

**PROJECT NAME: Proposed Housing Development at Cullagh More, Carney, Co. Sligo**



**JENNINGS O'DONOVAN**  
& PARTNERS LIMITED  
**CONSULTING ENGINEERS**



**CLIENT: Sligo County Council**

**SUBJECT: Civil & Structural Services**

PROJECT NO:	6972
SHEET: 6972-REG.0001	
CLIENT PROJECT NUMBER:	23S03

**REGISTER & RECORD OF DRAWINGS/ DOCUMENTS ISSUED**

DISTRIBUTION															
CATEGORY	ORGANISATION	CONTACT NAME	GI												
Client	Sligo County Council	C. McCann													
Architect	Hamilton Young Architects	Fergus Doyle	EM												
STATUS: D=DRAFT, IN=INFORMATION, CT=COMMENTS, AR=AS REQUESTED, FA= FOR APPROVAL, T=TENDER, C=CONSTRUCTION,			AR												
STAGE: F=FEASIBILITY, DS=DESIGN STAGE, PL=PLANNING, FSC= FIRE CERT, DAC= DISABILITY CERT, T=TENDER, C=CONSTRUCTION, AB=AS BUILT, OR=OTHER			PL												
			Current Revision	16											
				1											
				24											
				Issued by	PC										
DWG./DOC Ref:	DRAWING TITLE	SIZE	SCALE												
<b>DRAWINGS</b>															
<b>CIVILS</b>															
6972-JOD-XX-ZZ-DR-C-200-001	PROPOSED STORM AND FOUL WATER LAYOUT	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-002	PROPOSED STORM SEWER AND CULVERT SECTIONS	A3	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-003	PROPOSED FOUL WATER SEWER SECTIONS	A3	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-004	PROPOSED ATTENUATION TANK DETAIL - SHEET 1 OF 3	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-005	PROPOSED ATTENUATION TANK DETAIL - SHEET 2 OF 3	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-006	PROPOSED ATTENUATION TANK DETAIL - SHEET 3 OF 3	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-007	PROPOSED WATERMAIN LAYOUT	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-008	PROPOSED ROAD LAYOUT	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-009	PROPOSED ROAD CONSTRUCTION DETAILS AND SECTIONS	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-010	PROPOSED ROAD LAYOUT - SWEEP PATH ANALYSIS	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-011	PROPOSED RETAINING WALLS DETAILS	A1	A.S	P.01	P.01										
6972-JOD-XX-ZZ-DR-C-200-012	PROPOSED BOUNDARY TREATMENT DETAILS	A1	A.S	P.01	P.01										

**Wastewater Infrastructure Standard Details**

Connections and Developer Services

Design and Construction Requirements for Self-Lay Developments  
July 2020 (Revision 4)  
Revision No. CDS 00001



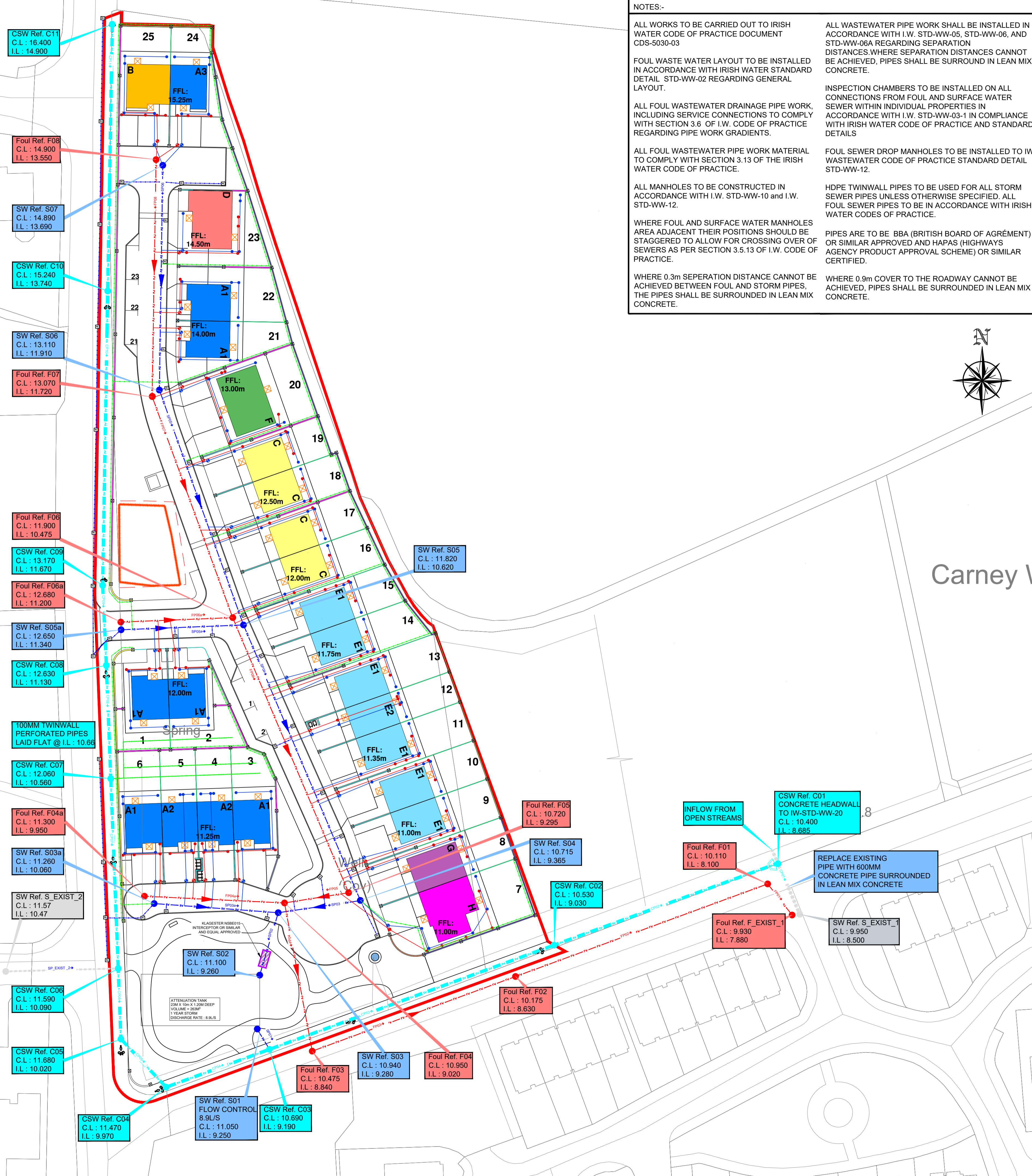
**NOTE:** CONTRACTOR IS TO REFER TO REVISION 4 OF THE IRISH WATER STANDARD DETAILS DATED JULY 2020 FOR WASTEWATER INFRASTRUCTURE DETAILS. THIS BOOKLET HAS BEEN INCLUDED IN PART OF THE CIVIL/STRUCTURAL PACKAGE.

**STORM WATER SYSTEM**

PIPE ID	UPSTREAM NODE	DOWNSTREAM NODE	LENGTH (M)	SLOPE (1:X)	DIA. (MM)
CP11	C11	C10	51.777	44.6	600
CP10	C10	C09	57.131	27.6	600
CP09	C09	C08	15.541	28.8	600
CP08	C08	C07	21.996	38.6	600
CP07	C07	C06	36.88	78.5	600
CP06	C06	C05	13.697	195.7	600
CP05	C05	C04	12.81	256.2	600
CP04	C04	C03	21.359	27.4	600
CP03	C03	C02	58.798	367.5	600
CP02	C02	C01	46.236	134	600
CP01	C01	S_EXIST_1	10.691	71.3	600
SP07	S07	S06	43.617	24.5	225
SP06	S06	S05	48.429	37.5	225
SP05a	S05a	S05	23.753	33	225
SP05	S05	S04	58.061	46.3	300
SP04	S04	S03	16.105	189.5	450
SP03a	S03a	S03	24.138	30.9	300
SP03	S03	S02	12.636	631.8	450
SP02	S02	S01	11.234	1123.4	300
SP01	S01	C03	3.686	61.4	300
SP_EXIST_2	S_EXIST_2	C06	21.82	57.4	300

**FOUL WATER SYSTEM**

PIPE ID	UPSTREAM NODE	DOWNSTREAM NODE	LENGTH (M)	SLOPE (1:X)	DIA. (MM)
FP08	F08	F07	45.989	25.1	150
FP07	F07	F06	45.651	34.2	150
FP06a	F06a	F06	21.738	26.7	150
FP06	F06	F05	57.922	53.1	225
FP05	F05	F04	12.596	45.8	225
FP04a	F04a	F04	27.208	29.3	150
FP04	F04	F03	29.261	162.6	225
FP03	F03	F02	42.019	200.1	225
FP02	F02	F01	52.114	98.3	225
FP01	F01	F_EXIST_1	7.677	34.9	300



**NOTES:-**

ALL WORKS TO BE CARRIED OUT TO IRISH WATER CODE OF PRACTICE DOCUMENT CDS-5030-03

FOUL WASTE WATER LAYOUT TO BE INSTALLED IN ACCORDANCE WITH IRISH WATER STANDARD DETAIL STD-WW-02 REGARDING GENERAL LAYOUT.

ALL FOUL WASTE WATER DRAINAGE PIPE WORK INCLUDING SERVICE CONNECTIONS TO COMPLY WITH SECTION 3.6 OF I.W. CODE OF PRACTICE REGARDING PIPE WORK GRADIENTS.

ALL FOUL WASTE WATER PIPE WORK MATERIAL TO COMPLY WITH SECTION 3.13 OF THE IRISH WATER CODE OF PRACTICE.

WHERE FOUL AND SURFACE WATER MANHOLES AREA ADJACENT THEIR POSITIONS SHOULD BE STAGGERED TO ALLOW FOR CROSSING OVER OF SEWERS AS PER SECTION 3.5.13 OF I.W. CODE OF PRACTICE.

WHERE 0.3m SEPERATION DISTANCE CANNOT BE ACHIEVED BETWEEN FOUL AND STORM PIPES, THE PIPES SHALL BE SURROUNDED IN LEAN MIX CONCRETE.

ALL WASTEWATER PIPE WORK SHALL BE INSTALLED IN ACCORDANCE WITH I.W. STD-WW-05, STD-WW-06, AND STD-WW-06A REGARDING SEPARATION DISTANCES.WHERE SEPARATION DISTANCES CANNOT BE ACHIEVED, PIPES SHALL BE SURROUND IN LEAN MIX CONCRETE.

INSPECTION CHAMBERS TO BE INSTALLED ON ALL CONNECTIONS FROM FOUL AND SURFACE WATER SEWER WITHIN INDIVIDUAL PROPERTIES IN ACCORDANCE WITH I.W. STD-WW-03-1 IN COMPLIANCE WITH IRISH WATER CODE OF PRACTICE AND STANDARD DETAILS

FOUL SEWER DROP MANHOLES TO BE INSTALLED TO IW WASTEWATER CODE OF PRACTICE STANDARD DETAIL STD-WW-12.

HDPE TWINWALL PIPES TO BE USED FOR ALL STORM SEWER PIPES UNLESS OTHERWISE SPECIFIED. ALL FOUL SEWER PIPES TO BE IN ACCORDANCE WITH IRISH WATER CODES OF PRACTICE.

PIPES ARE TO BE BBA (BRITISH BOARD OF AGREMENT) OR SIMILAR APPROVED AND HAPAS (HIGHWAYS AGENCY PRODUCT APPROVAL SCHEME) OR SIMILAR CERTIFIED.

WHERE 0.9m COVER TO THE ROADWAY CANNOT BE ACHIEVED, PIPES SHALL BE SURROUNDED IN LEAN MIX CONCRETE.

**NOTES**

**GENERAL NOTES:**

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

**LEGEND**

- PROPOSED 1200MM D400 STORM MANHOLE shown thus
- PROPOSED 1200MM D400 STORM CULVERT MANHOLE WITH SUMP/SILT TRAP shown thus
- PROPOSED STORM WATER NETWORK shown thus
- PROPOSED 1200MM D400 FOUL MANHOLE shown thus
- PROPOSED FOUL NETWORK shown thus
- PROPOSED SURFACE WATER CONNECTIONS shown thus
- PROPOSED STORM/FOUL WATER AJs shown thus
- PROPOSED STORM/FOUL WATER BOUNDARY BOX TO IW-STD-WW-13 shown thus
- PROPOSED ROAD GULLIES shown thus
- EXISTING STORM WATER PIPE shown thus
- PROPOSED CULVERT TO BE SURROUNDED IN LEAN MIX CONCRETE TO IW-STD-WW-08 TYPE D SURROUND shown thus
- PROPOSED 225MM PERFORATED PIPE shown thus

Red Line Area:-  
10,844 m<sup>2</sup> 1.084 Hectares

ITM Co-Ordinates of site:- 565696, 843573  
Irish Grid Co-Ordinates: 165737, 343569

Ordnance Survey Ireland Licence No. CYAL50313915  
© Ordnance Survey of Ireland/Government of Ireland.  
OS Ireland Map No. 0848-C, 0848-D

P.02	Site layout amended	PC	EM	EM	18.01.24
P.01	Issued for SECTION 179a PLANNING	PC	EM	EM	16.01.24
Rev.	Modifications	By	Chkd	Aprvd	Date

Layout Ref.: P:\Jod\jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-001 SW FW Layout.dwg

**Client**  
Sligo County Council  
Comhairle Chontae Shligigh

**Project**  
PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO

**Stage**  
SECTION 179a PLANNING

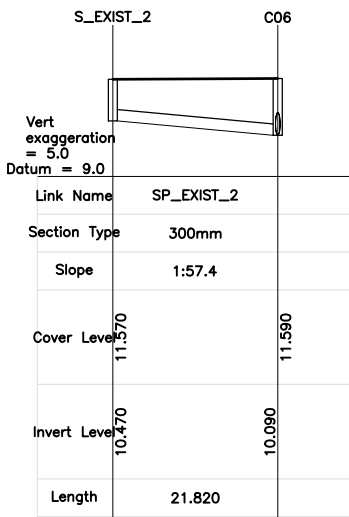
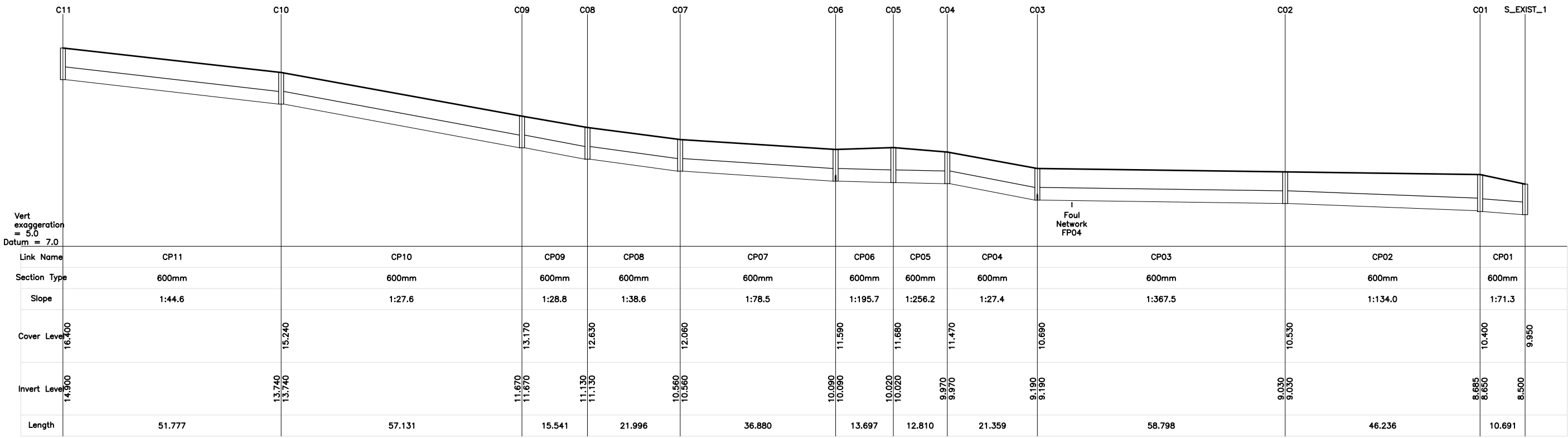
**Title**  
PROPOSED STORM AND FOUL WATER LAYOUT

**Scale**  
1:400 @ A1

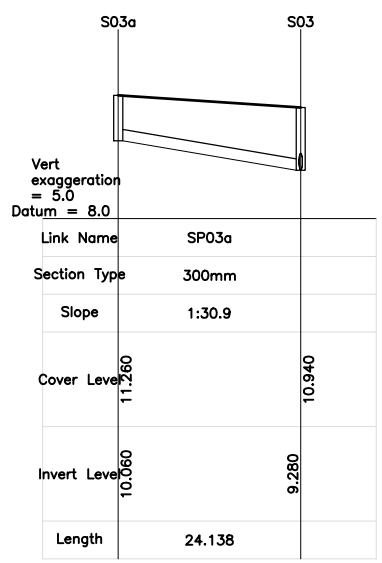
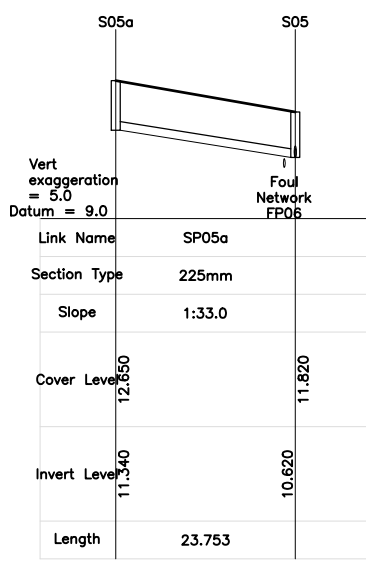
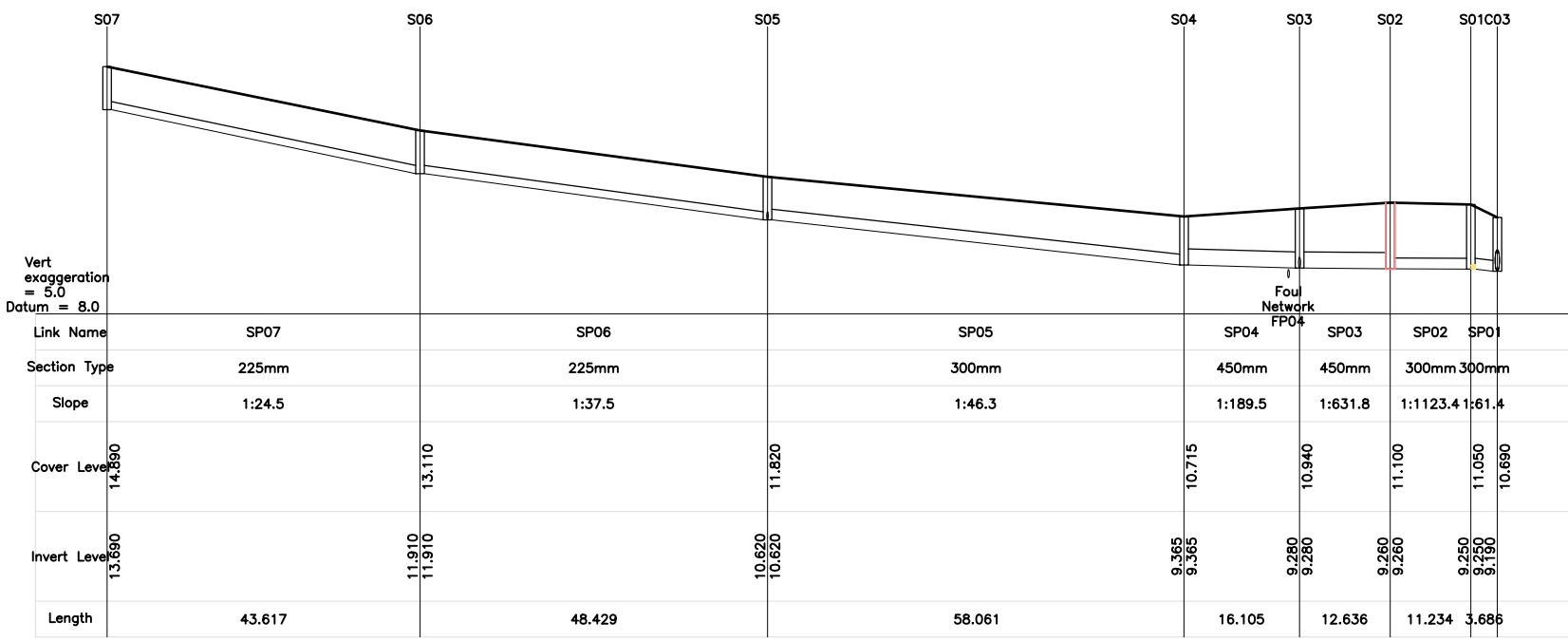
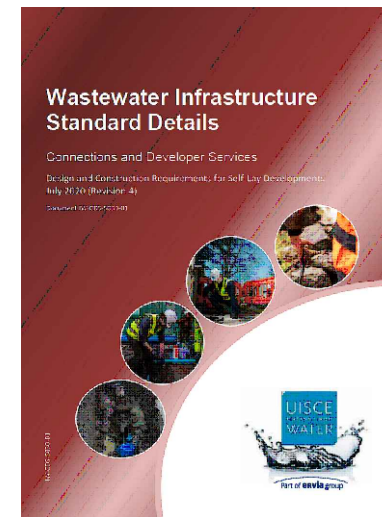
Surveyed	Drawn	Checked	Date
OSI	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
CONSULTING ENGINEERS,  
FINISKILIN,  
SLIGO,  
IRELAND.  
TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com

Drawing No. 6972-JOD-XX-ZZ-DR-C-200-001  
Revision P.02



- GENERAL NOTES:**
- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
  - ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
  - ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
  - THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
  - ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS. CONTRACTOR TO VERIFY THE ACCURACY OF THIS PROPOSAL TO THE ENGINEER AND ALLOW FOR MINOR CORRECTIONS AS DEEMED NECESSARY WITH A REASONABLE TIMEFRAME.



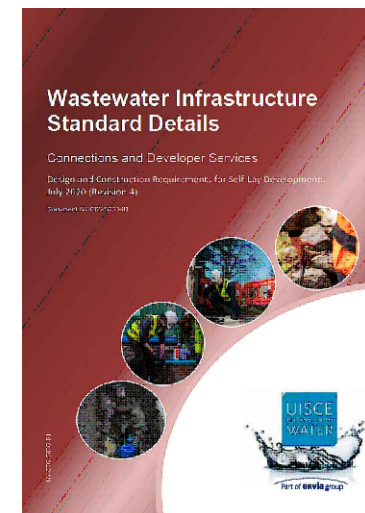
P.01 Issued for SECTION 179a PLANNING				PC	EM	16.01.24
rev. modifications				by	chkd	date
Layout Ref.:						
file P:\od-jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-002-003 SW FW Longsections.dwg						
client  Sligo County Council Comhairle Chontae Shligigh						
project PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO						
stage SECTION 179a PLANNING						
title PROPOSED STORM SEWER AND CULVERT SECTIONS						
scale HORIZ: 1:1000, VERT: 1:200 @ A3						
surveyed	drawn	checked	date			
	PC	EM	JAN '24			
© COPYRIGHT OF JENNINGS O'DONOVAN & PARTNERS CONSULTING ENGINEERS, FINISKLIN, SLIGO, IRELAND. TEL. +353 (0)71 916 1416 FAX. +353 (0)71 916 1080 Email: info@jodireland.com						
drawing no. 6972-JOD-XX-ZZ-DR-C-200-002						revision P.01

**NOTES**

**GENERAL NOTES:**

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
- ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS. CONTRACTOR TO VERIFY THE ACCURACY OF THIS PROPOSAL TO THE ENGINEER AND ALLOW FOR MINOR CORRECTIONS AS DEEMED NECESSARY WITH A REASONABLE TIMEFRAME.

**LEGEND**



**NOTE:** CONTRACTOR IS TO REFER TO REVISION 4 OF THE IRISH WATER STANDARD DETAILS DATED JULY 2020 FOR WASTEWATER INFRASTRUCTURE DETAILS.


	F08	F07	F06	F05	F04	F03	F02	F01 F_EXIST_1
Vert exaggeration = 5.0 Datum = 6.0			Storm Network SP05a		Storm Network SP04	Storm Network CP03		
Link Name	FP08	FP07	FP06	FP05	FP04	FP03	FP02	FP01
Section Type	150mm	150mm	225mm	225mm	225mm	225mm	225mm	300mm
Slope	1:25.1	1:34.2	1:53.1	1:45.8	1:162.6	1:200.1	1:98.3	1:34.9
Cover Level	14.900	13.070	11.900	10.720	10.950	10.475	10.175	10.110
Invert Level	13.350	11.720 11.720	10.385 10.385	9.295 9.295	9.020 9.020	8.840 8.840	8.630 8.630	8.100 8.100
Length	45.989	45.651	57.922	12.596	29.261	42.019	52.114	7.677

	F06a	F06
Vert exaggeration = 5.0 Datum = 9.0		
Link Name	FP06a	
Section Type	150mm	
Slope	1:26.7	
Cover Level	12.880	11.900
Invert Level	11.200	10.385
Length	21.738	

	F04a	F04
Vert exaggeration = 5.0 Datum = 8.0		
Link Name	FP04a	
Section Type	150mm	
Slope	1:29.3	
Cover Level	11.300	10.950
Invert Level	9.950	9.020
Length	27.208	

P.01	Issued for SECTION 179a PLANNING	PC	EM	16.01.24
rev.	modifications	by	chkd	date
Layout Ref.:				

file P:\od-jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-002-003 SW FW Longsections.dwg

client  
 Sligo County Council  
 Comhairle Chontae Shligigh

project  
 PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO


stage  
 SECTION 179a PLANNING

title  
 PROPOSED FOUL WATER SEWER SECTIONS

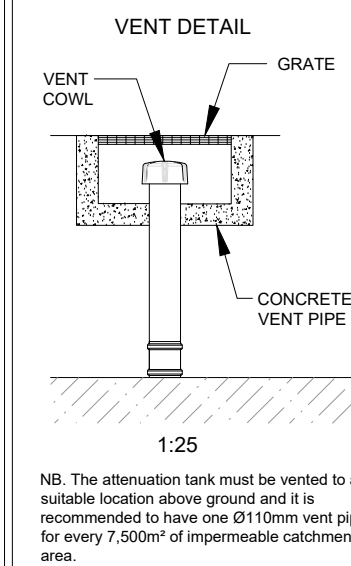
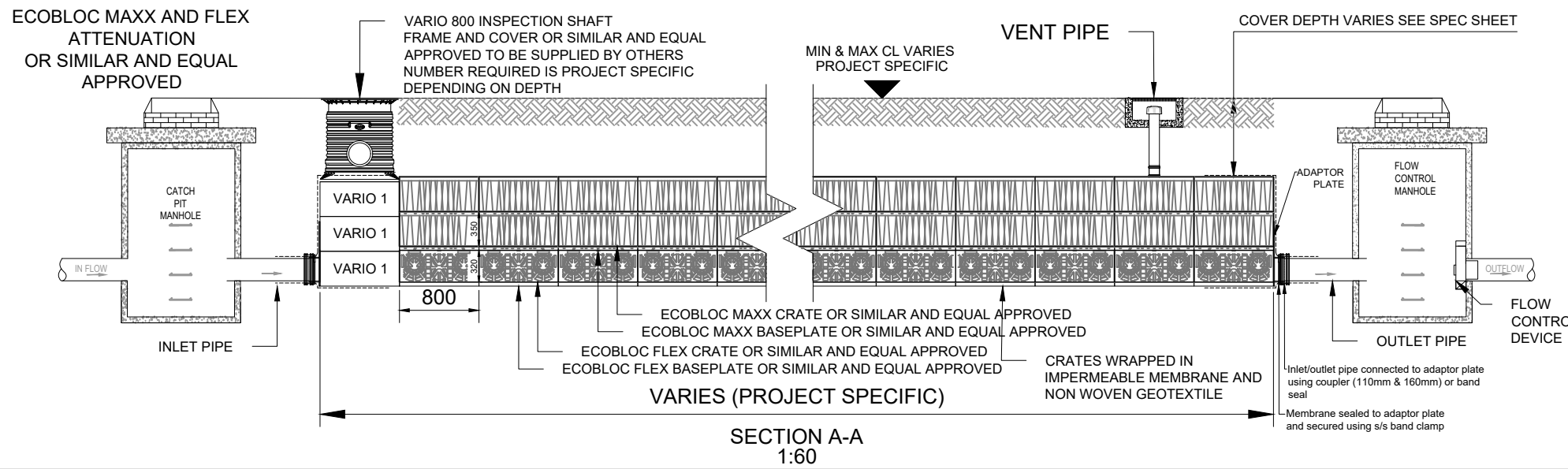
scale  
 HORIZ: 1:1000, VERT: 1:200 @ A3

surveyed	drawn	checked	date
	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
 CONSULTING ENGINEERS,  
 FINISKLIN,  
 SLIGO,  
 IRELAND.  
 TEL. +353 (0)71 916 1416  
 FAX. +353 (0)71 916 1080  
 Email: info@jodireland.com



drawing no.	revision
6972-JOD-XX-ZZ-DR-C-200-003	P.01



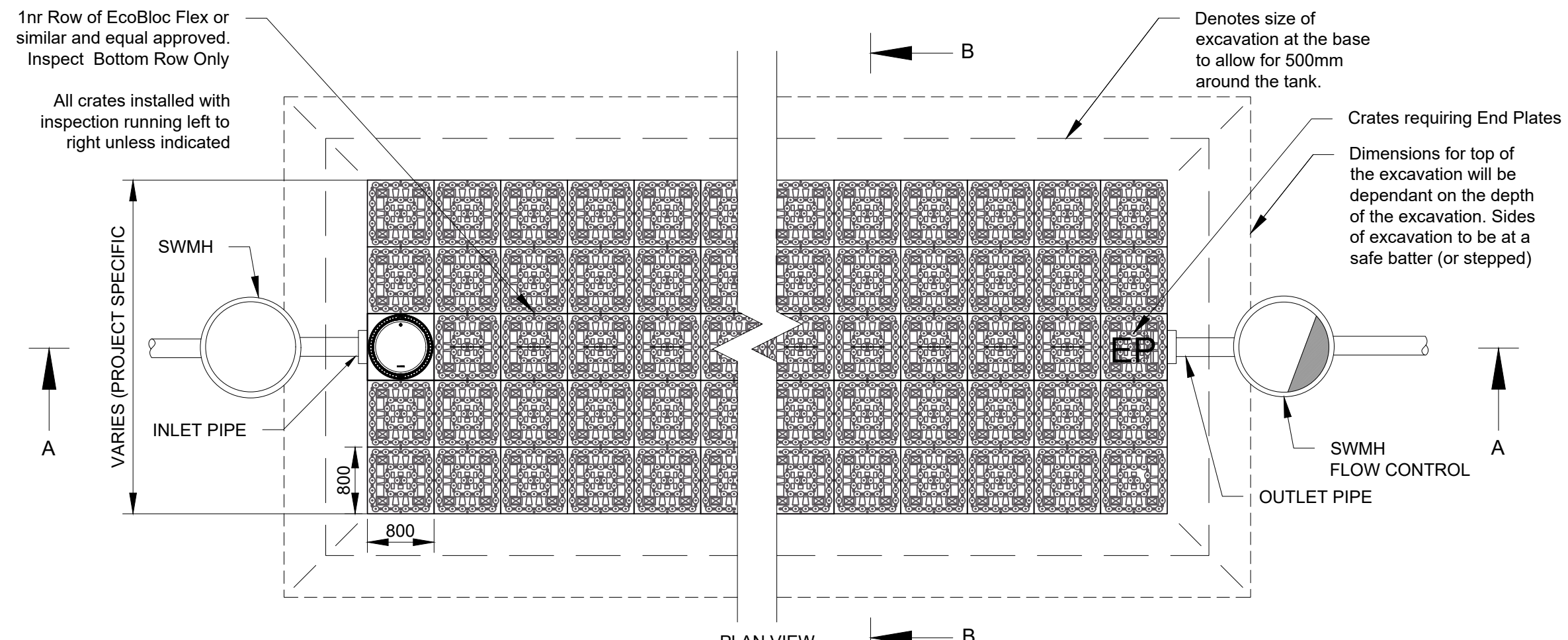
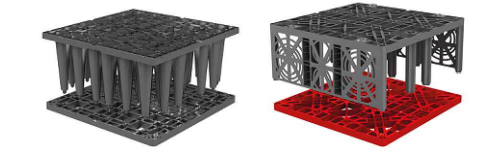
**DO NOT SCALE - IF IN DOUBT ASK**

- NOTES:-
- All dimensions in mm, unless otherwise stated.
  - All dimensions are nominal and may vary within manufacturing tolerances.
  - All site temporary enabling works by others.
  - Graf products to be installed in strict accordance with Graf recommendations.
  - This drawing is intended for guidance only. Confirmation of the suitability for a particular project should be sought from the consulting engineers prior to final design or commencement of any construction works.

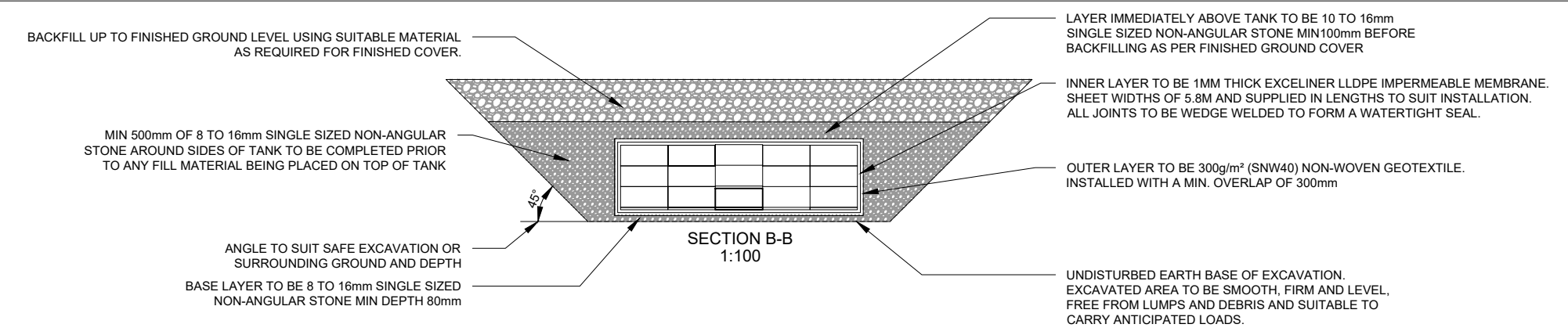
**NOTE : THIS PRODUCT MAY BE SUBSTITUTED BY A SIMILAR AND EQUAL PRODUCT TO THE APPROVAL OF THE ENGINEER AND CLIENT**

**ECOBLOC MAXX (OR SIMILAR AND EQUAL APPROVED)**

	Crate	Baseplate
Dimensions (mm)	800 x 800 x 350	800 x 800 x 40
Gross Volume (m3)	0.225m <sup>3</sup>	0.025m <sup>3</sup>
Net Volume (m3)	0.217m <sup>3</sup>	0.020m <sup>3</sup>
Material	Polypropylene	Polypropylene
Weight	9kg	4kg
Void Ratio	>96% depending on number of layers	
Inspectable	Yes, when combined with EcoBloc Flex	



**NOTE: EXCAVATION TO EXCEED TANK SIZE BY 500MM ON ALL SIDES TO ALLOW FOR ACCESS**



P.01	Issued for SECTION 179a PLANNING	PC	EM	16.01.24
rev.	modifications	by	chkd	date
file	P:\jod\jbs6972 Carney Housing\700 Drawings\703 Planning\01 WPS\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-004-006 Attenuation Tank Details.dwg			

client **SLIGO COUNTY COUNCIL**

project **PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO**

stage **SECTION 179a PLANNING**

title **PROPOSED ATTENUATION TANK DETAIL - SHEET 1 OF 3**

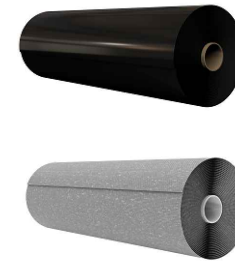
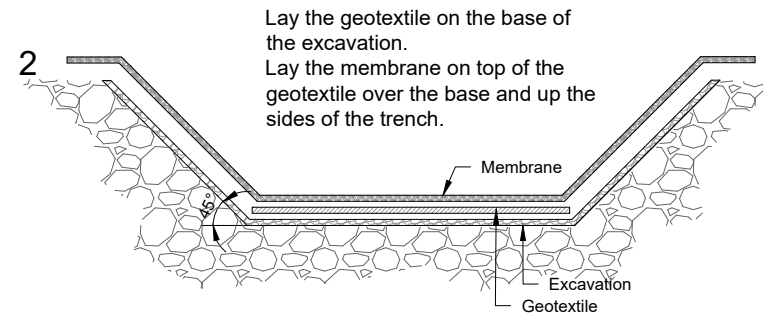
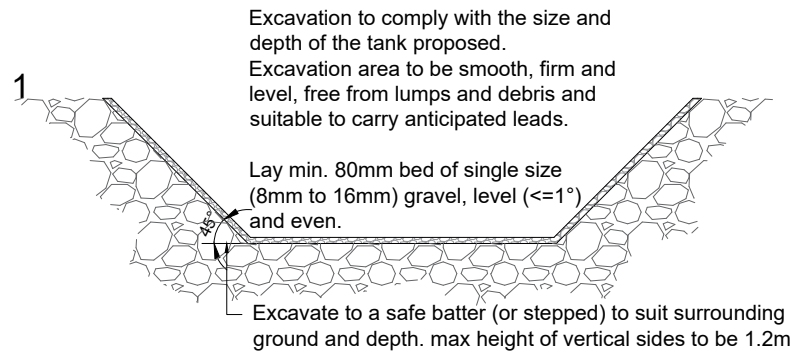
scale **AS STATED @ A3**

surveyed	drawn	checked	date
--	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
 CONSULTING ENGINEERS,  
 FINISKLIN,  
 SLIGO,  
 IRELAND.  
 TEL. +353 (0)71 916 1416  
 FAX. +353 (0)71 916 1080  
 Email: info@jodireland.com



drawing no. **6972-JOD-XX-ZZ-DR-C-200-004** revision **P.01**



Geomembrane:  
1mm Thick LLDPE Geomembrane with a density of at least 0.939g/m<sup>2</sup>.

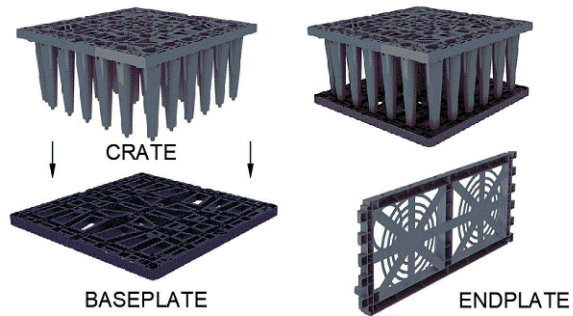
Geotextile:  
300g/m<sup>2</sup> Non-woven, needle punched geotextile

**DO NOT SCALE - IF IN DOUBT ASK**

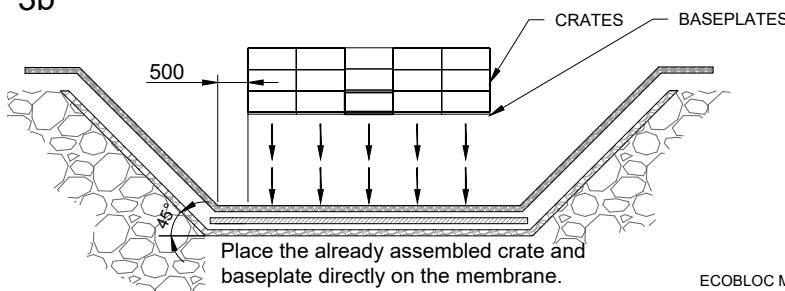
**INSTALLATION METHOD FOR GRAF ECOBLOC SYSTEM (OR SIMILAR AND EQUAL APPROVED) :-**

- Excavate the trench with a safe batter (or stepped) ensuring the footprint allows for sufficient space between tank and the sides. (minimum 500mm around all sides of the tank).
  - Mark out the position of the tank including inlets and outlets.
  - Lay min. 80mm of single sized non angular stone (8 to 16mm) as a base for the tank. This can be laid to a maximum fall of 1".
- Lay the Geotextile over the base of the excavation, overlapping any joins by a minimum of 300mm
  - Lay the Membrane on top of the Geotextile over the base and up the sides of the trench.
  - Membrane must be joined by thermal fusion heated wedge welding. It is recommended that the Dual Seam method is used as this generates an unwelded channel which can be pressured with air to check the integrity of the weld.
  - The membrane and geotextile used must meet the specification stated on the drawing.
- Assemble EcoBloc Maxx Crate and Baseplate, position leg ends into corresponding holes in the Baseplate. The crate will only fit in the correct orientation. Push down firmly to ensure Crate is located correctly. Assemble the row of EcoBloc Flex Crates with baseplates where inspection run is required. If a Vario shaft is to be included within the tank make sure the Vario Shaft base is in position located (Vario Shaft bases do not require a crate baseplate).
  - Install already assembled Crates and Baseplates onto the membrane until the first layer is complete. Insert retaining clips into each adjacent Crate.
  - Check and make sure the Row of EcoBloc Flex Crates are in the correct located position where inspection run is required.
  - To install the next layer of Crates remove from the stack and turn 90° and position directly above the Crate below. Push down firmly to ensure Crate is located correctly. NOTE: You will need to place an additional row of EcoBloc Maxx Baseplates directly on top of the EcoBloc Flex crates only. No more base plates are required.
  - Continue until all Crates have been installed, ensuring clips are used to secure each Crate.
  - Fit Endplates to the sides of each Crate by positioning the bottom in place then pushing firmly on the top section to locate into place.
- Fix adaptor plates to the sides of the crates in the required position for the inlet and outlet pipes.
  - Cut a hole in the Membrane and pull up over the adaptor plate sealing the membrane around the spigot of the adaptor plate.
  - Pull Membrane up around the sides and fully wrap the crates, securing the lid in place by heated wedge welding to the side panels.
  - Cover top and sides with the Geotextile covering the entire tank to protect the Membrane.
  - Install vent pipe connection into the top of the tank at a suitable location.
  - Backfill around the tank and for 100mm above with non-angular stone. Backfill to finished ground level with suitable material in layers.
  - Connect inlet/outlet pipes using appropriate bandseals.
  - In order to prevent silt from entering the tank it is recommended that silt traps or catchpit manholes are installed upstream of any inlet. These should be regularly maintained to avoid the buildup of any silt.

3a Assemble Baseplate and EcoBloc Maxx (or similar and equal approved) crate as shown below.



3b



Mixed crates to be constructed as labeled below

MAXX	MAXX	MAXX	MAXX	MAXX
MAXX	MAXX	MAXX	MAXX	MAXX
MAXX	MAXX	FLEX	MAXX	MAXX

ECOBLOC MAXX BASEPLATE OR SIMILAR AND EQUAL APPROVED

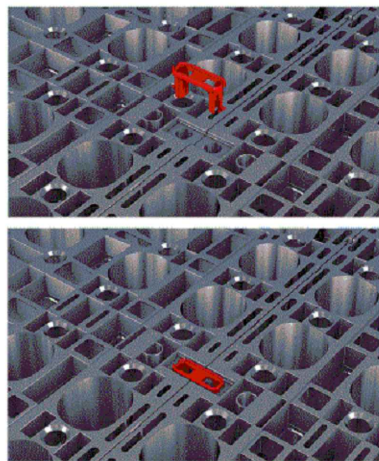
ECOBLOC MAXX CRATE OR SIMILAR AND EQUAL APPROVED

ECOBLOC MAXX BASEPLATE OR SIMILAR AND EQUAL APPROVED

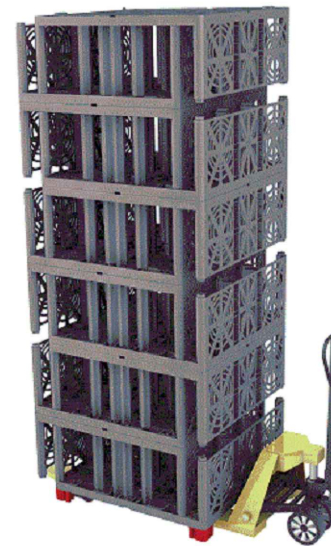
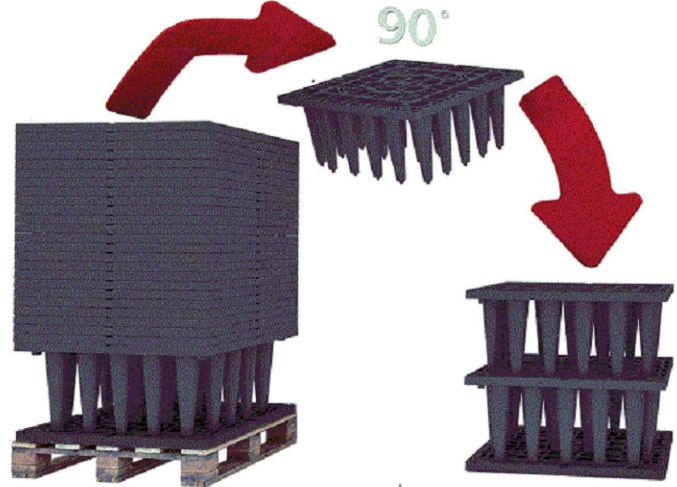
ECOBLOC FLEX CRATE OR SIMILAR AND EQUAL APPROVED

ECOBLOC FLEX BASEPLATE OR SIMILAR AND EQUAL APPROVED

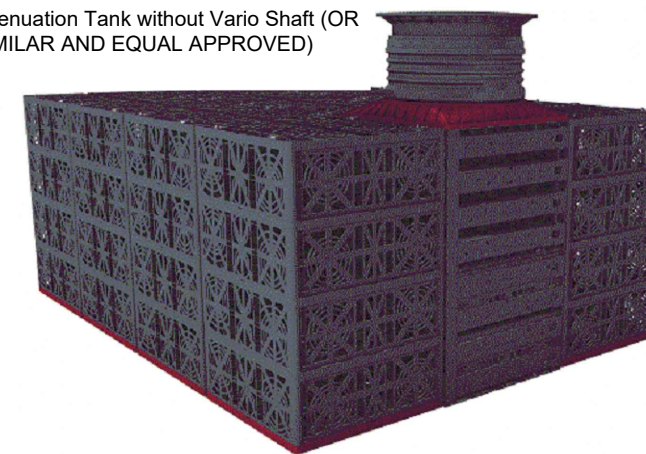
Remove a crate from the stack, rotate it 90° and place on top of the previously placed crate ensuring the connector clips are clipped locking the crates together.



Connector clips are Red for illustration purposes only and are Grey in colour



Attenuation Tank without Vario Shaft (OR SIMILAR AND EQUAL APPROVED)



**NOTE : THIS PRODUCT MAY BE SUBSTITUTED BY A SIMILAR AND EQUAL PRODUCT TO THE APPROVAL OF THE ENGINEER AND CLIENT**

P.01	Issued for SECTION 179a PLANNING	PC	EM	16.01.24
rev.	modifications	by	chkd	date
file	P:\Jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WPS\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-004-006 Attenuation Tank Details.dwg			

client SLIGO COUNTY COUNCIL

project PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO


stage SECTION 179a PLANNING

title PROPOSED ATTENUATION TANK DETAIL - SHEET 2 OF 3

scale AS STATED @ A3

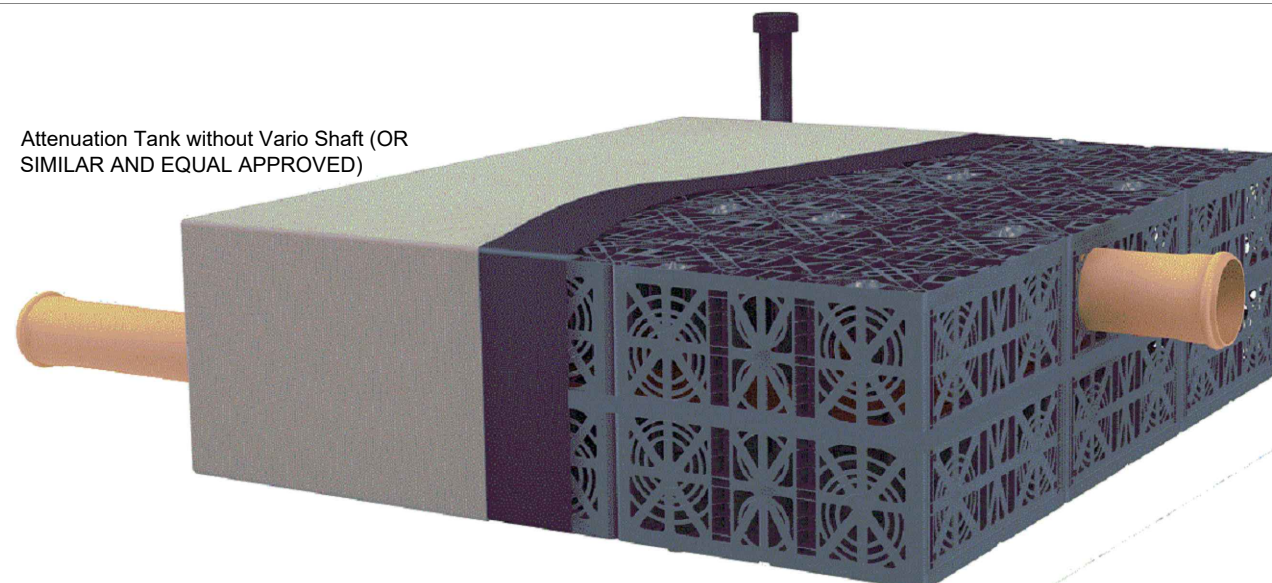
surveyed	drawn	checked	date
--	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
CONSULTING ENGINEERS,  
FINISKLIN,  
SLIGO,  
IRELAND.  
TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com



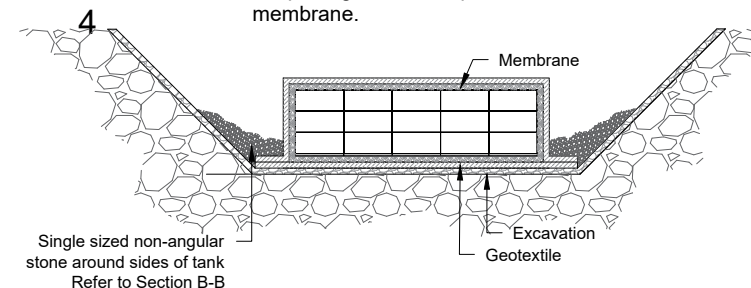
drawing no. 6972-JOD-XX-ZZ-DR-C-200-005 revision P.01

Attenuation Tank without Vario Shaft (OR SIMILAR AND EQUAL APPROVED)



Endplates are then clipped to the tank where required.

Wrap the crates with the geomembrane ensuring it is heat welded/sealed then wrap the geotextile to protect the membrane.



THIS DOCUMENT IS SUPPLIED IN STRICT CONFIDENCE AND MUST NOT BE LENT, REPRODUCED OR DISCLOSED TO ANY THIRD PARTY WITHOUT THE WRITTEN CONSENT OF GRAF IRELAND ENVIRONMENTAL LIMITED

**DO NOT SCALE - IF IN DOUBT ASK**

Notice: This drawing is issued only as a guideline and is an estimate of the materials required to construct the drainage system, it should not be used for construction purposes.  
 Graf Ireland Ltd makes no warranty or guarantee in relation to the suitability of any of the layout details shown on this drawing in relation to a particular scheme.

**NOTES:-**

1. All dimensions in mm, unless otherwise stated.
2. All dimensions are nominal and may vary within manufacturing tolerances.
3. All site temporary enabling works by others.
4. Graf products to be installed in strict accordance with Graf recommendations.
5. This drawing is intended for guidance only. Confirmation of the suitability for a particular project should be sought from the consulting engineers prior to final design or commencement of any construction works.

**NOTE : THIS PRODUCT MAY BE SUBSTITUTED BY A SIMILAR AND EQUAL PRODUCT TO THE APPROVAL OF THE ENGINEER AND CLIENT**

**VARIO 800 TYPE 1 (OR SIMILAR AND EQUAL APPROVED)**

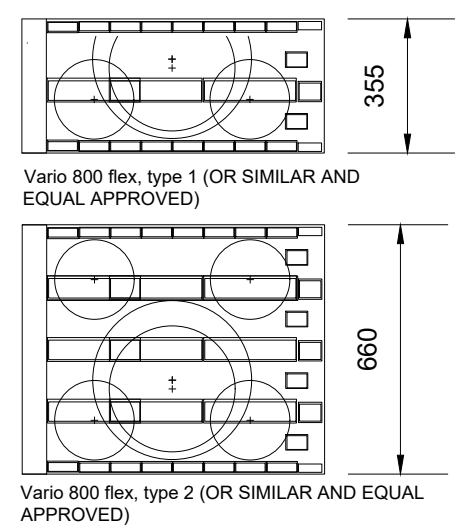
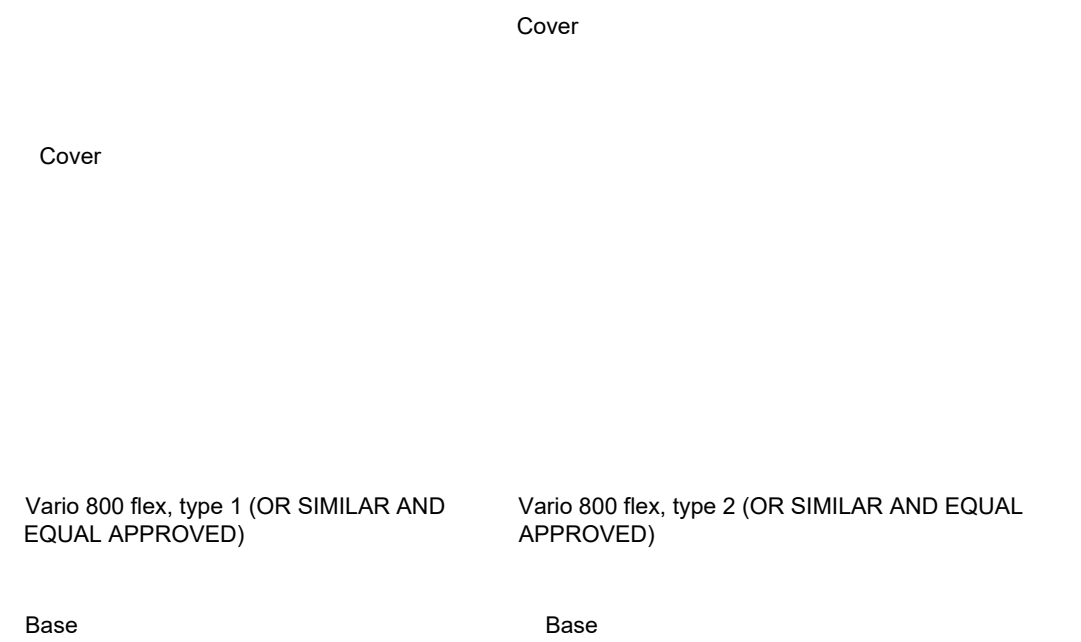
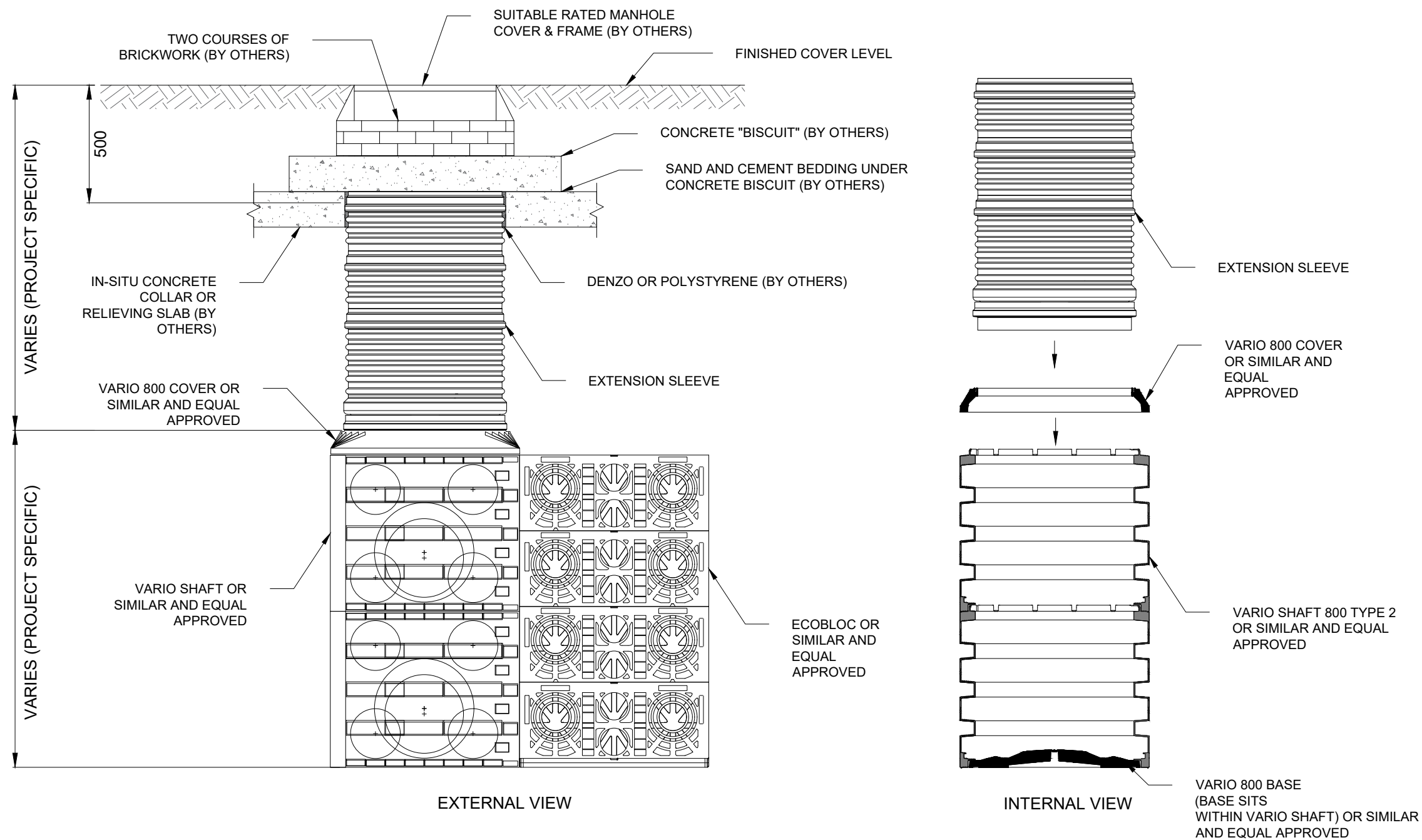
Dimensions (mm) 800 x 800 x 355  
 Weight 14kg  
 Volume 230 (litres)

**VARIO 800 TYPE 2 (OR SIMILAR AND EQUAL APPROVED)**

Dimensions (mm) 800 x 800 x 660  
 Weight 24kg  
 Volume 420 (litres)

**VARIO 800 BASE/COVER SET (OR SIMILAR AND EQUAL APPROVED)**

Dimensions (mm) 800 x 800 x 100  
 Weight 11kg



Vario 800 (or similar and equal approved) are modular and are easily assembled in a push fit manner.

P_01	Issued for SECTION 179a PLANNING	PC	EM	16.01.24
rev.	modifications	by	chkd	date

file: P:\Jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-004-005 Attenuation Tank Details.dwg

client **SLIGO COUNTY COUNCIL**  
 project **PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO**

stage **SECTION 179a PLANNING**

title **PROPOSED ATTENUATION TANK DETAIL - SHEET 3 OF 3**

scale **AS STATED @ A3**

surveyed	drawn	checked	date
--	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
 CONSULTING ENGINEERS,  
 FINISKLIN,  
 SLIGO,  
 IRELAND.  
 TEL. +353 (0)71 916 1416  
 FAX. +353 (0)71 916 1080  
 Email: info@jodireland.com



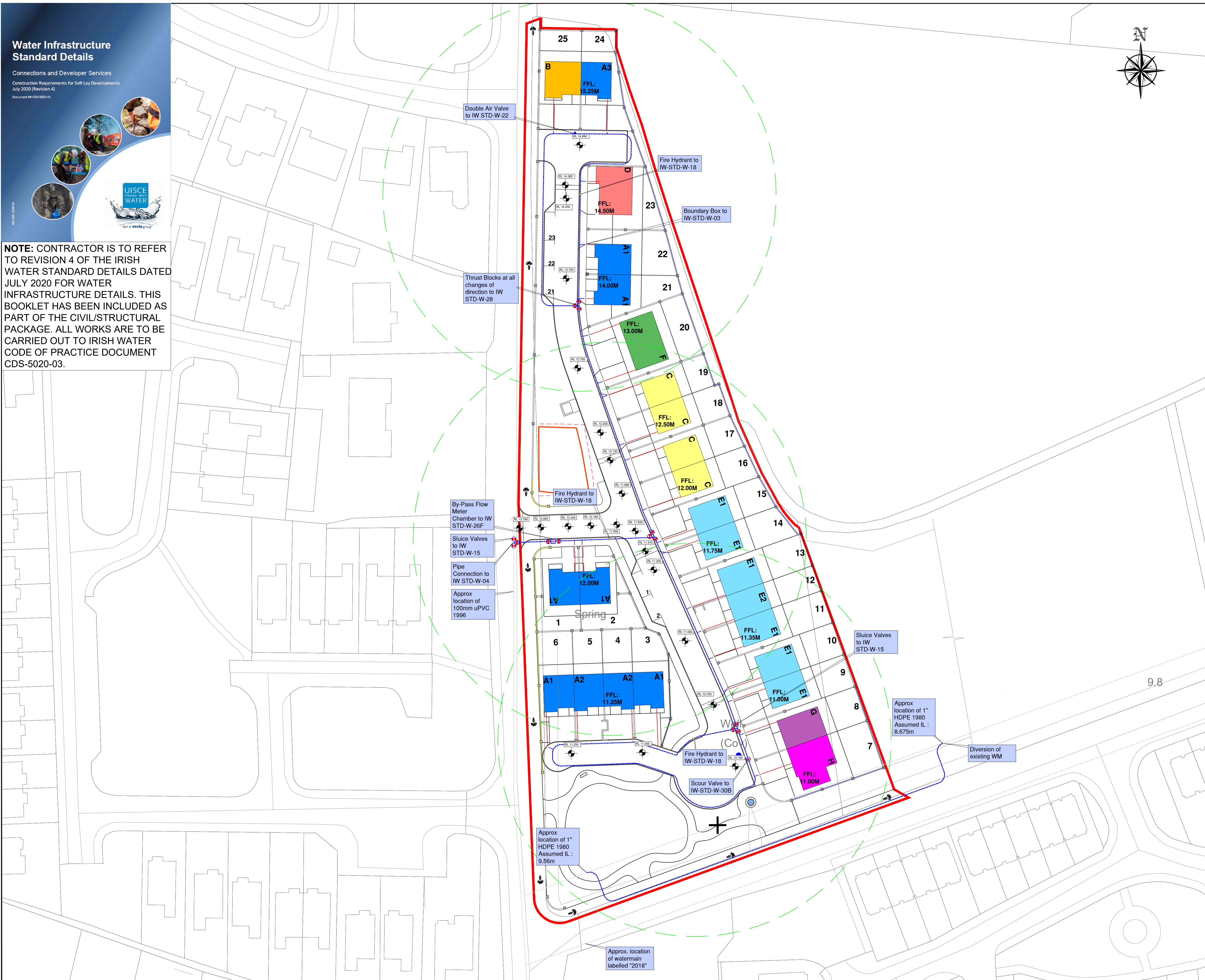
drawing no.	revision
6972-JOD-XX-ZZ-DR-C-200-006	P.01

# Water Infrastructure Standard Details

Connections and Developer Services  
Construction Requirements for Self-Lay Developments  
July 2020 (Revision 4)  
Document IW-CDS-5020-01



**NOTE: CONTRACTOR IS TO REFER TO REVISION 4 OF THE IRISH WATER STANDARD DETAILS DATED JULY 2020 FOR WATER INFRASTRUCTURE DETAILS. THIS BOOKLET HAS BEEN INCLUDED AS PART OF THE CIVIL/STRUCTURAL PACKAGE. ALL WORKS ARE TO BE CARRIED OUT TO IRISH WATER CODE OF PRACTICE DOCUMENT CDS-5020-03.**



NOTES

**GENERAL NOTES:**

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

---

**LEGEND**

SITE BOUNDARY shown thus —

WATERMAIN SUPPLY Ø 110mm OUTSIDE DIAMETER PE100, PIPE MATERIAL SHALL BE IN COMPLIANCE WITH IRISH WATER SECTION 3.9 OF THE CODE OF PRACTICE. - - - - -

PROPOSED WATER SUPPLY CONNECTION WITH BOUNDARY BOX TO I.W. STD-W-03 shown thus - - - - -

FIRE HYDRANT TO I.W. STD-W-18 shown thus (3 No. Hyd) ■

SLUICE VALVE TO I.W. STD-W-15-2 shown thus (14 No. SV's) ⊗

SCOUR VALVE TO I.W. STD-W-30B shown thus (2 No. SC.V's) ⊕

BY-PASS FLOW METER TO STD-W-26F shown thus M

DOUBLE AIR VALVE TO I.W. STD-W-22 shown thus (1 No. AV) ◆

EXISTING WATERMAIN - - - - -

HYDRANT 46M RADIUS shown thus - - - - -

EXISTING WATERMAIN TO BE DIVERTED marked thus +

PROPOSED ROAD LEVELS shown thus ⊕

---

Red Line Area:-  
10,844 m<sup>2</sup> 1.084 Hectares

ITM Co-Ordinates of site:- 565696, 843573      Irish Grid Co-Ordinates: 165737, 343569

Ordnance Survey Ireland Licence No. CYAL50313915  
© Ordnance Survey of Ireland/Government of Ireland.  
OS Ireland Map No. 0848-C, 0848-D

P.02	Site layout amended	PC	EM	EM	18.01.24
P.01	Issued for SECTION 179a PLANNING	PC	EM	EM	16.01.24
Rev.	Modifications	By	Chkd	Aprvd	Date

Layout Ref.: P:\Jod\jobs\6972 Carney Housing\700 Drawings\703 Planning\01 File\WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-007 WM Layout.dwg

**Client**  
 Sligo County Council  
Comhairle Chontae Shligigh

**Project**  
PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO

**Stage**  
SECTION 179a PLANNING

**Title**  
PROPOSED WATERMAIN LAYOUT

**Scale**  
1:400 @ A1

Surveyed	Drawn	Checked	Date
OSI	PC	EM	JAN '24

© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
CONSULTING ENGINEERS,  
FINISKLIN,  
SLIGO,  
IRELAND.  
TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com

Drawing No. 6972-JOD-XX-ZZ-DR-C-200-007      Revision P.02





**NOTES :**

All YIELD and STOP signage line markings are to be thermo plastic and conform with the Department of Transport, Tourism and Sport Traffic Sign Manual.

All line markings are to be thermo plastic and in accordance with the Department of Transport, Tourism and Sport Traffic Sign Manual.

All signage to conform with the with the Department of Transport, Tourism and Sport Traffic Sign Manual.

**NOTES**

**GENERAL NOTES:**

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

**LEGEND**

LEGEND

SITE BOUNDARY shown thus

PROPOSED 345MM PRECAST CONCRETE CHANNEL KERB shown thus

PROPOSED ROAD GULLY shown thus

PROPOSED BUFF COLOURED TACTILE PAVING (400MMX400MM) (See TII CC-SCD-05030) shown thus

PROPOSED DIRECTION OF FALL / CAMBER shown thus

PROPOSED ROAD LEVEL shown thus

PROPOSED 125mm HIGH ROAD KERB shown thus

PROPOSED 25mm HIGH DROP KERB shown thus

PROPOSED 25mm HIGH HOMEZONE KERB shown thus

EXISTING POLE TO BE RELOCATED TO FOOTPATH shown thus

SIGHTLINE ENVELOPE shown thus

PROPOSED CYCLEWAY COLOURED CORDUROY TACTILE PAVING (400MMX400MM) shown thus

Red Line Area:-  
10,844 m<sup>2</sup> 1.084 Hectares

ITM Co-Ordinates of site:- 565696, 843573 Irish Grid Co-Ordinates: 165737, 343569

Ordnance Survey Ireland Licence No. CYAL50313915  
© Ordnance Survey of Ireland/Government of Ireland.  
OS Ireland Map No. 0848-C, 0848-D

P.02	Entrance junction amended	PC	EM	EM	18.01.24
P.01	Issued for SECTION 179a PLANNING	PC	EM	EM	16.01.24
Rev.	Modifications	By	Chkd/Aprvd	Date	

Layout Ref.:  
File: P:\Jod\jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-008-009 Road Layout And Construction Details.dwg

**Client**  
 Sligo County Council  
Comhairle Chontae Shligigh

**Project**  
PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO

**Stage**  
SECTION 179a PLANNING

**Title**  
PROPOSED ROAD LAYOUT

**Scale**  
1:400 @ A1

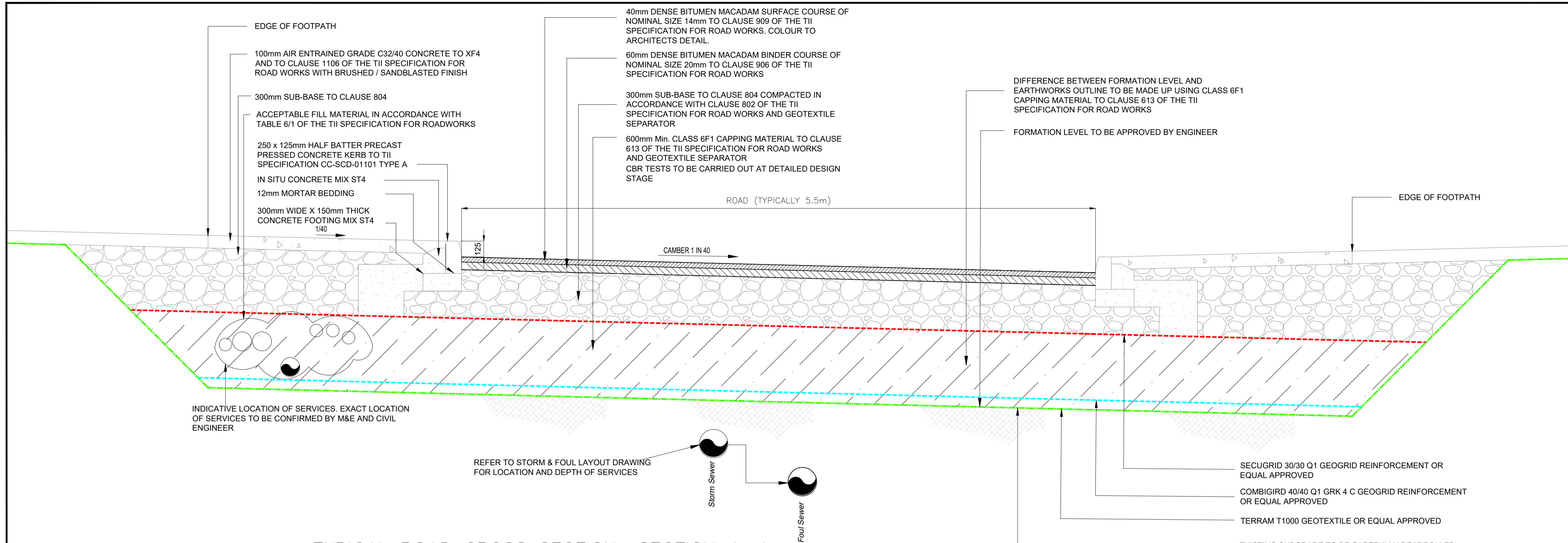
Surveyed	Drawn	Checked	Date
OSI	PC	EM	JAN '24

© COPYRIGHT OF

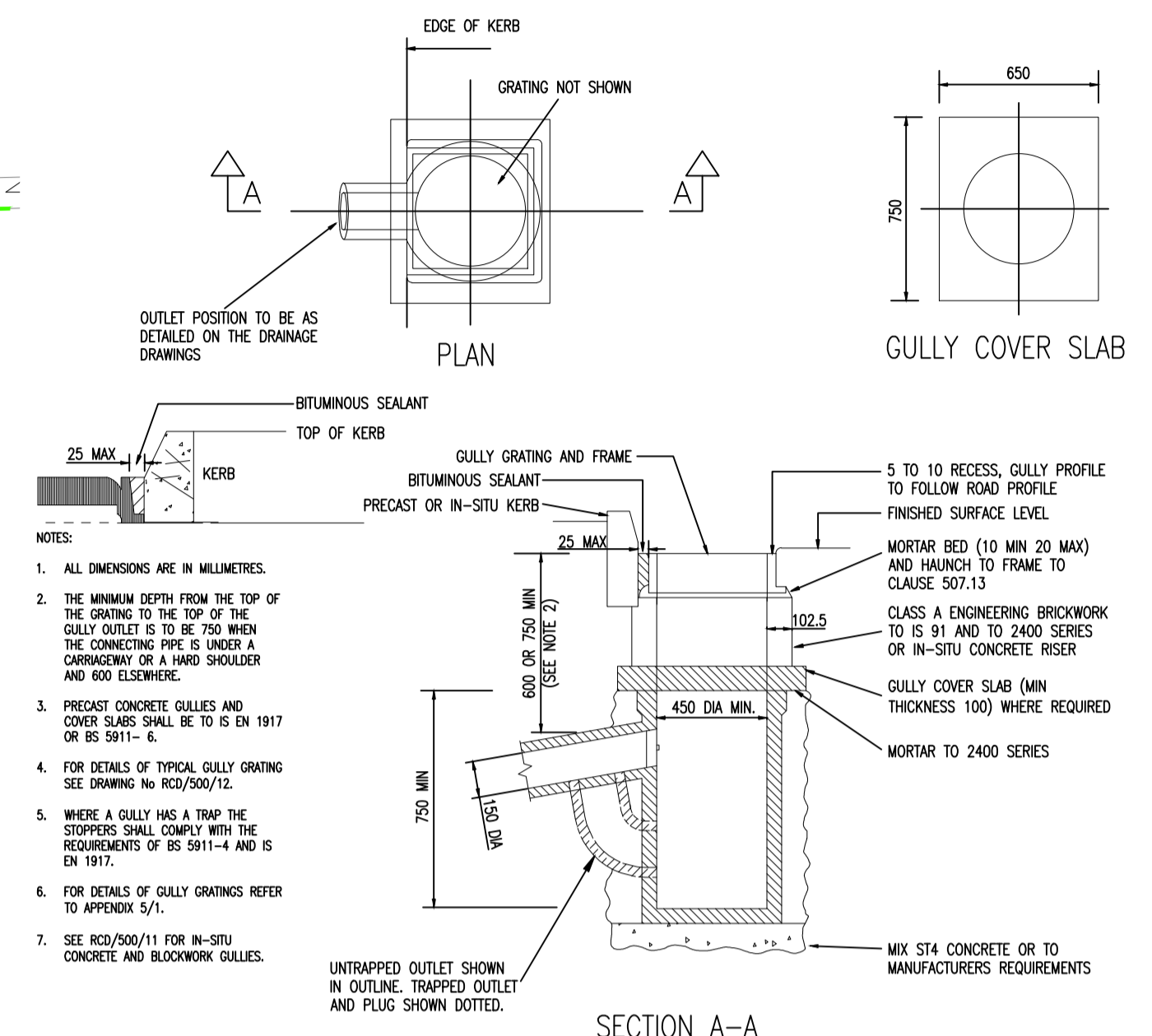
**JENNINGS O'DONOVAN & PARTNERS**  
CONSULTING ENGINEERS,  
FINISKLIN,  
SLIGO,  
IRELAND.

TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com

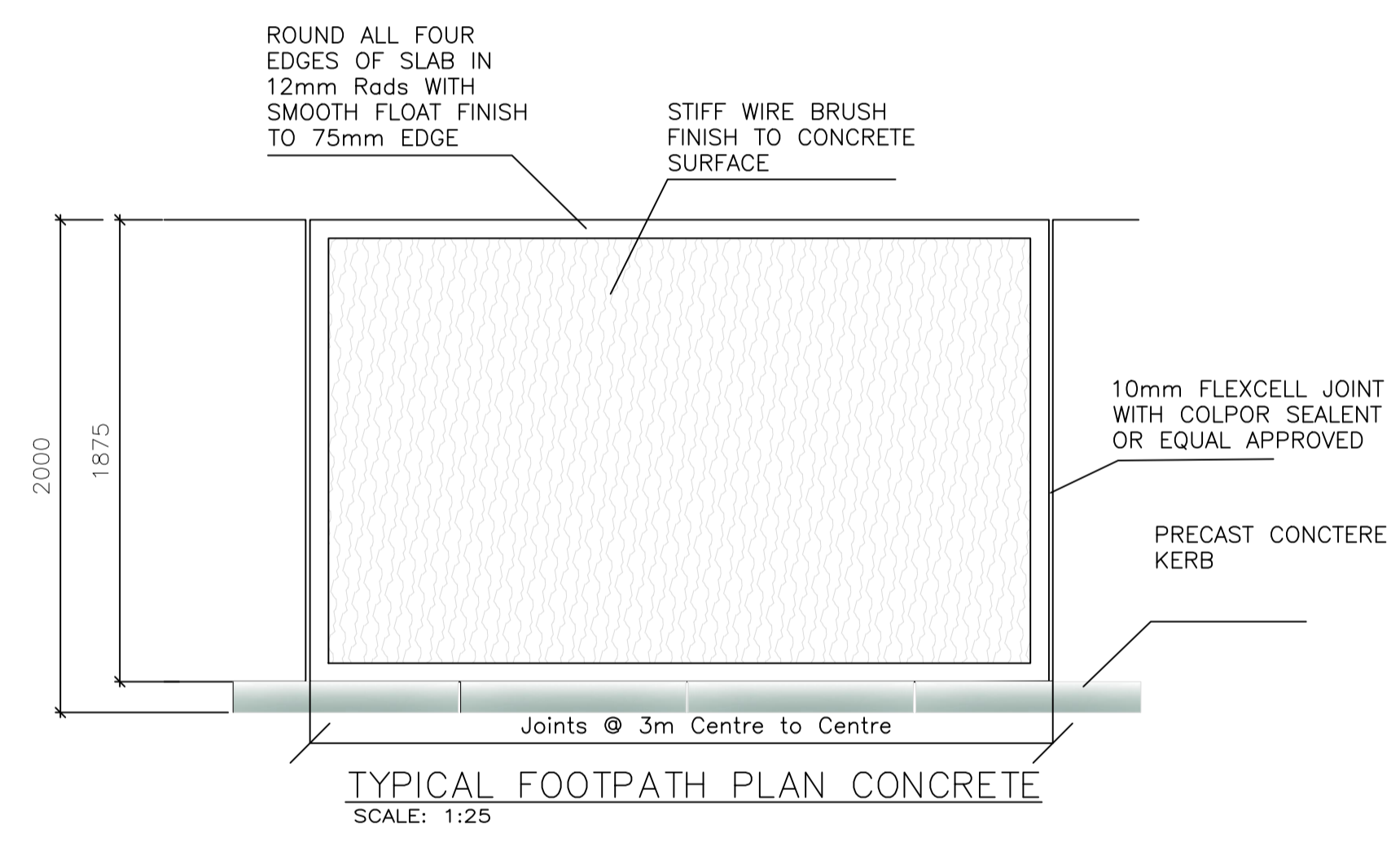
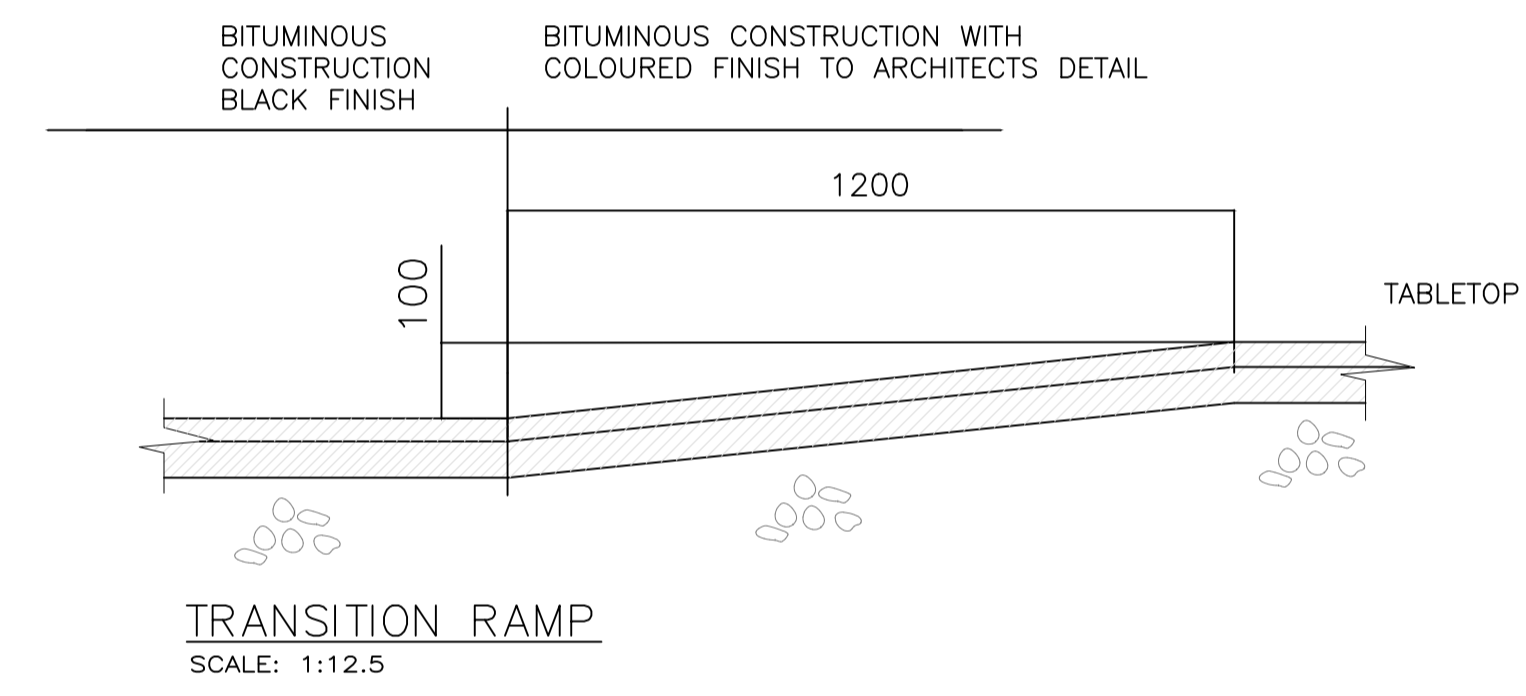
Drawing No.	Revision
6972-JOD-XX-ZZ-DR-C-200-008	P.02



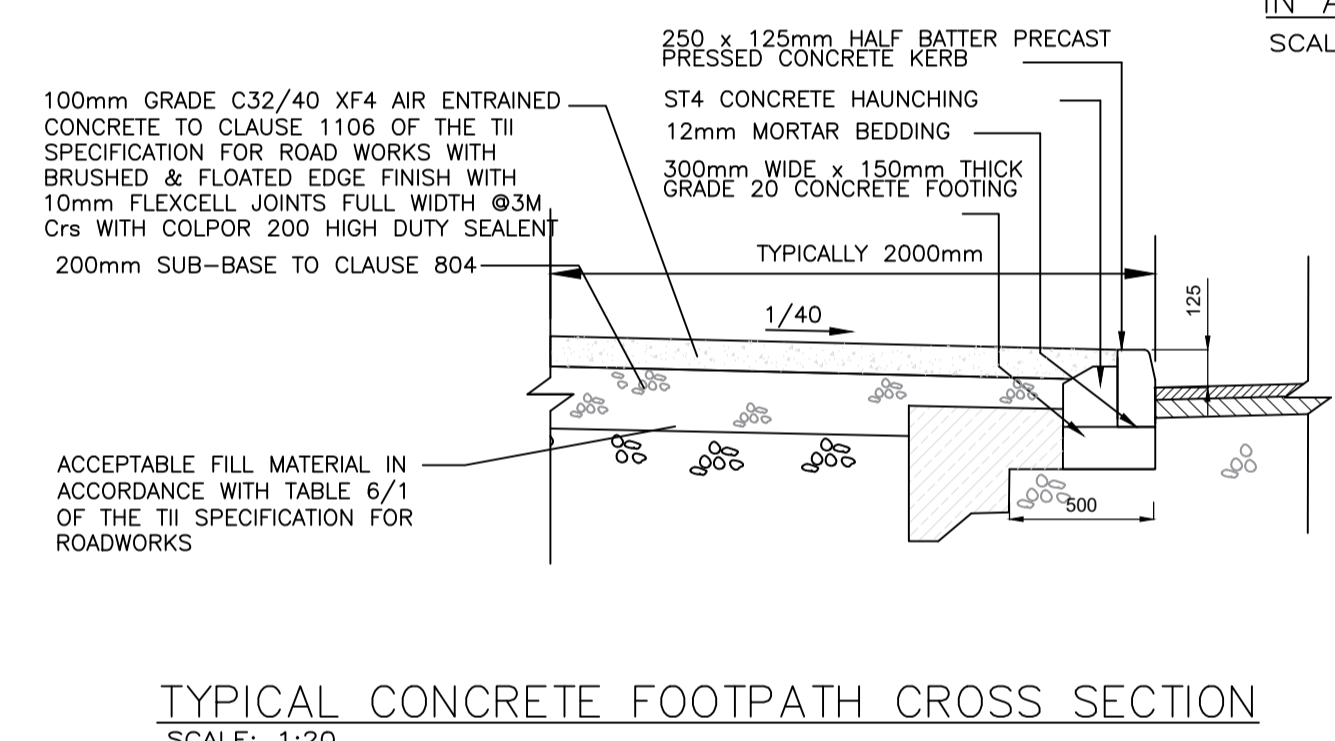
TYPICAL ROAD CROSS SECTION: SECTION A-A  
SCALE: 1:20



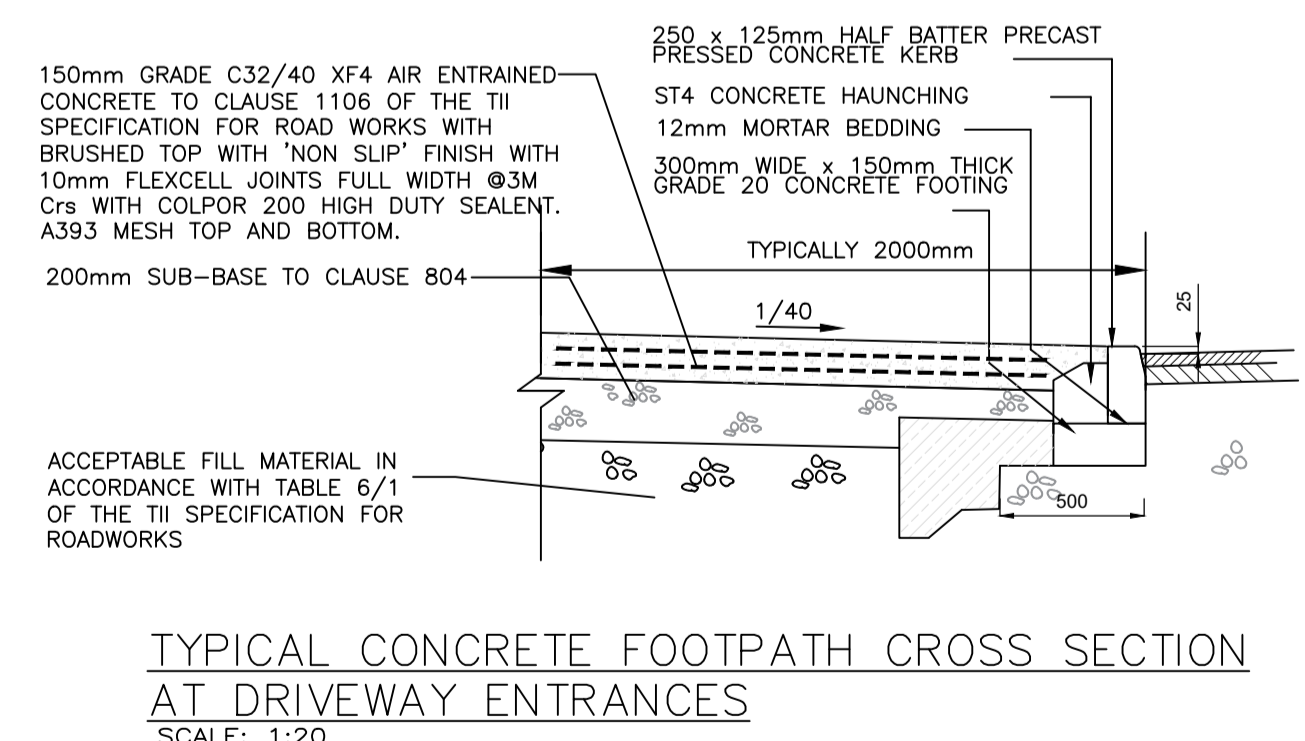
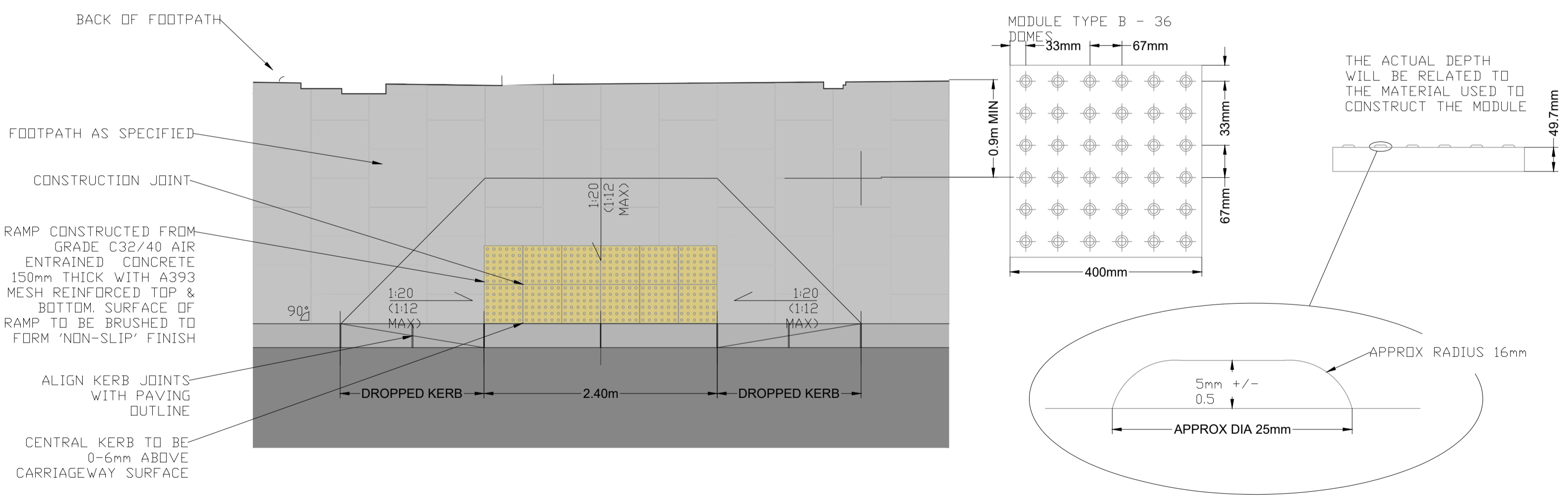
TYPICAL ROAD GULLEY DETAIL IN ACCORDANCE WITH TII DETAIL RCD 500/10  
SCALE: NOT TO SCALE



TYPICAL FOOTPATH PLAN CONCRETE  
SCALE: 1:25



TYPICAL CONCRETE FOOTPATH CROSS SECTION  
SCALE: 1:20



TYPICAL CONCRETE FOOTPATH CROSS SECTION AT DRIVEWAY ENTRANCES  
SCALE: 1:20

- NOTES:
1. THE TACTILE DOMES ON THE TILES MUST BE LINED UP TO GIVE THE DIRECTION OF TRAVEL IN ORDER TO CROSS THE CARRIAGEWAY STRAIGHT
  2. UTILITY CABINETS/CHAMBERS MUST NOT BE LOCATED WITHIN THE TACTILE PAVING AREA
  3. REFER TO TACTILE PAVING GUIDANCE DOCUMENTATION
  4. TACTILE BLISTER PAVING SHALL BE BEDDED ON 25 MM MOIST SAND/CEMENT MORTAR (3:1), JOINTS FILLED WITH 4:1 MIX WITHIN 2mm OF THE PAVING SURFACE

LEGEND

TACTILE PAVING 400x400 BUFF FINISH (5mm JOINT)  
TACTILE TO BE LAID SO BLISTER PATTERN IS IN LINE WITH CROSSING

DROPPED KERB GEOMETRY AND EXCERPT FROM TII - TACTILE AND PAVING DETAILS AND RECOMMENDED GRADIENTS AT UNCONTROLLED PEDESTRIAN CROSSING CC-SCD-05136

NOTES

GENERAL NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.

P.01	Issued for SECTION 179a PLANNING	PC	EM	EM	08.01.24
Rev.	Modifications	By	Chkd	Aprvd	Date
Layout Ref.:	P:\Jod-jobs\6972 Carney Housing\700 Drawings\703 Planning\01				
File	WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-008-009				
	Road Layout And Construction Details.dwg				

Client  
Sligo County Council  
Comhairle Chontae Shligigh

Project  
PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO

Stage  
SECTION 179a PLANNING

Title  
PROPOSED ROAD CONSTRUCTION DETAILS AND SECTIONS

Scale  
AS SHOWN @ A1

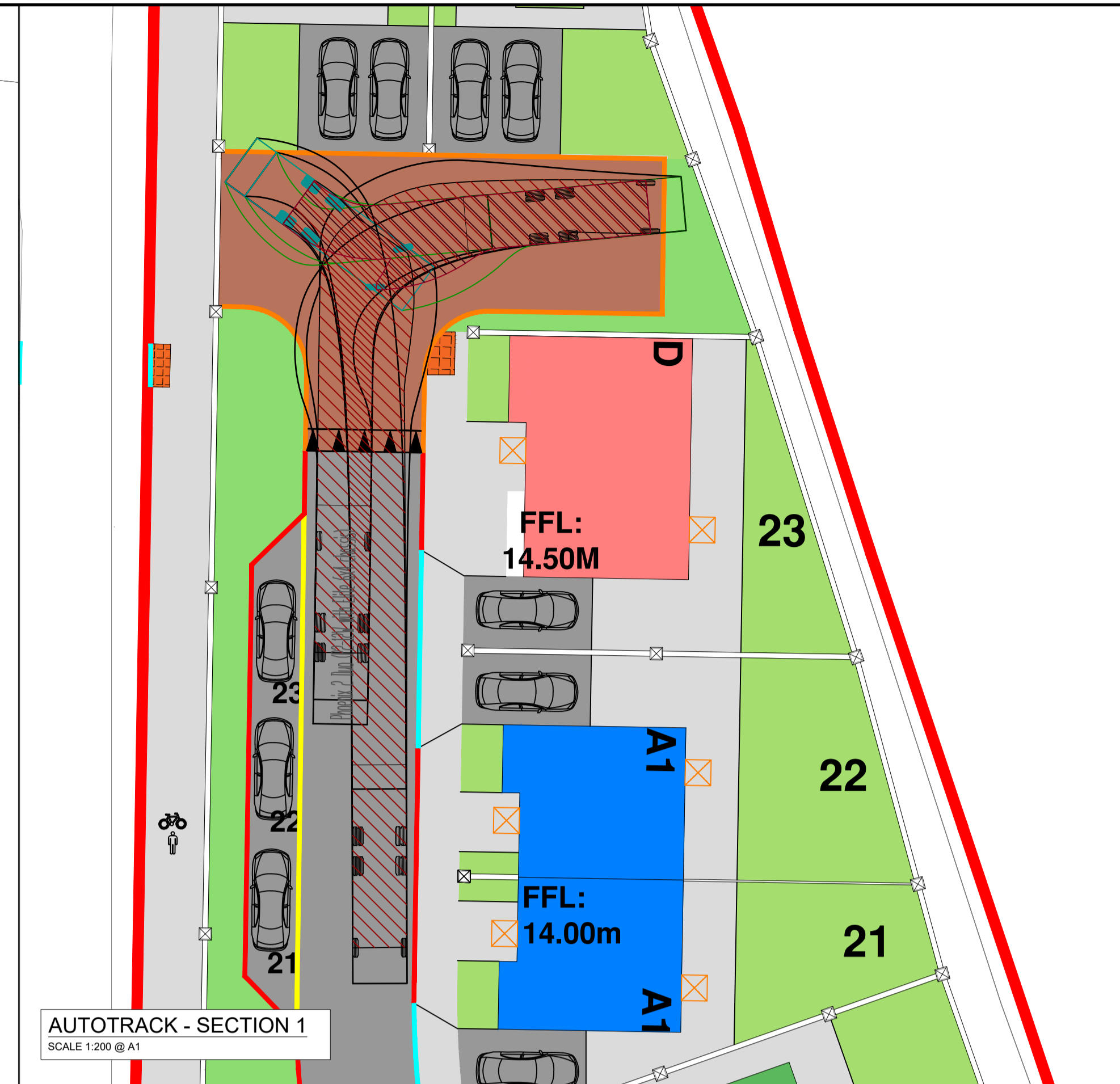
Surveyed	Drawn	Checked	Date
	PC	EM	JAN '24

© COPYRIGHT OF  
JENNINGS O'DONOVAN & PARTNERS  
CONSULTING ENGINEERS,  
FINISKLIN,  
SLIGO,  
IRELAND.  
TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com

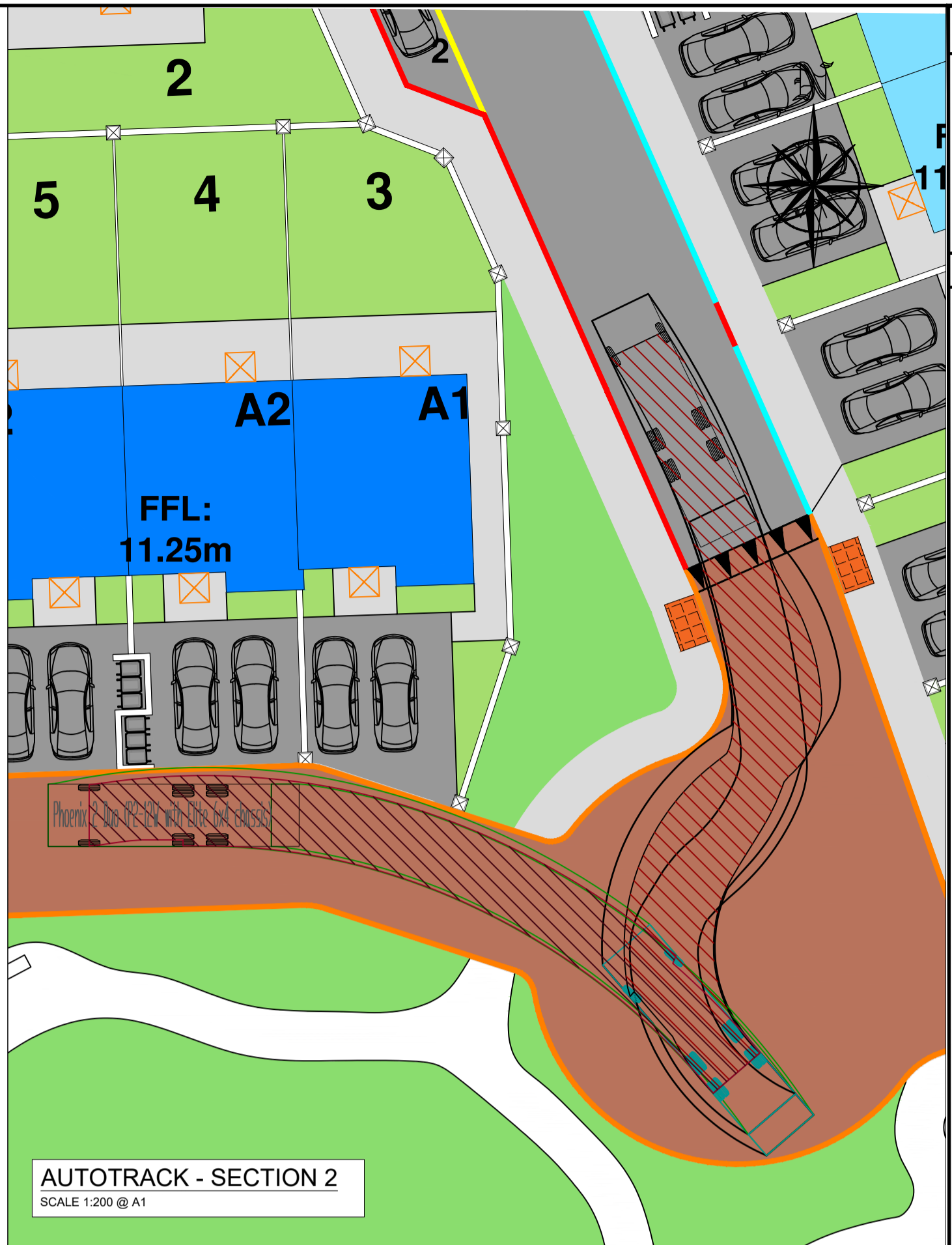
Drawing No.	Revision
6972-JOD-XX-ZZ-DR-C-200-009	P.01



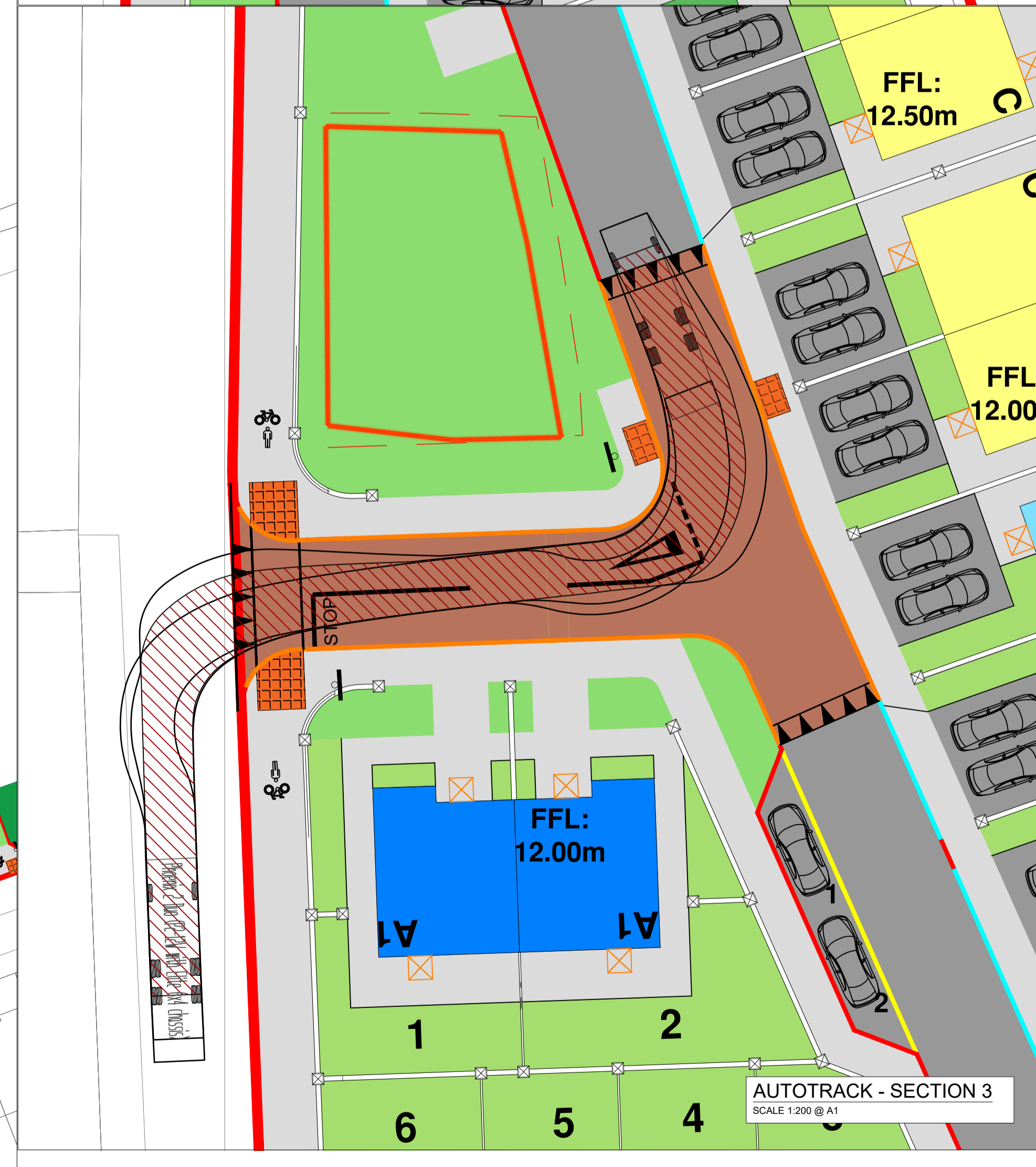
AUTOTRACK - KEY PLAN  
SCALE 1:400 @ A1



AUTOTRACK - SECTION 1  
SCALE 1:200 @ A1



AUTOTRACK - SECTION 2  
SCALE 1:200 @ A1

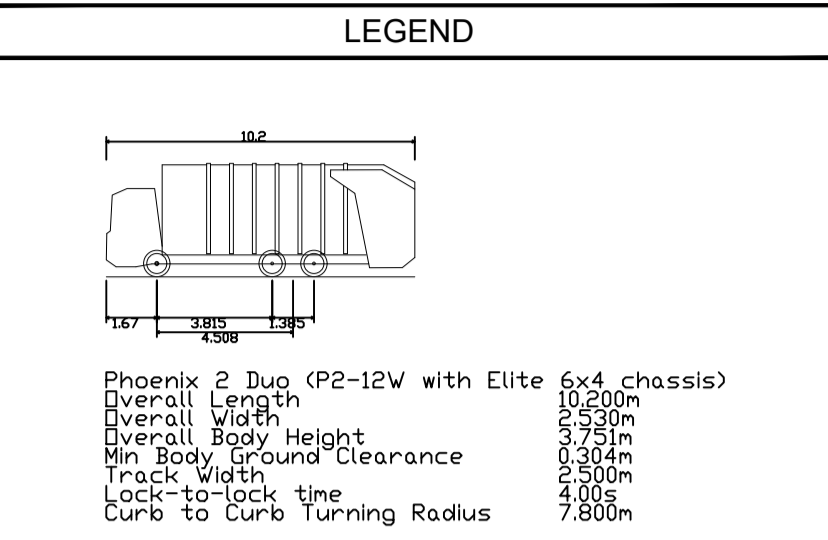


AUTOTRACK - SECTION 3  
SCALE 1:200 @ A1

NOTES

**GENERAL NOTES:**

- 1 FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- 2 ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
- 3 ENGINEER TO BE INFORMED OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
- 4 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.



LEGEND

VEHICLE BODY SWEEP PATH shown thus

VEHICLE WHEEL SWEEP PATH shown thus

Rev.	Modifications	By	Chkd/Prvd	Date	
P.02	Site layout amended	PC	EM	EM	18.01.24
P.01	Issued for SECTION 179a PLANNING	PC	EM	EM	16.01.24

Layout Ref.:  
File: P:\Jod-jobs\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-010 Road Layout\_Autotrack.dwg

Client  
 Sligo County Council  
 Comhairle Chontae Shligigh

Project  
 PROPOSED HOUSING DEVELOPMENT  
 AT CULLAGH MORE, CARNEY, CO.  
 SLIGO

Stage  
 SECTION 179a PLANNING

Title  
 PROPOSED ROAD LAYOUT - SWEEP  
 PATH ANALYSIS

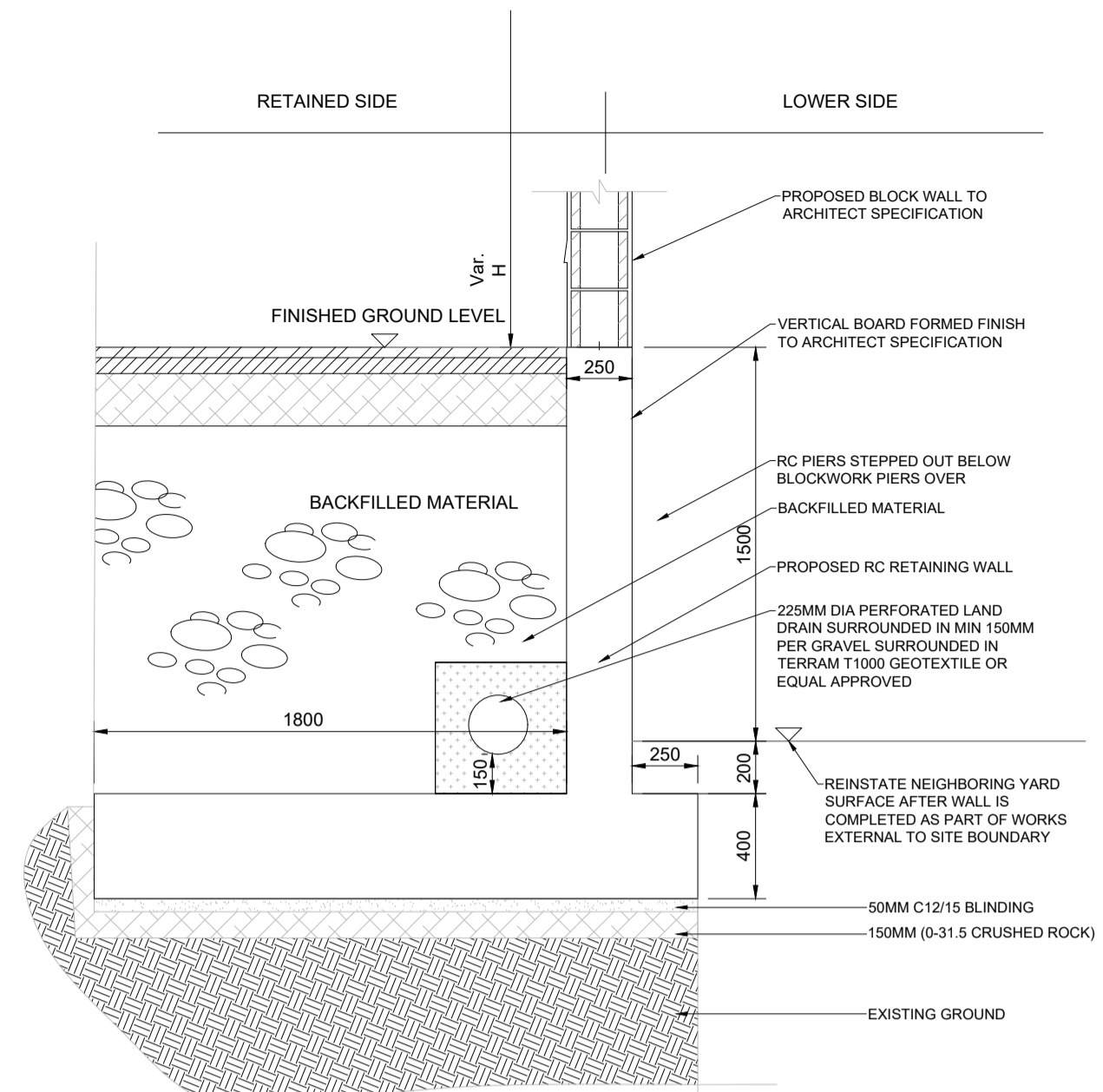
Scale  
 1:400 @ A1

Surveyed	Drawn	Checked	Date
	PC	EM	JAN '24

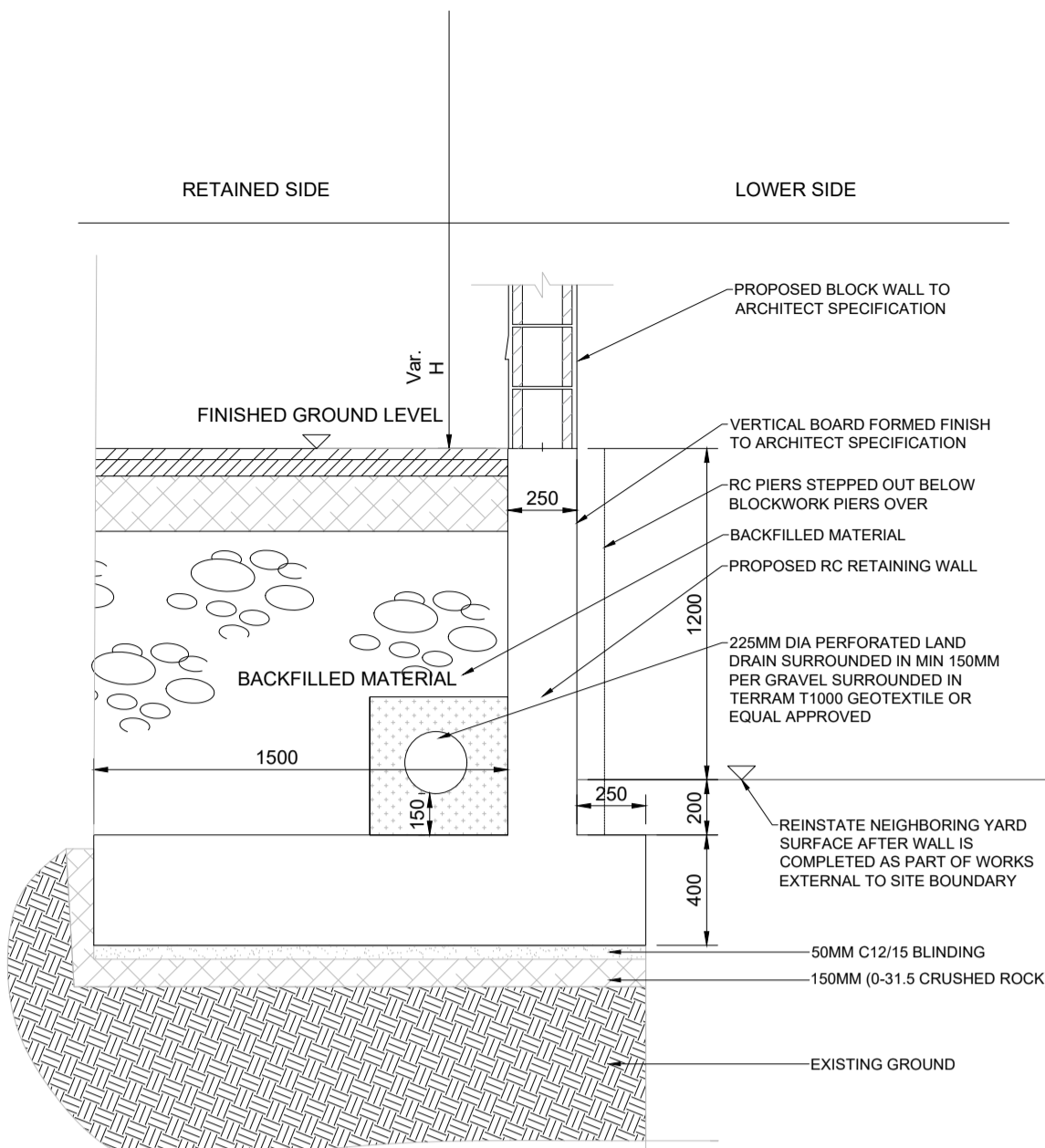
© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
 CONSULTING ENGINEERS,  
 FINISKLIN,  
 SLIGO,  
 IRELAND.

TEL. +353 (0)71 916 1416  
 FAX. +353 (0)71 916 1080  
 Email: info@jodireland.com

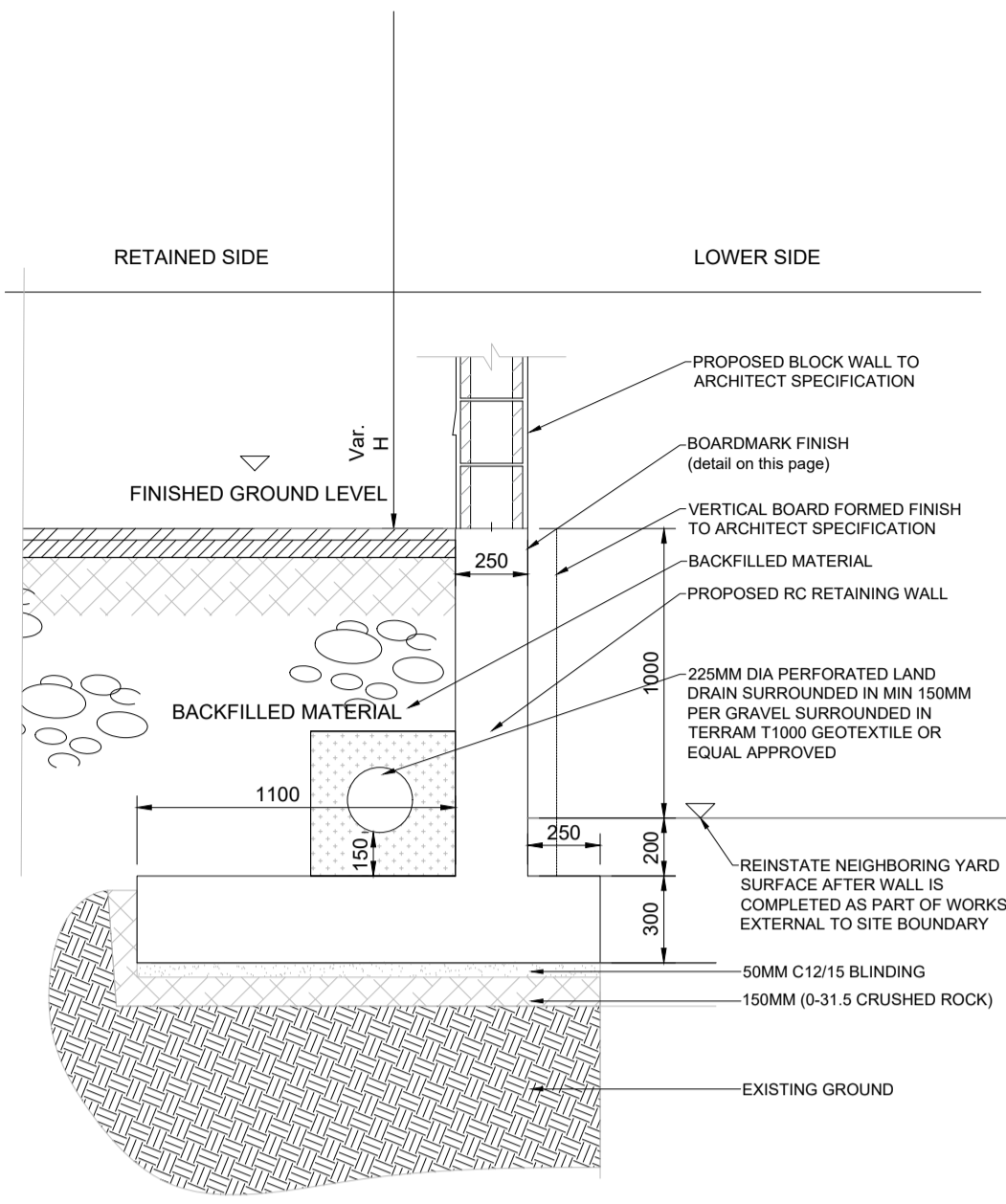
Drawing No. 6972-JOD-XX-ZZ-DR-C-200-010  
 Revision P.02



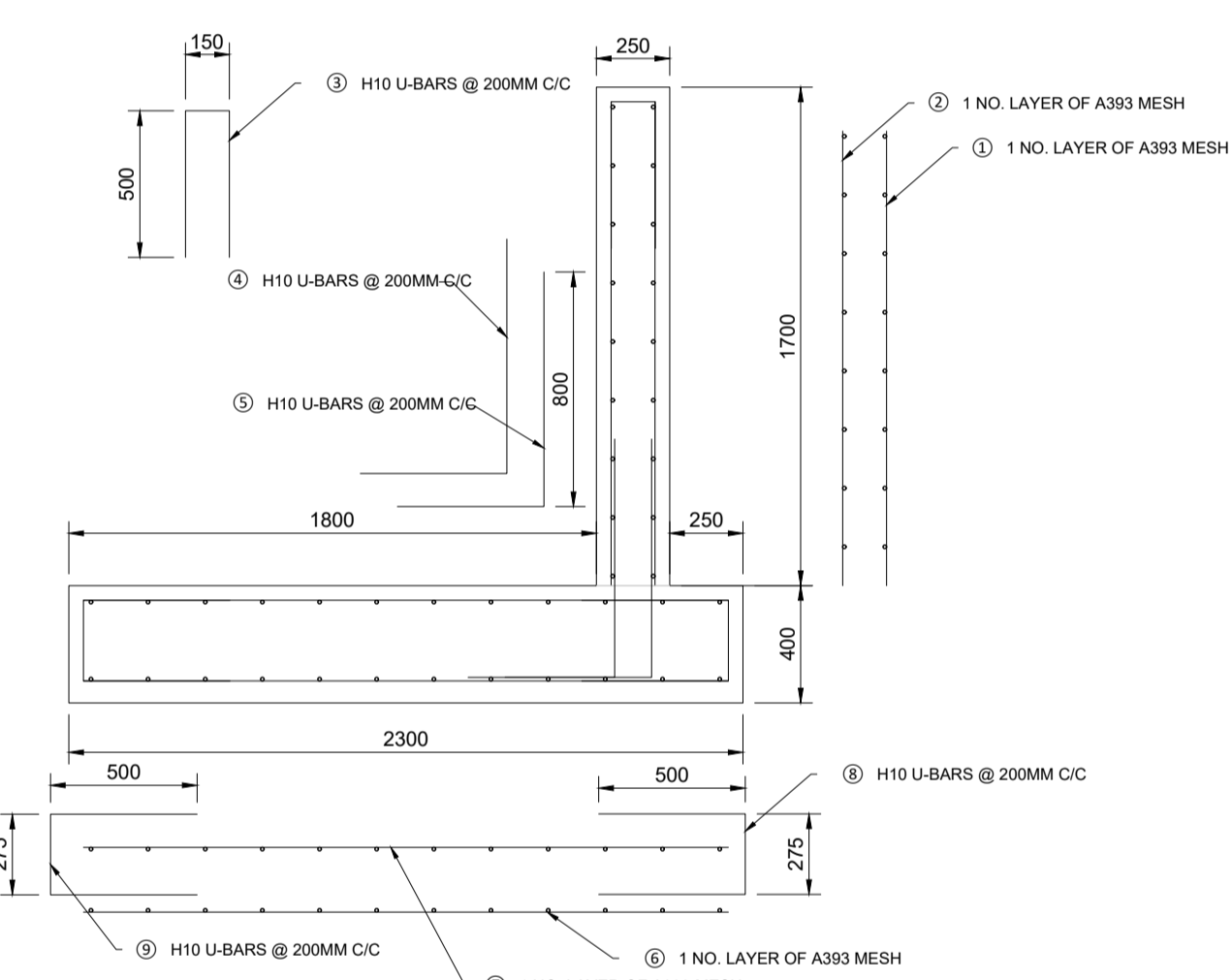
**1.5M HIGH RC RETAINING WALL WITH BLOCKWORK WALL ON TOP (Type 01)**  
Scale 1:25



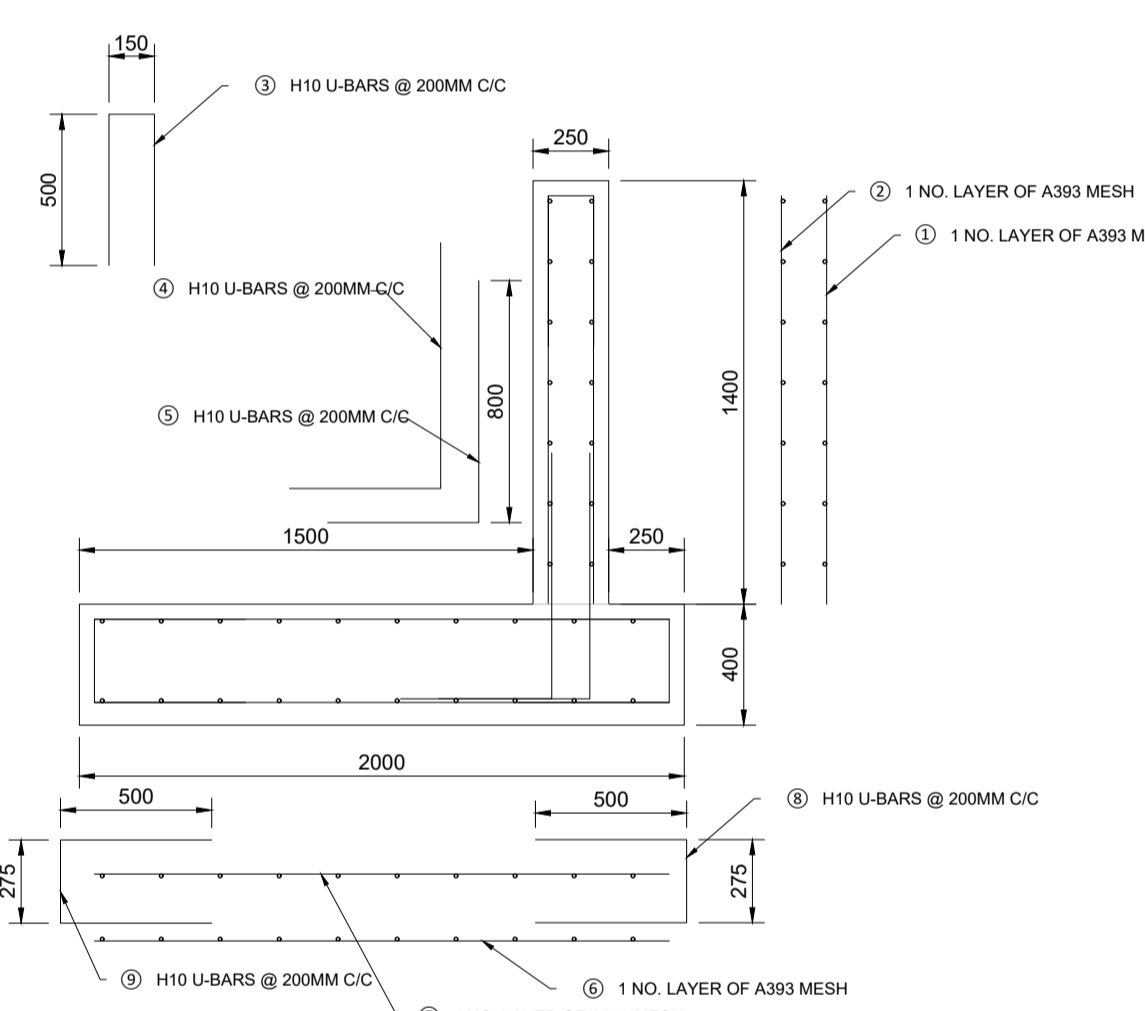
**1.2M HIGH RC RETAINING WALL WITH BLOCKWORK WALL ON TOP (Type 02)**  
Scale 1:25



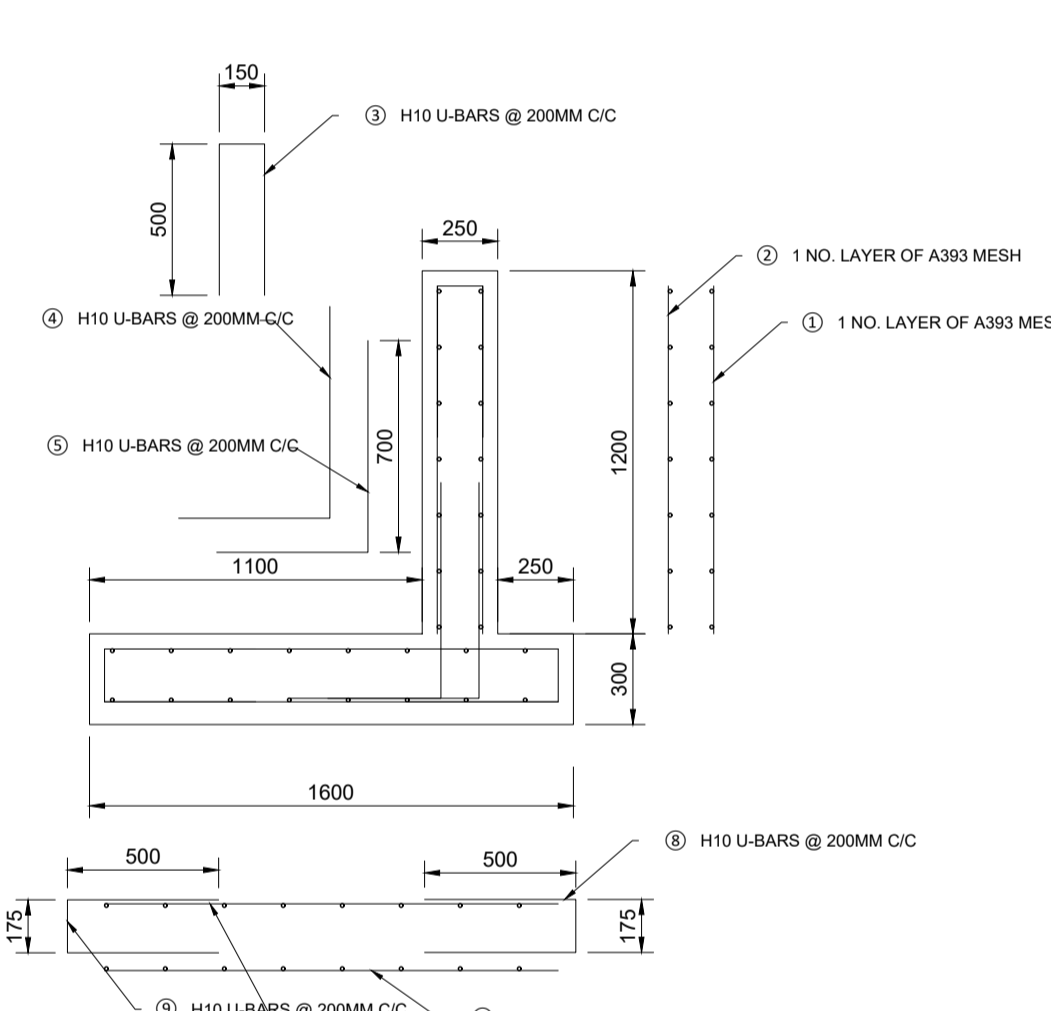
**1.0M HIGH RC RETAINING WALL WITH BLOCKWORK WALL ON TOP (Type 03)**  
Scale 1:25



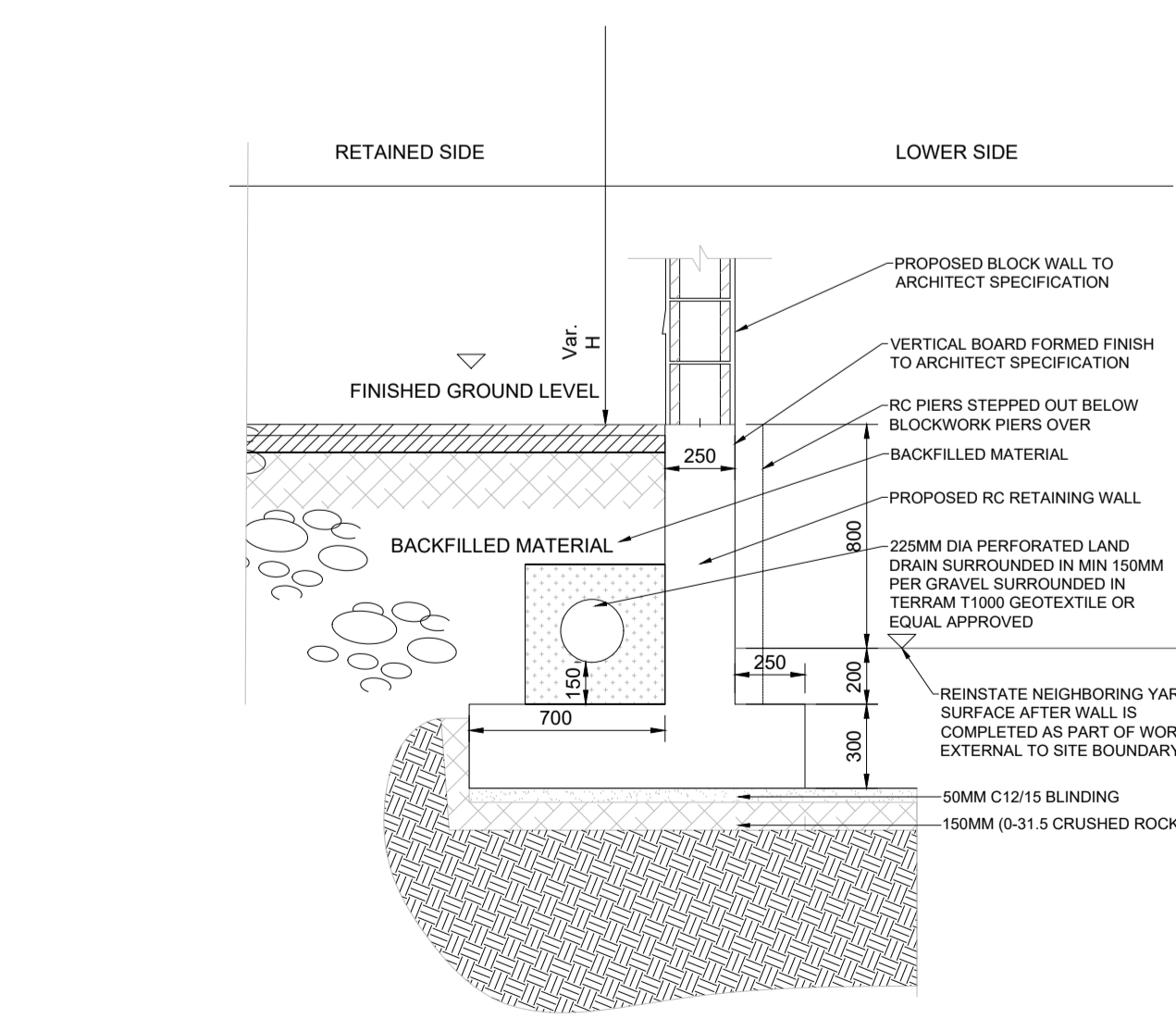
**DIMENSIONS FOR 1.50M HIGH RETAINING WALL (Type 01)**  
Scale 1:25



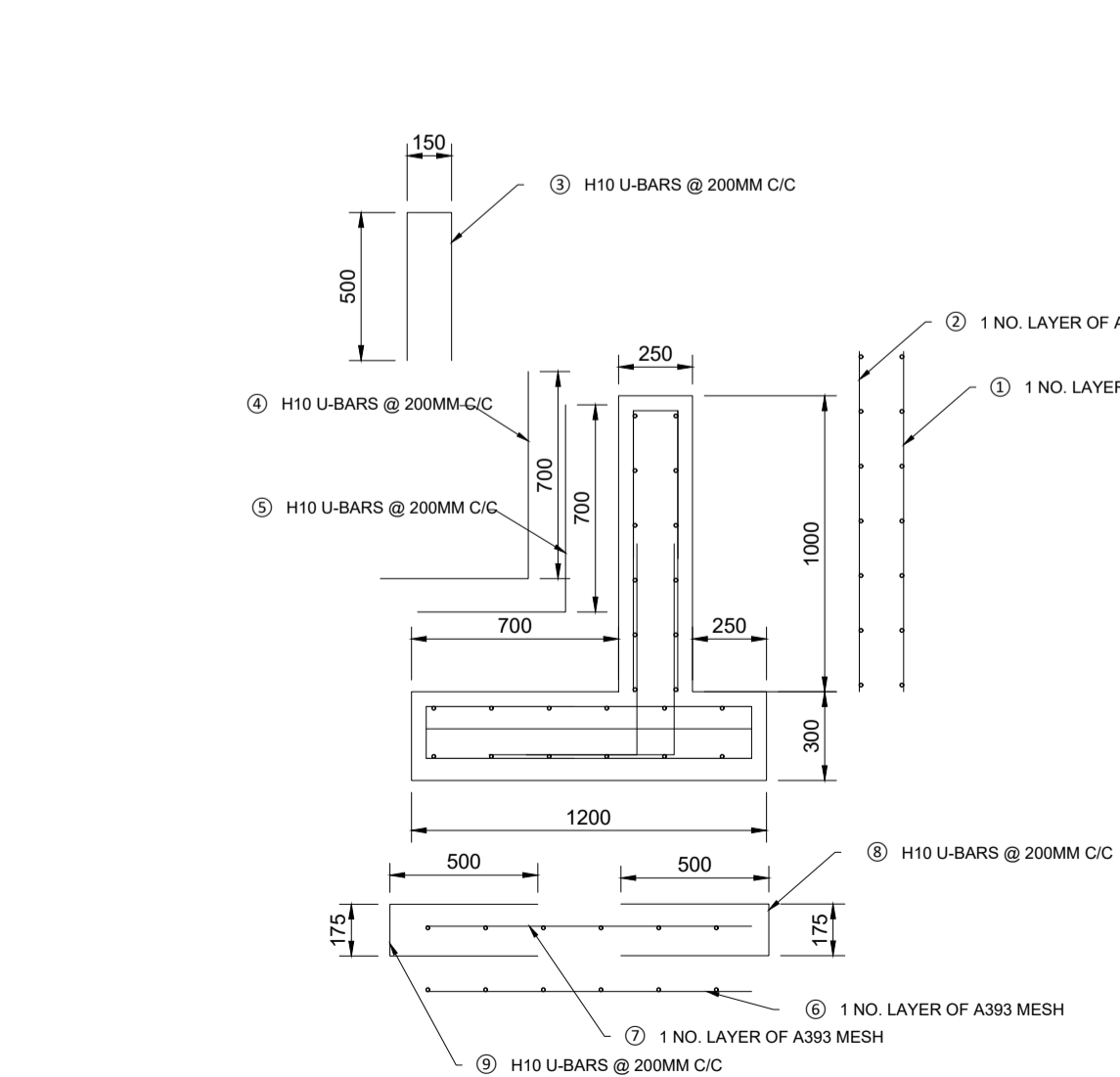
**DIMENSIONS FOR 1.20M HIGH RETAINING WALL (Type 02)**  
Scale 1:25



**DIMENSIONS FOR 1.00M HIGH RETAINING WALL (Type 03)**  
Scale 1:25

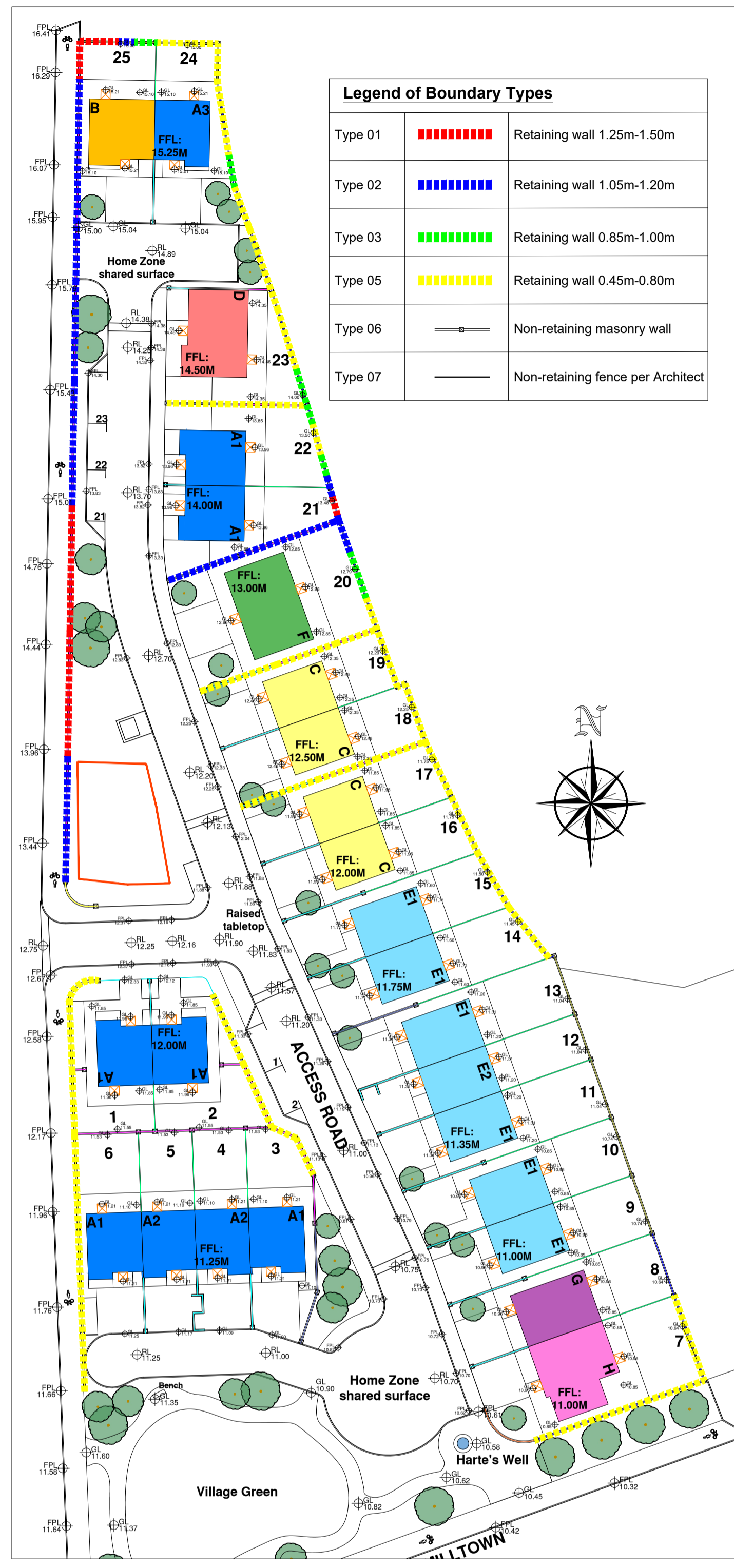


**0.8M HIGH RC RETAINING WALL WITH BLOCKWORK WALL ON TOP (Type 05)**  
Scale 1:25



**DIMENSIONS FOR 0.80M HIGH RETAINING WALL (Type 05)**  
Scale 1:25

**REFER TO JOD DRAWING 6972-JOD-XX-ZZ-DR-C-200-012 FOR ADDITIONAL INFORMATION ON BOUNDARY WALLS.**



Legend of Boundary Types		
Type 01		Retaining wall 1.25m-1.50m
Type 02		Retaining wall 1.05m-1.20m
Type 03		Retaining wall 0.85m-1.00m
Type 05		Retaining wall 0.45m-0.80m
Type 06		Non-retaining masonry wall
Type 07		Non-retaining fence per Architect

**NOTES**

- GENERAL NOTES:**
- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
  - ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
  - ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
  - THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
  - ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.
  - THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS. CONTRACTOR TO VERIFY THE ACCURACY OF THIS PROPOSAL TO THE ENGINEER AND ALLOW FOR MINOR CORRECTIONS AS DEEMED NECESSARY WITH A REASONABLE TIMEFRAME.

**NOTES**

- NOTE: ALLOWANCE TO BE MADE FOR EXPANSION JOINTS AT EACH CHANGE IN DIRECTION OF THE RETAINING WALLS
- REINFORCEMENT NOTES:**
- ALL REINFORCED SCHEDULED AS PER BS 8666:2005
  - COVER TO MAIN REINFORCEMENT OF STRUCTURAL ELEMENTS TO BE AS FOLLOWS U.N.O.:
- |                                    |      |
|------------------------------------|------|
| BOTTOM & SIDES OF BASE             | 75MM |
| OTHER FACES IN CONTACT WITH GROUND | 50MM |
| ANY OTHER FACE                     | 40MM |
- ALL CONCRETE TO CIVIL/STRUCTURAL ENGINEERS SPECIFICATION
  - MILL AND TEST CERTIFICATES FOR REINFORCEMENT TO BE SUPPLIED TO THE ENGINEER AS DIRECTED
  - AP = ALTERNATIVELY PLACED  
Stg'd = STAGGERED  
T = TOP  
B = BOTTOM  
UB = U-BARS  
EF = EACH FACE  
NF = NEAR FACE  
FF = FAR FACE  
BB = BOTTOM LAYER OF BOTTOM REINFORCEMENT  
TB = TOP LAYER OF TOP REINFORCEMENT  
HC = HOLLOWCORE
  - LAPPING H10 BARS TO BE 500MM
  - EXPOSURE CLASS TO BE XF1 FOR VERTICAL SURFACES AND XF3 FOR HORIZONTAL SURFACES

P.02	Site layout amended	PC	EM	18.01.24
P.01	issued for SECTION 179a PLANNING	SA	EM	16.01.24
rev.	modifications		by	chkd date

Layout Ref.:  
file: P:\Jod\6972-JOD-XX-ZZ-DR-C-200-011-012 Boundary Treatment And Retaining Wall Detail.dwg

client: Sligo County Council  
Comhairle Chontae Shligigh

project: **PROPOSED HOUSING DEVELOPMENT AT CULLAGH MORE, CARNEY, CO. SLIGO**

stage: **SECTION 179a PLANNING**

title: **PROPOSED RETAINING WALLS DETAILS**

scale: **As Stated @ A1**

surveyed	drawn	checked	date
SA	EM	EM	JAN '24

© COPYRIGHT OF **JENNINGS O'DONOVAN & PARTNERS CONSULTING ENGINEERS, FINISKILIN, SLIGO, IRELAND.**

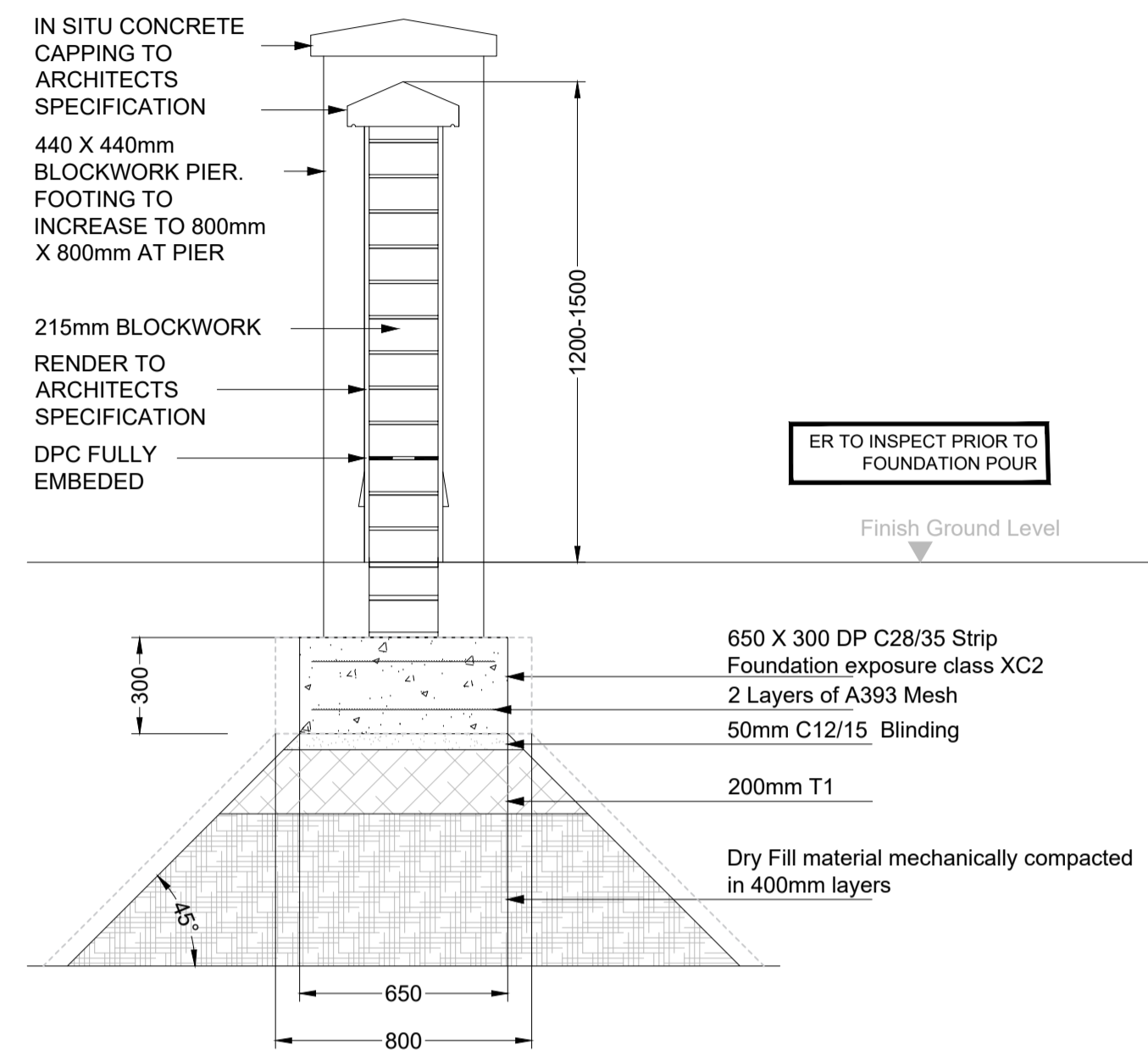
TEL: +353 (0)71 916 1416  
FAX: +353 (0)71 916 1080  
Email: info@jodireland.com

drawing no.	revision
6972-JOD-XX-ZZ-DR-C-200-011	P.02

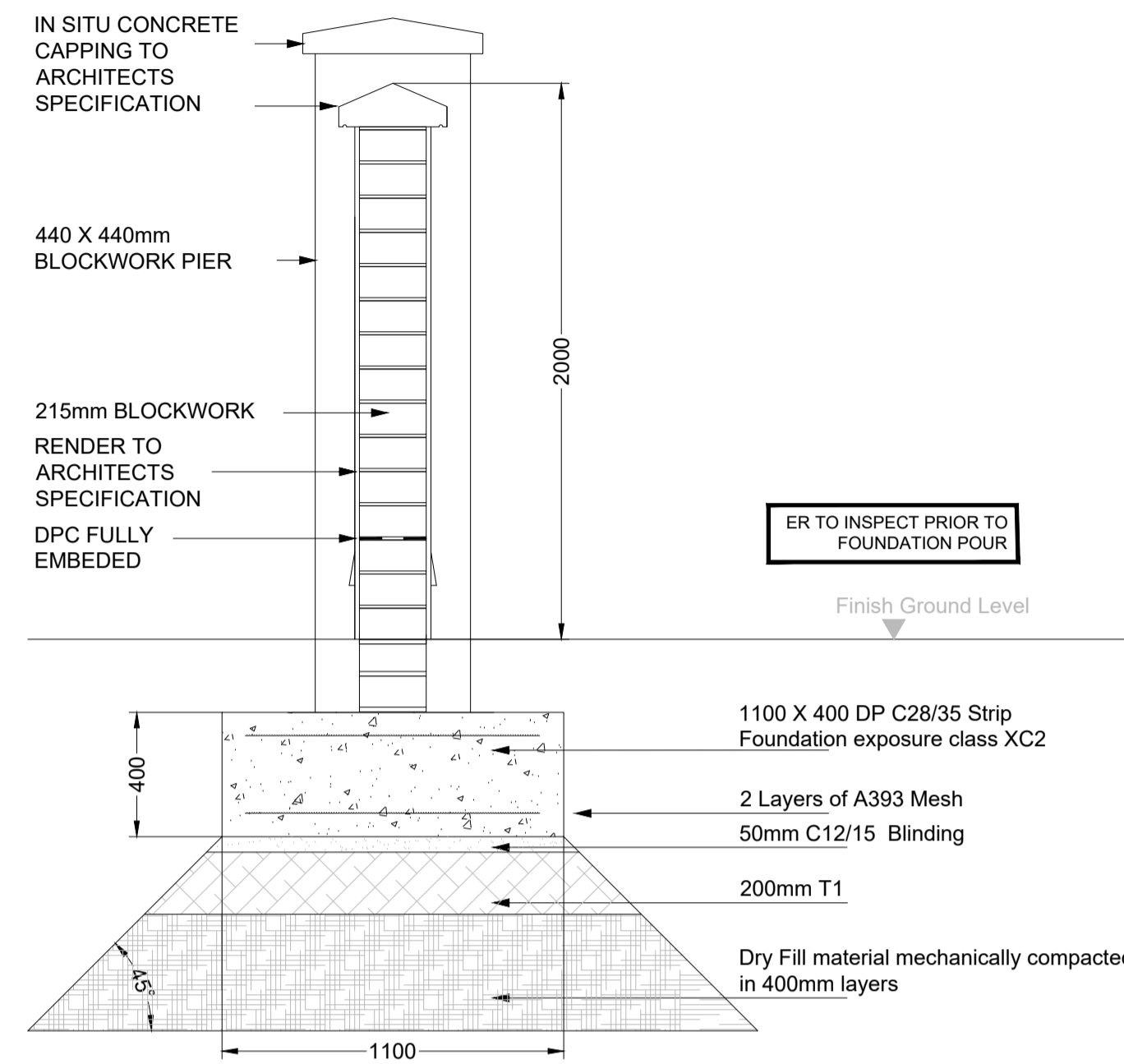
- CONCRETE:**
- CONCRETE TO BE GRADE C30/37 (CHARACTERISTIC STRENGTH - 37N/mm) MAXIMUM SIZE OF AGGREGATE - 20mm) IN ACCORDANCE WITH IS EN 206
  - ALL CONCRETE THROUGHOUT THE WORKS SHALL HAVE MIN. CEMENT CONTENT OF 320 kg/m³ AND A MAX. WATER / CEMENT RATIO OF 0.55, AND MEET REQUIREMENTS OF IS EN 206
  - ALL CONCRETE SHALL BE DESIGNED FOR EXPOSURE CLASSES XC4, XD1, XF3 AND XA1 IN ACCORDANCE WITH IS EN 206 PART 1
  - CONSTRUCTION JOINTS (LOCATIONS TO BE AGREED WITH THE ENGINEER) AFTER SETTING AND PRIOR TO HARDENING OF CONCRETE. THE SURFACE OF THE JOINT SHALL BE SPRAYED WITH WATER AND BRUSHED TO REMOVE THE OUTER SKIN EXPOSING BUT NOT DISTURBING THE LARGER AGGREGATE. MINIMUM COVER TO REINFORCEMENT TO BE 45mm UNLESS OTHERWISE NOTED.
  - MINIMUM LAPS TO REINFORCEMENT MESH=400. B10 - 500; B12 - 600; B16 - 800; B20 - 1000; B25 - 1250; B32 - 1600
  - NOTATION: T. TOP B. BOTTOM N.F. NEAR FACE F.F. FAR FACE A.B.R. ALTERNATE BARS REVERSED stg. STAGGERED E.F. EACH FACE O.F. OUTER FACE I.F. INNER FACE.
  - RETAINING WALL TO BE POURED IN 6m LONG SECTIONS WITH EXPANSION JOINTS AT 6m c/c.

Wall Height	Wall Thickness	Pier Size	Pier Spacing	Expansion Joint Spacing
<=2.0m	215mm	440X440mm	3m	8m
<=1.5m	215mm	440X440mm	4m	8m
<=2.0m	215mm	HB Core Pier	2m	8m
<=1.5m	215mm	HB Core Pier	4m	8m

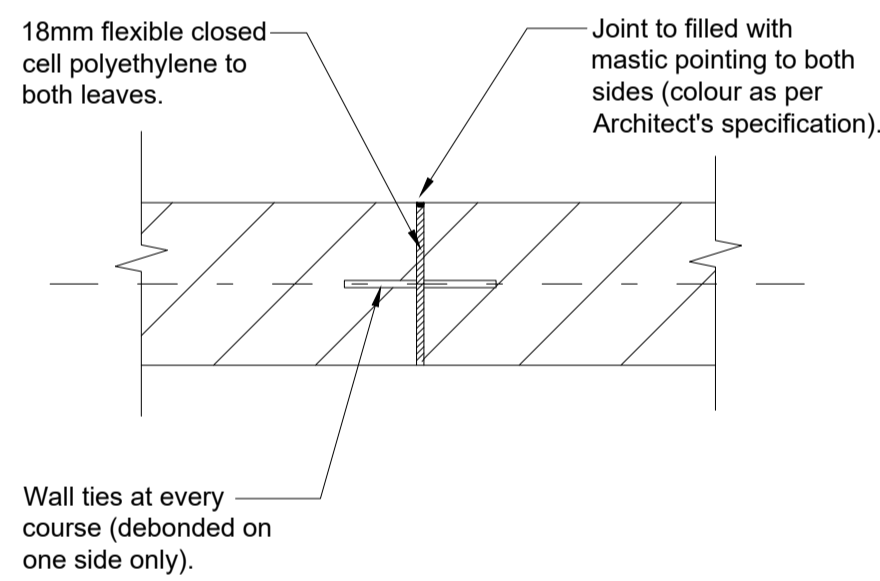
TYPICAL PIER AND EXPANSION JOINT SPACING



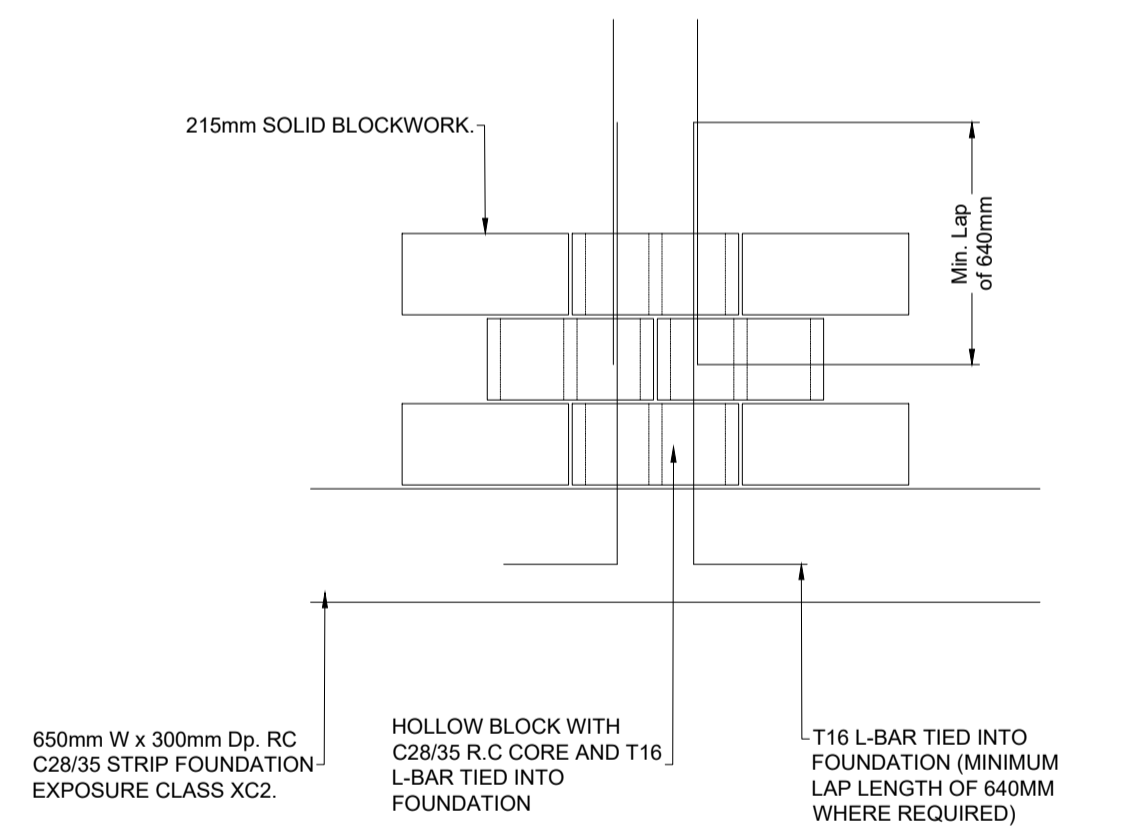
BOUNDARY TYPE - WALL HEIGHT FROM 1200mm TO 1500mm  
Scale 1:20 @A1



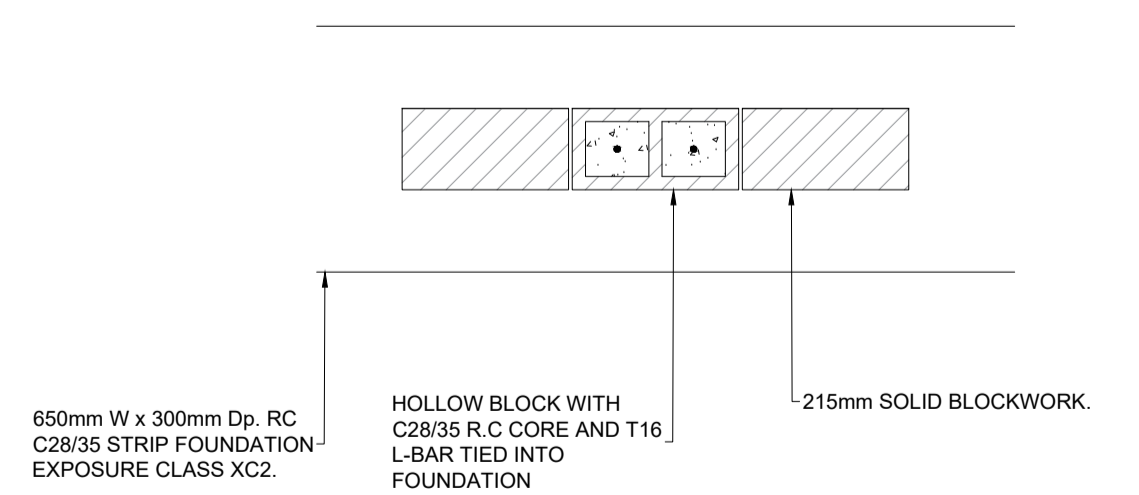
BOUNDARY TYPE - WALL HEIGHT 2000mm (NO RC WALL)  
Scale 1:20 @A1



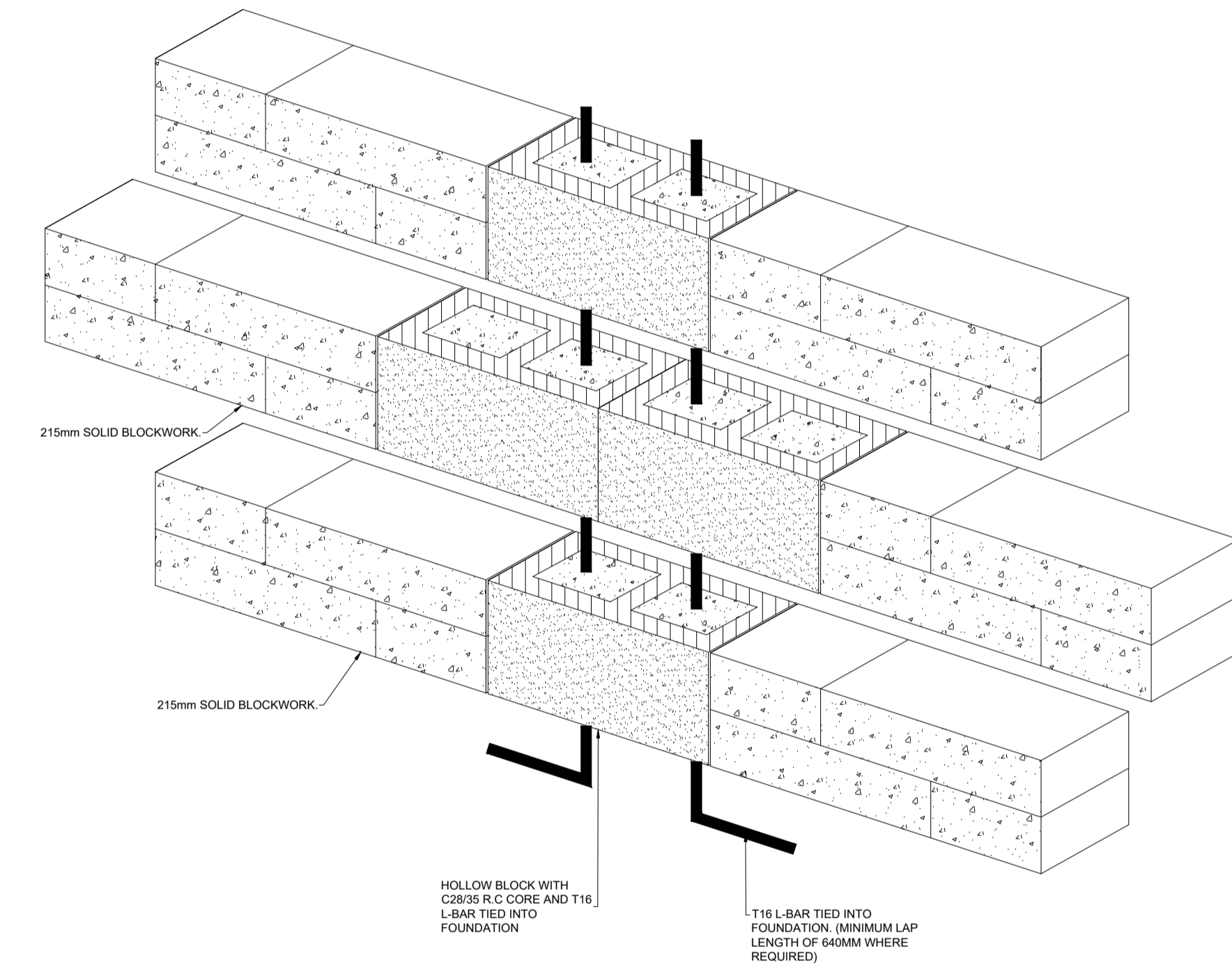
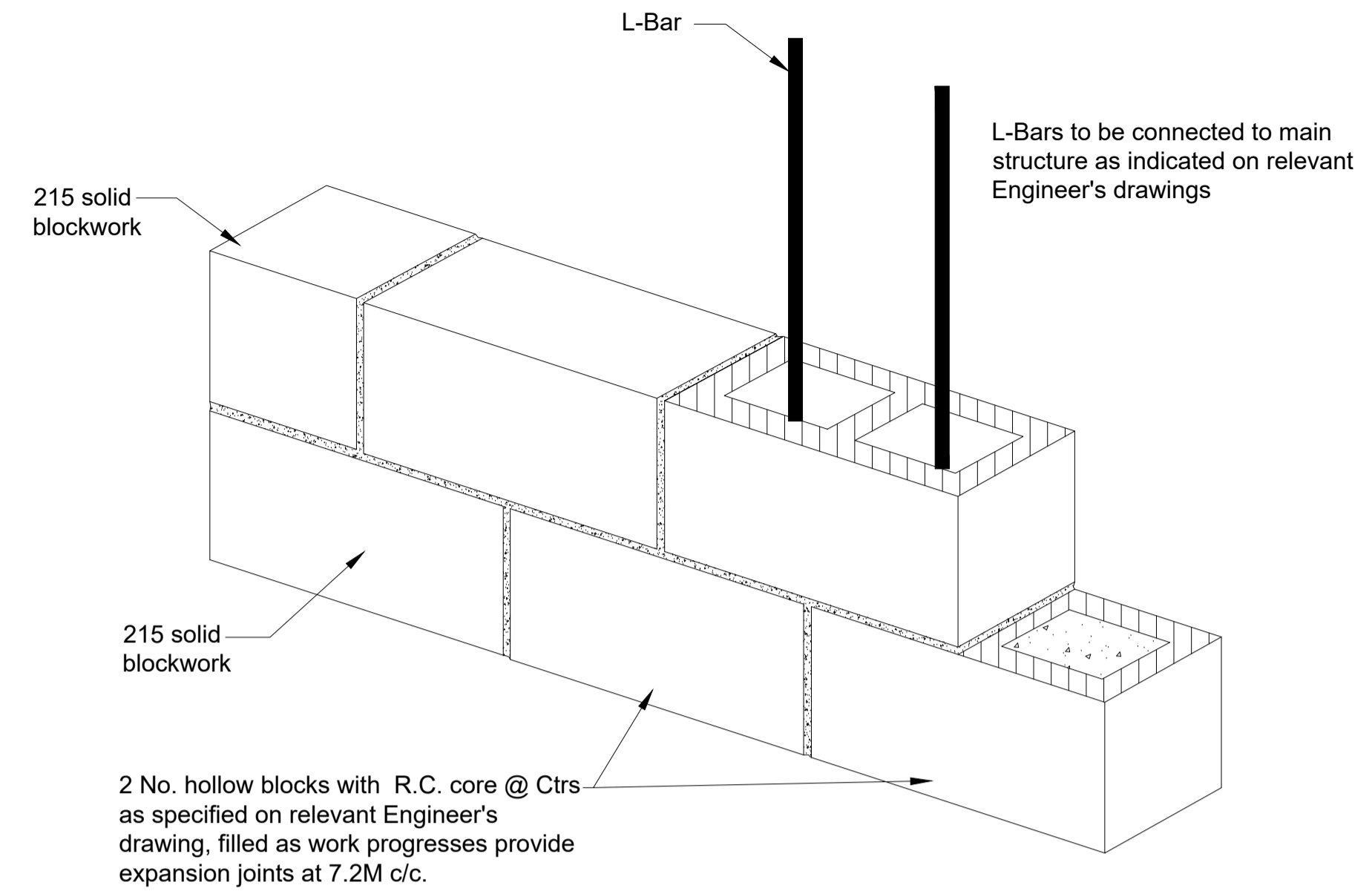
MOVEMENT JOINT IN SINGLE LEAF WALL.  
SCALE 1:10



HOLLOW BLOCK PIER - ELEVATION  
Scale 1:20



HOLLOW BLOCK PIER - PLAN  
Scale 1:20



ISOMETRIC VIEW OF HOLLOW BLOCK PIER AT BOUNDARY WALL.  
Not To Scale

CONCRETE:

- CONCRETE TO BE GRADE C30/37 (CHARACTERISTIC STRENGTH - 37N/mm) MAXIMUM SIZE OF AGGREGATE - 20mm) IN ACCORDANCE WITH IS EN 206
- ALL CONCRETE THROUGHOUT THE WORKS SHALL HAVE MIN. CEMENT CONTENT OF 320 kg/m<sup>3</sup> AND A MAX. WATER / CEMENT RATIO OF 0.55, AND MEET REQUIREMENTS OF IS EN 206
- ALL CONCRETE SHALL BE DESIGNED FOR EXPOSURE CLASSES XC4, XD1, XF3 AND XA1 IN ACCORDANCE WITH IS EN 206 PART 1
- CONSTRUCTION JOINTS (LOCATIONS TO BE AGREED WITH THE ENGINEER) AFTER SETTING AND PRIOR TO HARDENING OF CONCRETE, THE SURFACE OF THE JOINT SHALL BE SPRAYED WITH WATER AND BRUSHED TO REMOVE THE OUTER SKIN EXPOSING BUT NOT DISTURBING THE LARGER AGGREGATE MINIMUM COVER TO REINFORCEMENT TO BE 45mm UNLESS OTHERWISE NOTED.
- MINIMUM LAPS TO REINFORCEMENT MESH=400, B10 - 500; B12 - 600; B16 - 800; B20 - 1000; B25 - 1250; B32 - 1600
- NOTATION: T. TOP B. BOTTOM N.F. NEAR FACE F.F. FAR FACE A.B.R. ALTERNATE BARS REVERSED slg. STAGGERED E.F. EACH FACE O.F. OUTER FACE I.F. INNER FACE.

NOTES

GENERAL NOTES:

- FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
- ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
- ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
- THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
- ALL LEVELS SHOWN RELATE TO ORDINANCE SURVEY DATUM AT MALIN HEAD
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS AND SPECIFICATIONS. CONTRACTOR TO VERIFY THE ACCURACY OF THIS PROPOSAL TO THE ENGINEER AND ALLOW FOR MINOR CORRECTIONS AS DEEMED NECESSARY WITH A REASONABLE TIMEFRAME.

NOTES

P.01	issued for SECTION 179a PLANNING	PC	EM	16.01.24
rev.	modifications	by	chkd	date
Layout Ref.:				
file	P:\Job\6972 Carney Housing\700 Drawings\703 Planning\01 WIP\Section 179a Drawings\6972-JOD-XX-ZZ-DR-C-200-011-012 Boundary Treatment And Retaining Wall Detail.dwg			

client  Sligo County Council  
Comhairle Chontae Shligigh

project  
PROPOSED HOUSING DEVELOPMENT  
AT CULLAGH MORE, CARNEY, CO.  
SLIGO

stage  
SECTION 179a PLANNING

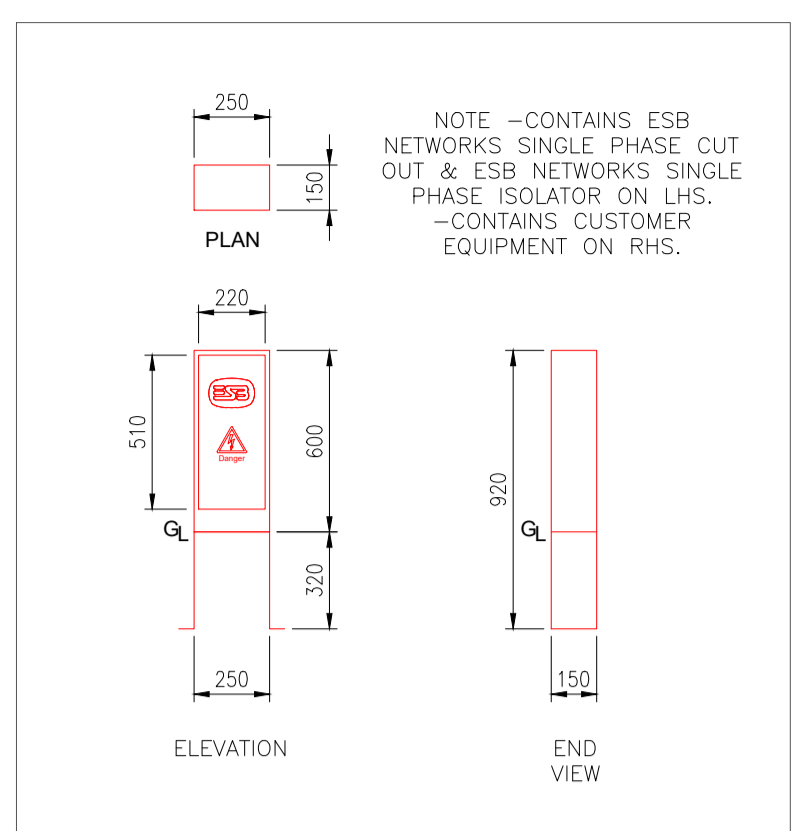
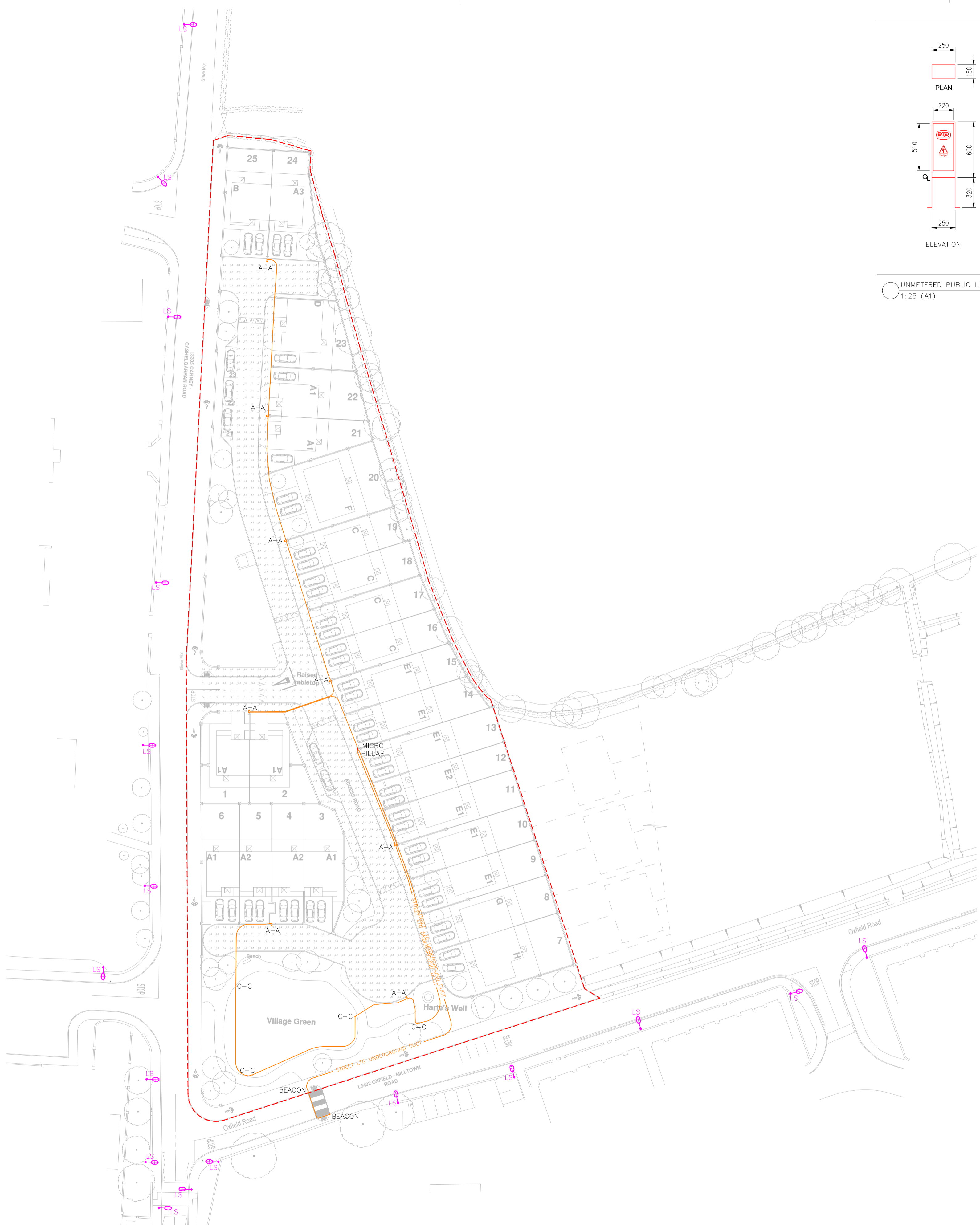
title  
PROPOSED BOUNDARY TREATMENT  
DETAILS

scale	As Stated @ A1		
surveyed	drawn	checked	date
	PC	EM	JAN '24

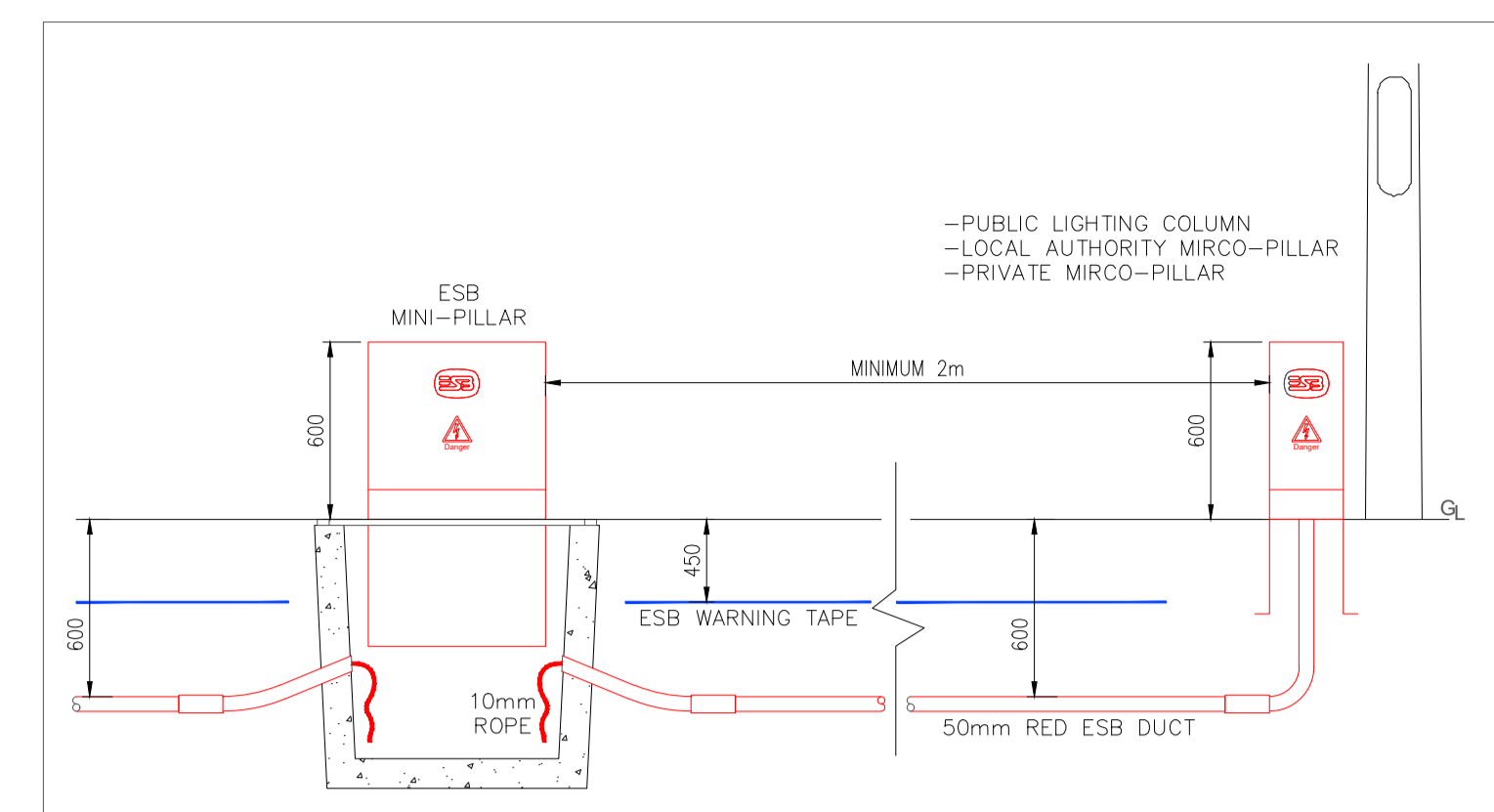
© COPYRIGHT OF  
**JENNINGS O'DONOVAN & PARTNERS**  
CONSULTING ENGINEERS,  
FINISKLIN,  
SLIGO,  
IRELAND.  
TEL. +353 (0)71 916 1416  
FAX. +353 (0)71 916 1080  
Email: info@jodireland.com



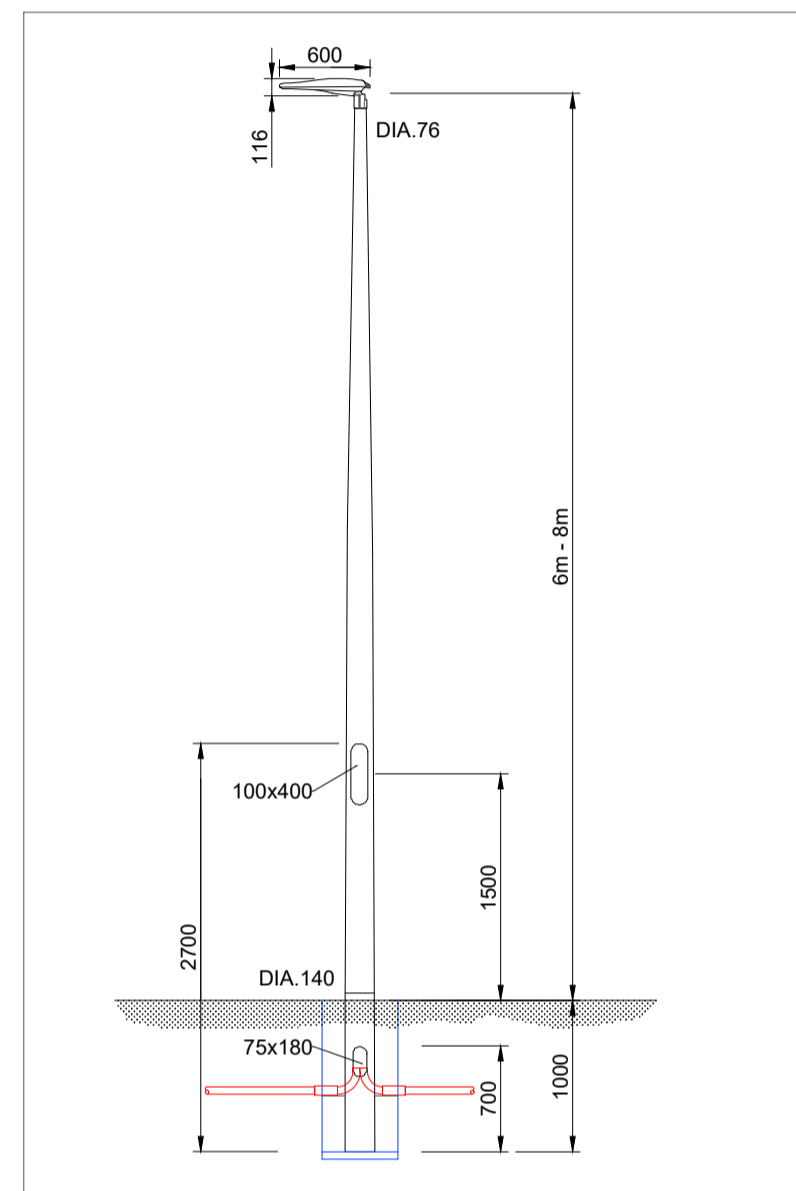
drawing no.	revision
6972-JOD-XX-ZZ-DR-C-200-012	P.01



○ UNMETERED PUBLIC LIGHTING SINGLE PHASE MICRO PILLAR  
1:25 (A1)



○ PUBLIC LIGHTING MICRO PILLAR/MINI PILLAR DETAIL  
1:25 (A1)



○ TYPICAL DETAIL OF STREET LIGHTING & OCTAGONAL COLUMN  
N.T.S. (A1)

RESIDENTIAL STREET LIGHTING - P3  
RESULTS - HORIZONTAL ILLUMINANCE (LUX)  
E<sub>av</sub> = 7.05  
E<sub>min</sub> = 1.77  
E<sub>max</sub> = 17.80  
E<sub>min</sub>/E<sub>max</sub> = 0.10  
E<sub>min</sub>/E<sub>av</sub> = 0.25  
E<sub>max</sub>/E<sub>av</sub> = 2.52

LUMINAIRE DATA  
LUMINAIRE A BGP702 DW50 6M POST TOP 730 MF 0.76

- NOTES
- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS & CONTRACT DOCUMENTS.
  - THE INSTALLATION SHALL BE COMPLETED IN ACCORDANCE WITH ETOI REGULATIONS, ESB NETWORKS NATIONAL CODE OF PRACTICE & LOCAL AUTHORITY REQUIREMENTS.
  - WIDE RADIUS & GENTLY SWEEPING BENDS SHALL BE USED ON DUCTING SET IN CONCRETE.
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF ALL UNDERGROUND SERVICES.
  - ALL DUCTING SHALL BE LOCATED IN FOOTPATHS & SOFT LANDSCAPING.
  - NOT MORE THAN SIX COLUMNS SHALL BE SUPPLIED FROM ANY ONE CIRCUIT AND NOT MORE THAN FOUR CIRCUITS SHALL BE TAKEN FROM ANY ONE PUBLIC LIGHTING MICRO PILLAR.
  - A MINIMUM COVER OF 600mm SHALL BE PROVIDED TO DUCTING IN GRASS MARGINS WITH A MINIMUM COVER OF 750mm PROVIDED AT ROAD CROSSINGS
  - CABLE JOINTS WILL NOT BE PERMITTED. CABLES SHALL BE LOOPED FROM COLUMN TO COLUMN ON EACH CIRCUIT.
  - LIGHTING COLUMNS SHALL BE OCTAGONAL GALVANISED COLUMNS SUPPLIED BY PILTOWN ENGINEERING, LAMPPOST CONSTRUCTION OR EQUAL & APPROVED. COLUMNS & COLUMN INSTALLATION SHALL COMPLY WITH DEPARTMENT OF THE ENVIRONMENT & LOCAL AUTHORITY REQUIREMENTS.
  - LIGHTING COLUMNS SHALL BE POSITIONED TO COINCIDE WITH PROPERTY PARTY LINES TO AVOID OBSTRUCTING ENTRANCES.
  - PUBLIC LIGHTING CONNECTION SHALL BE BY UNDERGROUND CABLE FROM THE NEAREST ESB NETWORKS MINIPILLAR TO THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR.
  - AN ESB NETWORKS APPROVED MDPE 50mm OD RED CONTINUOUS SERVICE DUCT SHALL BE INSTALLED AT A DEPTH OF 600mm FROM ESB NETWORKS' MINIPILLAR VAULT, TO EACH PUBLIC LIGHTING SYSTEM MICRO-PILLAR.
  - ESB NETWORKS APPROVED YELLOW WARNING TAPE SHALL BE INSTALLED 300mm BELOW FINISHED GROUND LEVEL ALONG THE FULL LENGTH OF AND OVER THE DUCT.
  - A COMPLETION CERTIFICATE SHALL BE PROVIDED FOR THE PUBLIC LIGHTING SYSTEM FROM A CERTIFIED ELECTRICIAN.
  - THERE SHALL BE A SEPARATION OF AT LEAST 2 METERS BETWEEN ESB NETWORKS' MINIPILLAR AND THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR, PUBLIC LIGHTING COLUMN OR ANY OTHER PRIVATE MICRO PILLAR.
  - THE CONTRACTOR IS TO ALLOW FOR THE SUPPLY AND INSTALLATION OF ACCESS CHAMBERS ON DUCTING AS REQUIRED AT CHANGES IN DIRECTION & ON DUCT RUNS IN EXCESS OF 35m
  - PUBLIC LIGHTING CONNECTION SHALL BE BY UNDERGROUND CABLE FROM THE NEAREST ESB NETWORKS MINIPILLAR TO THE PUBLIC LIGHTING SYSTEM MICRO-PILLAR.
  - THE CONTRACTOR SHALL SUPPLY AND INSTALL A STRONG CONTINUOUS 10mm POLYPROPYLENE DRAW ROPE SECURED AT BOTH ENDS IN THE DUCT.

THE STREET LANTERN PROPOSED WILL HAVE THE FOLLOWING:  
-THE LIFETIME OF THE DRIVER WILL BE IN EXCESS OF 100,000 HOURS  
-THE LANTERN WARRANTY TO BE 10 YEARS  
-AN LM REPORT/TEST CERT & DECLARATION OF CONFORMITY  
-THE PROPOSED STREET LIGHT FITTINGS WILL HAVE A WARM WHITE (730) 3000K COLOUR TEMP  
-A LIGHTING CONTROL REGIME CAN BE ADOPTED AS PER THE LOCAL AUTHORITY SPECIFICATION

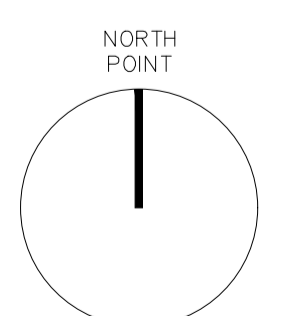
- LEGEND
- 1 NO. 50mmØ RED SITE LIGHTING DUCT
  - PUBLIC LIGHTING MICROPILLAR
  - A-A LED POLE MOUNTED LUMINAIRE C/W NEMA SOCKET PHOTOCELL & 6m OCTAGONAL GALVANISED STEEL COLUMN
  - C-C LED POLE MOUNTED LUMINAIRE C/W NEMA SOCKET PHOTOCELL & 6m OCTAGONAL GALVANISED STEEL COLUMN
  - BEACON LED POLE MOUNTED FLASHING BEACON & 3m OCTAGONAL GALVANISED STEEL COLUMN
  - LS EXISTING STREET LIGHT STANDARD
  - PROPOSED SITE EXTENTS



○ TYPICAL POLE MOUNTED AMENITY LUMINAIRE  
N.T.S. (A1)



○ TYPICAL POLE MOUNTED STREET LUMINAIRE  
N.T.S. (A1)



General Notes  
A. DO NOT SCALE FROM THIS DRAWING - WORK ONLY FROM FIGURED DIMENSIONS.  
B. ALL ERRORS & OMISSIONS TO BE REPORTED TO THE CONSULTING ENGINEER  
C. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ARCHITECTS AND STRUCTURAL ENGINEER'S DRAWINGS.  
D. REFER TO DOCUMENT REGISTER FOR DESCRIPTION OF STATUS CODES.

Rev	Status	Date	Description	D.E.
P02	S2	JAN '24	SECTION 179A PLANNING	C.G.
P02	S2	AUG '23	UPDATED LAYOUT	C.G.
P01	S2	AUG '23	PRELIMINARY LAYOUT	C.G.

Client  
**Sligo County Council**  
County Hall, Riverside, Sligo, F91 Y763

Project Title  
**Curraghmore  
Cullagh More, Carney  
Co. Sligo**

Drawing Title  
**Electrical Services  
Proposed Site Utility Services  
Public Lighting Infrastructure Layout**



Dublin 01 4872300  
Cork 021 2375080  
Roscommon 090 6602380  
Website www.varming.ie

*Engineering for the Future*



Revision	Project Drawing Reference		
<b>P02</b>	<b>22814-VCE-ZZ-ZZ-DR-E-1002</b>		
Status	Varming Project Number		
<b>S2</b>	<b>22814</b>		
Date	Checked By	Drawn By	Scale
JULY '23	J.G.	C.G.	1:500 @ A1

Tiltblock Revision: 2020\_2