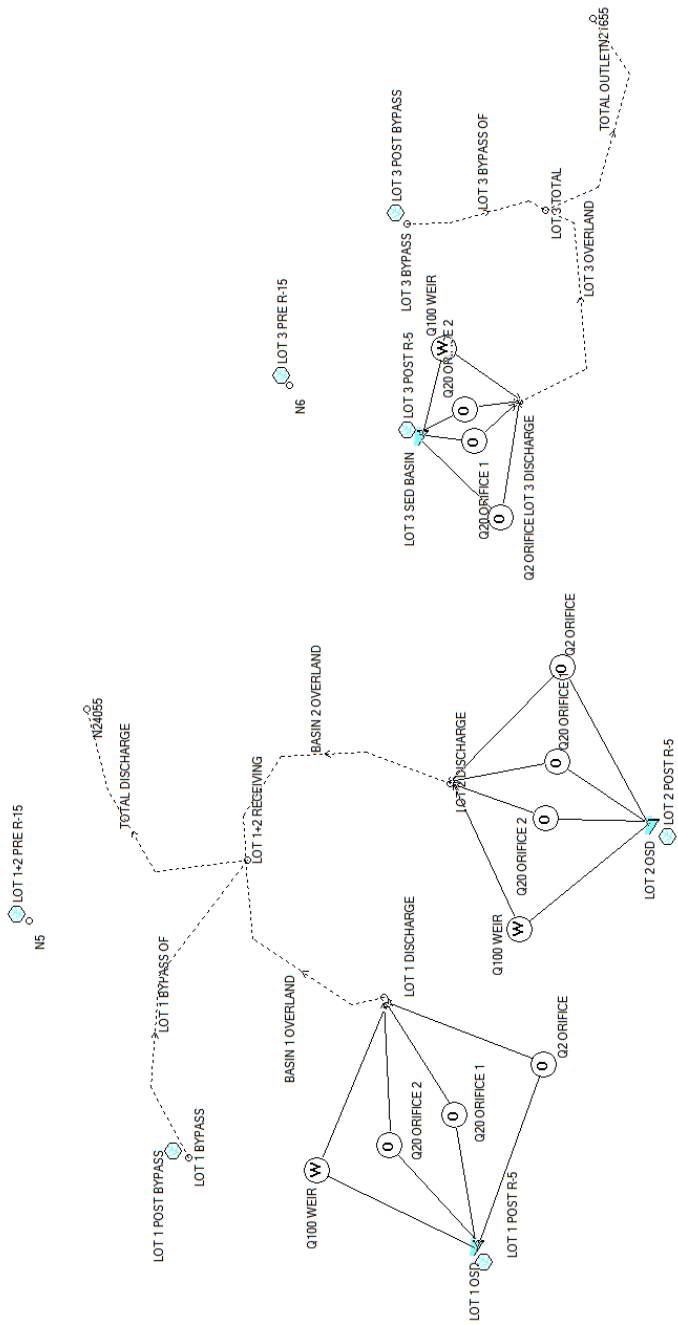
PROJECT	CLIENT
INFRASTRUCTURE PACKAGE EARTHWORKS & WALLS	LOGOS

Precision | Communication | Accountability

DRAWING TITLE
RETAINING WALL DETAILS
SHEET 1

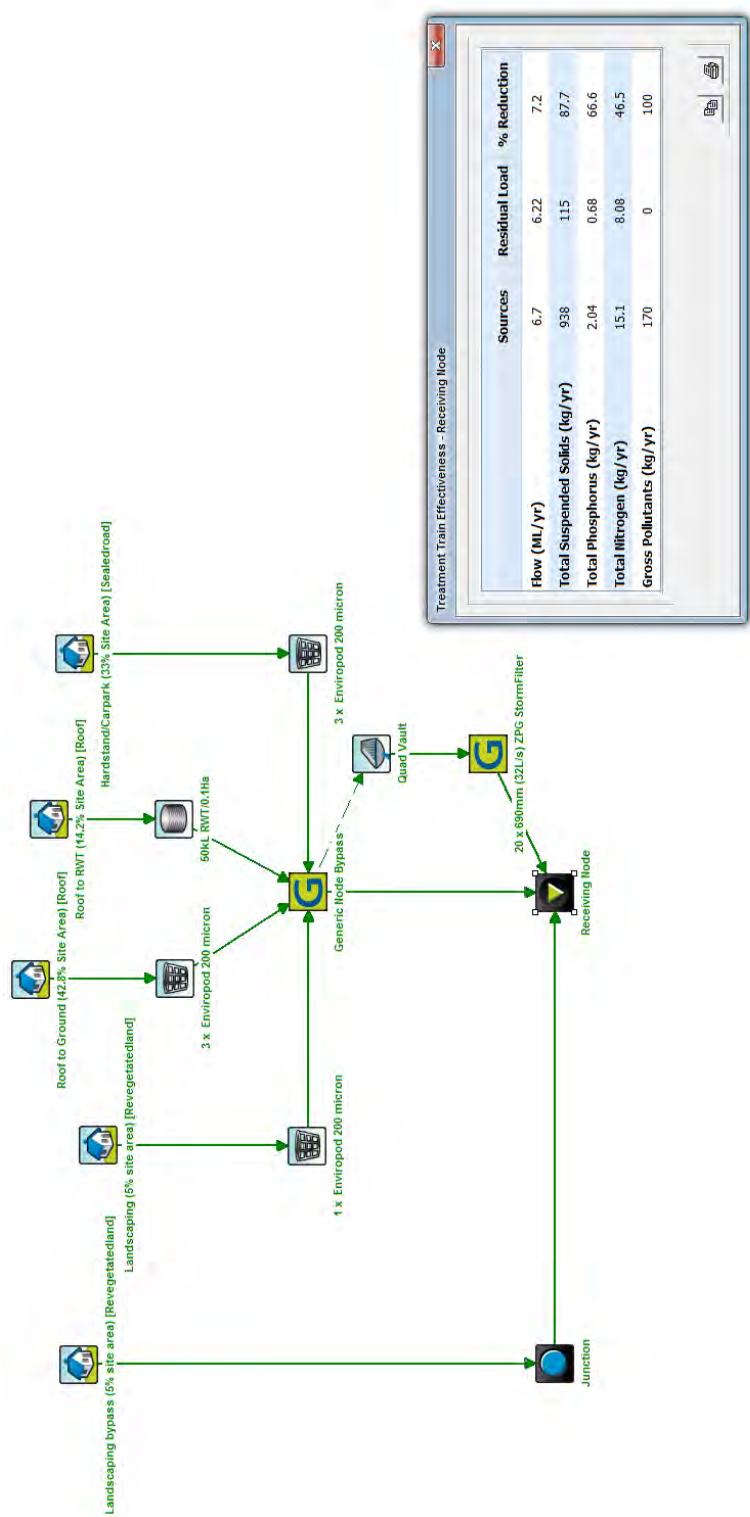
DRAWING No 12829.06-DA651

Appendix C



Appendix D

MUSIC MODEL CONFIGURATION AND MUSIC LINK



Appendix E

EROSION CONTROL CHECK SHEET

EROSION AND SEDIMENT CONTROL

WEEKLY SITE INSPECTION SHEET

LOCATION

INSPECTION OFFICER **DATE**

SIGNATURE

Legend: ☐ OK ☐ Not OK N/A Not applicable

Item	Consideration	Assessment
1	Public roadways clear of sediment.	.....
2	Entry/exit pads clear of excessive sediment deposition.	.....
3	Entry/exit pads have adequate void spacing to trap sediment.	.....
4	The construction site is clear of litter and unconfined rubbish.	.....
5	Adequate stockpiles of emergency ESC materials exist on site.	.....
6	Site dust is being adequately controlled.	.....
7	Appropriate drainage and sediment controls have been installed prior to new areas being cleared or disturbed.	.....
8	Up-slope “clean” water is being appropriately diverted around/through the site.	.....
9	Drainage lines are free of soil scour and sediment deposition.	.....
10	No areas of exposed soil are in need of erosion control.	.....
11	Earth batters are free of “rill” erosion.	.....
12	Erosion control mulch is not being displaced by wind or water.	.....
13	Long-term soil stockpiles are protected from wind, rain and stormwater flow with appropriate drainage and erosion controls.	.....
14	Sediment fences are free from damage.	.....
15	Sediment-laden stormwater is not simply flowing “around” the sediment fences or other sediment traps.	.....
16	Sediment controls placed up-slope/around stormwater inlets are appropriate for the type of inlet structure.	.....
17	All sediment traps are free of excessive sediment deposition.	.....
18	The settled sediment layer within a sediment basin is clearly visible through the supernatant prior to discharge such water.	.....
19	All reasonable and practicable measures are being taken to control sediment runoff from the site.	.....
20	All soil surfaces are being appropriately prepared (i.e. pH, nutrients, roughness and density) prior to revegetation.	.....
21	Stabilised surfaces have a minimum 70% soil coverage.	.....
22	The site is adequately prepared for imminent storms.	.....
23	All ESC measures are in proper working order.	.....