

Bonneagar Iompair Éireann
Transport Infrastructure Ireland

TII Publications



Standard Construction Details - Series 2400

April 2017

CC

Construction &
Commissioning

Standard Construction Details (SCDs) – Series 2400

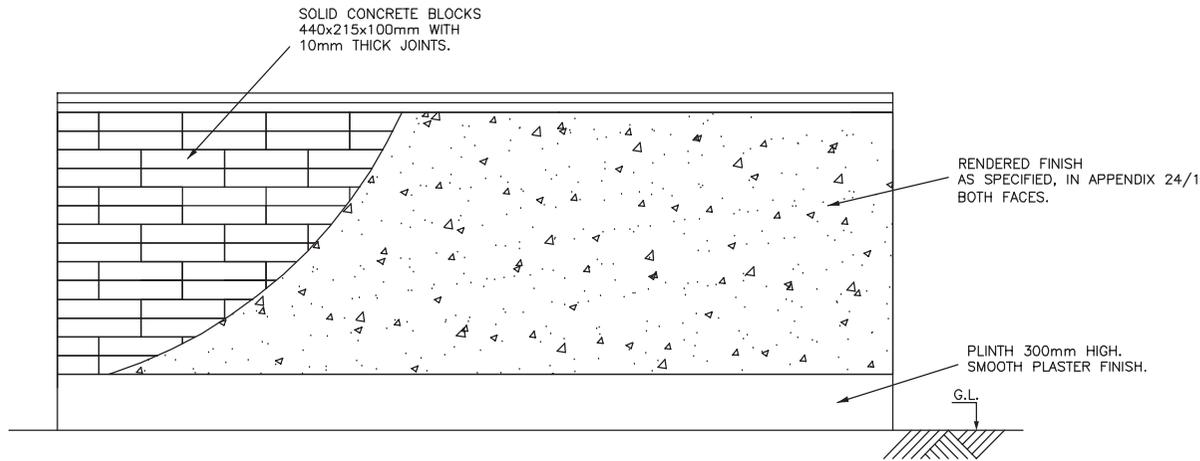
TII Publications contains Standard Construction Details (SCDs) for use on National Road schemes in Ireland. This composite document brings together all the Series 2400 SCDs from TII Publications current at the date of this document's publication, into a single location for convenience.

Every effort has been made to keep this composite document updated and available from the TII Publications website (<http://www.tiipublications.ie/>). Please note that the SCD drawings available from the TII Publications website (individually linked below) are the controlled versions for all SCDs.

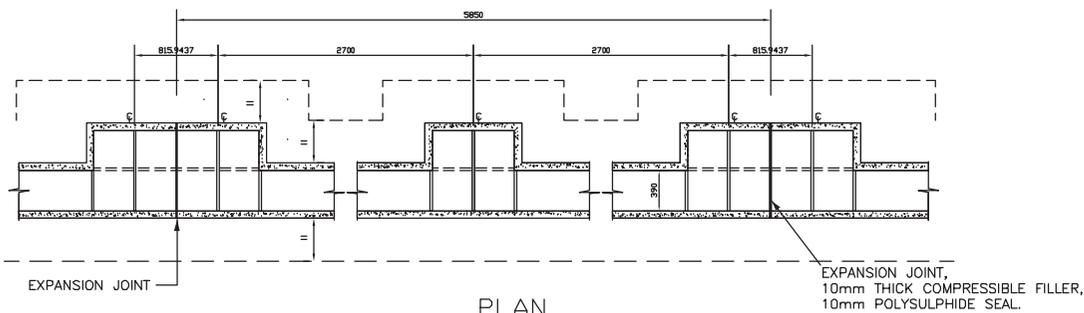
The SCDs contained in this document are as follows:

Series 2400 Walls

CC-SCD-02401	Walls - Typical Blockwork Wall
CC-SCD-02402	Walls - Typical Dense Concrete Masonry Blockwork Wall
CC-SCD-02403	Walls - Typical Masonry Faced Blockwork Wall
CC-SCD-02404	Walls - Typical Stonework Wall
CC-SCD-02405	Walls - Typical Railing on Low Stonework Wall
CC-SCD-02406	Walls - Typical Steel Palisade on Low Wall
CC-SCD-02407	Walls - Principles of Stonemasonry



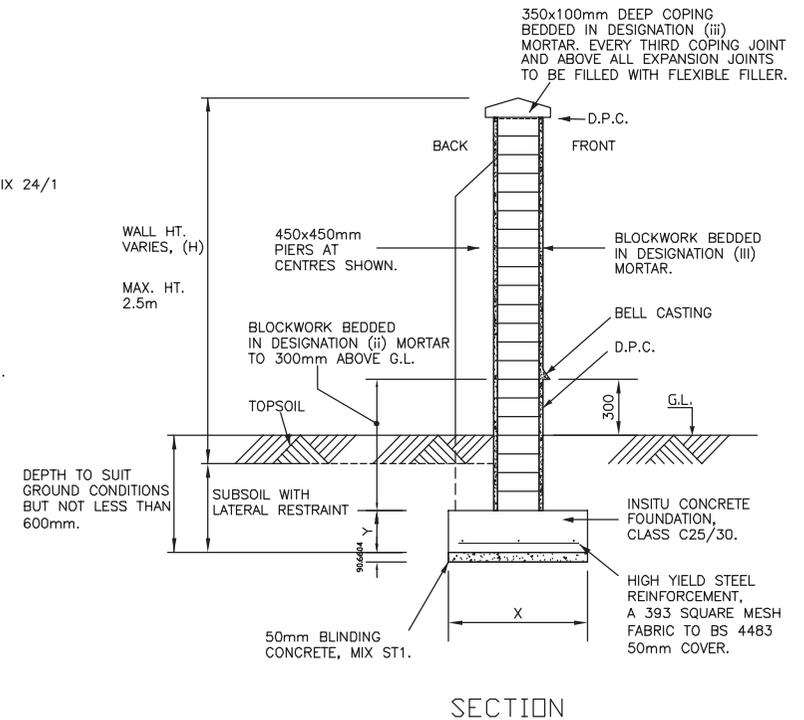
ELEVATION



PLAN

WALL HT. (H) (mm)	X (mm)	Y (mm)	PIER CTRS. (mm)
UP TO 1200	700	225	NO PIERS
1200 TO 1800	700	225	2700
1800 TO 2500	800	250	2700

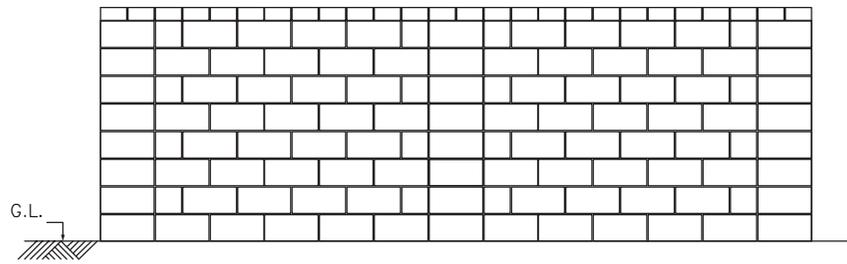
FINISH TYPE	
1	FAIRFACED
2	ROUGHCAST
3	NAPPED PLASTER
4	TYROLENE



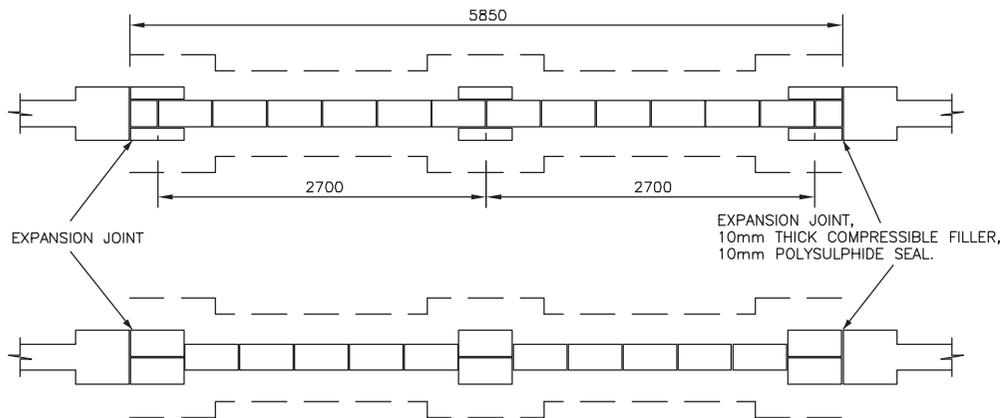
SECTION

- NOTES: 1. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
2. BLOCKS TO COMPLY WITH I.S. E.N. 771-3. MORTAR TO COMPLY WITH I.S. E.N. 998. MASONRY TO COMPLY WITH I.S. E.N. 1996 FULL ADHESION OF BLOCKWORK TO MORTAR AT ALL INTERFACES.
3. RENDERED FINISHES TO BE IN ACCORDANCE WITH BS 5262 CODE OF PRACTICE FOR EXTERNAL RENDERINGS.
4. PIERS AT ENDS AND CHANGES OF DIRECTION. ENDS OF WALLS TO RETURN BY H/3.
5. MINIMUM ALLOWABLE BEARING CAPACITY OF FORMATION 1S 25 kN/m² (UNIFORMLY DISTRIBUTED) OR 50 kN/m² (TRIANGULARLY DISTRIBUTED).

TII PUBLICATION NUMBER: CC-SCD-02401



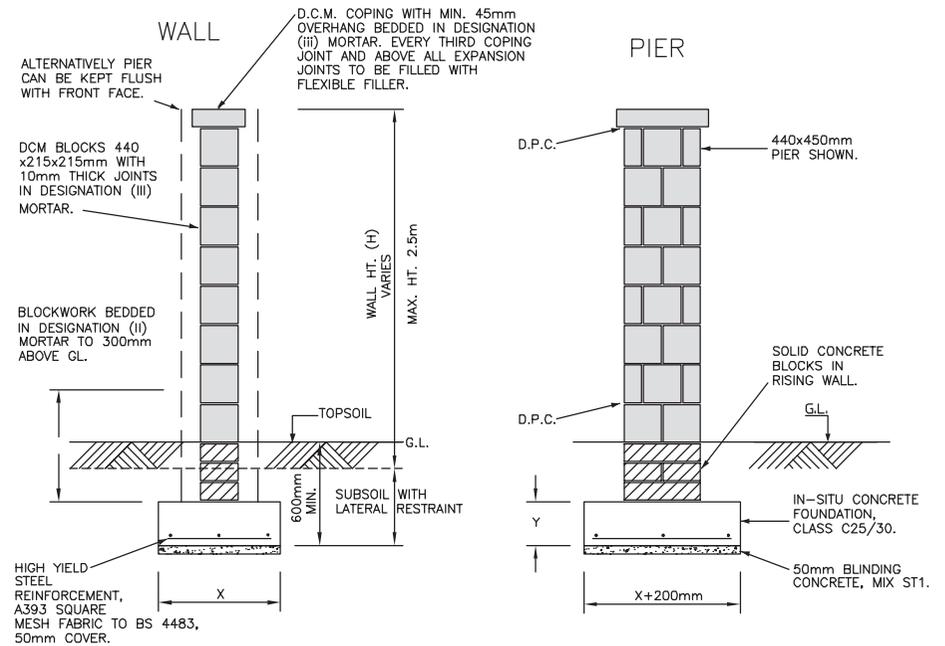
ELEVATION



PLAN

WALL HT. (H) (mm)	X (mm)	Y (mm)	PIER SIZE (mm)	PIER CTRS. (mm)
UP TO 1200	800	225	NO PIERS	N/A
1200 TO 2000	800	225	440x450	2700
2000 TO 2500	900	250	440x550	2700

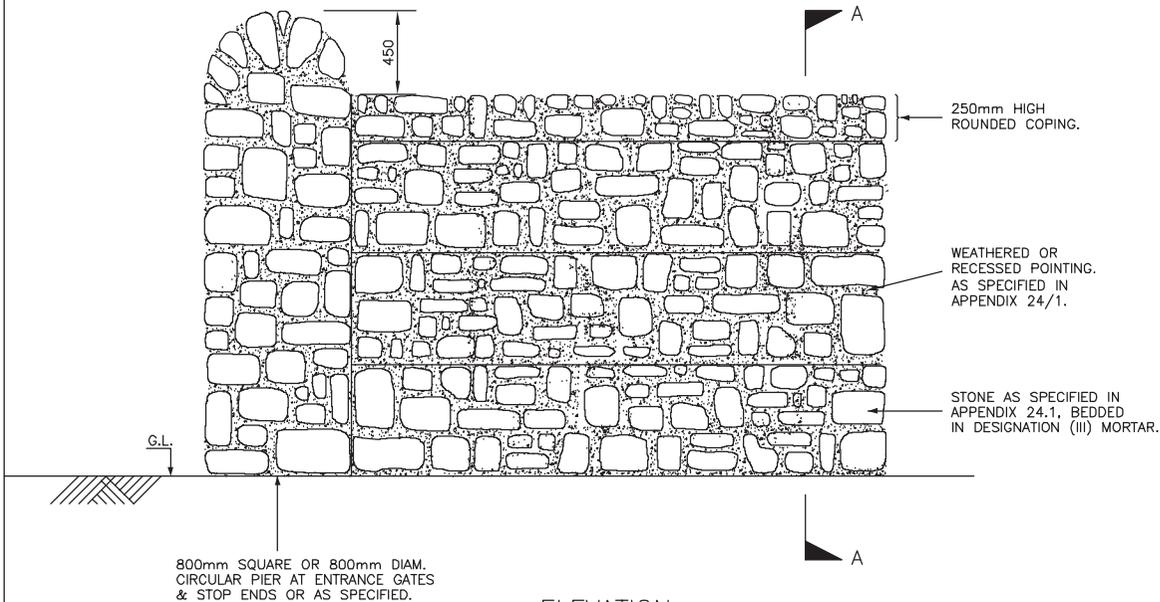
TEXTURE TYPE	
TYPE 1	SMOOTH
TYPE 2	SPLIT
TYPE 3	SPLIT FLUTED
TYPE 4	SPLIT RIBBED



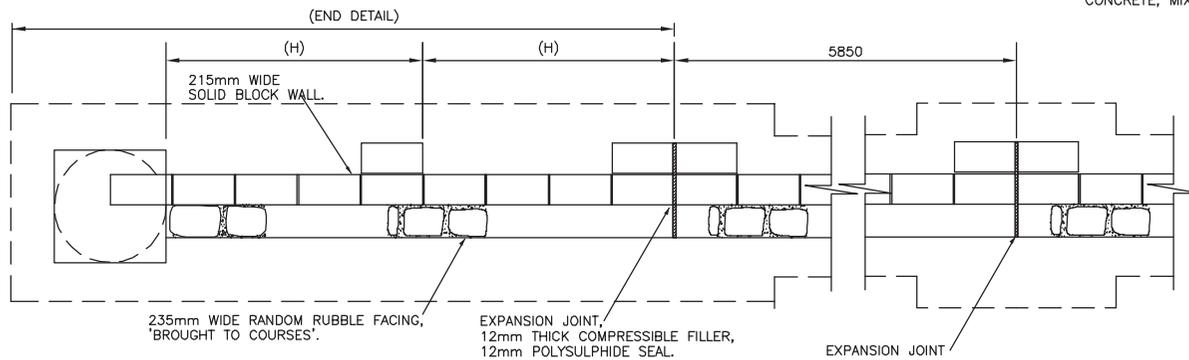
SECTIONS

- NOTES:
- THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
 - ALTERNATIVELY MODULAR BLOCKS OF CO-ORDINATING SIZE 400mmx200mm MAY BE USED. PIER SIZE AND CENTRES TO BE ADJUSTED TO SUIT BLOCK LENGTH.
 - BLOCKS TO COMPLY WITH I.S. E.N. 771-3 MORTAR TO COMPLY WITH I.S. E.N. 998 FULL ADHESION OF BLOCKWORK TO MORTAR AT ALL INTERFACES. MASONRY TO COMPLY WITH I.S. E.N. 1996
 - BLOCK TEXTURE, BLOCK COLOUR AND MORTAR COLOUR AS SPECIFIED IN APPENDIX 24/1.
 - MINIMUM ALLOWABLE BEARING CAPACITY OF FORMATION IS 25 kN/m² (UNIFORMLY DISTRIBUTED) OR 50 kN/m² (TRIANGULARLY DISTRIBUTED).
 - PIERS AT ENDS AND CHANGES OF DIRECTION. ENDS OF WALLS TO RETURN BY H/3.

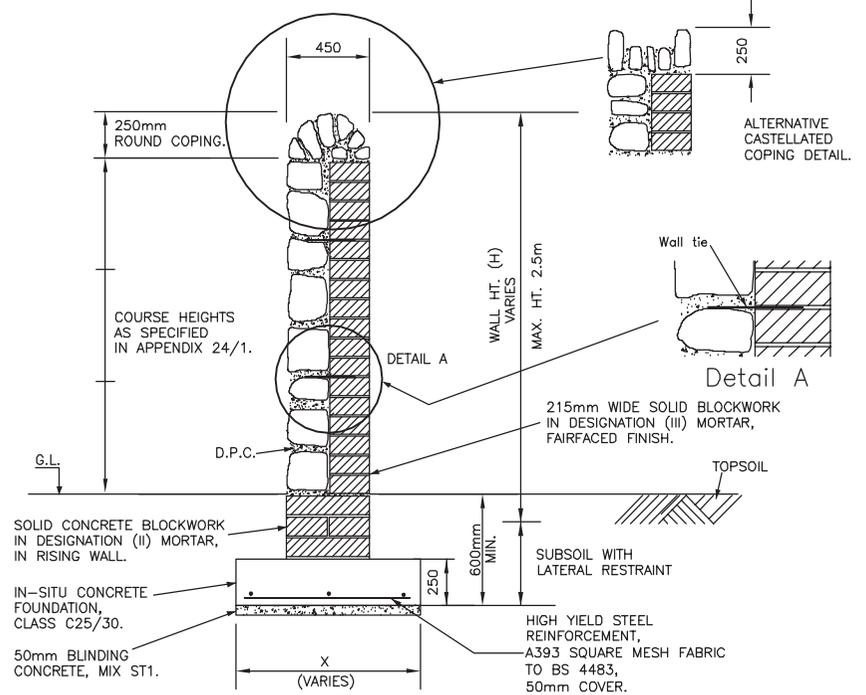
TII PUBLICATION NUMBER: CC-SCD-02402



ELEVATION



SECTIONAL PLAN



SECTION A-A

WALL HT. (mm)	X (mm)
UP TO 1200	800
1200 TO 2000	1000
2000 TO 2500	1200

NOTES:

1. STAINLESS STEEL WALL TIES AT 600mm HORIZONTALLY AND 600mm VERTICALLY.

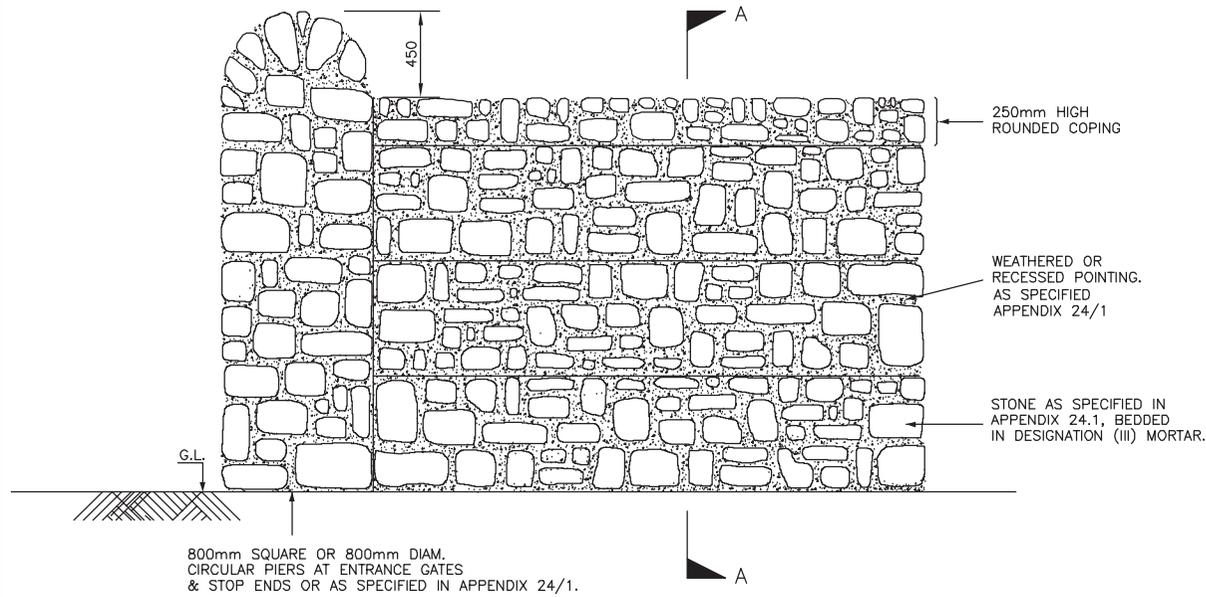
2. FULL ADHESION OF BLOCKWORK AND STONEWORK TO MORTAR AT ALL INTERFACES.

3. EXPANSION JOINTS AT 5850mm CENTRES (12mm COMPRESSIBLE FILLER, 12mm POLYSULPHIDE SEAL).

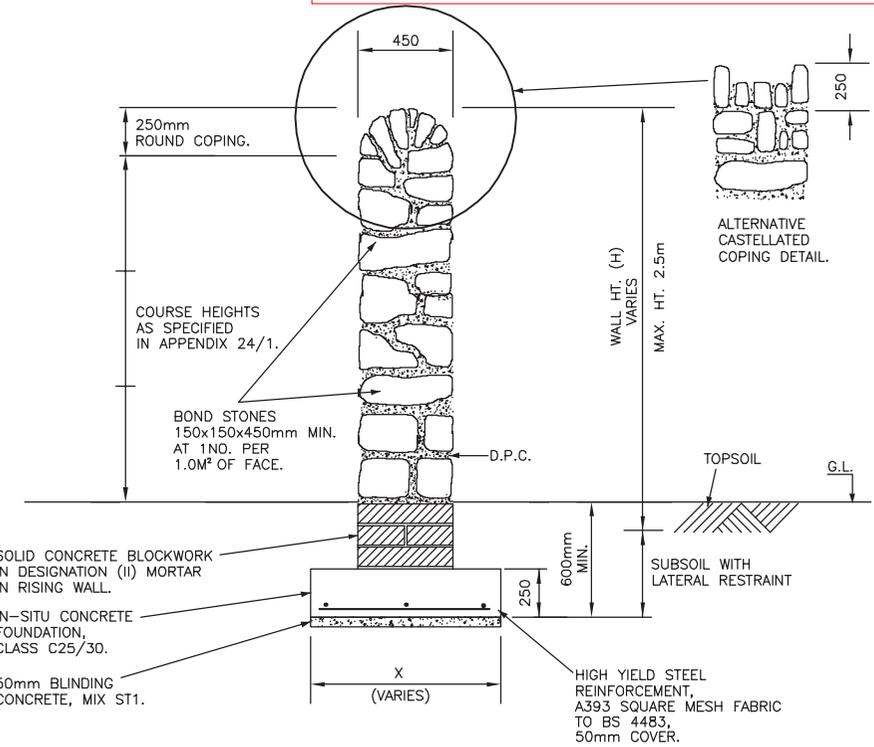
4. MINIMUM ALLOWABLE BEARING CAPACITY OF FORMATION IS 25 kN/m² (UNIFORMLY DISTRIBUTED) OR 50 kN/m² (TRIANGULARLY DISTRIBUTED).

5. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.

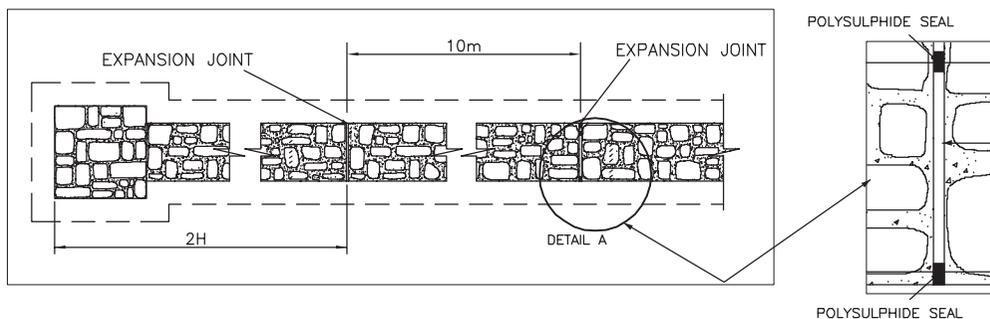
6. MASONRY FACING TO I.S. E.N. 1996. BLOCKS TO COMPLY WITH I.S. E.N. 771-3.



ELEVATION



SECTION A-A

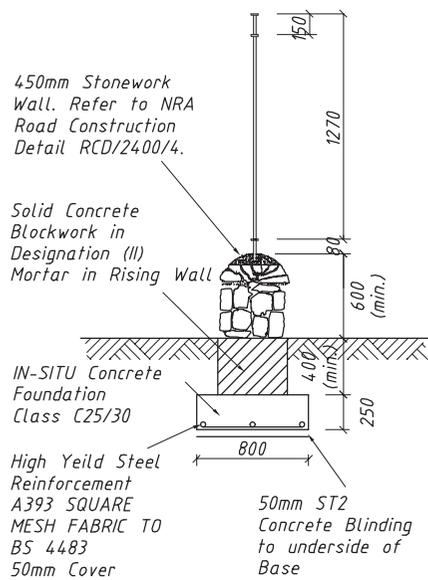


PLAN

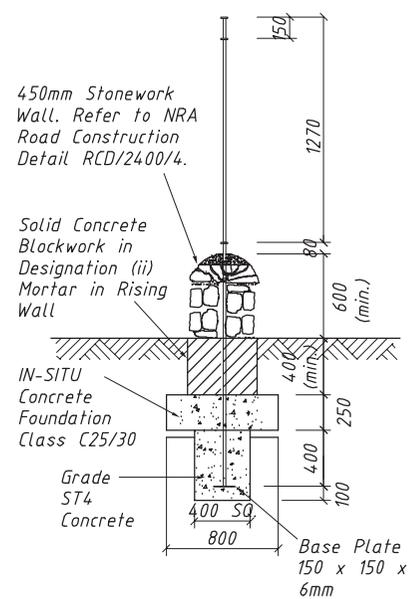
DETAIL A

WALL HT. (H) (mm)	X (mm)
UP TO 1200	800
1200 TO 2000	1000
2000 TO 2500	1200

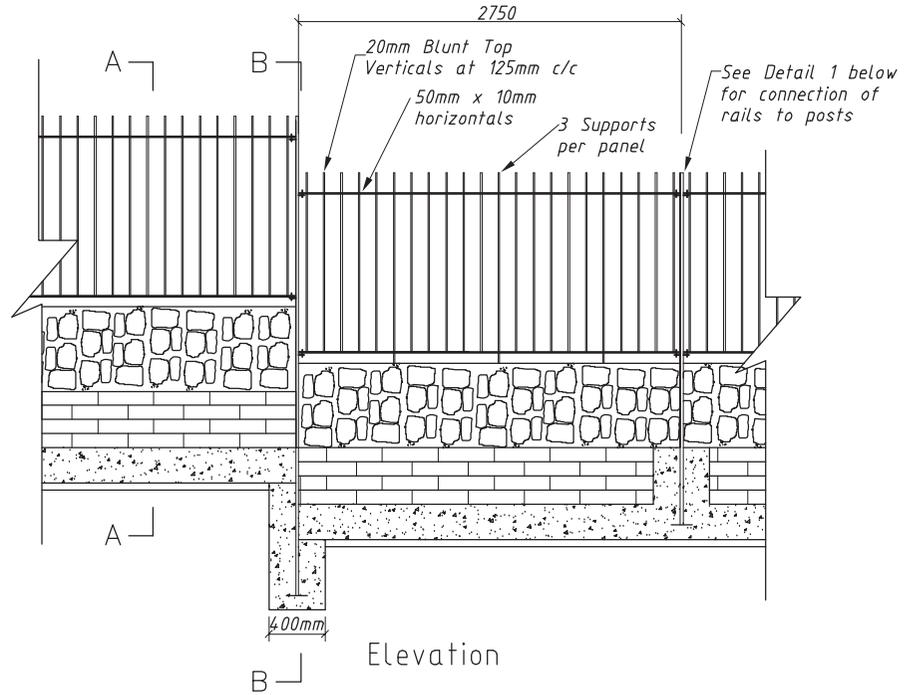
- NOTES
1. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
 2. MASONRY WALLS TO I.S. E.N. 1996
FULL ADHESION OF STONEMASONRY TO MORTAR AT ALL INTERFACES.
 3. MINIMUM ALLOWABLE BEARING CAPACITY OF FORMATION IS 25 kN/m² (UNIFORMLY DISTRIBUTED) OR 50 kN/m² (TRIANGULARLY DISTRIBUTED).
 4. MOVEMENT JOINTS AT 10M CENTRES (12mm COMPRESSIBLE FILLER AND 12mm POLYSULPHIDE SEAL).



Section A - A



Section B - B

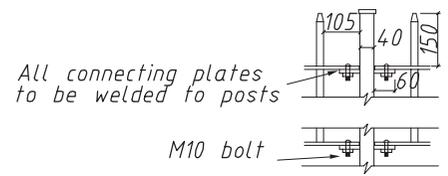


Elevation

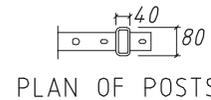


Grout Detail

- NOTES**
- All intersecting points between vertical bars and horizontal straps to be welded on all faces.
 - All components to be mild steel.
 - All components to be galvanised after manufacture to I.S. E.N. I.S.O. 1461



ELEV. OF POSTS
(80x40x5 RHS)



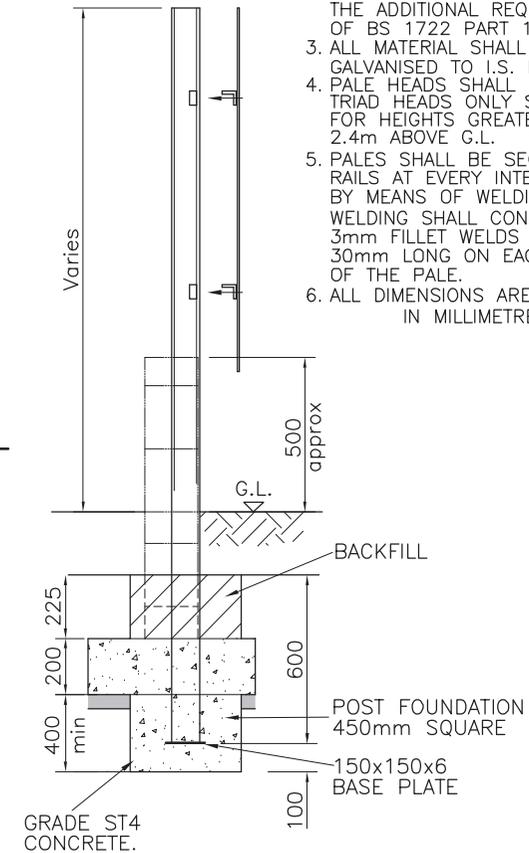
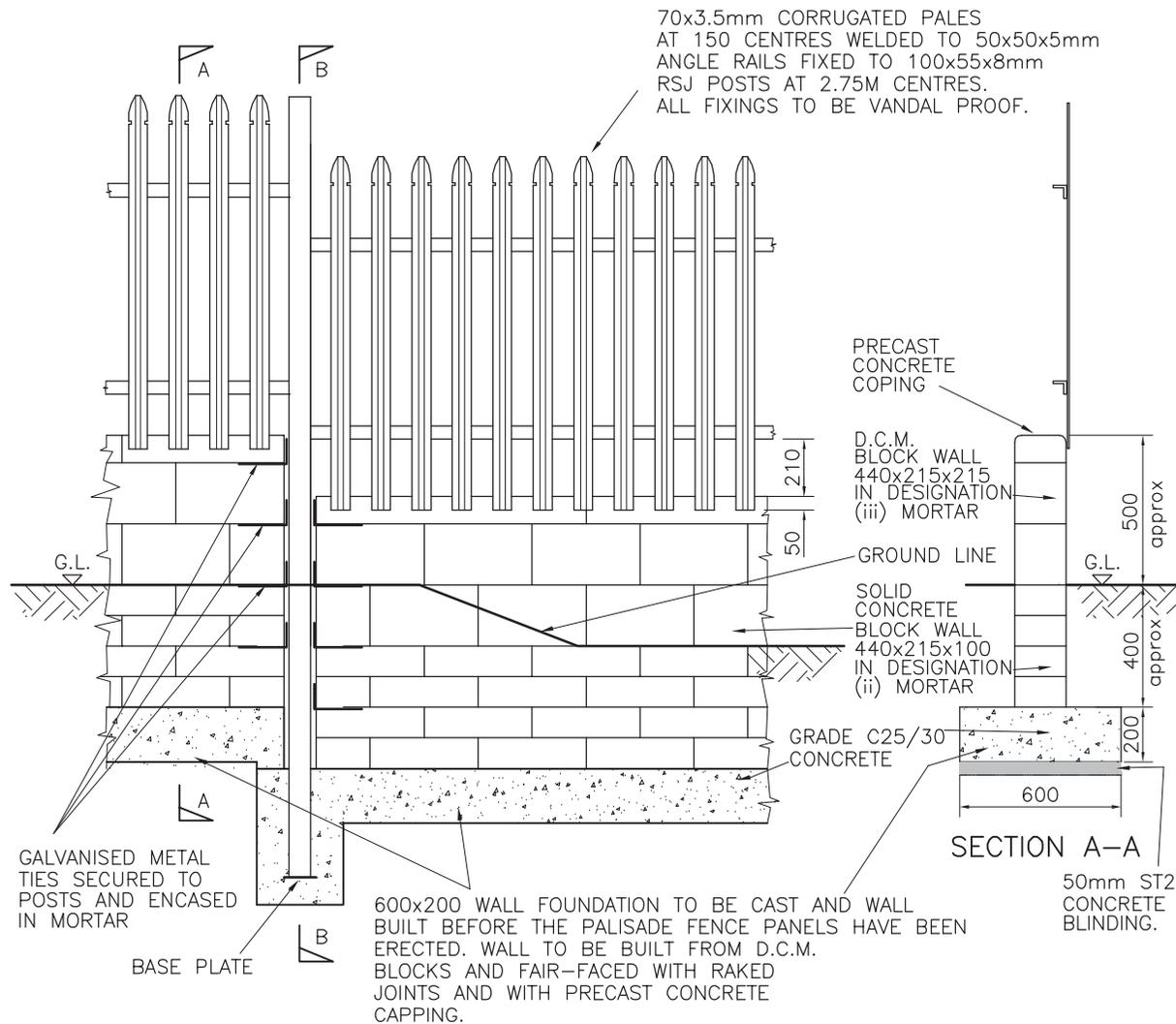
DETAIL 1

- NOTES :**
1. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
 2. ALL FENCING MATERIAL SHALL BE GALVANISED TO I.S. E.N. I.S.O. 1461
 3. PALES SHALL BE SECURED TO RAILS AT EVERY INTERSECTION BY MEANS OF WELDING. WELDING SHALL CONSIST OF 3mm FILLET WELDS AT LEAST 30mm LONG ON EACH SIDE OF THE PALE.

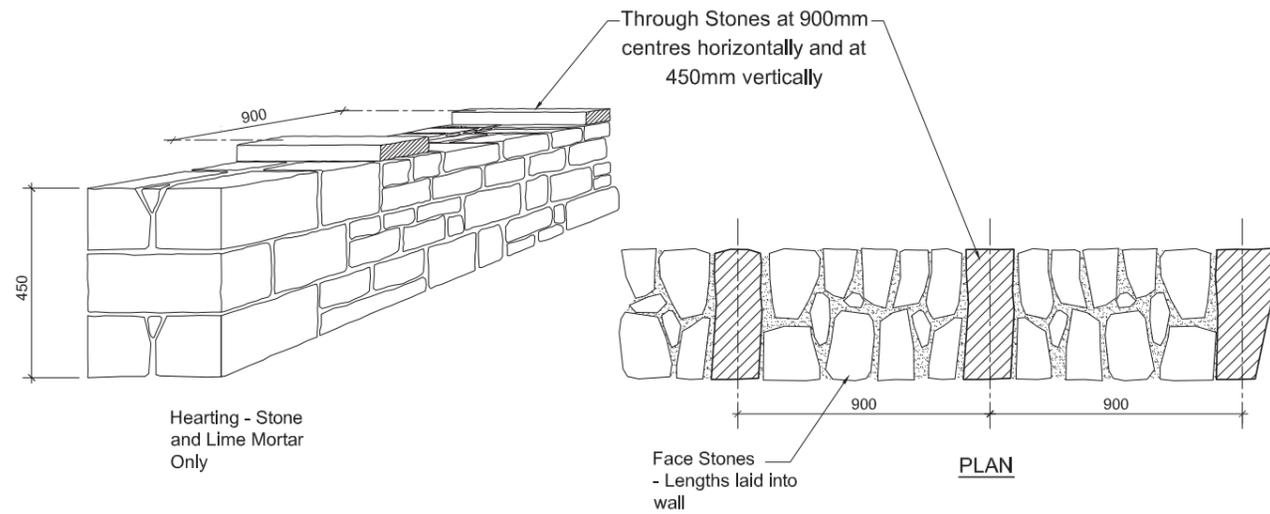
TII PUBLICATION NUMBER: CC-SCD-02405

NOTES :

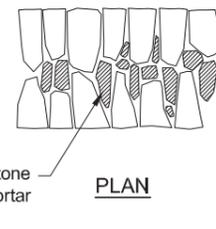
1. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
2. STEEL PALISADE FENCES SHALL COMPLY WITH THIS DETAIL AND THE ADDITIONAL REQUIREMENTS OF BS 1722 PART 12.
3. ALL MATERIAL SHALL BE GALVANISED TO I.S. E.N. I.S.O. 1461.
4. PALE HEADS SHALL BE DOME TRIAD HEADS ONLY SUITABLE FOR HEIGHTS GREATER THAN 2.4m ABOVE G.L.
5. PALES SHALL BE SECURED TO RAILS AT EVERY INTERSECTION BY MEANS OF WELDING. WELDING SHALL CONSIST OF 3mm FILLET WELDS AT LEAST 30mm LONG ON EACH SIDE OF THE PALE.
6. ALL DIMENSIONS ARE IN MILLIMETRES.



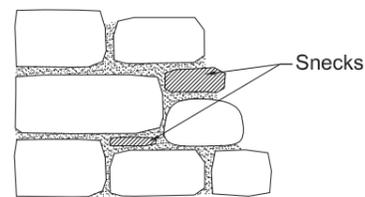
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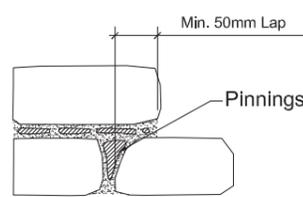
MASONRY WALL DETAIL



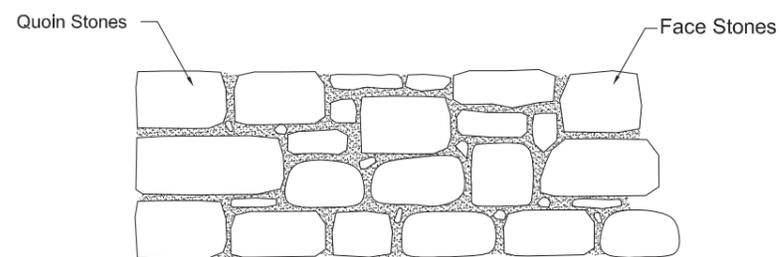
PLAN



ELEVATION

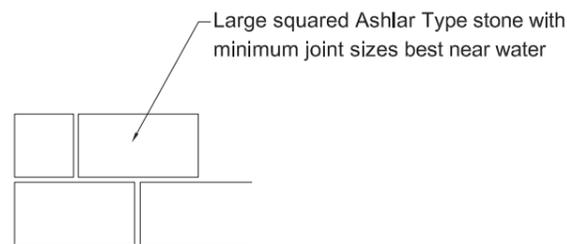


ELEVATION

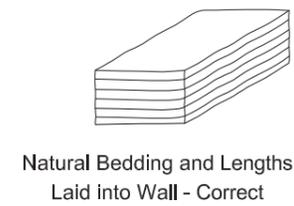


ELEVATION

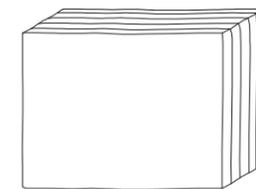
Rubble Stone - Irregular shapes and sizes of stone with Sneck and Pinnings



ELEVATION



Natural Bedding and Lengths Laid into Wall - Correct



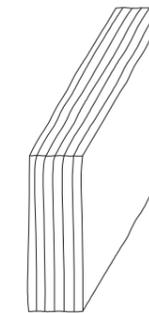
Face Bedding - Wrong



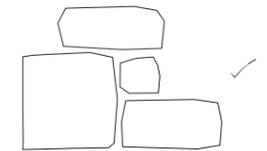
The bed is always greater than the height



BEDDING



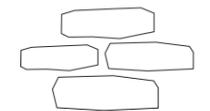
Edge Bedded (Coppings only)



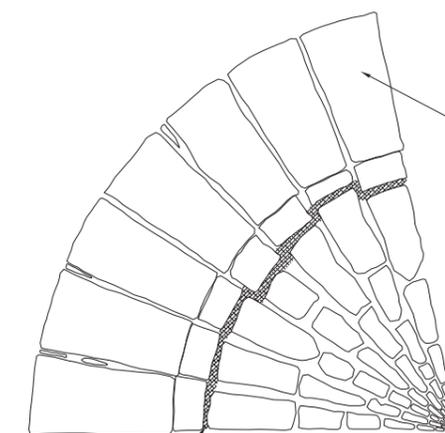
2 But not 3 - Acceptable



3 Forming Vertical Joint - Wrong



One-on-two and Two-on-one Best



Face Voussoirs Laid Wrong - Insufficient penetration of Arch Barrel

Running Collar Joint

TII PUBLICATION NUMBER: CC-SCD-02407



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