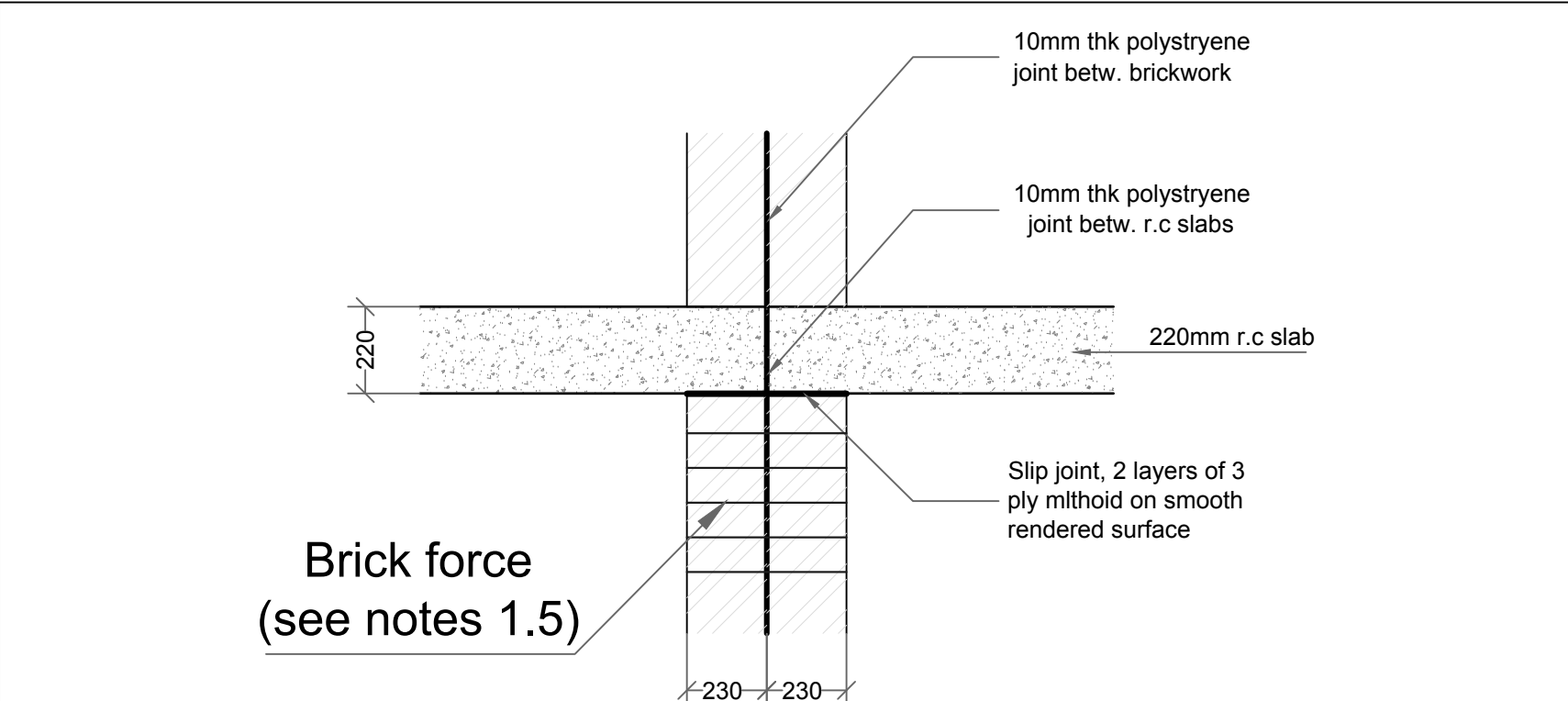
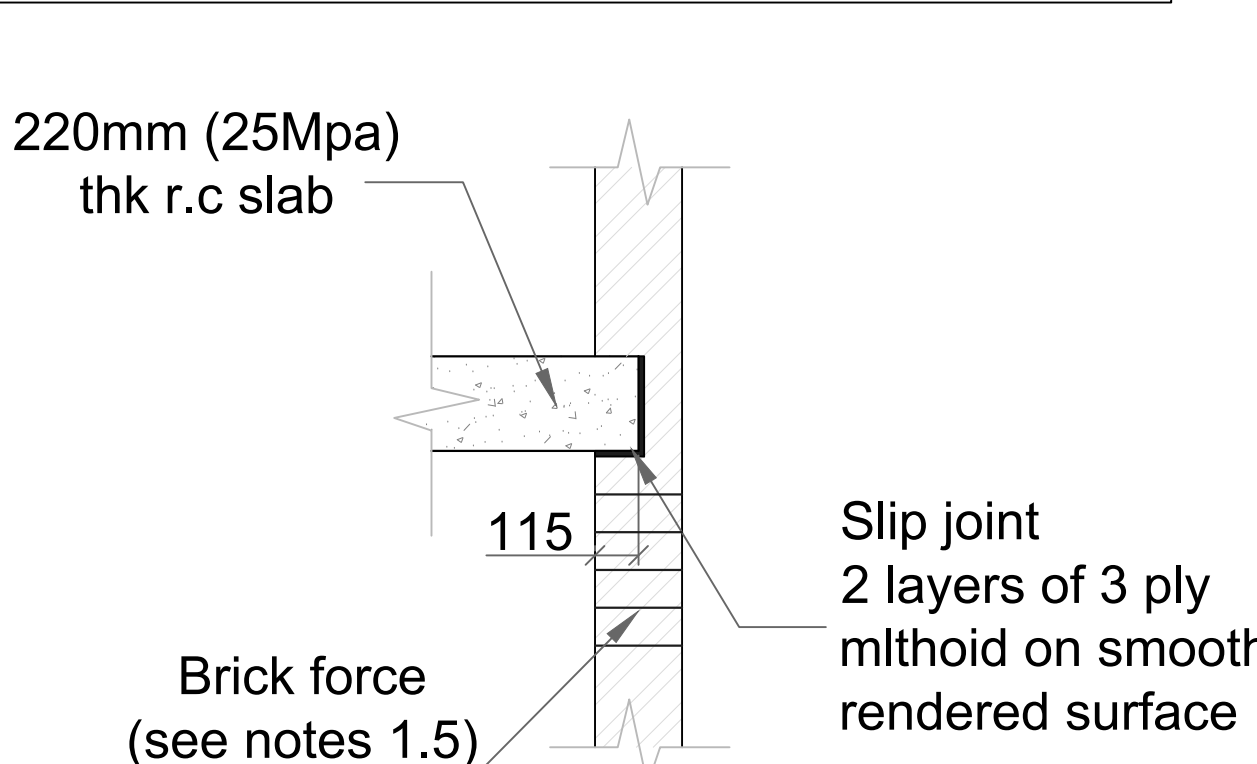


BLOCK "D": FIRST FLOOR SLAB  
LAYOUT PLAN  
scale 1:75

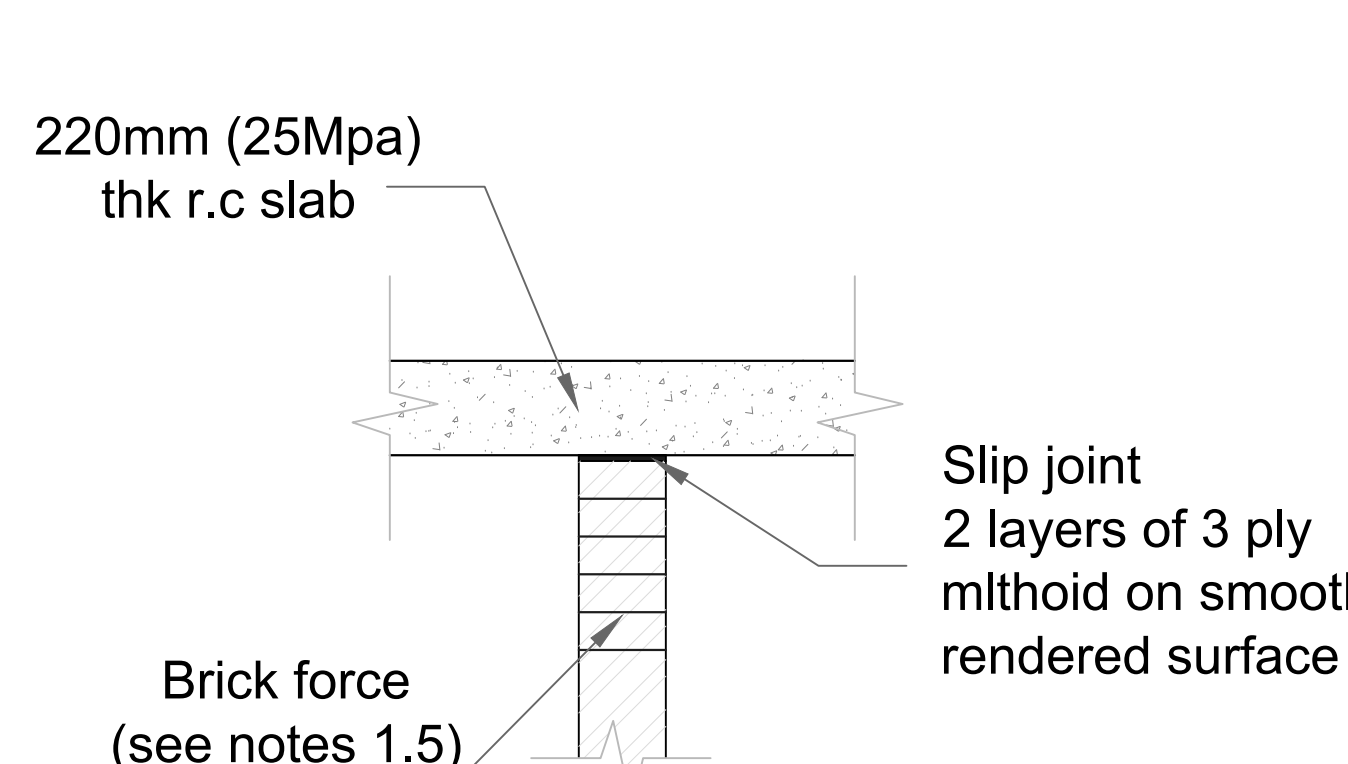
BLOCK "C": FIRST FLOOR SLAB  
LAYOUT PLAN  
scale 1:75



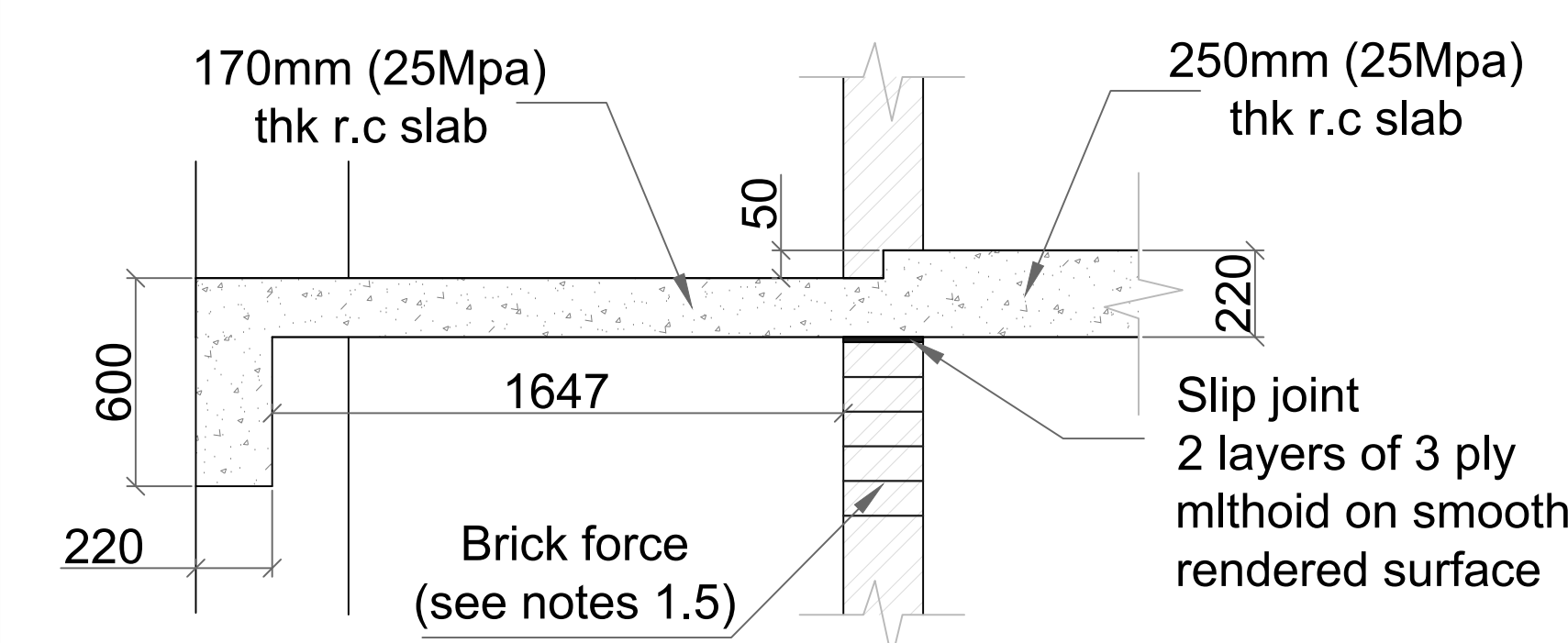
SECTION "A-A"  
Scale 1:20



SECTION "B-B"  
Scale 1:40



SECTION "C-C"  
Scale 1:40



SECTION "D-D"  
Scale 1:40

- CONCRETE:  
MATERIAL AND MIX PROPORTIONS:  
1.1 THE GRADES FOR CONCRETE, UNLESS OTHERWISE INDICATED SHALL BE AS FOLLOWS:
- COLUMNS CLASS 30 /19, 30MPa AT 28 DAYS
  - RC WALLS CLASS 30 /19, 30MPa AT 28 DAYS
  - SLABS/BEAMS CLASS 30 /19, 30MPa AT 28 DAYS
  - FOUNDATIONS CLASS 30 /19, 30MPa AT 28 DAYS
  - GROUND BEAMS CLASS 30 /19, 30MPa AT 28 DAYS
  - STRIP FOOTING CLASS 25 /19, 25MPa AT 28 DAYS
  - SURFACE BED SLAB CLASS 20 /19, 20MPa AT 28 DAYS
  - STAIRS CLASS 30 /19, 30MPa AT 28 DAYS
  - UPSTANDS/BALUSTRADES CLASS 30 /19, 30MPa AT 28 DAYS
  - BLINDING LAYERS CLASS 15 /19, 15MPa AT 28 DAYS
  - MASS CONCRETE CLASS 20 /19, 20MPa AT 28 DAYS

1.2 TEST CUBES ARE TO BE TAKE ON SITE WHILST CASTING IN ACCORDANCE WITH SANS REQUIREMENTS.

1.3 RESULTS OF CUBE TESTS TO BE SUBMITTED TO ENGINEER FOR APPROVAL.

- 1.4 CONCRETE COVER OVER REINFORCEMENTS UNLESS OTHERWISE NOTED:
- SLABS 25mm (BOTTOM)  
25mm (TOP)  
25mm (SIDES)
  - STAIRS 30mm
  - BEAMS (ABOVE GROUND) 25mm (TO LINKS)  
30mm (TO LINKS)
  - COLUMNS 30mm (TO LINKS)
  - GROUND SLAB 30mm
  - GROUND BEAMS 50MM (TO LINKS)

1.5 REINFORCEMENTS SHALL BE INSPECTED BY THE ENGINEER ONLY AFTER IT HAS BEEN COMPLETELY FIXED IN POSITION. FORMWORK IS CLEAN. SPACERS ARE PLACED IN POSITION AND AFTER THE CONTRACTOR HAS INSPECTED IT HIMSELF AND ALL QA DOCUMENTATION HAS BEEN SIGNED OFF BY THE MAIN CONTRACTOR AND RELEVANT SUB-CONTRACTORS.

1.6 WELDING OF REINFORCEMENT IS NOT ALLOWED, UNLESS IT HAS BEEN APPROVED BY THE ENGINEER IN WRITING.

- 1.7 CONSTRUCTION JOINTS IN SLABS/BEAMS:
- THE POSITION OF ALL CONSTRUCTION JOINTS TO BE APPROVED BY THE ENGINEER IN WRITING
  - BEFORE COMMENCING TO CAST NEW CONCRETE, THE SURFACE OF THE OLD CONCRETE SHALL BE CLEANED AND CHIPPED TO EXPOSE THE AGGREGATE AND SHALL BE KEPT WET FOR 2 HOURS BEFORE CASTING
  - THE OLD CONCRETE MUST BE SLUSHED WITH CEMENT BEFORE CASTING.

1.8 50mm BLINDING LATER IS TO BE PROVIDED UNDER ALL BASES UNLESS INDICATED OTHERWISE.

1.9 SHRINKAGE STRIPS IN CONCRETE FLOORS SHALL SHALL NOT BE CAST WITHIN 21 DAYS OF CASTING THE LAST SURROUNDING SLAB.  
NOTE THAT THE BAY CONTAINING THE SHRINKAGE STRIP MUST REMAIN PROPPED UNTIL ALL CONCRETE HAS REACHED THE REQUIRED AGE.

- 1.10 CONSTRUCTION JOINTS:
- NO HORIZONTAL JOINTS SHALL BE ALLOWED IN BASES OR OTHER DEEP ELEMENTS.
  - CONSTRUCTION JOINTS ARE TO BE FORMED ACCORDING TO SPECIFICATION.
  - ALL PIPES THROUGH JOINTS SHALL BE PROVIDED WITH AN EXPANSION JOINT OR FLEXIBLE COUPLING - THIS INCLUDES ALL CABLE SLEEVES, CONDUITS AND PIPES.
  - NO VERTICAL CONSTRUCTION JOINTS SHALL BE MADE IN ELEMENTS DIRECTLY EXPOSED TO THE WEATHER EXCEPT WHERE INDICATED OTHERWISE
  - ALL EXPOSED CONCRETE (EXTERNAL AND INTERNAL) TO BE SMOOTH CLASS F3 (OFF SHUTTER).

SURFACE BED:  
1.1 SAWN JOINTS TO BE PROVIDED WITHIN 24 HOURS AFTER CASTING OF CONCRETE.

1.2 FOR DETAILS OF DAMP PROOF COURSE UNDER SURFACE BEDS SEE TYPICAL DETAILS ON RELEVANT DRAWINGS.

1.3 CONSTRUCTION JOINTS IN FLOOR CHANNELS TO LINE UP WITH SURFACE BED JOINTS.

1.4 UNLESS OTHERWISE NOTED, FILL UNDER SURFACE BEDS SHALL BE APPROVED. SELECTED MATERIAL, COMPACTED IN LAYERS NOT EXCEEDING 150mm TO 95% MOD AASHTO DENSITY.

1.5 MINIMUM LAP LENGTH OF MESH REINFORCEMENT IS 400mm UNLESS OTHERWISE NOTED.

1.6 REFER TO ARCHITECTURAL DETAILS FOR TOP SURFACE FINISH, UNLESS OTHERWISE NOTED.

1.7 SAW JOINTS TO BE CUT AT RIGHT ANGLES TO CONSTRUCTION JOINTS, UNLESS OTHERWISE NOTED.

MASONRY:  
1.1 ALL BRICKS WALLS TO BE OF SOLID HARD BURNED CLAY BRICKS WITH A COMPRESSIVE STRENGTH OF NOT LESS THAN 7MPa LAID ON A CLASS II MORTAR WITH 28 DAYS COMPRESSIVE STRENGTH OF 7MPa AS SPECIFIED IN SANS 10154-1 (CODE OF PRACTICE MASONRY).

1.2 NFX BRICKS TO BE USED FOR RETAINING WALLS, FOUNDATIONS AND ANY BRICKWORK BELOW GROUND.

- 1.3 BRICKFORCE:
- MINIMUM DIAMETER OF BRICKFORCE TO NHBC STANDARD (2.8mm)
  - YIELD STRENGTH 450MPa
  - LAP LENGTH 450mm
  - ALL BRICKFORCE TO BE GALVANIZED TO SANS STANDARDS

1.4 ALL WALL TIES TO BE GALVANIZED TO SANS-28  
- MINIMUM 5 TIES PER sqm. GALVANIZED COATING OF MILD STEEL TO HAVE A MINIMUM MASS OF 750g/sqm OF ZINC.

1.5 BRICKFORCE TO BE PLACED IN THE FIRST FIVE LAYERS OF BRICKWORK ON FOOTINGS. THEREAFTER TO BE PLACED IN EVERY 4th LAYER IN ALL BRICK WALLS. PLACE BRICKFORCE IN THE FIRST 5 LAYERS OF BRICKWORK OVER ALL WINDOW AND DOOR OPENINGS. BRICKFORCE TO BE PROVIDED IN TOP FIVE LAYERS OF BRICKWORK BELOW SLAB SOFFIT FOR ALL LOAD BEARING BRICKWALLS AND WALLS SUPPORTING ROOF TRUSSES.

1.6 ALL BRICKWALLS SHALL BE LOAD BEARING UNLESS OTHERWISE NOTED.

1.7 ALL LINTELS TO INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURES SPECIFICATIONS.

1.8 NO LAYING OF BRICKWORK TO COMMENCE ON PROPPED SLABS.

| REVISIONS |            |                 |
|-----------|------------|-----------------|
|           | DATE       | DESCRIPTION     |
| A         | 25/10/2019 | DESIGN APPROVAL |
|           |            |                 |
|           |            |                 |

CLIENT:

 **education**  
Department: Education  
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STRUCTURAL ENGINEERS:

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PROJECT NAME & CLIENT INFORMATION  
ALTERATIONS AND ADDITIONS TO  
KHANDISA PRIMARY SCHOOL IN DLANGEZWE

SECTION / BLOCK  
CLASSROOM BLOCKS "C" AND "D"

TITLE  
CONCRETE DRAWING

DRAWING DESCRIPTION  
FIRST FLOOR SLAB LAYOUT PLAN  
AND DETAILS

| SCALE                        | AS SHOWN         |                       |        |                      |
|------------------------------|------------------|-----------------------|--------|----------------------|
| DESIGNED<br>SAM              | DATE<br>OCT 2019 | PrEng No.<br>20160552 | SIGN.: |                      |
| DRAWN<br>SAM                 | DATE<br>OCT 2019 | PrEng No.<br>20160552 | SIGN.: |                      |
| APPROVED<br>R.J.K            | DATE<br>OCT 2019 | DRAWN:<br>20060009    | SIGN.: |                      |
| DRAWING NUMBER: P1911/20-005 |                  |                       |        | REVISION<br><b>A</b> |