

ADMINISTRATION BUILDING
EAVES LEVEL :
STRUCTURAL EAVES BEAM LAYOUT

Penetron Admix Specification:
1. The concrete roof slab is to be cast containing 'Penetron Admix Crystalline waterproofing additive with non-toxic tracing agent, dosed to minimum 0,8% by weight of cementitious content, with 20-year warranty to manufacturer's specification' - or equally approved.
2. The concrete is to be cast, protected and cured according to SANS 10100-2.

- GENERAL NOTES:**
- All levels and dimensions to be checked on site.
 - This drawing is to be read in conjunction with the Architectural drawings.
 - All concrete work is to comply with SABS 1200G.
 - Concrete Class :-
 - a) Strip Footings & Bases = 25 MPa
 - b) Columns & Staircases = 30 MPa
 - c) Slabs & Beams = 25 MPa
 - d) Retaining Walls = 30 MPa
 - e) Surface Bed Slabs = 25 MPa
 - f) Blinding = 10 MPa
 - Cover to reinforcement :-
 - a) Strip Footing & Bases = 50mm
 - b) Columns (Below Ground) = 40mm
 - c) Columns (Above Ground) = 40mm
 - d) Slabs, Beams & Staircases = 30mm
 - e) Slabs (On the Ground) - Bottom Mat = 50mm
 - f) Slabs (On the Ground) - Top Mat = 30mm
 - g) Retaining Walls (Earth Face) = 50mm
 - h) Retaining Walls (Front Face) = 40mm
 - All foundation excavations are to be inspected by the Engineer prior to casting of concrete.
 - All reinforcing fixing is to be inspected by the Structural Engineer prior to casting of concrete.
 - Concrete cubes to be taken per pour. Three cubes to be tested at seven days, the remainder at twenty eight days. The results are to be forwarded to the Engineer for review and approval.
 - The Contractor is to construct a blinding layer if soil conditions result in reinforcement cover not being maintained.
 - All structural concrete is to be cured for a minimum of five days.
 - All brickwork shown 'hatched' are load bearing. All load bearing brickwork is to be 14MPa NFX bricks in Class 2 mortar. The top of all load bearing brickwork (at all concrete interfaces) is to receive 2 layers of 3 ply malthoid placed on a smooth rendered surface.
 - All single skin brickwork is to be stopped 2 courses below the soffit of the slab and completed after the props have been removed.
 - All concrete plaster and brickwork plaster interfaces to receive V-joints.
 - The Engineer requires 24 hours notice for all inspections.

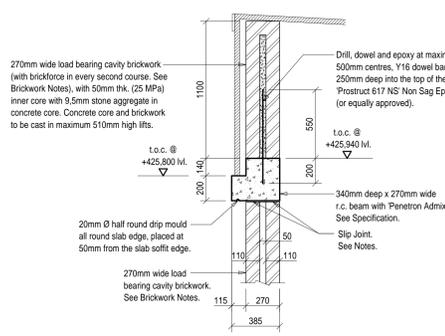
Brickwork Notes:

- All solid brick walls are 220mm wide or 110mm wide with brickwork built in every course below surface bed level, above all window and door openings, and every 3rd course above surface bed level with 150mm wide x 2.8mm thk. NHBRG Galvanized Brickforce for 220mm wide walls and 75mm wide x 2.8mm thk. NHBRG Galvanized Brickforce for 110mm wide walls.
- All cavity brick walls are 270mm wide with 110mm wide inner & outer skin brickwork with 50mm wide central cavity with brickforce built in every course below surface bed level, above all window and door openings, and every 3rd course above surface bed level with 230mm wide x 2.8mm thk. NHBRG Galvanized Brickforce.
- All brickwork to be min. 14MPa NFX bricks in Class 2 mortar.
- All 110mm wide walls are to be constructed directly onto the 170mm thk. surface bed slabs.
- All load bearing brickwork and concrete interfaces to receive a 'Slip Joint' of which consists of the following: 2 layers of 3 ply malthoid on a smooth rendered surface on top of the load bearing brickwork.

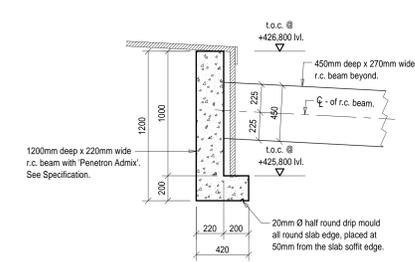
A. Classification of Concrete Finish to Top Surfaces of R.C. Slabs:
The following 'finish' is to be applied to all the top surfaces of the concrete: GF1 - The following 'finish' is to be applied to all suspended r.c. slabs and r.c. surface bed slabs: The top surfaces of the slabs are to be powerfloated (with a woodfloat finish) to Degree of Accuracy II as per SABS 1200 G specification.

Slip Joint Specification:
Note: All load bearing brickwork and concrete interfaces to receive a 'Slip Joint' of which consists of the following: 2 layers of 3 ply malthoid on a smooth rendered surface on top of the load bearing brickwork.

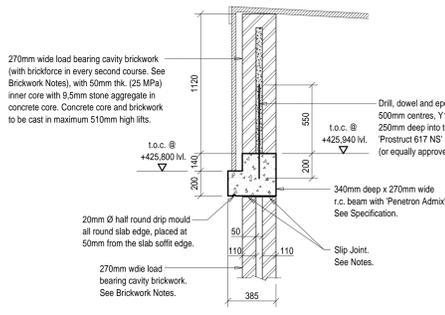
Brickwork Strapping Note:
All new brickwork to be tied to new r.c. columns and r.c. walls with 30mm wide x 1.2mm thk. x 800mm long galvanized steel straps. 100mm of steel strap shot fired to new r.c. column and r.c. wall and 700mm of steel strap built into brick wall every 3rd course. Each brick skin (at every 3rd course) to be tied to r.c. columns and r.c. walls.



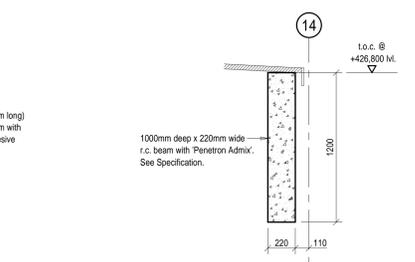
SECTION 1 - 1



SECTION 2 - 2



SECTION 3 - 3

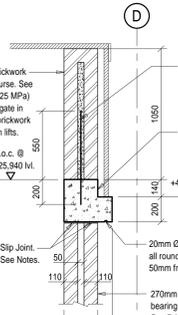


SECTION 4 - 4

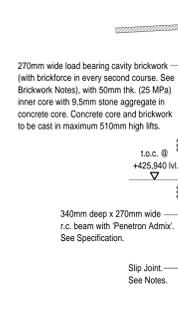
- Technical Specifications and Requirements for: Prefabricated (Nail Plated) Timber Roof Trusses:**
- The appointed Principle Building Contractor (PBC) is to note that the installation of all the prefabricated (nail plated) timber roof trusses must be carried out as a Design, Supply, Install and Certify Contract.
 - The Structural Design of the prefabricated (nail plated) roof trusses must be carried out by an 'Approved Competent Person', who is professionally registered with ECSA, in terms of the Engineering Profession Act, 2000, (Act No. 46 of 2000). The Structural Design of the prefabricated (nail plated) roof trusses must be carried out in accordance with the requirements of the following South African National Standards: SANS 10160, SANS 10163 and SANS 10243.
 - In accordance with the statutory requirements of the 'The South African National Building Regulations' - SANS 10400-A, Clause A19, the 'Approved Competent Person', who was responsible for the structural design of the prefabricated (nail plated) timber roof trusses, must submit a 'TR1 - Compliance and Completion Certificate' confirming the structural stability of the roof structure, to the Principle Structural Engineer (PSE), on completion of the roof truss installation.
 - The prefabricated (nail plated) timber roof trusses must be manufactured by an accredited ITC-SA fabricator.
 - The timber truss fabricator is to verify all setting out dimensions on-site, prior to any fabrication taking place.
 - A full set of 'Shop Drawings' (confirming all on-site dimensions, structural design information, truss tie down details, cross bracing details, etc), must be submitted by the Principle Building Contractor (PBC) to the Principle Structural Engineer (PSE) for review and approval, prior to any fabrication taking place.
 - The on-site inspection of the installation of the prefabricated (nail plated) roof trusses must be carried out by an 'Approved Competent Person', who is professionally registered with ECSA, in terms of the Engineering Profession Act, 2000, (Act No. 46 of 2000).
 - In accordance with the statutory requirements of the 'The South African National Building Regulations' - SANS 10400-A, Clause A19, the 'Approved Competent Person', who was responsible for the on-site inspection of the installation of the prefabricated (nail plated) timber roof trusses, must submit a 'TR2 - Compliance and Completion Certificate' confirming that the fabrication, installation and erection of the entire prefabricated (nail plated) timber roof truss structure is structurally stable and has been completed in accordance with the approved structural design drawings, to the Principle Structural Engineer (PSE), on completion of the roof truss installation.

25mm x 25mm chamfers to all exposed reinforced concrete elements.

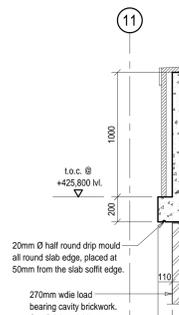
- B. Classification of Concrete Finish to all 'Visible / Exposed' Concrete Elements:**
- The classification of 'finish' for all 'visible / exposed' concrete is: 'Fair-Faced / Special Smooth Off-Shutter Finish'.
 - This 'finish' shall apply to all 'visible / exposed' shuttered concrete on this project.
 - The finished concrete surface shall be 'smooth' and free from imperfections such as small fins, bulges, irregularities, surface honey combing, segregation or surface discoloration.
 - Special off-shutter plywood-lined, non porous formwork shall be used to produce a finish that will comply with the requirements of Degree of Accuracy II as per SABS 1200 G specification.
 - Joints between formwork panels shall be tightly sealed such that practically no concrete grout may leak out. Joints in and between formwork panels shall form horizontal and vertical lines, which shall be spaced uniformly and symmetrically on the formed concrete surface and shall be even and smooth, requiring minimal or no finishing. Joints in exposed concrete columns shall be level and uniform from column to column and to be consistent with joints in other parts of the concrete structure.
 - Formwork fernule hole ties shall be designed on a regular grid. The 'Cone' shaped depressions shall be left open as a feature of the finish, or as instructed by the Architect to 'close up' all fernule holes with an approved 'non shrink grout'. Special care should be taken at these locations to avoid any 'non shrink grout' loss occurring.
 - The proposed layout of all formwork panels and construction joints shall be shown on drawings and these layout drawings are to be submitted to the Engineer and the Architect for written approval, prior to the erection of any formwork.
 - Formwork to non-visible concrete shutter faces, shall comply with the requirements of Degree of Accuracy II as per SABS 1200 G specification.
 - All exposed / visible concrete elements to receive 25mm x 25mm chamfers.



SECTION 7 - 7



SECTION 6 - 6



SECTION 5 - 5

This Drawing is to be read in conjunction with the latest Architectural Drawings and any discrepancies to be reported to the Architect and/or Structural Engineer.

FOR TENDER

REV.	DESCRIPTION	BY	DATE
T1	FOR TENDER	S.N.	11/04/2025
P2	REVISED TO ALIGN WITH THE LATEST ARCHITECTURAL LAYOUTS	S.N.	21/10/2024
P1	PRELIMINARY FOR PRICING	S.N.	17/09/2024

Professional Person: M. NABE, P. Y. T. Eng. ECSA Registration No.: 200970211

CLIENT: IMPLEMENTING AGENTS:

PROJECT MANAGERS:

ARCHITECTS:

PROJECT: 19/19/1/59 TB (25)
PROPOSED M5INSINI
POLICE STATION IN KZN

DETAILS: ADMINISTRATION BUILDING :
EAVES LEVEL
EAVES BEAM LAYOUT & DETAILS

DISCIPLINE: STRUCTURAL ENGINEERING

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DRAWN:	S.N.		1:50 1:20
APPROVED:	M.N.	PL	DATE: 18/09/2024

DRAWING No: 589 / 109 REV. T1