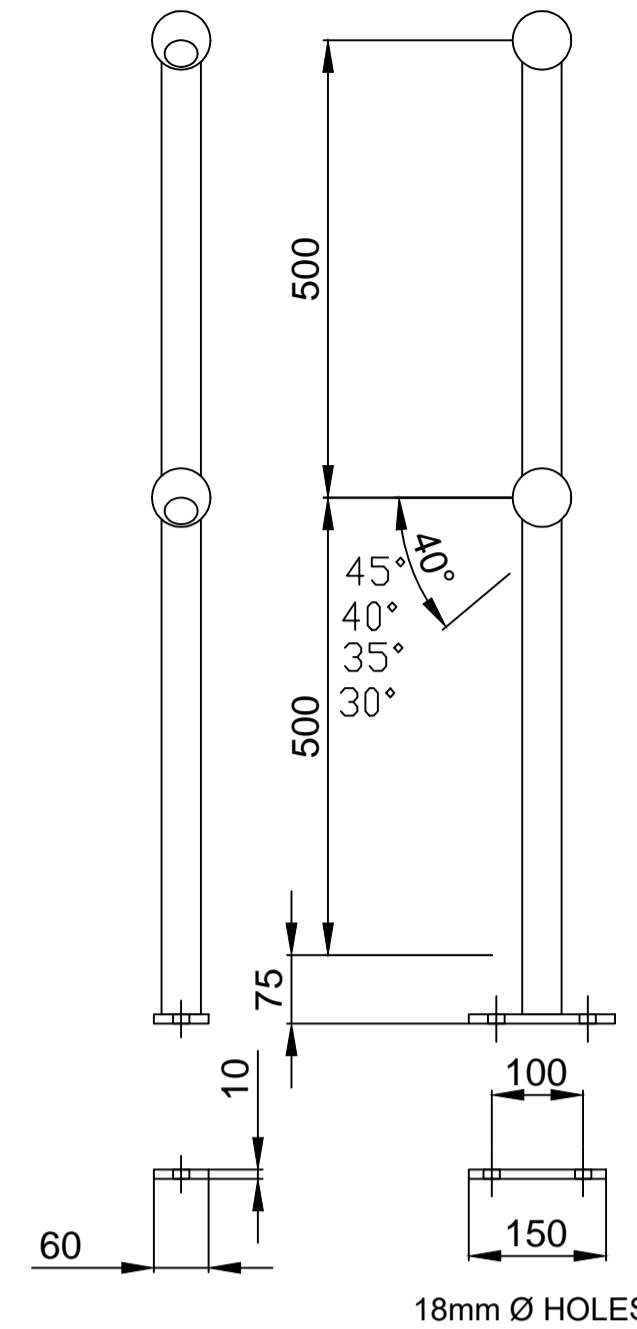
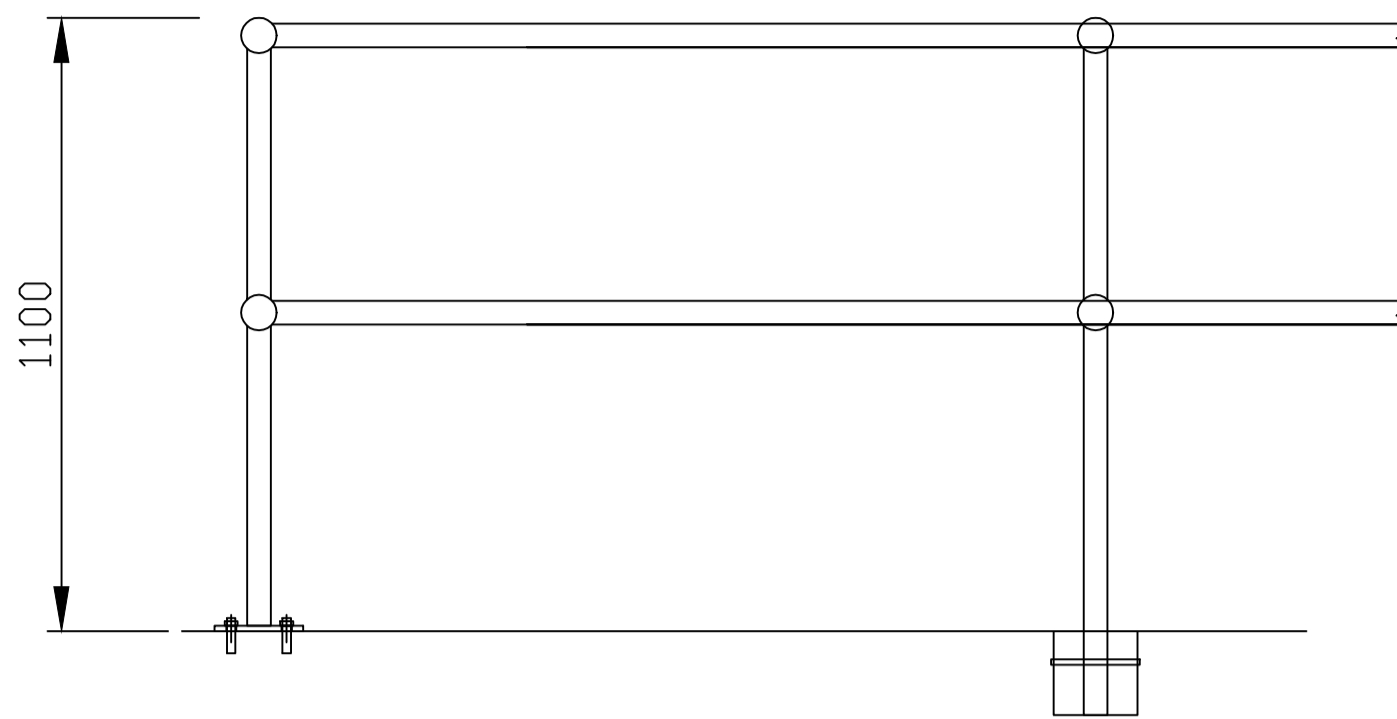


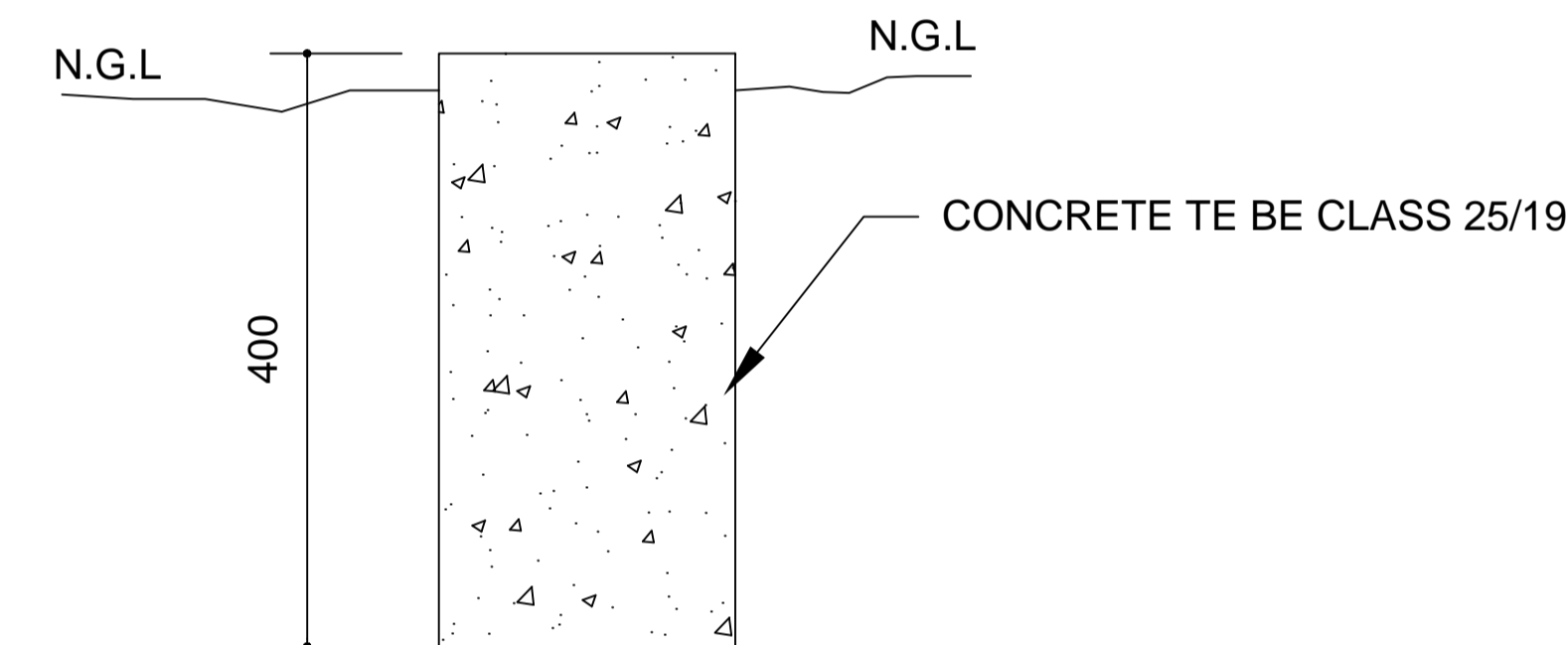
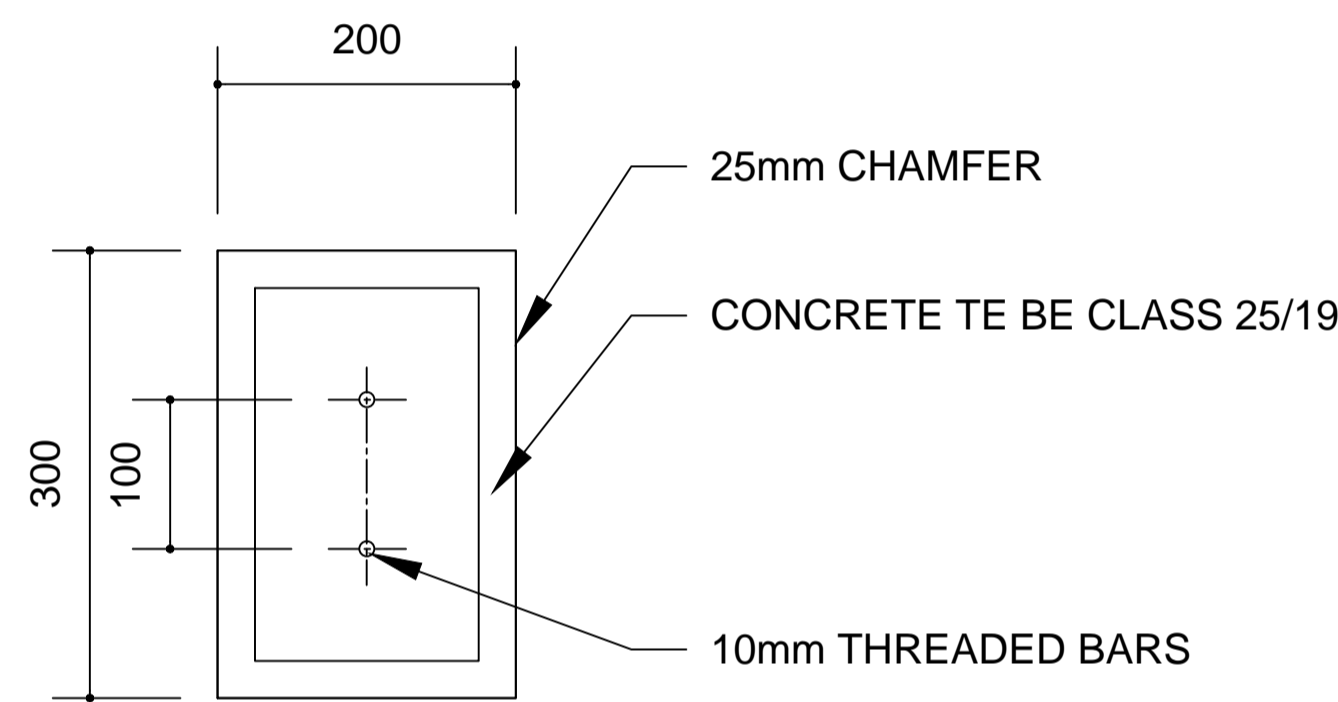
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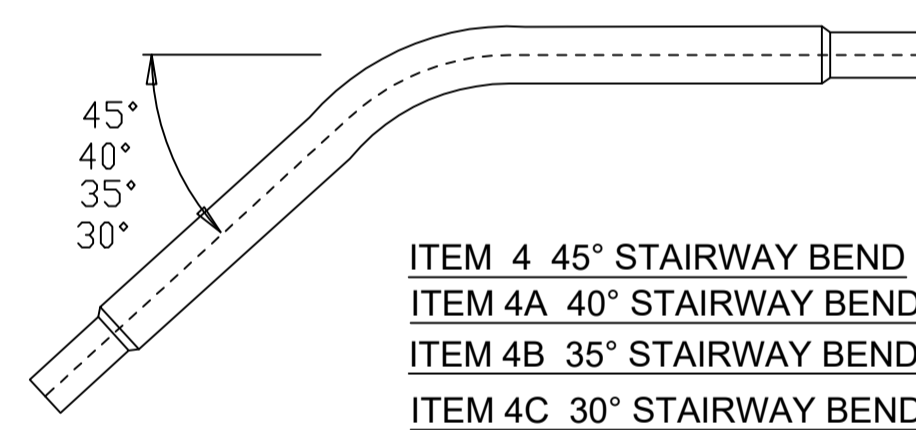
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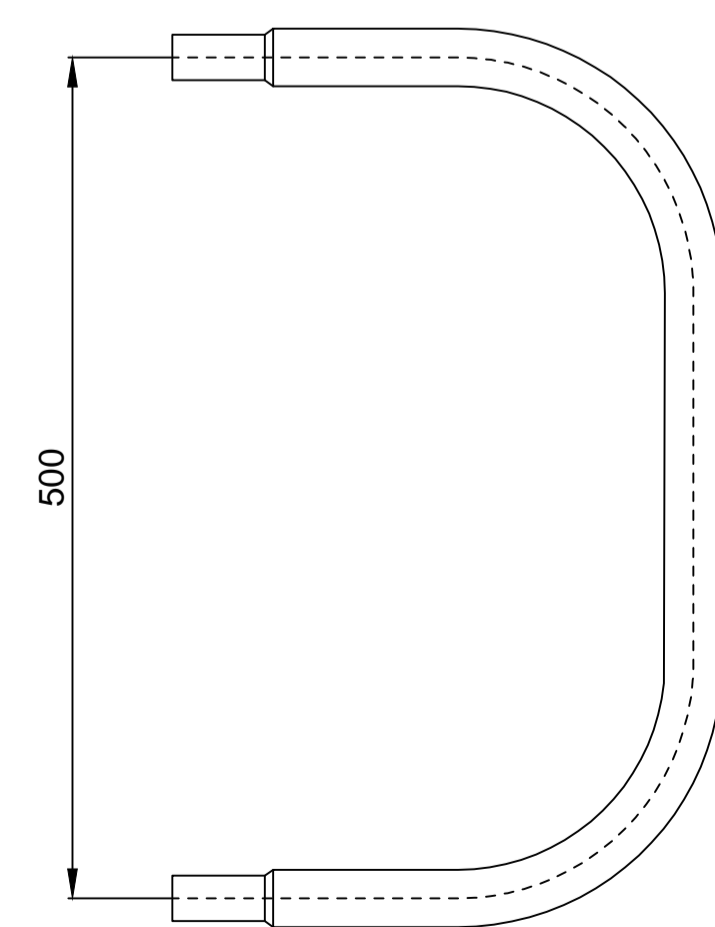
HANDRAILS/BALUSTRADE,



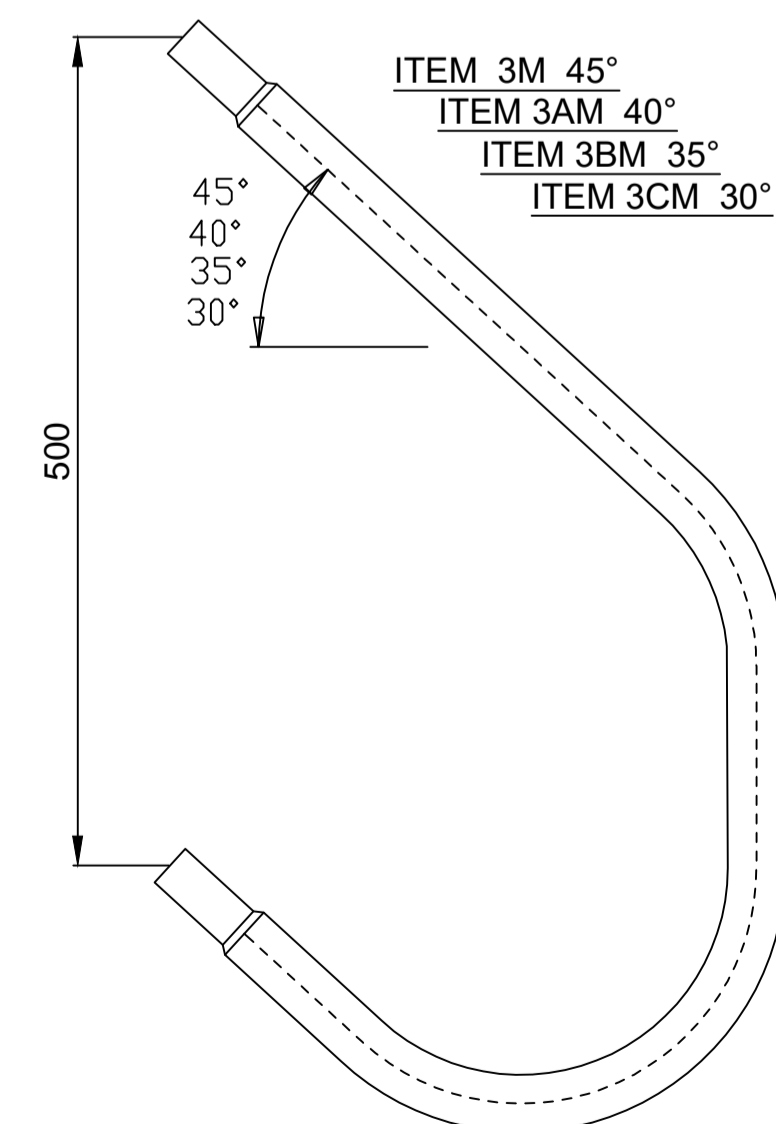
**FOUNDATION DETAIL
PLAN LAYOUT U1 FINISH**



ITEM 4 45° STAIRWAY BEND
ITEM 4A 40° STAIRWAY BEND
ITEM 4B 35° STAIRWAY BEND
ITEM 4C 30° STAIRWAY BEND



90°STRAIGHT CLOSURE



ITEM 3M 45°
ITEM 3AM 40°
ITEM 3BM 35°
ITEM 3CM 30°

NOTES AND SPECIFICATIONS

- 1 GENERAL**
- 1.1 ALL MATERIAL AND WORKMANSHIP MUST COMPLY WITH THE REQUIREMENTS OF THE LATEST RELEVANT SANS REQUIREMENTS.
 - 1.2 ALL DIMENSIONS ARE IN MILLIMETERS. (UNLESS OTHERWISE SPECIFIED).
 - 1.3 DO NOT SCALE FROM THESE DRAWINGS.
 - 1.4 ALL DIMENSIONS MUST BE CHECKED AND APPROVED ON SITE.
 - 1.5 THE FOUNDATION DETAILS TO BE SITE SPECIFIC AND DESIGNED BY THE ENGINEER.
- 2. REINFORCED CONCRETE**
- 2.1 REINFORCED CONCRETE WORK SHALL BE IN STRICT ACCORDANCE WITH SECTIONS 702, 703 AND 704 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.
 - 2.2 CONCRETE COVER SHALL BE AS INDICATED ON THE DRAWINGS OR SPECIFICATIONS.
- 3. STRUCTURAL STEELWORK**
- 3.1 STRUCTURAL STEELWORK SHALL BE IN STRICT ACCORDANCE WITH SECTION 809 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.
 - 3.2 STRUCTURAL STEEL SHALL BE GRADE 300W UNLESS OTHERWISE INDICATED OR SPECIFIED.
 - 3.3 COLD FORMED SECTIONS SHALL BE MADE FROM COMMERCIAL QUALITY STEEL UNLESS OTHERWISE SPECIFIED.
 - 3.4 HOLDING DOWN BOLTS SHALL BE OF THE GRADE SPECIFIED ON THE DRAWINGS.
 - 3.5 PAINTING OF STRUCTURAL STEELWORK SHALL BE IN STRICT ACCORDANCE WITH THE REQUIREMENTS OF SECTION 806 OF THE STANDARD SPECIFICATIONS FOR MUNICIPAL CIVIL ENGINEERING WORKS, 3rd EDITION, 2005.
 - 3.6 ALL STRUCTURAL STEEL, INCLUDING TUBES, SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF SABS 763 FOR TYPE A1 OR B1 ARTICLES AS APPLICABLE (OR LATEST).
- 4. CONCRETE BOLLARDS**
- 4.1 CONCRETE TYPE CLASS 30/19.
 - 4.2 CONCRETE FINISH AS SPECIFIED ON DRAWINGS. MUST BE FIXED IN THE RECESS TO ENHANCE VISIBILITY.
 - 4.3 STEEL REINFORCEMENT TO BE MIN. 3Y10 BARS FOR 150mm AND 4Y10 BARS FOR 250mm WITH R10 LINKS AT 150mm PITCH.
 - 4.4 30mm CONCRETE COVER TO REINFORCEMENT.
 - 4.5 UNLESS OTHERWISE SPECIFIED, REFLECTIVE TAPE
 - 4.6 CONCRETE BACKFILL AROUND BOLLARD SPACE TO BE DETERMINED BY PAVING PROFILE MIN. 400mm X 400mm FOR 250mm Ø BOLLARDS.
 - 4.7 ALL BACKFILLED CONCRETE FINISHES MUST BE WORK OFF TO CLASS U2 SURFACE FINISH. ALL CONCRETE EDGES TO BE WORK OFF WITH A NOSING TOOL.

AMENDMENTS

NR.	DATE	APPROVED	DESCRIPTION	PAR.

DESIGNED J. CRONJE Pr Tech Eng.	DRAWN S. AUDIE
DESIGN CHECKED BY S. NAIDOO Pr Tech Eng.	INFRASTRUCTURE TECHNICAL INFORMATION MANAGEMENT D.J. CHALMERS

**CITY OF TSHWANE
ROADS AND TRANSPORT DEPARTMENT**

GROUP HEAD Mr Letloekane P. (Pheko)		DIVISIONAL HEAD Mr Marven K Thagale
P.O. BOX 1409 PRETORIA 0001	CITY OF TSHWANE P.O. BOX 1409 PRETORIA 0001	P.O. BOX 1409 PRETORIA 0001

TRANSPORT INFRASTRUCTURE DESIGN AND CONSTRUCTION DIVISIONAL HEAD Mr K Thagale (Marven)	TRANSPORTATION PLANNING DIVISIONAL HEAD Mr Swanepoel (Marven)
SIGNATURE: _____	SIGNATURE: _____
DATE: _____	DATE: _____
DRAWING APPROVED BY GROUP HEAD Mr Letloekane P. (Pheko)	
SIGNATURE: _____	DATE: _____

**TYPICAL STANDARD
DETAILS**

DESCRIPTION OF PROJECT
**HANDRAILS/BALUSTRADE,
AND BOLLARDS**
STEEL HANDRAIL/BALUSTRADE, POST
AND RAIL TIMBER BALUSTRADE,
CONCRETE BOLLARDS AND STEEL BOLLARDS

CONTRACT No.:	PROJECT No.:	
DATE: 09 MARCH 2021	SCALE: NOT TO SCALE	ORIGINAL PAPER SIZE: A1
DRAWING NO. STD011	SHEET NO. 2 OF 3	REVISION