

LEGEND – LINETYPES

STORMWATER

SCHEDULE OF EASEMENTS

- (A)–EASEMENT TO DRAIN WATER 1 WIDE (DP1246833)
- (B)–EASEMENT TO DRAIN WATER 1 WIDE (DP1246833)
- (C)–PROPOSED RIGHT OF ACCESS VARIABLE WIDTH
- (D)–PROPOSED EASEMENT FOR SERVICES VARIABLE WIDTH
- (E)–PROPOSED EASEMENT TO DRAIN WATER 1 WIDE
- (F)–PROPOSED EASEMENT TO DRAIN WATER 1 WIDE
- (G)–PROPOSED EASEMENT FOR OVERLAND FLOW VARIABLE WIDTH

EASEMENTS AND BOUNDARIES CAN BE AMENDED, ADDED OR REMOVED ON THE FINAL PLAN PREPARED UPON COMPLETION OF BUILDING WORKS

Surveyor: IVAN VICTOR STERLIGOV  
Date of Survey: DD/MM/YYYY  
Surveyor’s Ref: 19051–DSUB

PLAN OF PROPOSED SUBDIVISION OF  
LOT 132 & 133 D.P.24360

LGA: NORTHERN BEACHES  
Locality: ELANORA HEIGHTS  
Subdivision No: XXXXXX  
Lengths are in metres. Reduction Ratio 1: 200

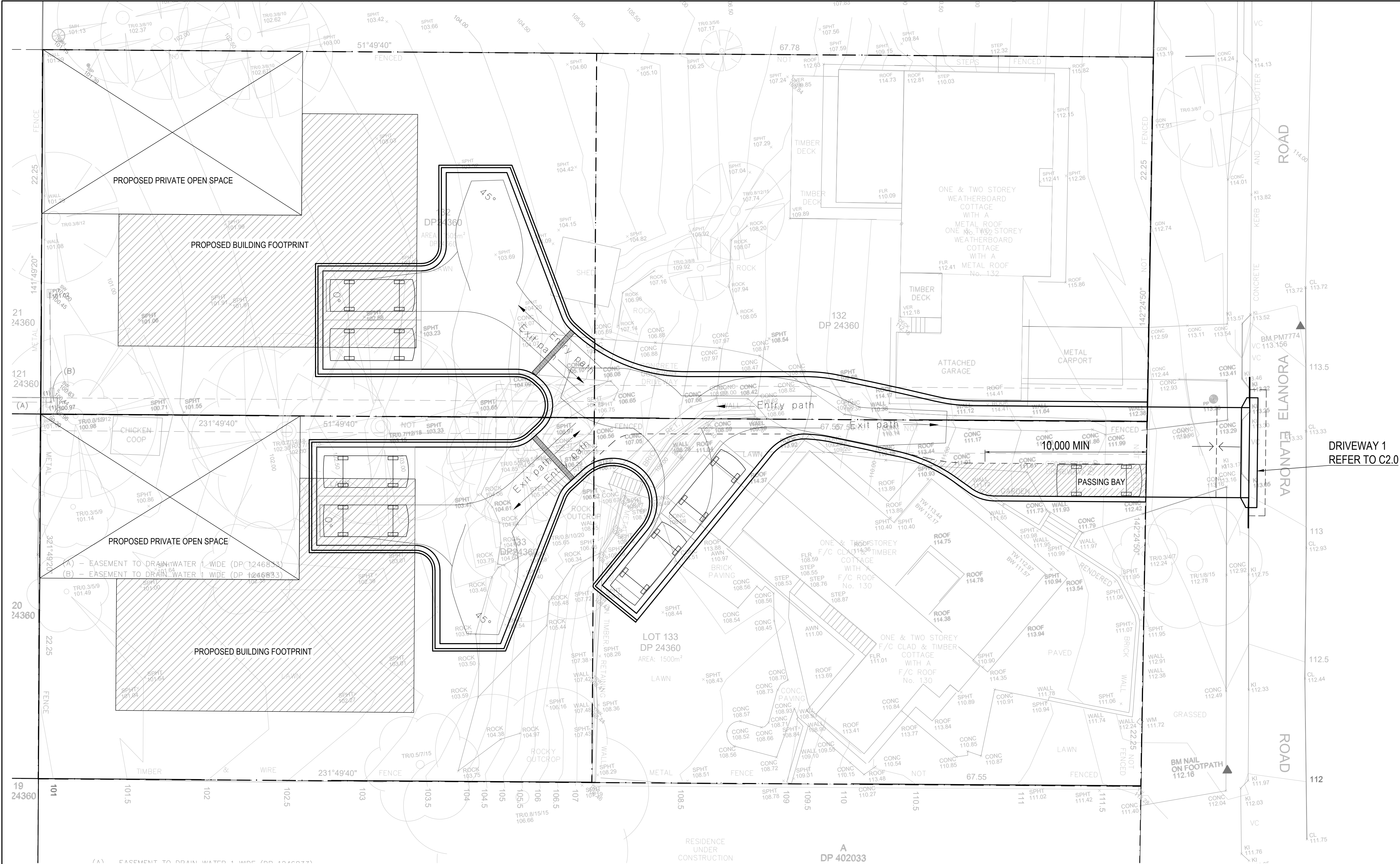
REGISTERED

DP

DRAFT  
PRINTED  
21 JULY, 2020







**NOTES:**

- REFER GENERAL NOTES FOR SPECIFICATIONS
- REFER TO ARCHITECT'S DRAWINGS FOR ALL SET-OUT DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS

**REGISTERED PROFESSIONAL ENGINEER**  
Mr Marcio Rodrigues **Portes**  
MIEAust CPEng (Civil/Structural) **NPER**

Signature \_\_\_\_\_ Date \_\_\_\_\_  
Registered on the NPER in the Category of  
Civil/Structural  
National Professional Engineers Register

NO INSPECTION = NO CERTIFICATE

**IF IN DOUBT ASK**

Issue	Description	By	Date
E	ISSUED AS PER COUNCIL	GL	05-08-2020
D	ISSUED AS PER COUNCIL	GL	28-05-2020
C	ISSUED FOR COMMENTS	GL	25-10-2019
B	ISSUED AS REQUESTED	GL	02-09-2019
A	ISSUED FOR COMMENTS	GL	23-07-2019

**REVISION**

**ARCHITECTURAL DESIGN**

**studio Elias Metry**  
Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61 410 440 211  
elias@studioem.com.au

**PORTES**  
Civil & Structural Engineers

Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: info@portes.com.au www.portes.com.au

**PROJECT TITLE:**

PROPOSED DRIVEWAY CROSSING  
AT 130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS NSW  
for COSIMO & KELLY GALLO

**DRAWING TITLE:**

RESIDENTIAL VEHICULAR  
CROSSINGS/DRIVEWAYS  
CONCEPTUAL PLAN

DRAWN:	DESIGN:	DRAWING SIZE
GL	MP	A1

DATE:	SCALE: UNO
17-07-2019	1:100 @ A1 1:200 @ A3

**PROJECT NUMBER:**

**19-240**

**DRAWING NUMBER:**

**C1.0**

**ISSUE:**

**E**

**NEW DRIVEWAY AND SUBDIVISION BOUNDARIES PLAN**  
1:125 @ A1

**NOTE:**

- REFER TO C2.0 FOR MAIN DRIVEWAY DETAILS AND SECTIONS
- REFER TO C3.0 FOR DRIVEWAY (No130) DETAILS AND SECTIONS
- WORKS OUTSIDE BOUNDARY SHALL BE TO RMS STANDARD DRAWING MD R15 A08 A
- WORKS SHALL BE APPROVED BY RMS PRIOR TO CONSTRUCTION.
- WORKS TO BE IN ACCORDANCE TO NORTHERN BEACHES COUNCIL SPECIFICATIONS (PITWATER INTERNAL DRIVEWAYS CLAUSE B6.1 & B6.2)

**EJ EXPANSION JOINT**

FULL DEPTH EXPANSION JOINTS SHALL BE PLACED AT THE PROPERTY BOUNDARY, AT THE REAR OF THE LAYBACK AND AT EITHER SIDE OF A PREEEXIST FOOTPATH AND WHERE SHOWN ON PLAN. EXPANSION JOINTING MATERIAL SHALL BE APPROVED BITUMINOUS MATERIAL NOT LESS THAN 10MM THICK.

**CJ DUMMY/CONTRACTION JOINT**

THE DEPTH OF DUMMY JOINTS SHALL BE 20MM SPACED AT INTERVALS OF APPROX 1.5M APART OR AS SHOWN ON PLANNOTES. THE JOINTS SHALL BE STEEL TROWELLED FINISHED.

**GENERAL NOTES**

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL ARCHITECTURAL AND OTHER CONSULTANT'S DRAWINGS AND SPECIFICATIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ALL DISCREPANCIES SHALL BE REFERRED TO THE ARCHITECT FOR DECISION BEFORE PROCEEDING WITH THE WORK.
- ALL DIMENSIONS REFER TO SETTING OUT AND OFF-SITE WORK SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION AND FABRICATION IS COMMENCED.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE STRUCTURAL DRAWINGS.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS STATED OTHERWISE. ALL LEVELS ARE EXPRESSED IN METRES.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STRUCTURE IN A STABLE CONDITION AND ENSURING NO PART SHALL BE OVERSTRESSED UNDER CONSTRUCTION ACTIVITIES.
- WORKMANSHIP AND MATERIALS ARE TO BE IN ACCORDANCE WITH THE REFER CURRENT S.A.A. CODES INCLUDING ALL AMENDMENTS, AND THE LOCAL STATUTORY AUTHORITIES, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- THE APPROVAL OF A SUBSTITUTION SHALL BE SOUGHT FROM THE ENGINEER BUT IS NOT AN AUTHORIZATION FOR AN EXTRA. ANY EXTRAS INVOLVED MUST BE TAKEN UP WITH THE OWNER / CLIENT / ARCHITECT BEFORE THE WORK COMMENCES.

- ROOF CONSTRUCTION:- ALL ROOFS TO BE TIED DOWN WITH H.D.GALV. STRAPS AS PER GOOD BUILDING PRACTICE. IF BUILDER IS IN DOUBT HE MUST GET GUIDANCE FROM THE ENGINEER.
- IF STRUCTURAL DRAWINGS DO NOT COVER A PARTICULAR STRUCTURAL DETAIL, THEN THE BUILDER SHALL SKETCH UP DETAIL AND FAX IT TO THE STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO ERECTION.
- THE WORD 'THE ENGINEER' USED IN THESE NOTES REFER TO AN EMPLOYEE OR NOMINATED REPRESENTATIVE OF **PORTES PROJECT AND SERVICES**
- THE CONTRACTOR IS TO EMPLOY A QUALIFIED GEOTECHNICAL ENGINEER AS REQUIRED FOR ALL GEOTECHNICAL ASPECTS OF THE BUILDING WORKS. REFER TO FOUNDATION, GROUNDWORKS AND RETENTION/SHORINGS NOTES. REFER ALSO TO THE GEOTECHNICAL REPORT FOR THIS PROJECT.
- THE CONTRACTOR MUST INSPECT AND SIGN OFF ALL STRUCTURAL ELEMENTS (e.g. CONCRETE PROFILES OF SLABS, BEAMS, REINFORCEMENT COVERS, STEEL & TIMBER BEAMS, PURLIN SIZES & CONNECTIONS etc.) PRIOR TO REQUESTING AN INSPECTION FROM PPS. THE ENGINEER IS TO BE GIVEN 48 HOURS NOTICE OF INSPECTIONS BEING REQUIRED BEFORE ANY STRUCTURAL WORK IS CONCEALED.
- SUB-CONTRACTOR FOR PRECAST CONCRETE PANELS, POST-TENSIONED SLABS & STRUCTURAL STEELWORK SHALL SUBMIT MINIMUM OF 2 COPIES OF SHOP DRAWINGS TO THE ENGINEER FOR REVIEW & TO BE APPROVED PRIOR TO FABRICATION AND CONSTRUCTION
- ALL SERVICE CONSULTANTS WORKS FOR SEWERAGE, DRAINAGE, HYDRAULICS, ELECTRICAL LIFTS, AIR CONDITIONING etc. THAT ARE NOT SHOWN ON OUR DRAWINGS SHALL BE THE RESPONSIBILITY OF OTHERS.
- THE 'TENDER' ISSUE SET OF THESE DRAWINGS IS BASED ON PRELIMINARY ARCHITECTURAL INFORMATION AND PRELIMINARY ENGINEERING DESIGN. QUANTITIES AND RATES GIVEN ARE FOR INITIAL PRICING AND MAY VARY IN LATER 'FOR CONSTRUCTION' ISSUE DOCUMENTS. THE TENDERER IS TO ALLOW FOR THIS WITH NO CLAIM FOR A VARIATION.

**CONCRETE NOTES**

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND OTHER RELEVANT AUSTRALIAN CODES.

**REPLACING SA KERB WITH LAYBACK DETAILS**

- SAWCUT 50mm AT GUTTER
- DEMOLISH LAYBACK
- INSTALL 500mm N12 GALVANIZED DEFORMED BARS. DRILL AND EPOXY FIX AT 500mm CTRS 250mm INTO EXISTING CONCRETE
- FROM AND POUR LAYBACK IN 32 MPa CONCRETE

**REPLACING LAYBACK WITH SA KERB DETAILS**

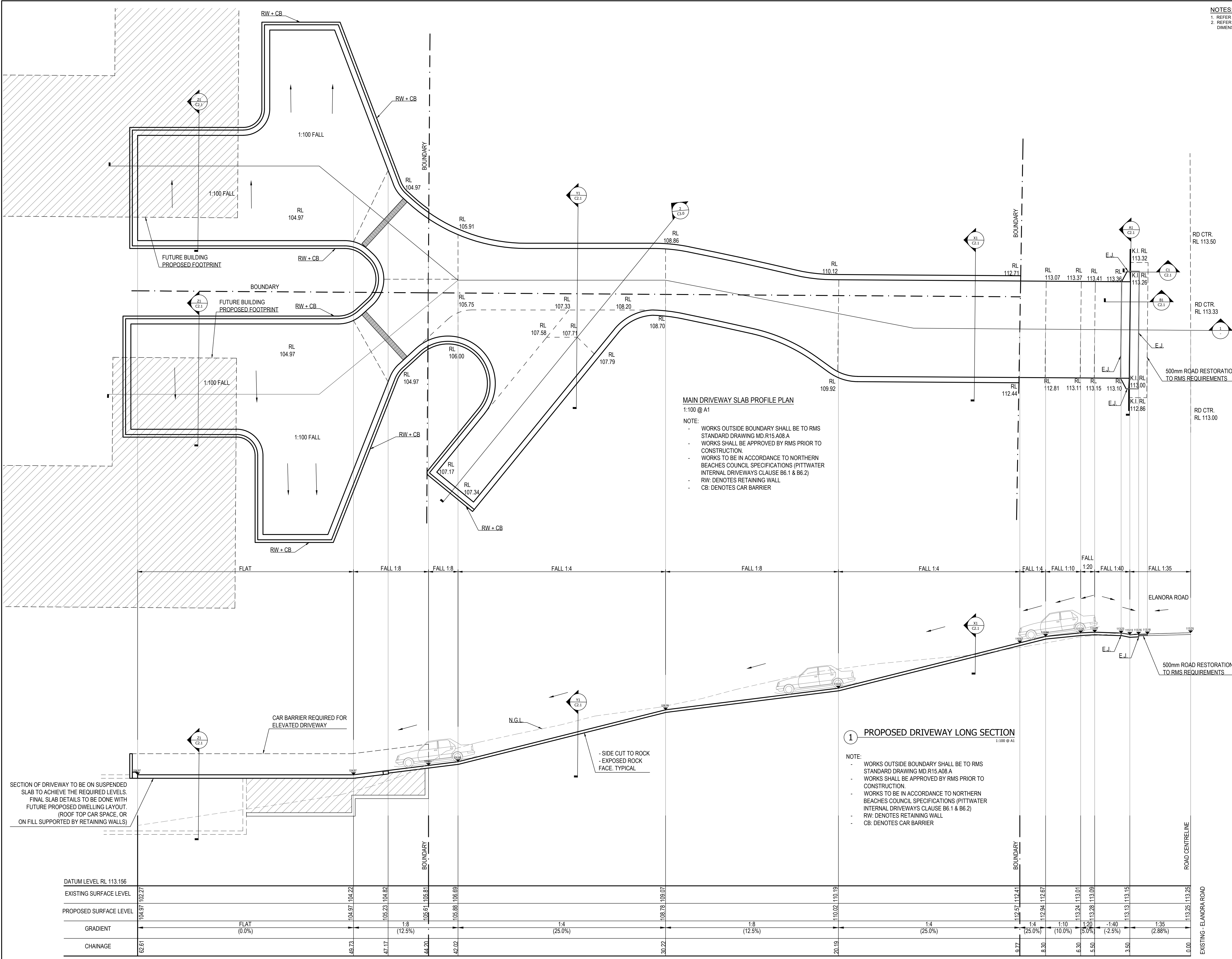
- SAWCUT 50mm AT GUTTER
- DEMOLISH LAYBACK
- INSTALL 350mm X 200mm N12 GALVANIZED DEFORMED BARS. DRILL AND EPOXY FIX AT 500mm CTRS 250mm INTO EXISTING CONCRETE
- FROM AND POUR KERB IN 32 MPa CONCRETE

**IF IN DOUBT ASK**  
NO INSPECTION = NO CERTIFICATE

PORTES AND ELANORA HEIGHTS 132 ELANORA ROAD C1.0 THE DRIVEWAY CROSSING PLAN 17-07-2019 1:125 @ A1 C1.0



NOTES:  
1. REFER GENERAL NOTES FOR SPECIFICATIONS  
2. REFER TO ARCHITECTS DRAWINGS FOR ALL SET-OUT  
DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS



NOT FOR CONSTRUCTION

NO INSPECTION = NO CERTIFICATE

**IF IN DOUBT ASK**

Issue	Description	By	Date
E	ISSUED AS PER COUNCIL	GL	05-08-2020
D	ISSUED AS PER COUNCIL	GL	28-05-2020
C	ISSUED FOR COMMENTS	GL	25-10-2019
B	ISSUED AS REQUESTED	GL	02-09-2019
A	ISSUED FOR COMMENTS	GL	23-07-2019

**REVISION**

**ARCHITECTURAL DESIGN**

**studio Elias Metry**  
Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61410 440 211  
elias@studioem.com.au

**PORTES**  
Civil & Structural Engineers  
Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: info@portes.com.au www.portes.com.au

**PROJECT TITLE:**  
PROPOSED DRIVEWAY CROSSING  
AT 130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS NSW  
for COSIMO & KELLY GALLO

**DRAWING TITLE:**  
PROPOSED  
DRIVEWAY/CROSSING 1  
PLAN

DRAWN:	DESIGN:	DRAWING SIZE
GL	MP	A1

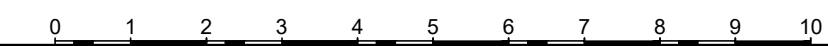
DATE:	SCALE:
17-07-2019	UNO 1:100 @ A1 1:200 @ A3

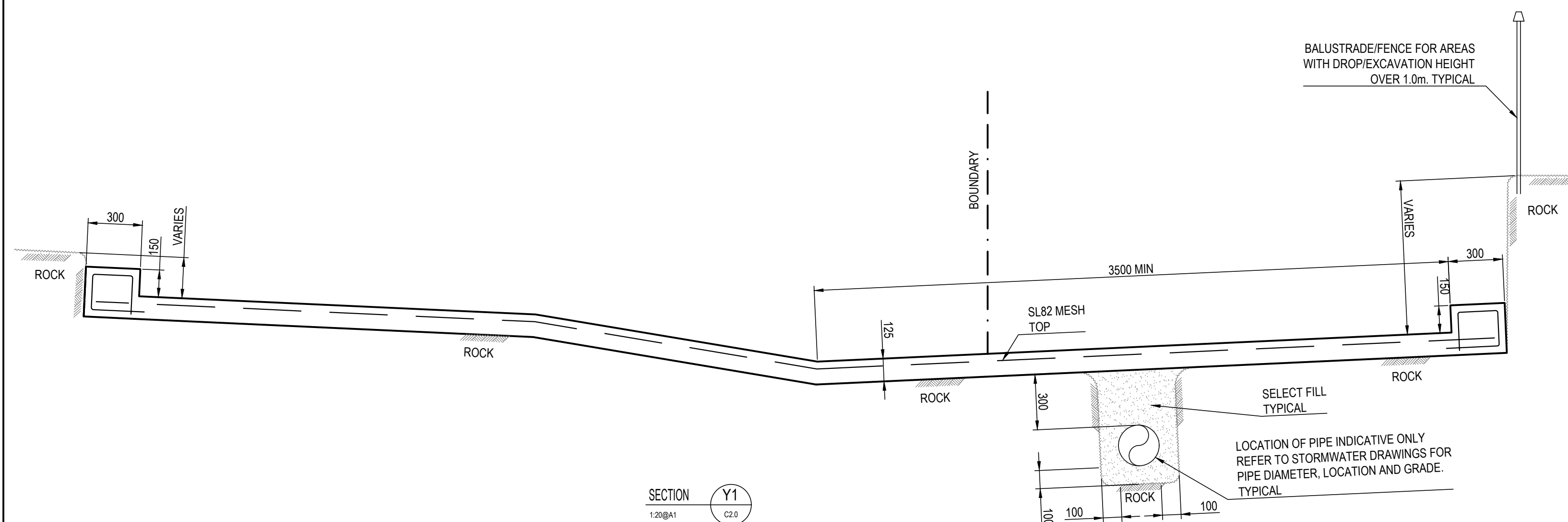
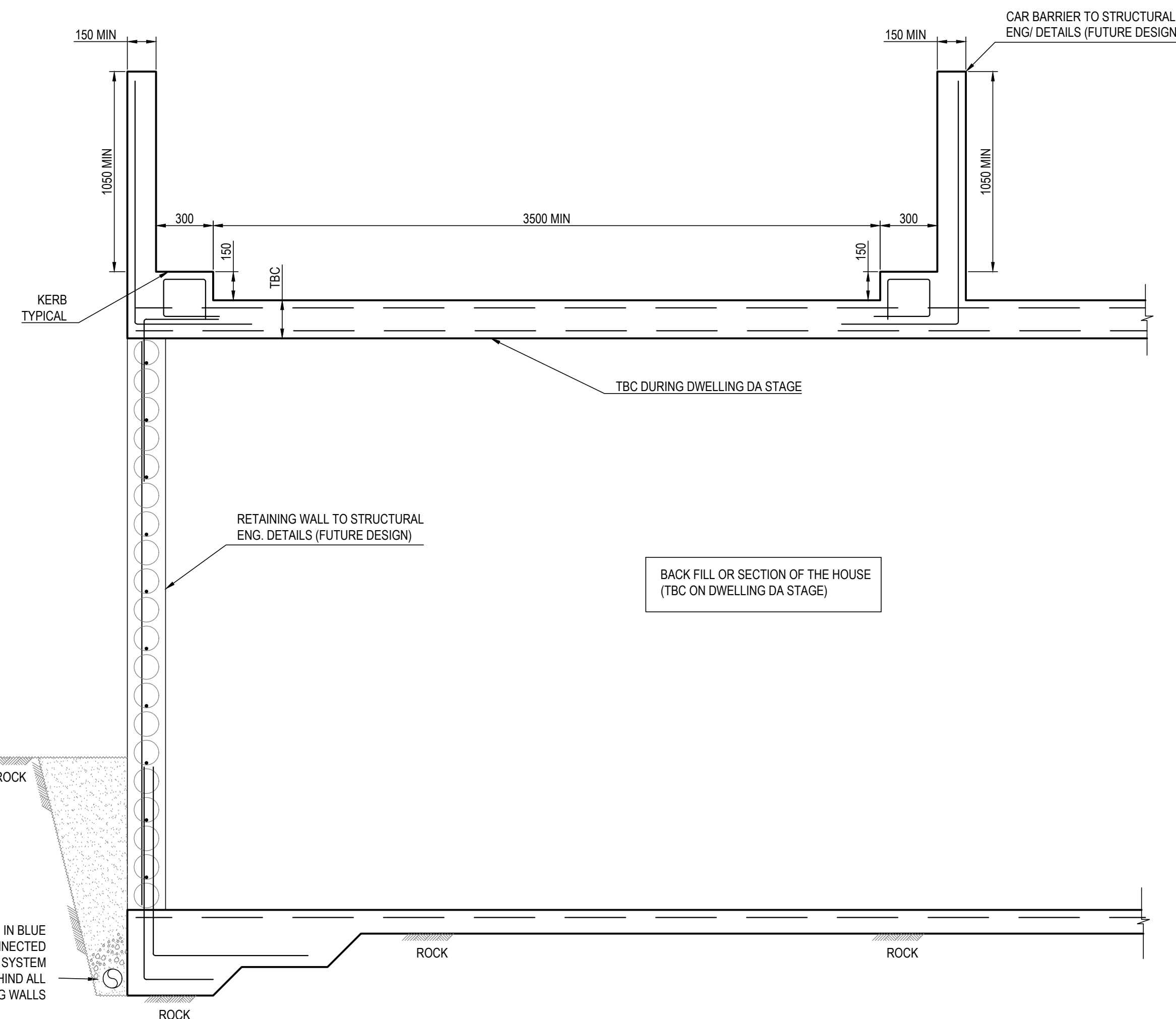
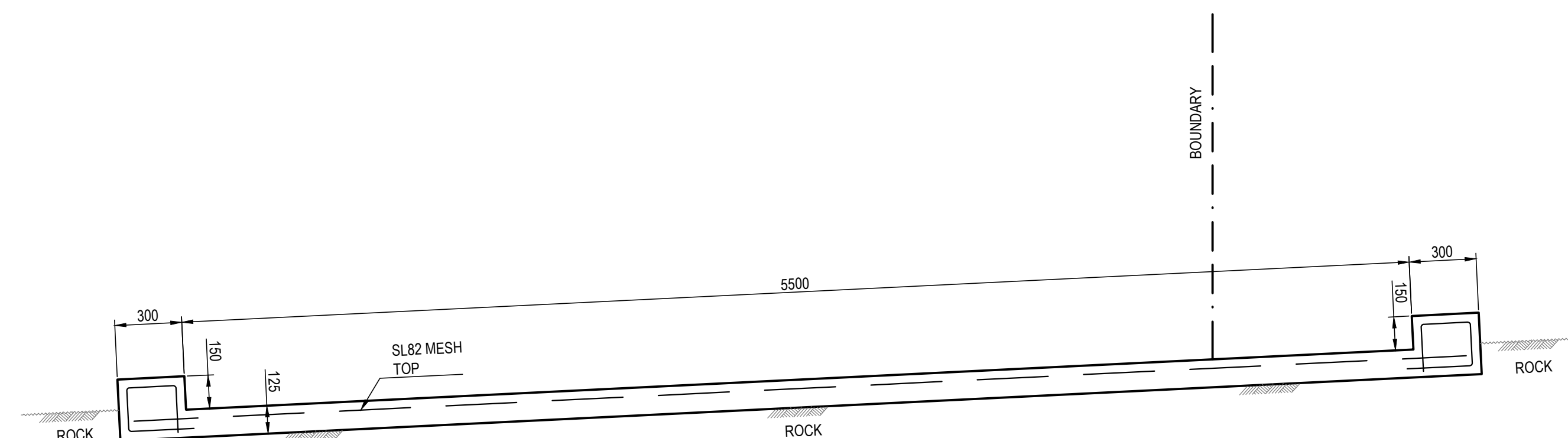
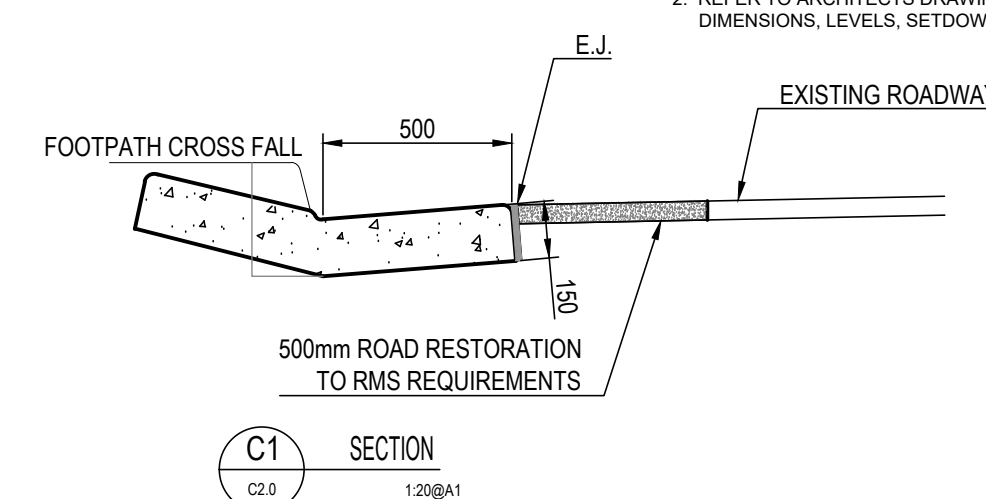
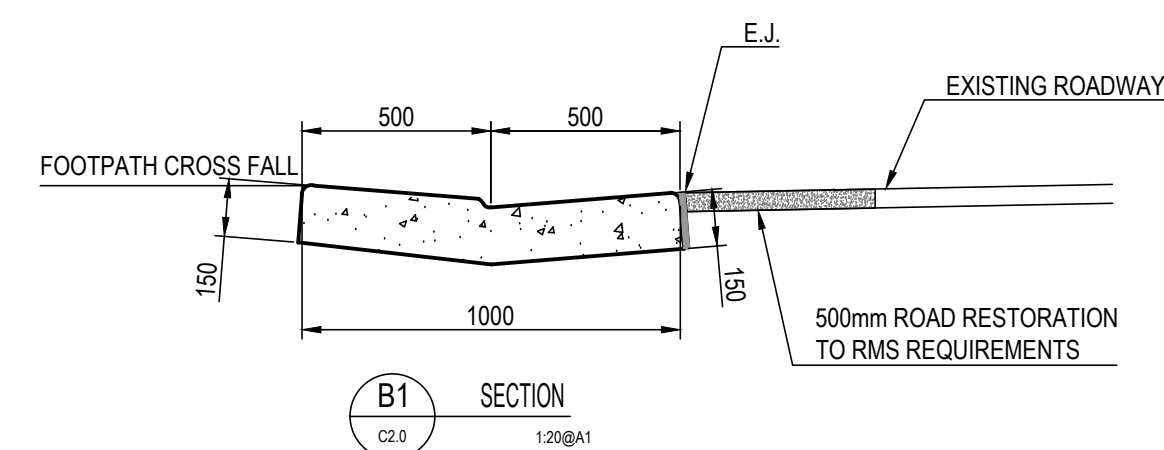
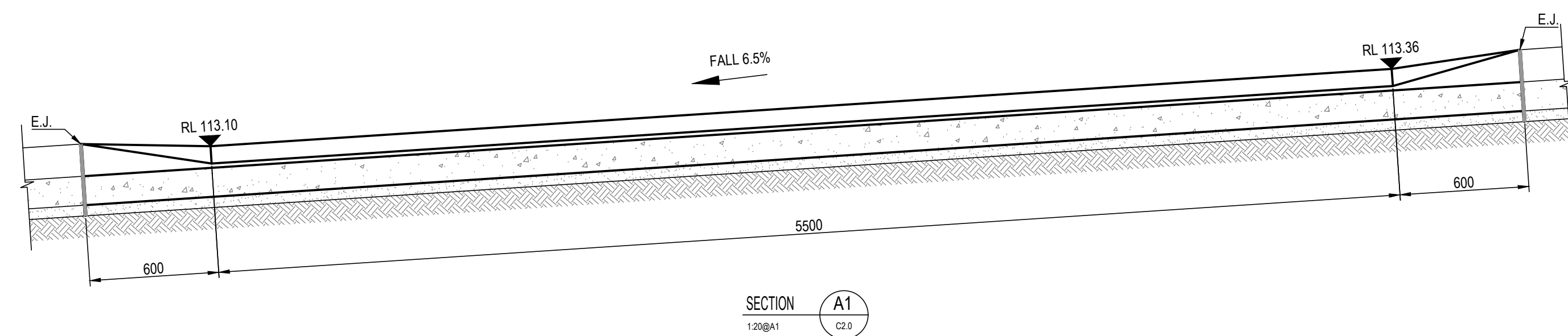
**PROJECT NUMBER:**  
**19-240**

**DRAWING NUMBER:**  
**C2.0**

**ISSUE:**  
**E**

IF IN DOUBT ASK  
NO INSPECTION = NO CERTIFICATE







**NOTES:**

1. REFER GENERAL NOTES FOR SPECIFICATIONS
2. REFER TO ARCHITECTS DRAWINGS FOR ALL SET-OUT DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS



Registered Professional Engineer 1149560  
Mr Marcio Rodrigues Portes   
MIEast CPEng (Civil/Structural) NPER  
Signature  Date \_\_\_\_\_  
Registered on the NPER in the Category of  
Civil/Structural  
National Professional Engineers Register

NO INSPECTION = NO CERTIFICATE

IF IN DOUBT ASK


B	ISSUED AS PER COUNCIL	GL	05-08-2021
A	ISSUED AS PER COUNCIL	GL	28-05-2021
<b>Issue</b>	<b>Description</b>	<b>By</b>	<b>Date</b>

REVISION

ARCHITECTURAL DESIGN

studio Elias Metry

Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61410 440 211  
elias@studioem.com.au

## PORTES

Civil &amp; Structural Engineers

Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: [info@portes.com.au](mailto:info@portes.com.au) [www.portes.com.au](http://www.portes.com.au)

PROJECT TITLE:

PROPOSED DRIVEWAY CROSSING  
AT 130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS NSW  
for COSIMO & KELLY GALLO

DRAWING TITLE:

PROPOSED  
DRIVEWAY/CROSSING 1  
SECTIONS

DRAWN: GL	DESIGN: MP	DRAWING SIZE: A1
--------------	---------------	---------------------

DATE:	SCALE: UNO
17-07-2019	1:100 @ A1 1:200 @ A3

PROJECT NUMBER:

19-240

DRAWING NUMBER:

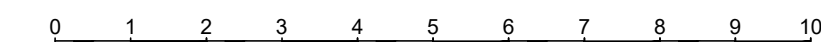
C2.1

ISSUE:

B

IF IN DOUBT ASK

NO INSPECTION = NO CERTIFICATE

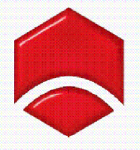




NOTES:  
1. REFER GENERAL NOTES FOR SPECIFICATIONS  
2. REFER TO ARCHITECT'S DRAWINGS FOR ALL SET-OUT  
DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS

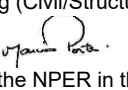
ALL DRAWINGS, REPORTS, SPECIFICATIONS, BILLS OF QUANTITIES, CALCULATIONS AND ANY OTHER RELEVANT DOCUMENTS  
WITH THIS PROJECT SHALL REMAIN VESTED IN P&S Pty. Limited. PROVIDED BY P&S Pty. Limited IN CONNECTION COPYRIGHT IN

P  
O  
R  
T  
E  
S



ENGINEERS  
AUSTRALIA

Registered Professional Engineer 1149560  
Mr Marcio Rodrigues Portes  
MIE Aust CP Eng (Civil/Structural) NPER

Signature:  Date: \_\_\_\_\_  
Registered on the NPER in the Category of  
Civil/Structural  
National Professional Engineers Register

NO INSPECTION = NO CERTIFICATE

IF IN DOUBT ASK


B	ISSUED AS PER COUNCIL	GL	05-08-2020
A	ISSUED AS PER COUNCIL	GL	28-05-2020
Issue	Description	By	Date

REVISION

ARCHITECTURAL DESIGN

studio Elias Metry  
Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61410 440 211  
elias@studioem.com.au

PORTES

Civil & Structural Engineers  
Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: info@portes.com.au www.portes.com.au

PROJECT TITLE:

PROPOSED DRIVEWAY CROSSING  
AT 130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS NSW  
for COSIMO & KELLY GALLO

DRAWING TITLE:

PROPOSED  
DRIVEWAY/CROSSING (No 130)  
PLAN & SECTIONS

DRAWN:	DESIGN:	DRAWING SIZE
GL	MP	A1

DATE:	SCALE: UNO
17-07-2019	1:100 @ A1 1:200 @ A3

PROJECT NUMBER:

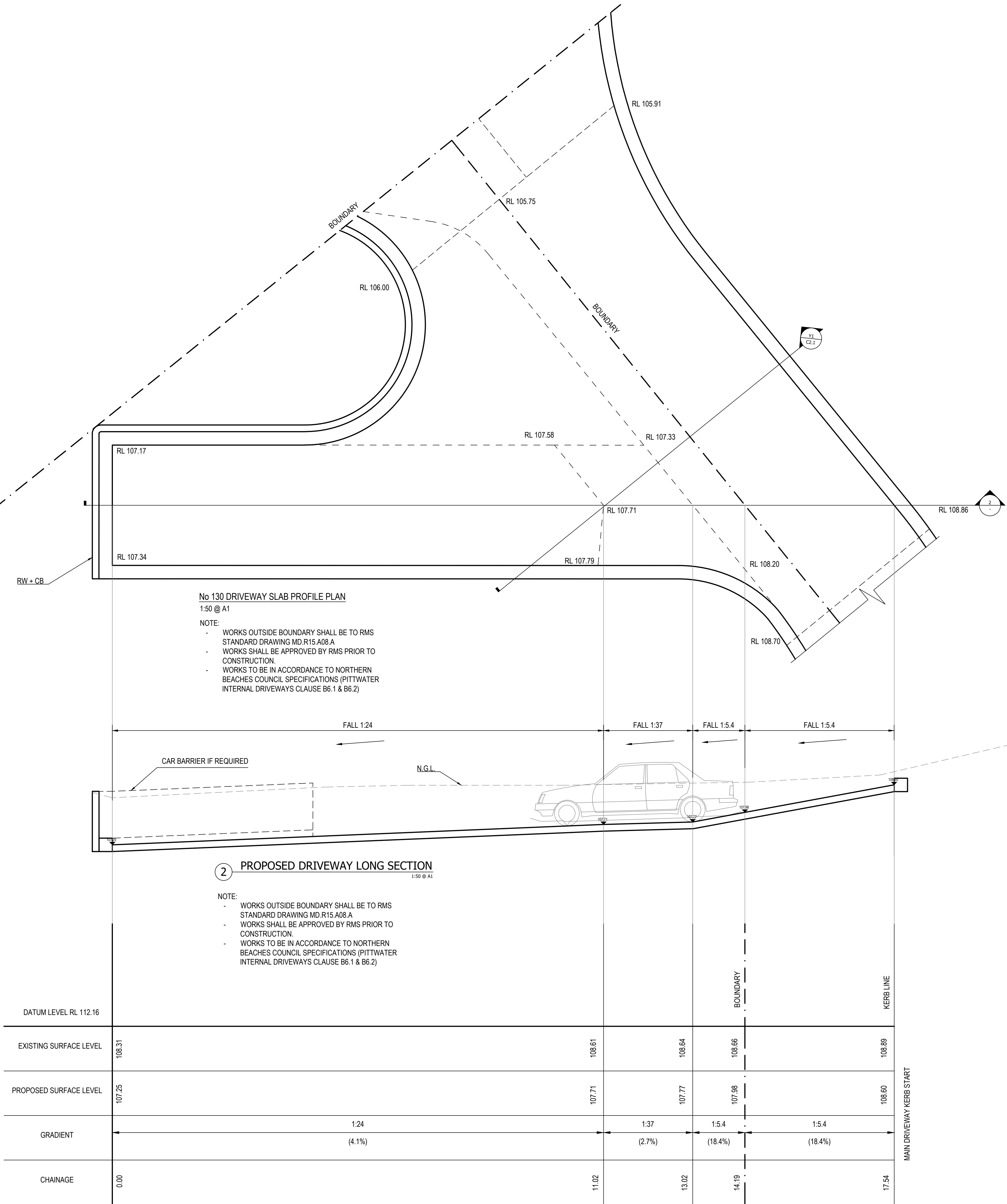
19-240

DRAWING NUMBER:

C3.0

ISSUE:

B



IF IN DOUBT ASK

NO INSPECTION = NO CERTIFICATE

0 1 2 3 4 5 6 7 8 9 10

# Portes Project & Services Pty Ltd

CIVIL & STRUCTURAL ENGINEERING CONSULTING

## STORMWATER DESIGN

SERVICE	MATERIAL			
	ABBREVIATION	DESCRIPTION	STANDARD	NOTES
STORMWATER DRAINAGE	UPVC	UNPLASTICIZED POLYVINYL CHLORIDE	- AS 1254 - AS 1260 - AS 2032	- BELOW GROUND - ABOVE GROUND - INSTALLATION
		REINFORCED CONCRETE	- AS 4058 - AS 3725	CLASS 4 UNO LAYING
		HIGH DENSITY POLYETHYLENE	INSTALLED IN ACCORDANCE WITH MANUFACTURERS (VINIDEX / GEBERT) REQUIREMENTS	
	FRC	FIBRE REINFORCED CEMENT	- AS 4139 - AS 3725	- CLASS 4 UNO - LAYING & INST.

TABLE: DRAINAGE INSPECTION CHAMBER SIZES

MINIMUM INTERNAL MEASUREMENTS:				
DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 600	450	600	600	NO
601 TO 900	600	900	900	NO
GREATER THAN 900	750	1200	1050	YES

### STORMWATER

- ALL PIPEWORK TO BE 100mm @ 1% FALL UNO

TABLE: STORMWATER PIT SIZES

MINIMUM INTERNAL MEASUREMENTS:				
DEPTH TO BASE OF CHAMBER	RECTANGULAR		CIRCULAR	LADDER / STEP IRON
	WIDTH	LENGTH		
SMALLER THAN 600	450	450	600	NO
601 TO 900	600	600	900	NO
901 TO 1200	600	900	1050	NO
GREATER THAN 1200	900	900	1050	YES

### SYMBOLS

TWL	TOP WATER LEVEL
FFL	FINISHED FLOOR LEVEL
FGL	FINISHED GARAGE LEVEL
TK	TOP OF KERB
RL11.0	FINISHED LEVEL
	EXISTING LEVEL
SL	PIT SURFACE LEVEL
IL	INVERT LEVEL
	DOWNPIPE AND STORMWATER PIPE
●DP	DOWN PIPE
●SP	SPREADER
●IP	INSPECTION POINT
	MASONRY RETAINING WALL
TW 81.20	TOP OF WALL LEVEL
	FLOOR WASTE 150Ø
	GRATED INLET PIT - NON TRAFFICABLE - CHILD SAFE LID
	GRATED DRAIN - TRAFFICABLE TRANSVERSE
	RAIN WATER HEAD
	OVER FLOW POINT (Ø40mm MIN)
	PIPE FLOW
	RUNOFF FLOW DIRECTION
	EMERGENCY OVERLAND FLOW PATH

### STORAGE VERIFICATION

CHECKLIST OF CERTIFICATION ITEMS FOR VERIFICATION BY SURVEYOR

AVERAGE STORAGE TANK DIMENSIONS:

AVERAGE LENGTH = \_\_\_\_\_ m  
AVERAGE WIDTH = \_\_\_\_\_ m  
AVERAGE DEPTH = \_\_\_\_\_ m

AVAILABLE VOLUME OF STORED WATER (BETWEEN PUMP SUCTION & OVERFLOW LEVEL) = \_\_\_\_\_ m<sup>3</sup>

COVER LEVEL OF TANK ACCESS = RL \_\_\_\_\_ m AHD

NOTE:  
THE SURVEYOR SHALL ADVISE ON ANY VARIATION TO THE APPROVED TANK LEVELS AND THIS INFORMATION SHALL BE CLEARLY MARKED ON THE AS-BUILT DRAWINGS.

NAME OF SURVEYOR:  
DATE:

### DETENTION STORAGE VERIFICATION

CHECKLIST OF CERTIFICATION ITEMS FOR VERIFICATION BY SURVEYOR

AVERAGE STORAGE TANK OR BASIN DIMENSIONS:

AVERAGE LENGTH = \_\_\_\_\_ m  
AVERAGE WIDTH = \_\_\_\_\_ m  
AVERAGE DEPTH = \_\_\_\_\_ m

AVAILABLE VOLUME OF STORED WATER (BETWEEN ORIFICE & OVERFLOW LEVEL) = \_\_\_\_\_ m<sup>3</sup>

SPOT LEVELS:

TOP OF BASIN WALL OR TANK OVERFLOW LEVEL = RL \_\_\_\_\_ m AHD  
GRATE LEVEL OF CONTROL PIT OR TANK ACCESS = RL \_\_\_\_\_ m AHD  
CENTRE OF ORIFICE = \_\_\_\_\_ mm DIA  
DIAMETER OF ORIFICE = \_\_\_\_\_ mm DIA  
DIAMETER OF OUTLET PIPE = \_\_\_\_\_ mm DIA  
SIZE OF OPENINGS IN DEBRIS SCREEN = \_\_\_\_\_ mm X \_\_\_\_\_ mm

NOTE:  
THE SURVEYOR SHALL ADVISE ON ANY VARIATION TO THE APPROVED TANK LEVELS AND THIS INFORMATION SHALL BE CLEARLY MARKED ON THE AS-BUILT DRAWINGS.

NAME OF SURVEYOR:  
DATE:

UNDERGROUND SERVICES IN THE FOOTPATH AREA MAY AFFECT THE DESIGN OF THE STORMWATER SYSTEM. DIAL 1100 BEFORE YOU DIG FOR THEIR LOCATION DIAL 1100 DIAL BEFORE YOU DIG BEFORE CONSTRUCTION COMMENCES

### GENERAL NOTES

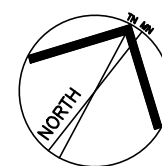
- CONFIRM LOCATION, SIZE, CONDITION AND LEVELS OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK
- ALL WORK TO BE IN ACCORDANCE WITH SPECIFICATION, AUTHORITIES REQUIREMENTS, BCA AND RELEVANT AUSTRALIAN STANDARDS (IN PARTICULARLY AS 3500)
- DISCONNECT, CAP OFF AND REMOVE ALL EXISTING, REDUNDANT SERVICES TO AUTHORITIES APPROVAL
- ALL DRAWINGS TO BE READ IN CONJUNCTION WITH ARCHITECTURAL AND OTHER CONSULTANTS DOCUMENTS. ALL DISCREPANCIES SHALL BE REFERRED TO THE PROJECT MANAGER BEFORE PROCEEDING WITH THE WORK
- LOCATION OF ALL PIPEWORK IS DIAGRAMMATIC ONLY FINAL LOCATION TO BE CO-ORDINATED ON SITE AND APPROVED BY THE PROJECT MANAGER PRIOR TO COMMENCEMENT OF ANY WORK

### GENERAL DRAINAGE NOTES:

- ALL GRATED DRAINAGE PITS ARE TO BE BENCHED OR STREAMLINED, UNLESS NOTED OTHERWISE.
- ALL DRAINAGE PIPES ARE TO BE UPVC GRADE, UNLESS NOTED OTHERWISE.
- THE MINIMUM COVER OVER ALL DRAINAGE PIPES IS TO BE 150mm UNO.
- ALL DRAINAGE PIPES ARE TO HAVE A MINIMUM PIPE GRADIENT OF 1.0% UNO.
- ALL DRAINAGE PITS ARE TO BE INSTALLED WITH A CHILD PROOF SAFETY LATCH ON THE ACCESS GRATE.
- ALL DOWNPIPES ARE TO BE 100 x 75 SQUARE BOX OR 100Ø CIRCULAR SECTIONS UNLESS NOTED OTHERWISE MAXIMUM PROJECTED ROOF AREA PER DOWN PIPE = 65 m<sup>2</sup>
- ALL INLET & OUTLET PIPES SHALL BE CUT FLUSH WITH PIT WALL
- PROVIDE ALL GRATED PIT LIDS TO BE HINGED AND FITTED WITH AN APPROPRIATE CHILDPROOF LOCK-DOWN SYSTEM
- ALL PITS TO BE CONSTRUCTED ARE SHOWN IN CONCRETE, HOWEVER PRECAST OR BRICK PITS (PLASTIC FOR NO TRAFFICABLE AREAS) OF SIMILAR SIZE AND CONSTRUCTION AND TO THE SAME LEVELS ARE ACCEPTABLE
- IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
- ALL PITS IN DRIVEWAYS TO BE 600x600 INTERNAL AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 INTERNAL UNO
- ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3:1998 AND COUNCIL SPECIFICATIONS.
- COUNCIL APPROVAL REQUIRED FOR ANY STORMWATER WORKS IN THE ROAD RESERVE INCLUDING PIPE CONNECTION TO KERB & GUTTER
- PORTES PROJECT AND SERVICES P/L ISSUED A STORMWATER CONCEPTUAL DESIGN PLAN FOR CLIENT (CLIENT REPRESENTATIVE) AND THE DESIGN MUST BE APPROVED BY THE PRINCIPAL CERTIFYING AUTHORITY PRIOR TO BE IMPLEMENTED ON SITE.
- STORMWATER DRAWINGS TO BE USED ON SITE MUST BE APPROVED AND STAMPED BY PRINCIPAL CERTIFYING AUTHORITY. APPROVED STAMPED DRAWINGS BY PRINCIPAL CERTIFYING AUTHORITY SHALL BE AVAILABLE ON SITE IF REQUESTED.

### NOTES:

- REFER GENERAL NOTES FOR SPECIFICATIONS
- REFER TO ARCHITECTS DRAWINGS FOR ALL SET-OUT DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS



Registered Professional Engineer 1149560  
Mr Marcio Rodrigues Portes  
MEaust CPEng (Civil/Structural) NPER  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
Registered on the NPER in the Category of  
Civil/Structural  
National Professional Engineers Register

NO INSPECTION = NO CERTIFICATE

### IF IN DOUBT ASK


B	ISSUED AS PER COUNCIL	GL	05-08-2020
A	ISSUED AS PER COUNCIL	GL	03-06-2020
Issue	Description	By	Date

### REVISION

### ARCHITECTURAL DESIGN

studio Elias Metry

Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61 410 440 211  
elias@studioem.com.au

**PORTES**

Civil & Structural Engineers

Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: info@portes.com.au www.portes.com.au

PROJECT TITLE:

**PROPOSED SUBDIVISION at  
130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS for  
KELLY GALLO**

DRAWING TITLE:

SPECIFICATIONS & DETAILS

DRAWN:	DESIGN:	DRAWING SIZE
GL	MP	A1

DATE:	SCALE: UNO
27May2020	1:100 @ A1 1:200 @ A3

PROJECT NUMBER:

**19-240**

DRAWING NUMBER:

**D1**

ISSUE:

**B**

IF IN DOUBT ASK

NO INSPECTION = NO CERTIFICATE

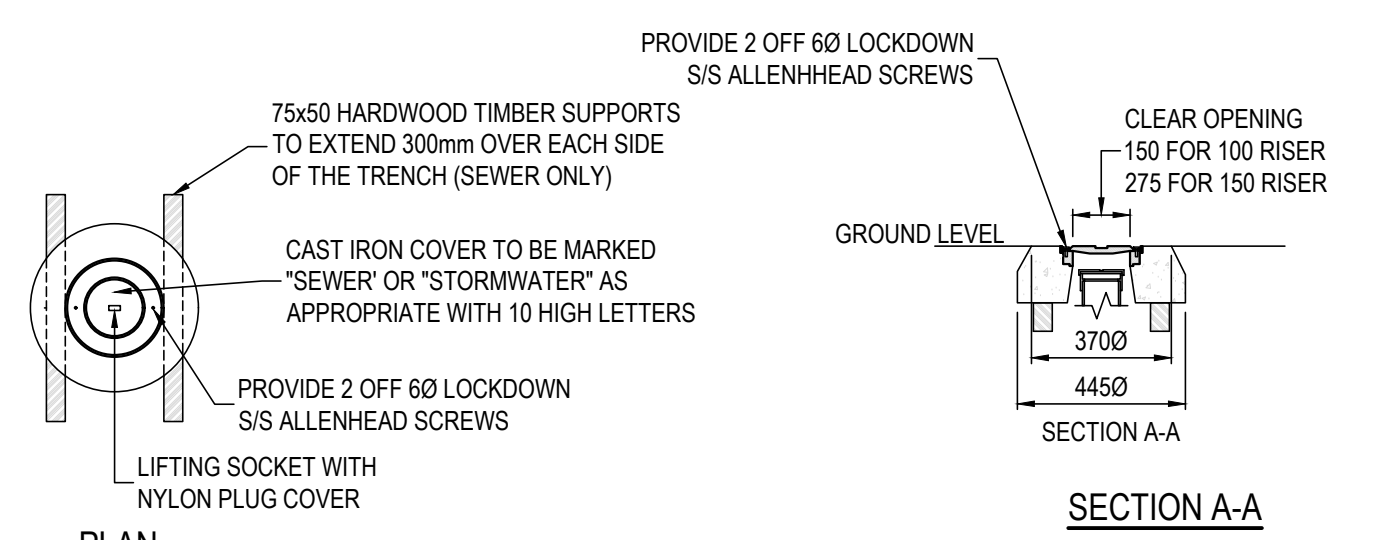
0 1 2 3 4 5 6 7 8 9 10

PORTES

ALL DRAWINGS, REPORTS, SPECIFICATIONS, BILLS OF QUANTITIES, CALCULATIONS AND ANY OTHER RELEVANT DOCUMENTS WITH THIS PROJECT SHALL REMAIN VESTED IN PP&S Pty. Limited. PROVIDED BY PP&S Pty. Limited IN CONNECTION COPYRIGHT IN

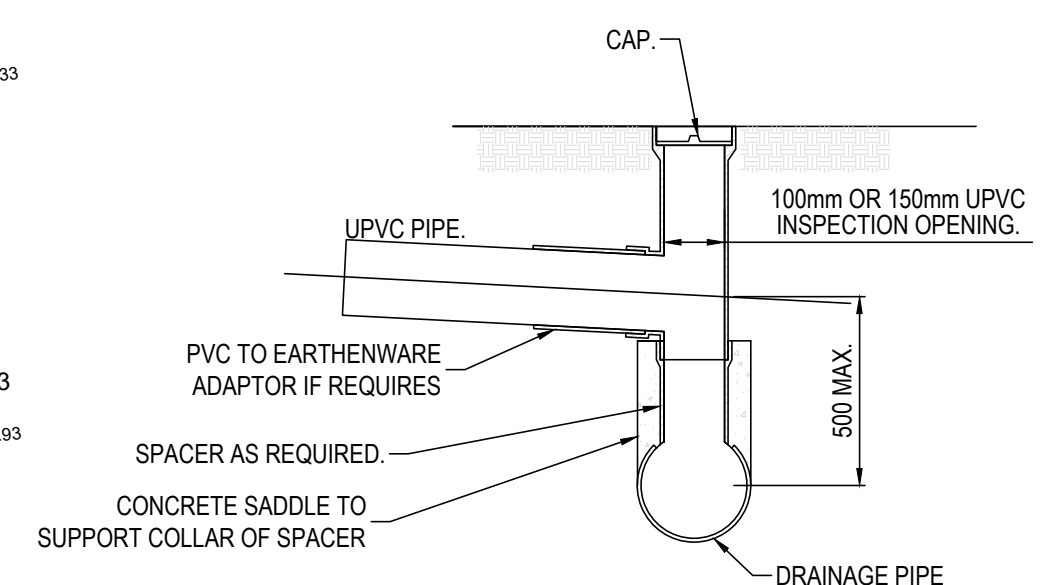


NOTES:  
1. REFER GENERAL NOTES FOR SPECIFICATIONS  
2. REFER TO ARCHITECT'S DRAWINGS FOR ALL SET-OUT  
DIMENSIONS, LEVELS, SETDOWNS, HOBS AND FALLS



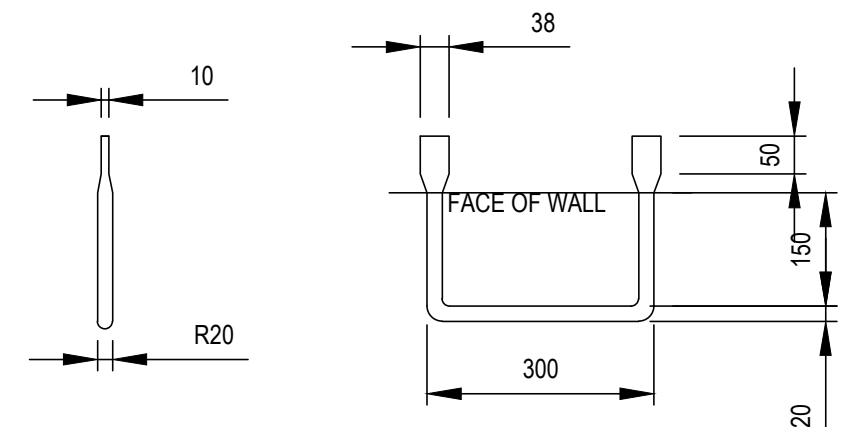
### INSPECTION POINT FOR NON-PAVED / CONCRETE AREA

SCALE N.T.S



### TYPICAL INSPECTION OPENING DETAIL

SCALE N.T.S



### STEP IRONS FOR DRAINAGE PITS

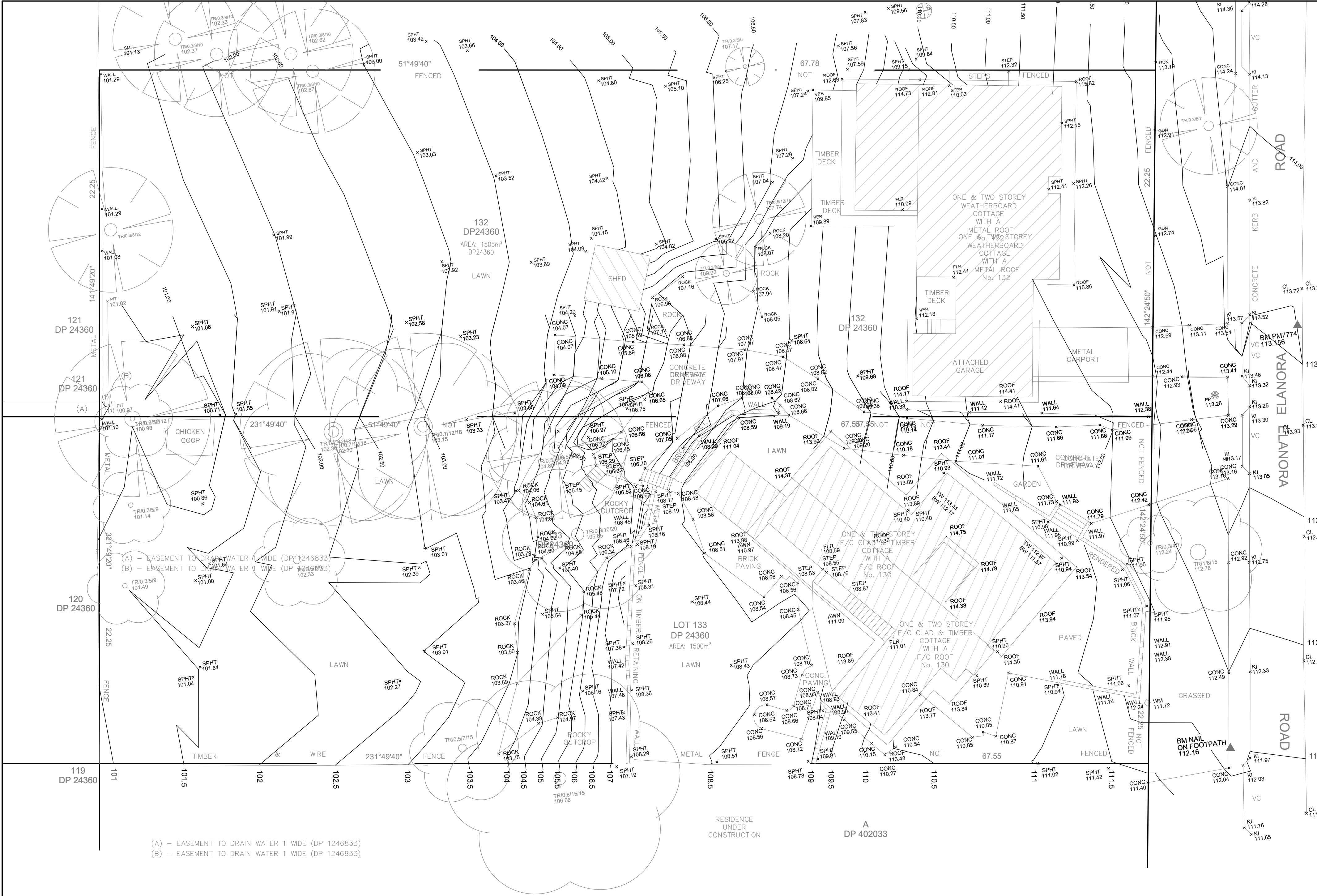
SCALE 1:10

THE CONTRACTOR SHALL PROVIDE PRECAST CONCRETE  
SIDE ENTRY PITS.  
ALTERNATIVELY RC CONSTRUCTION MAY ONLY BE  
PERMITTED WITH WRITTEN CONSENT  
FROM THIS OFFICE

- FIRST RUNG 150mm DOWN FROM TOP, THEN SPACED AT 300 CENTRES
- STEP IRON MATERIAL: 20mm DIAMETER MILD STEEL, HEAVY GALVANISED

IF IN DOUBT ASK  
NO INSPECTION = NO CERTIFICATE

0 1 2 3 4 5 6 7 8 9 10



(A) - EASEMENT TO DRAIN WATER 1 WIDE (DP 1246833)  
(B) - EASEMENT TO DRAIN WATER 1 WIDE (DP 1246833)

### PRE-DEVELOPMENT SITE LAYOUT PLAN

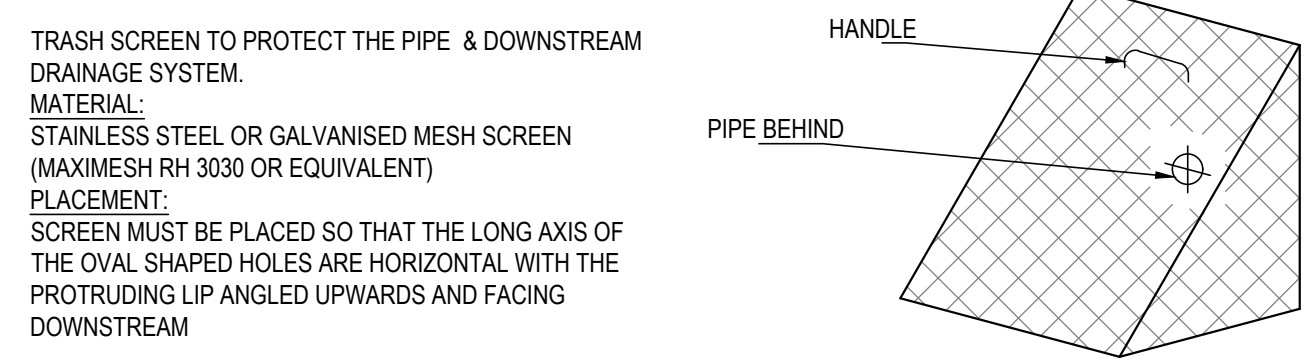
STORMWATER CONCEPTUAL DESIGN PLAN

scale 1:150@A1

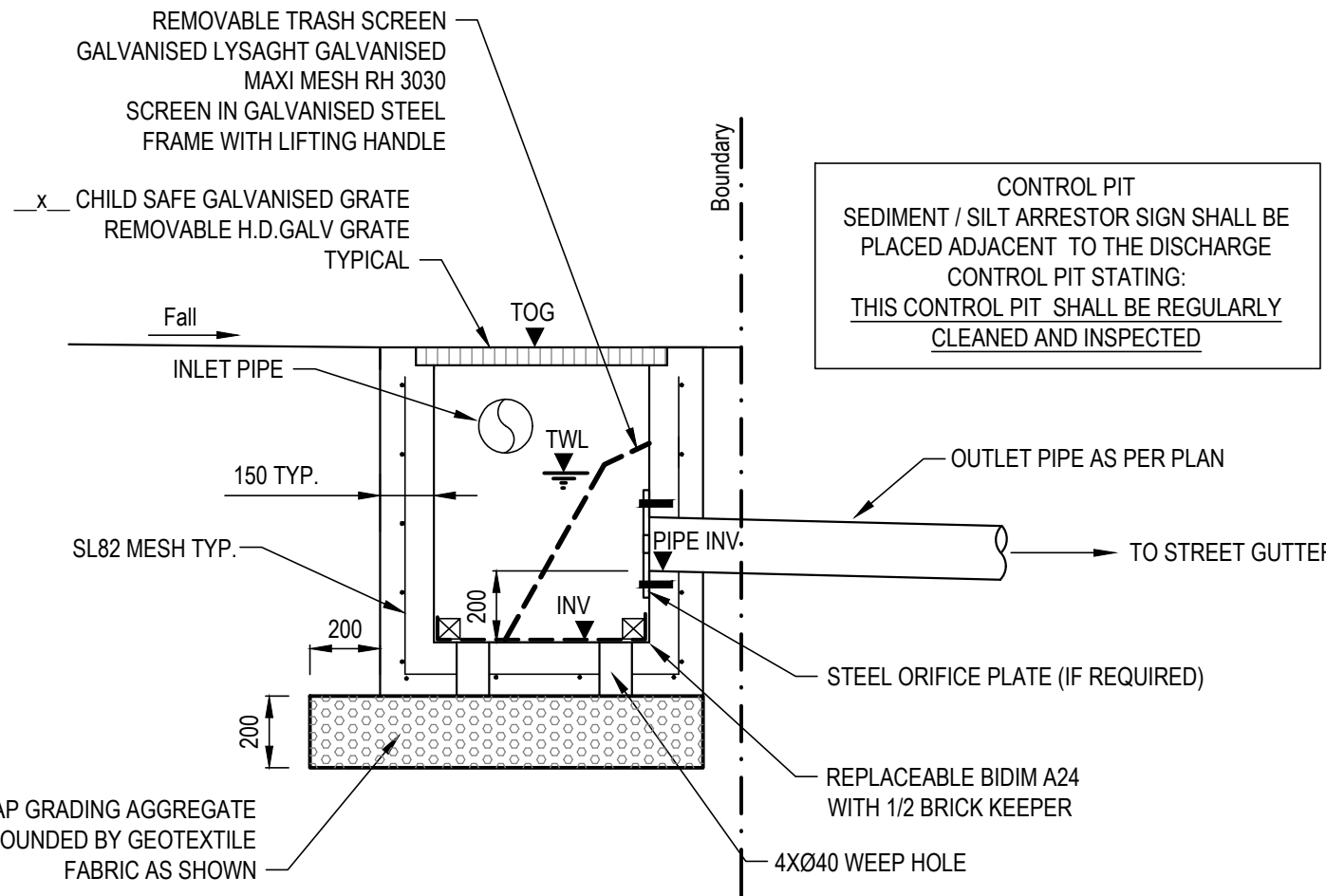
### CONTROL ARRESTOR/PIT

SEDIMENT/SILT ARRESTOR PITS ARE TO BE PROVIDED WITHIN THE SITE AT OR NEAR THE  
STREET BOUNDARY PRIOR TO STORMWATER BEING DISCHARGED FROM THE SITE OR INTO  
ANY INFILTRATION AREAS.  
SEDIMENT/SILT ARRESTOR PITS ARE TO BE CONSTRUCTED GENERALLY IN ACCORDANCE  
WITH THE FOLLOWING REQUIREMENTS, TO THE SATISFACTION OF THE PRINCIPLE  
CERTIFYING AUTHORITY:  
- BASE OF THE PIT LOCATED A MINIMUM 300mm UNDER THE INVERT LEVEL OF THE OUTLET  
PIPE.  
- THE GRATE IS TO BE GALVANISED HEAVY-DUTY GRATE THAT HAS A PROVISION FOR A CHILD  
PROOF FASTENING SYSTEM.  
- A MINIMUM OF 4x90mm DIAMETER WEEP HOLES LOCATED IN THE WALLS OF THE PIT AT THE  
FLOOR LEVEL WITH A SUITABLE GEOTEXTILE MATERIAL WITH A HIGH FILTRATION RATING  
LOCATED OVER THE WEEP HOLES.  
- A GALVANISED HEAVY-DUTY SCREEN LOCATED OVER THE OUTLET PIPE (MASCOT GMS  
MULTI-PURPOSE FILTER SCREEN OR SIMILAR)  
- A CHILD PROOF AND CORROSION RESISTANT FASTENING SYSTEM FOR THE ACCESS GRATE  
(SPRING LOADED J-BOLTS OR SIMILAR)  
- THE INLET PIPELINE LOCATED ON THE SIDE OF THE PIT SO THAT THE STORMWATER WILL  
DISCHARGE ACROSS THE FACE OF THE SCREEN.

NOTE: SKETCH DETAILS OF A STANDARD SEDIMENT/SILT ARRESTOR PIT CAN BE OBTAINED FROM COUNCIL'S  
DRAINAGE ENGINEER



DEBRIS SCREEN - SCREEN REMOVABLE TRASH  
NTS



### RECTANGULAR SILT ARRESTOR DETAIL

- ALL PITS CAN BE REPLACED WITH PRE FABRICATED PRE  
CAST PITS OR RENDERED BRICK PITS WITH SIMILAR  
GEOMETRIC SIZES AS SHOWN ON PLAN.  
TYPICAL

Registered Professional Engineer 1149560  
Mr Marcio Rodrigues Portes  
ME Aust CP Eng (Civil/Structural) NPER  
Signature \_\_\_\_\_ Date \_\_\_\_\_  
Registered on the NPER in the Category of  
Civil/Structural  
National Professional Engineers Register

NO INSPECTION = NO CERTIFICATE

### IF IN DOUBT ASK

Issue	Description	By	Date
B	ISSUED AS PER COUNCIL	GL	05-08-2020
A	ISSUED AS PER COUNCIL	GL	03-06-2020

### REVISION

ARCHITECTURAL DESIGN

studio Elias Metry

Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61 410 440 211  
elias@studioem.com.au

PORTES

Civil & Structural Engineers  
Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: info@portes.com.au www.portes.com.au

PROJECT TITLE:

PROPOSED SUBDIVISION at  
130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS for  
KELLY GALLO

DRAWING TITLE:

SITE LAYOUT PLAN

DRAWN:	DESIGN:	DRAWING SIZE
GL	MP	A1

DATE:	SCALE:
27May2020	UNO 1:100 @ A1 1:200 @ A3

PROJECT NUMBER:

19-240

DRAWING NUMBER:

D2

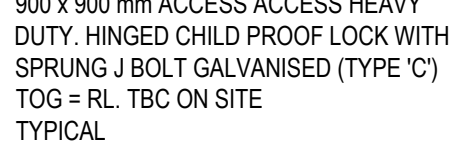
ISSUE:

B

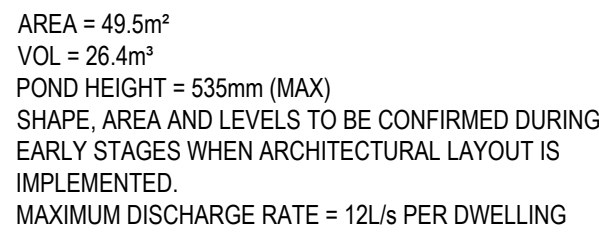








1:50@A1



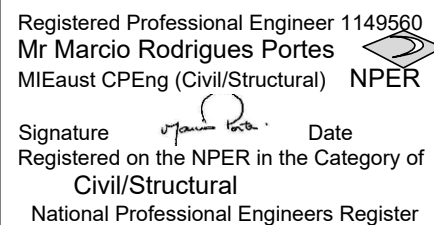
1:50@A1

## ORIFICE PLATE



A horizontal number line with tick marks at every integer from 0 to 10. The numbers are labeled above the line.

ALL DRAWINGS, REPORTS, SPECIFICATIONS, BILLS OF QUANTITIES, CALCULATIONS AND ANY OTHER RELEVANT DOCUMENTS WITH THIS PROJECT SHALL REMAIN VESTED IN PR&S Pty. Limited. PROVIDED BY PR&S Pty. Limited IN CONNECTION COPYRIGHT IN



NO INSPECTION = NO CERTIFICATE

[illegible]

Suite 2, Level 1, 46 Birmingham Street,  
Alexandria NSW 2015 | +61410 440 21  
elias@studioem.com.au

Portes Project & Services Pty Ltd  
Suite G04/ 440 Burwood Road Belmore NSW 2192  
P.O.BOX. 4173 Bexley North NSW 2207  
Tel: 02 9703 3650 Mobile: 0412 258 348  
Email: [info@portes.com.au](mailto:info@portes.com.au) [www.portes.com.au](http://www.portes.com.au)

**PROPOSED SUBDIVISION at  
130 & 132 ELANORA ROAD,  
ELANORA HEIGHTS for  
KELLY GALLO**

# PROPOSED STORMWATER MANAGEMENT PLAN

ISSUE: A