



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland

## TII Publications



---

### Standard Construction Details - Series 2400

April 2017

## 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.

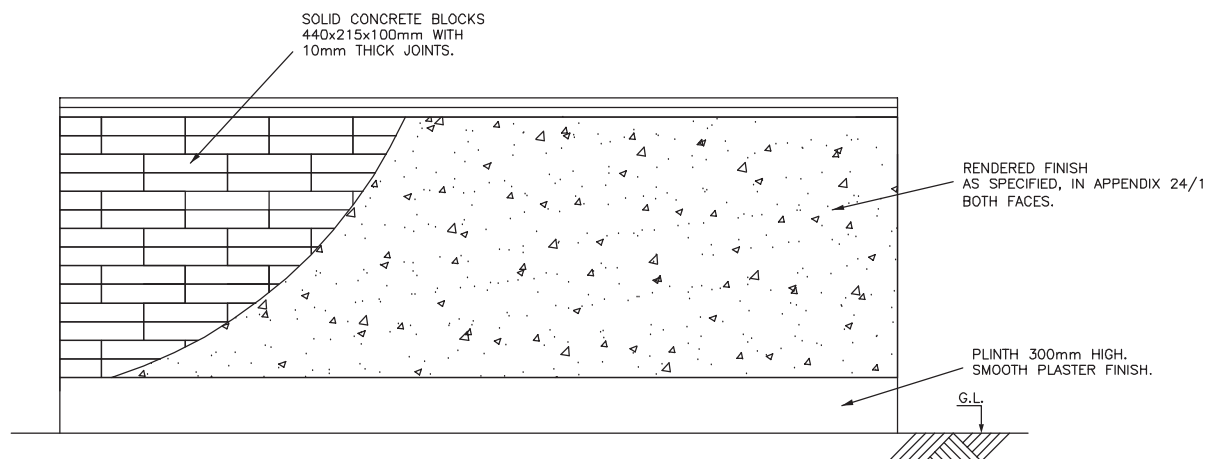
Every effort has been made to keep this composite document updated and available from the TII Publications website (<http://www.tiipublications.ie/>). Please note that the SCD drawings available from the TII Publications website (individually linked below) are the controlled versions for all SCDs.

The SCDs contained in this document are as follows:

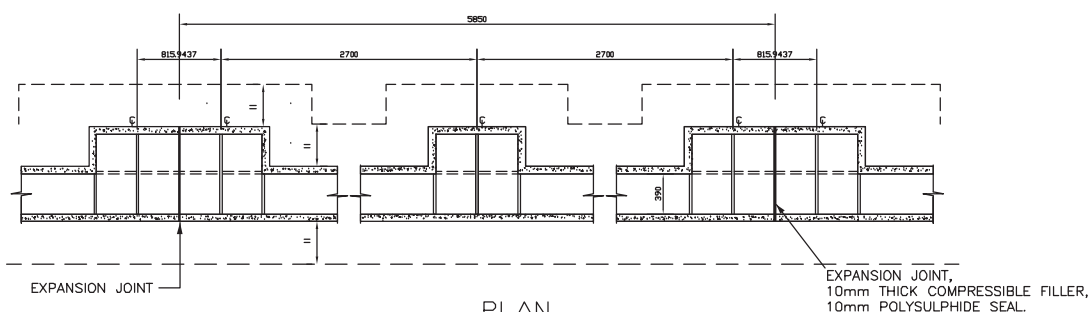
### Series 2400 Walls

<a href="#">CC-SCD-02401</a>	Walls - Typical Blockwork Wall
<a href="#">CC-SCD-02402</a>	Walls - Typical Dense Concrete Masonry Blockwork Wall
<a href="#">CC-SCD-02403</a>	Walls - Typical Masonry Faced Blockwork Wall
<a href="#">CC-SCD-02404</a>	Walls - Typical Stonework Wall
<a href="#">CC-SCD-02405</a>	Walls - Typical Railing on Low Stonework Wall
<a href="#">CC-SCD-02406</a>	Walls - Typical Steel Palisade on Low Wall
<a href="#">CC-SCD-02407</a>	Walls - Principles of Stonemasonry

---



ELEVATION



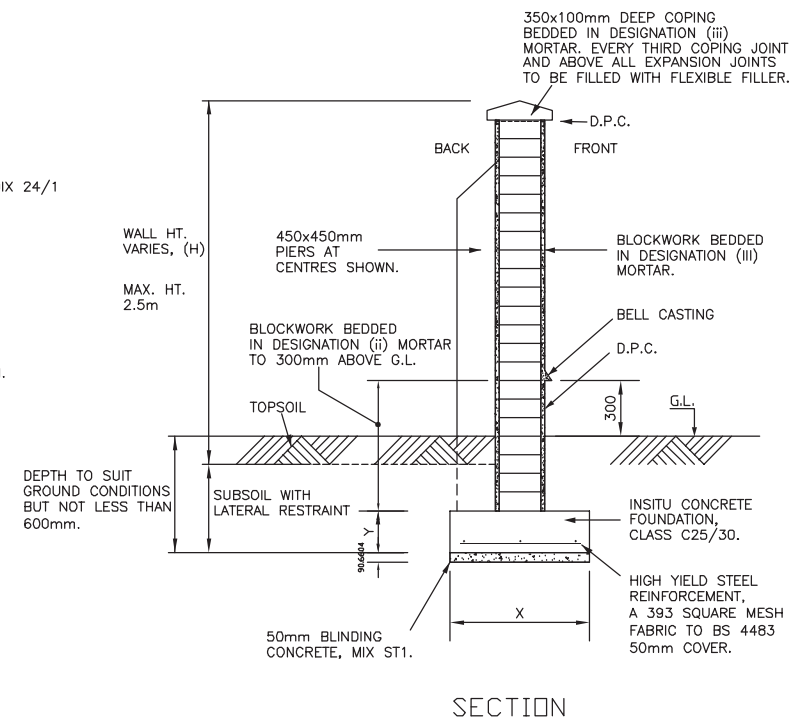
PLAN

TABLE 1

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

TABLE 2

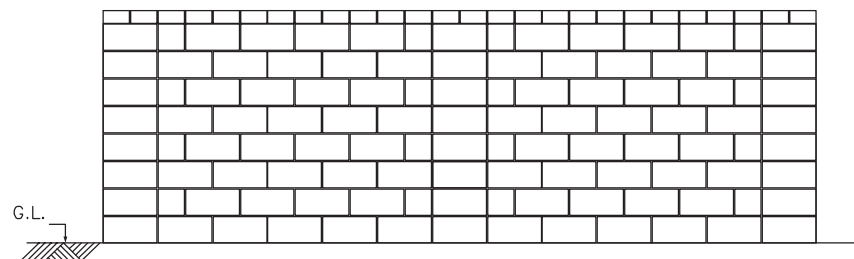
FINISH TYPE	
1	FAIRFACED
2	ROUGHCAST
3	NAPPED PLASTER
4	TYROLENE



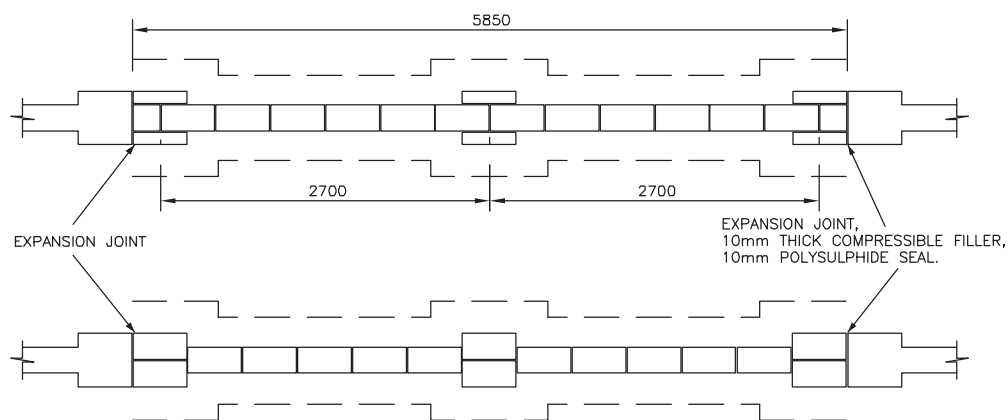
SECTION

- 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/m<sup>2</sup> (UNIFORMLY DISTRIBUTED) OR  
50 kN/m<sup>2</sup> (TRIANGULARLY DISTRIBUTED).

TII PUBLICATION NUMBER: CC-SCD-02401



ELEVATION



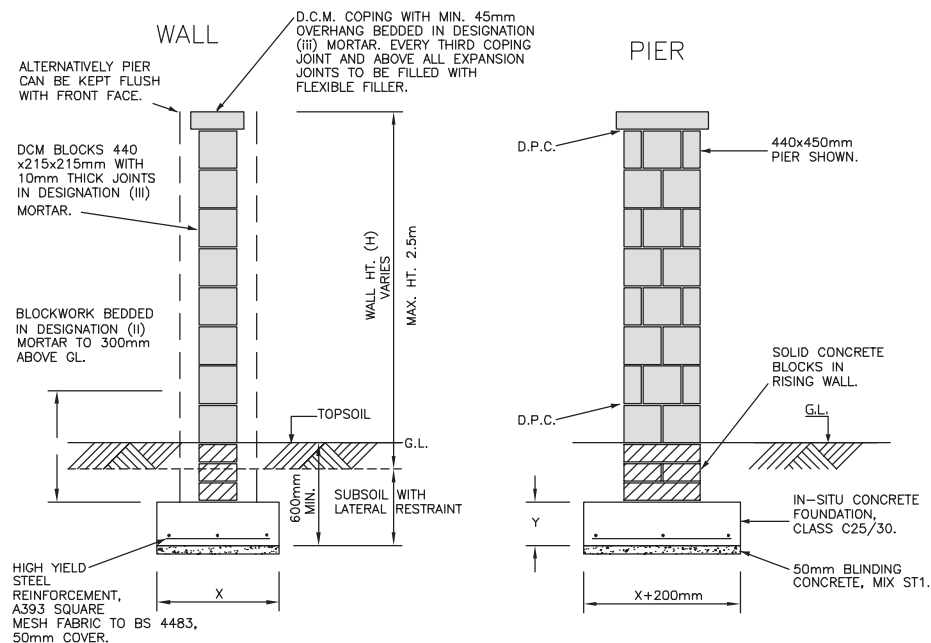
PLAN

TABLE 1

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

TABLE 2

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



SECTIONS

- 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. ALTERNATIVELY MODULAR BLOCKS OF CO-ORDINATING SIZE 400mmx200mm MAY BE USED. PIER SIZE AND CENTRES TO BE ADJUSTED TO SUIT BLOCK LENGTH.
3. 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
4. BLOCK TEXTURE, BLOCK COLOUR AND MORTAR COLOUR AS SPECIFIED IN APPENDIX 24/1.
5. MINIMUM ALLOWABLE BEARING CAPACITY OF FORMATION IS 25 kN/m<sup>2</sup> (UNIFORMLY DISTRIBUTED) OR 50 kN/m<sup>2</sup> (TRIANGULARLY DISTRIBUTED).
6. PIERS AT ENDS AND CHANGES OF DIRECTION. ENDS OF WALLS TO RETURN BY H/3.

TII PUBLICATION NUMBER: CC-SCD-02402

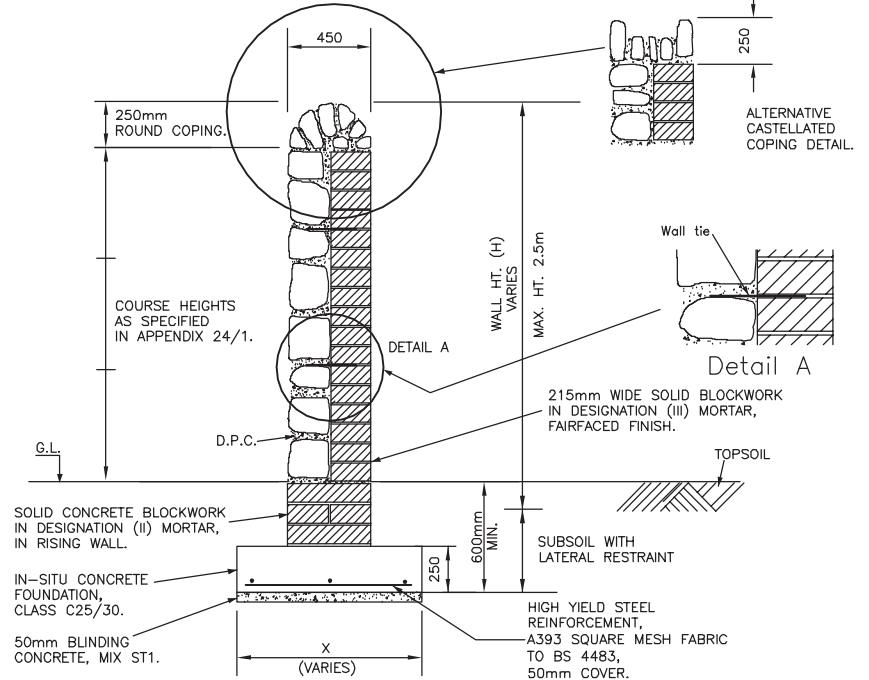
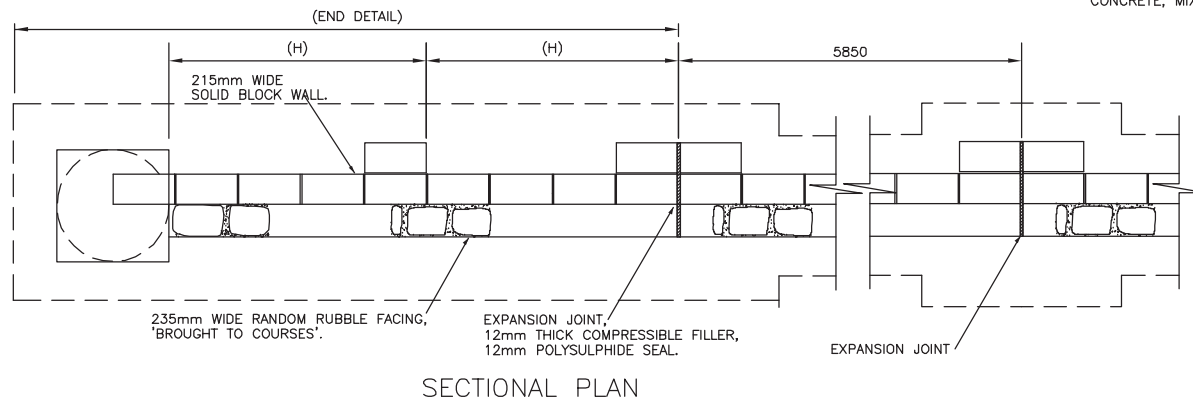
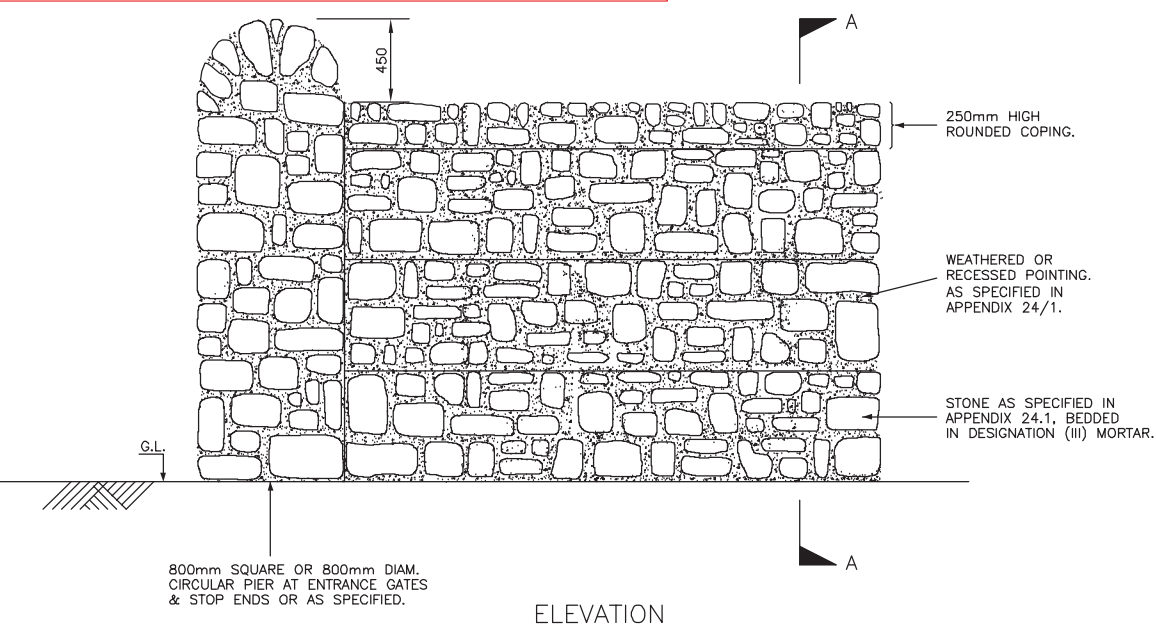


TABLE 1	
WALL HT. (mm)	X (mm)
UP TO 1200	800
1200 TO 2000	1000
2000 TO 2500	1200

NOTES:

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

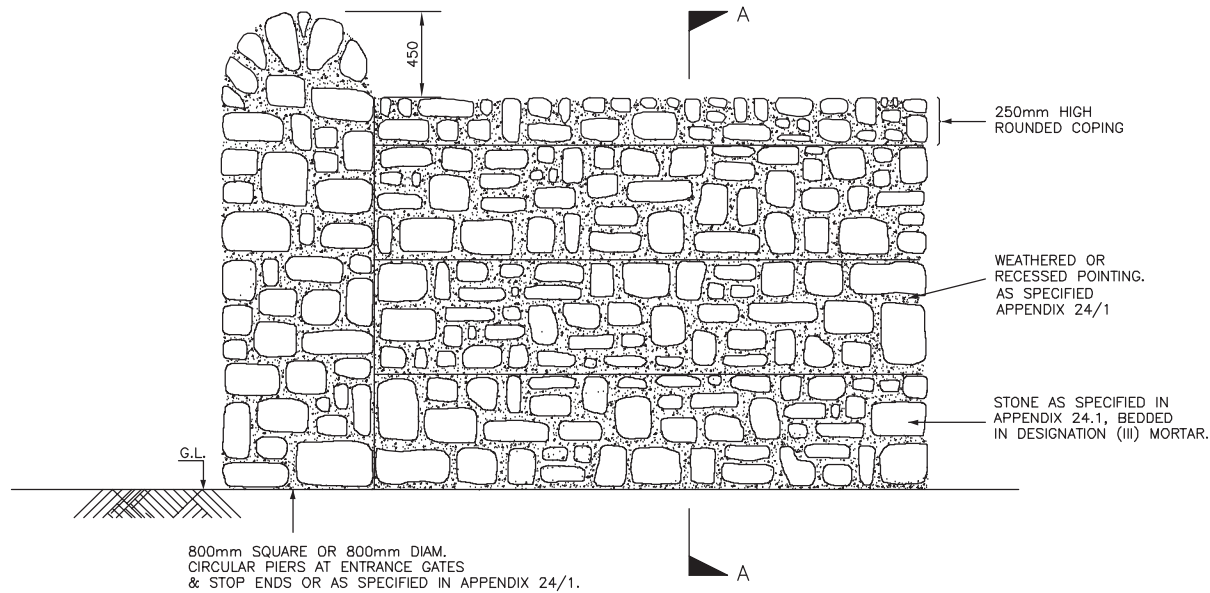
FULL ADHESION OF BLOCKWORK AND STONEMASONRY  
TO MORTAR AT ALL INTERFACES.

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

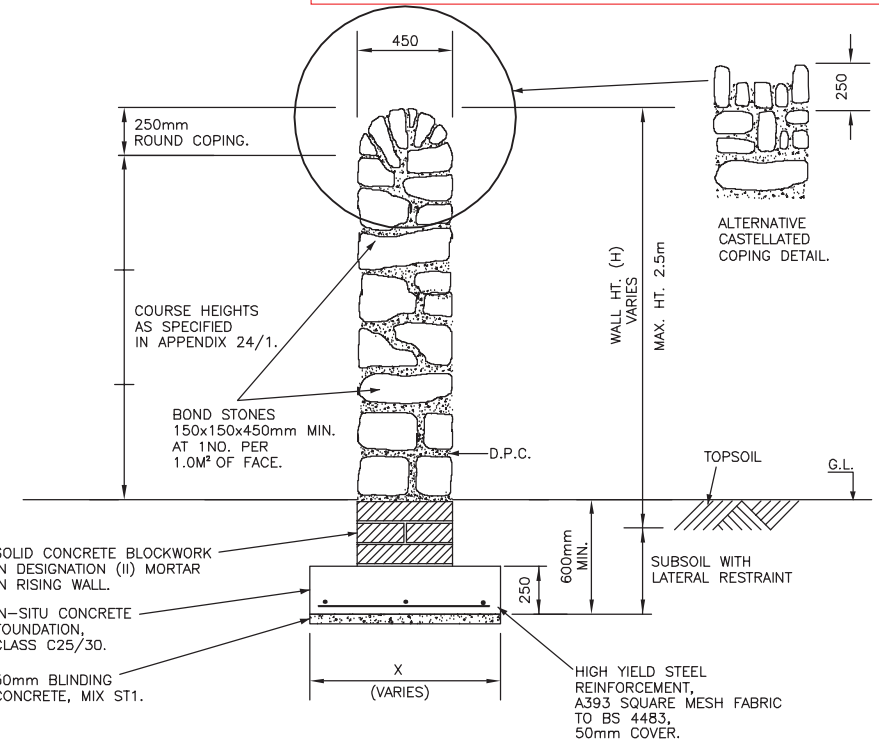
4. MINIMUM ALLOWABLE BEARING CAPACITY  
OF FORMATION IS 25 kN/m<sup>2</sup> (UNIFORMLY DISTRIBUTED)  
OR 50 kN/m<sup>2</sup> (TRIANGULARLY DISTRIBUTED).

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.

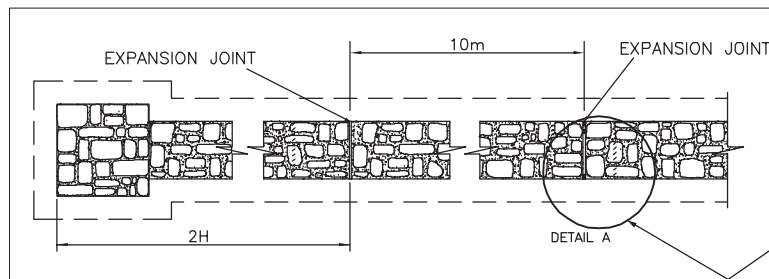
6. MASONRY FACING TO I.S. E.N. 1996.  
BLOCKS TO COMPLY WITH I.S. E.N. 771-3.



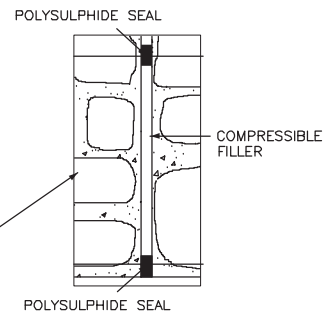
ELEVATION



SECTION A-A



PLAN

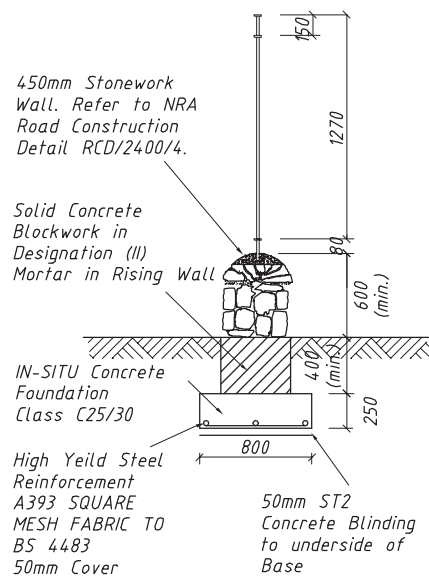


DETAIL A

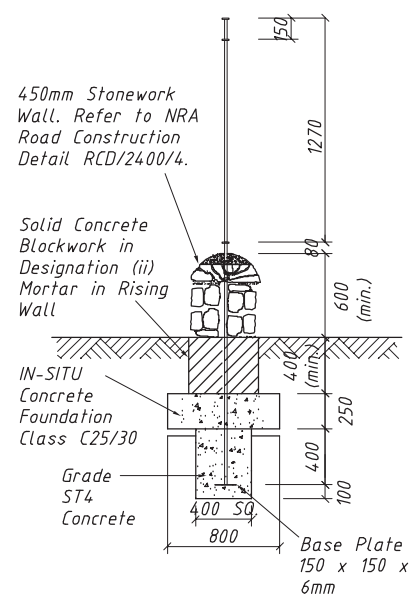
TABLE 1	
WALL HT. (H) (mm)	X (mm)
UP TO 1200	800
1200 TO 2000	1000
2000 TO 2500	1200

## NOTES

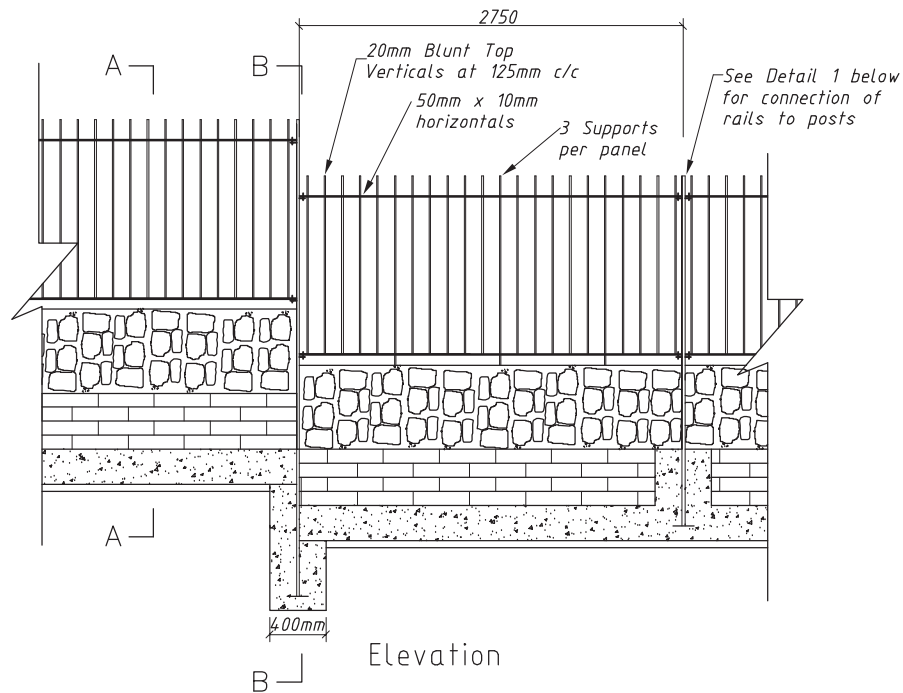
- THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
- MASONRY WALLS TO I.S. E.N. 1996  
FULL ADHESION OF STONEMASONRY TO MORTAR AT ALL INTERFACES.
- MINIMUM ALLOWABLE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



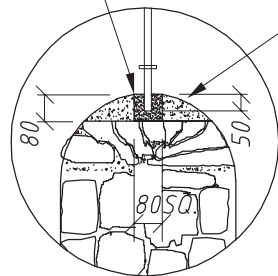
Section A - A



Section B - B



Grout 20mm Dia. Bar in Pocket

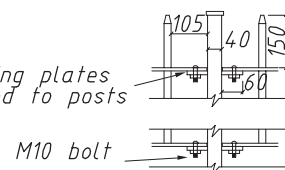


Grout Detail

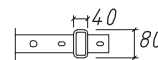
Sand/Cement Coping

- 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

All connecting plates to be welded to posts



ELEV. OF POSTS  
(80x40x5 RHS)



PLAN OF POSTS

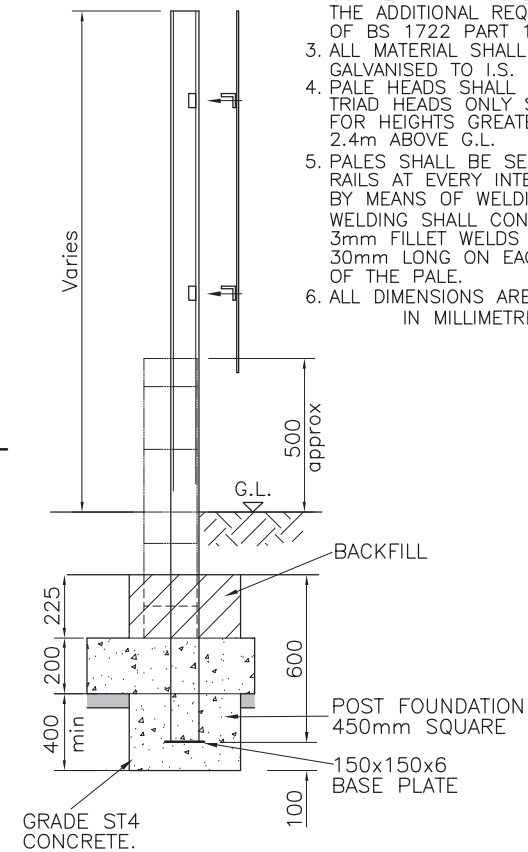
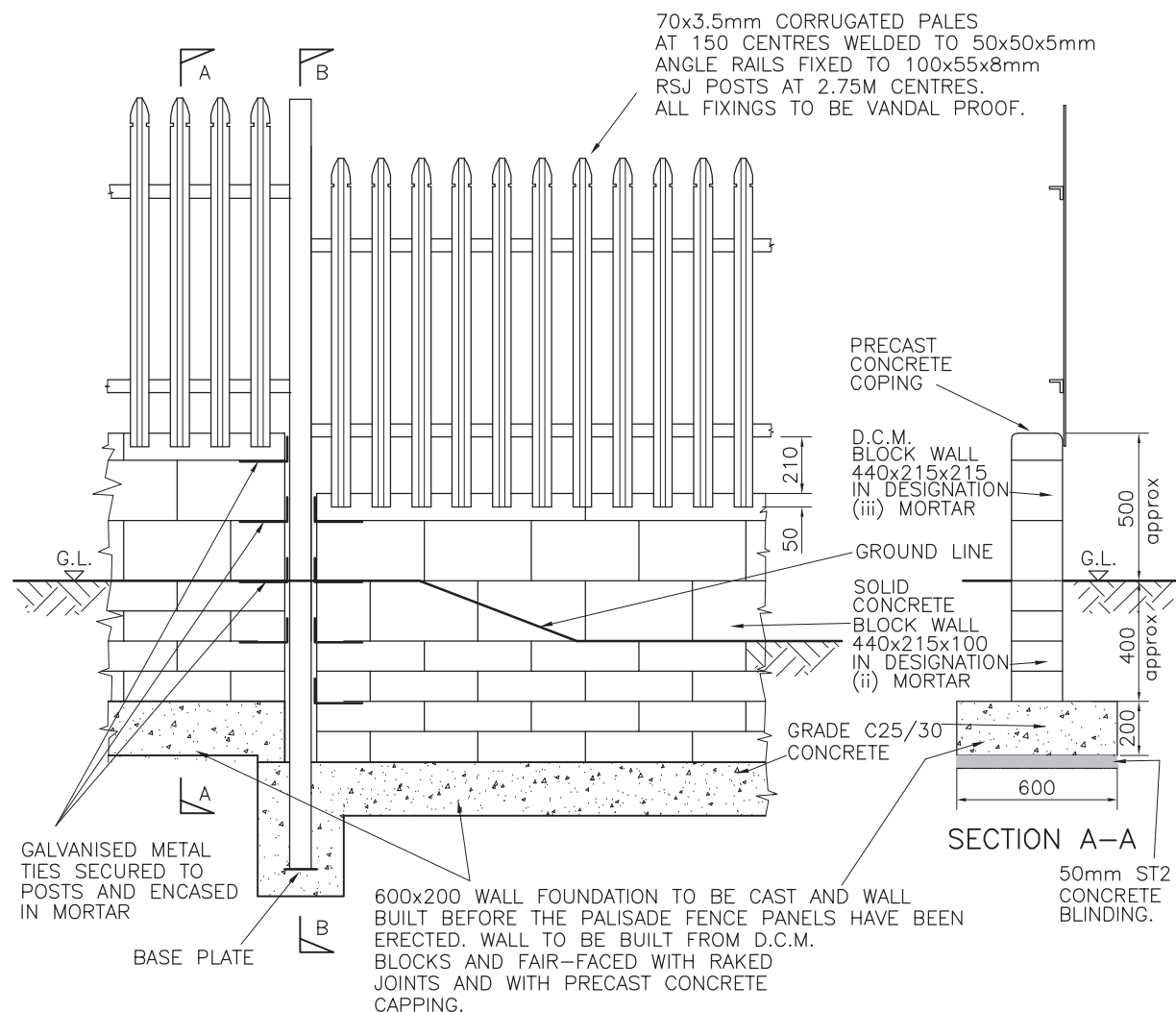
DETAIL 1

**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**



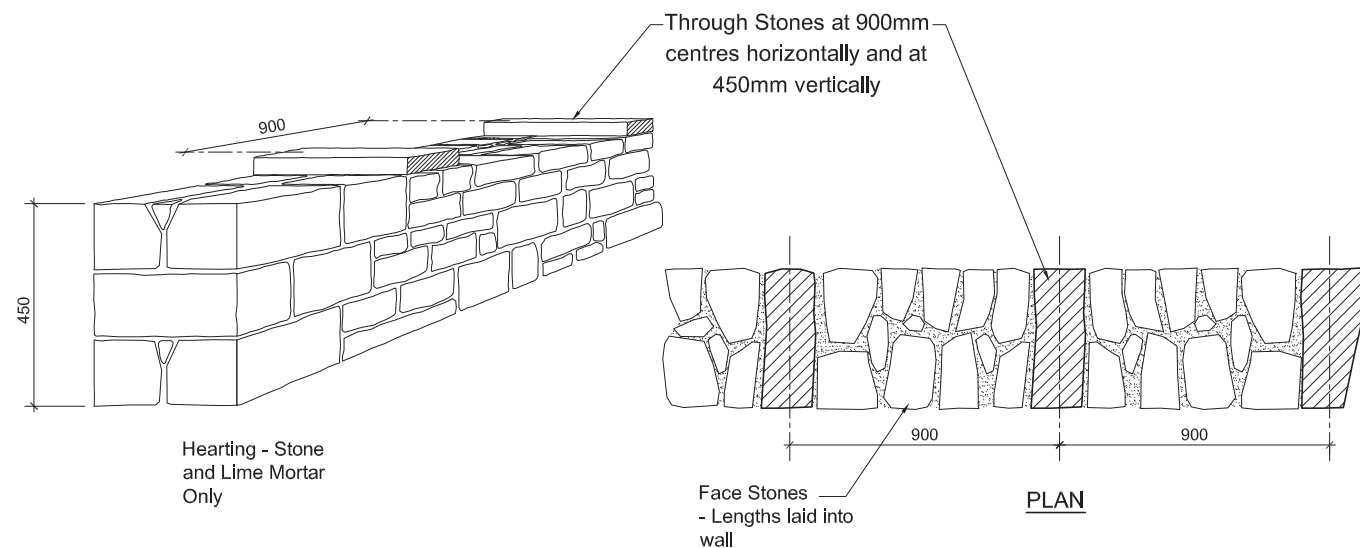


#### NOTES :

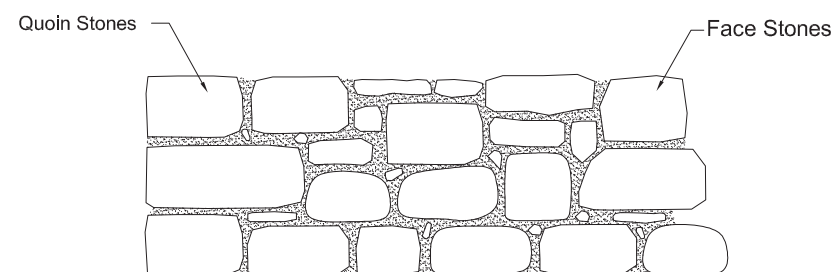
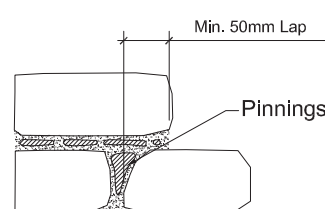
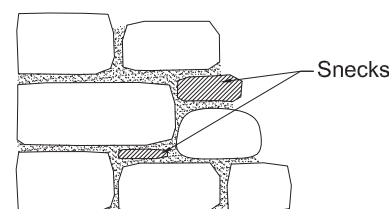
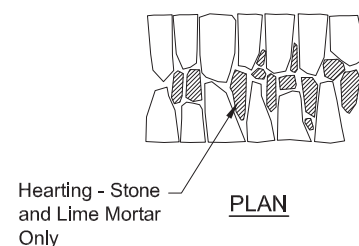
1. THIS RCD IS ONLY TO BE USED IN ASSOCIATION WITH A UNIQUE STRUCTURAL DESIGN CARRIED OUT FOR THE WALLS ON A PROJECT IN ACCORDANCE WITH RELEVANT DESIGN CODES FOR BLOCKWORK, MASONRY AND LOADING.
2. STEEL PALISADE FENCES SHALL COMPLY WITH THIS DETAIL AND THE ADDITIONAL REQUIREMENTS OF BS 1722 PART 12.
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.

TII PUBLICATION NUMBER: CC-SCD-02406

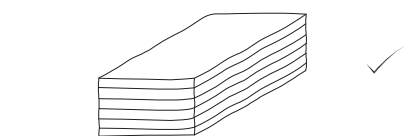
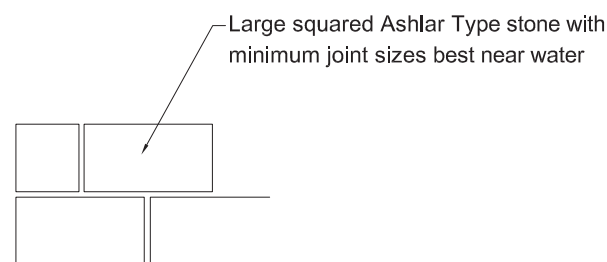




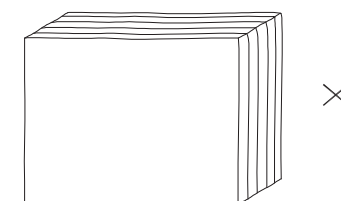
**MASONRY WALL DETAIL**



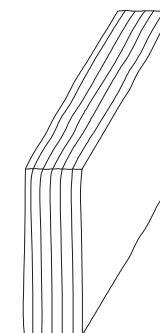
**Rubble Stone - Irregular shapes and sizes of stone with Sneck and Pinnings**



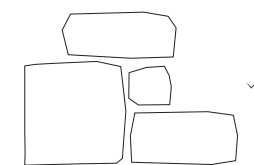
**Natural Bedding and Lengths Laid into Wall - Correct**



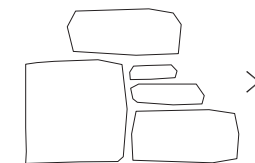
**Face Bedding - Wrong**



**Edge Bedded (Coppings only)**



**2 But not 3 - Acceptable**



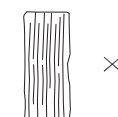
**3 Forming Vertical Joint - Wrong**



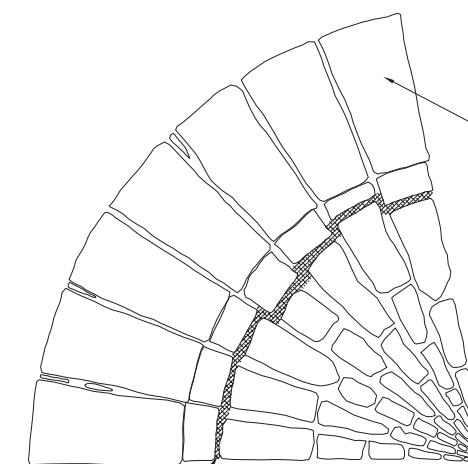
**One-on-two and Two-on-one**



**The bed is always greater than the height**



**BEDDING**



**Face Voussoirs Laid Wrong - Insufficient penetration of Arch Barrel**

**Running Collar Joint**

**TII PUBLICATION NUMBER: CC-SCD-02407**



Ionad Ghnó Gheata na Páirce,  
Stráid Gheata na Páirce,  
Baile Átha Cliath 8, D08 DK10, Éire



Parkgate Business Centre,  
Parkgate Street,  
Dublin 8, D08 DK10, Ireland



[www.tii.ie](http://www.tii.ie)



[info@tii.ie](mailto:info@tii.ie)



+353 (01) 646 3600



+353 (01) 646 3601