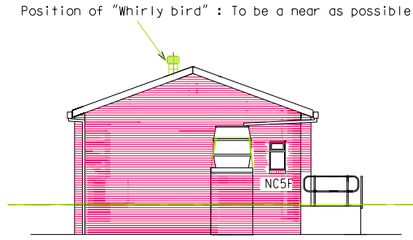
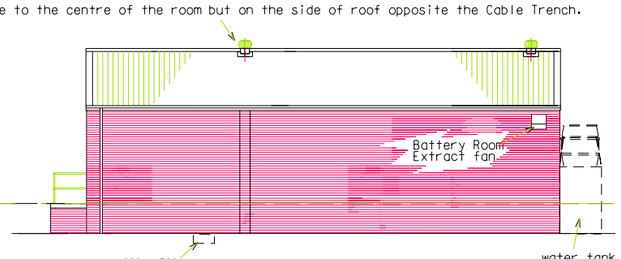
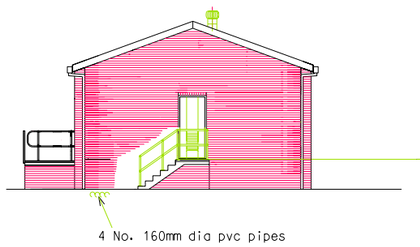
Position of "Whirly bird" : To be a near as possible to the centre of the room but on the side of roof opposite the Cable Trench.




SIDE ELEVATION

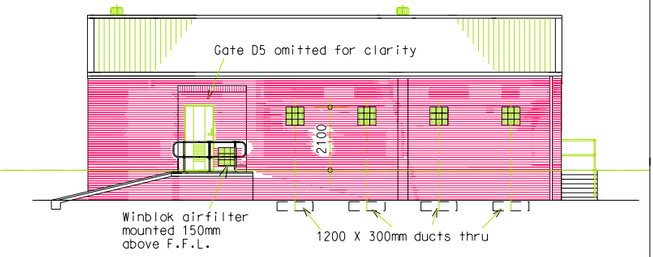



REAR ELEVATION




SIDE ELEVATION

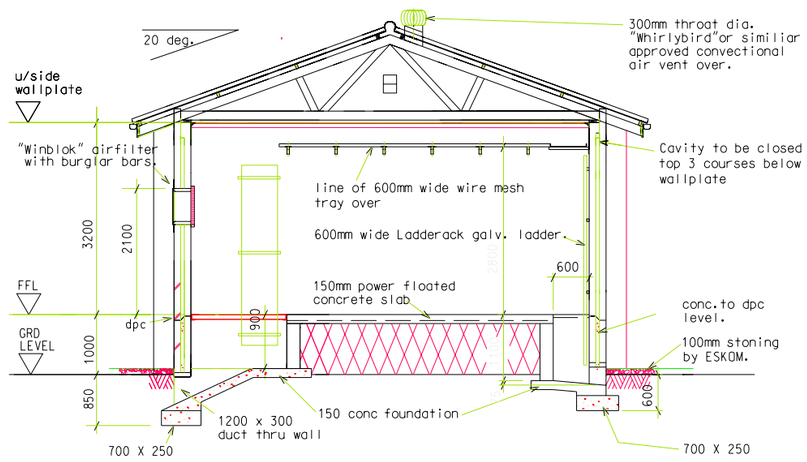
SCALE 1 : 100




FRONT ELEVATION

ROOF CONSTRUCTION

"Big Six OR Profile B 6mm fibre/ cement OR 0.6mm galv. IBR sheeting on 76 X 50 purlins @ max. 1400mm c/cs on "gangnail " type trusses @ max 1050mm c/cs. Where "gangnail trusses are not available Contractor to use 150 X 38mm rafters and tiebeams. 114 X 38 struts. All joints to be galv. bolted with M12 bolts.
CEILINGS : 4mm Nutec fibre/ cement ceiling on 50 X 38 brandering @ 400mm c/cs. Joints taped for painting.
INSULATION : Lay 75mm Aerolite fibreglass or equivalent ESKOM approved insulation layer over ceiling.
WALLPLATE : 114 X 38 mm tobe tied 600mm into bwk. with galv. hoop iron straps
N.B. Contractor to obtain a certificate of compliance from the manufacturer of the trusses.




SECTION A - A

SCALE 1 : 50

FOUNDATIONS GENERALLY :
TYPE1 : For compact non cohesive soils consisting of gravels and sands located above the water table NO reinforcing is required.
TYPE 2 : For stiff or firm cohesive soils consisting of clays and silts the foundation to have a single layer of BRC Weldmesh 617 placed in the centre of the foundation .ie 125mm from bottom of foundation bottom.
TYPE 3 : For soils consisting of soft clays and silts or submerged soils the foundation and the reinforcment to be designed by a registered Civil Engineer.

## SPECIFICATION

GENERAL:
This specification to be read in conjunction with ESKOM's Standard Specification and General Conditions of Contract.
Contractor to pay all fees in regard to services supplied by and for the Local Authority.
Portable latrines to be provided and serviced by Contractor.
Contractor to include in his pricing for the temporary supply of water and power for construction purposes.

FOUNDATIONS:
To sizes and depths shown. 220 & 280 walls without adjacent trenches to have 700 x 250 conc. foundations.Concrete to be 15 mPa strength. Reinforcing as shown on Section A - A

WALLS: Below ground : well burnt red hard clay R.O.K. bricks.
Internal walls : Red clay R.O.K. bricks.(min. compressive strength 7 mPa.)
REV.1 Facebricks : Smooth or rustic IRONSPOTS min.35 mPa or to ESKOM approval and start 1 course below final ground line.
Cavity walls to be 110 - 60 - 110 skins with 60mm cavity
Brikforce : 150mm wide galv. to first 4 courses above foundations and top 3 courses below wallplate. Gables 75mm width every 4th course to ridge. Wallties : Galv. " Butterfly" type, 5 per sq metre in wall, 300 c/c at jambs D.P.C. : Gunplas " Brikgrip " 375 microns, stepped at floor levels in cavity walls, and around openings.
Joints : Facebrick, 10mm raked, all other joints to be keyed for plastering. Every fourth perpend above stepped dpc to be raked clear to drain cavity.
Mortar: 1:4 (cement : sand)

PLASTERWORK:
Internally, 15mm thickness, smooth steel float finish. Mix 1:1:6 (cement:lime:sand). Externally 20mm thickness wood float mix 1:4.

FLOORS: SWITCH /RELAY ROOM
ABE "Koracron" cementatious floor hardener to Manufacturers spec. on 150 mm thickness 30mPa power floated concrete on sand fill compacted in 150mm layers. Reinforcing to be BRC 617 Weldmesh min. 50mm from bottom of slab.

N.B. FLOOR LEVEL TO BE LAYED TO A TOLERANCE OF 0.5MM PER METRE WITH A MAXIMUM OF 2,50MM DIFFERENCE OVER THE LENGTH.

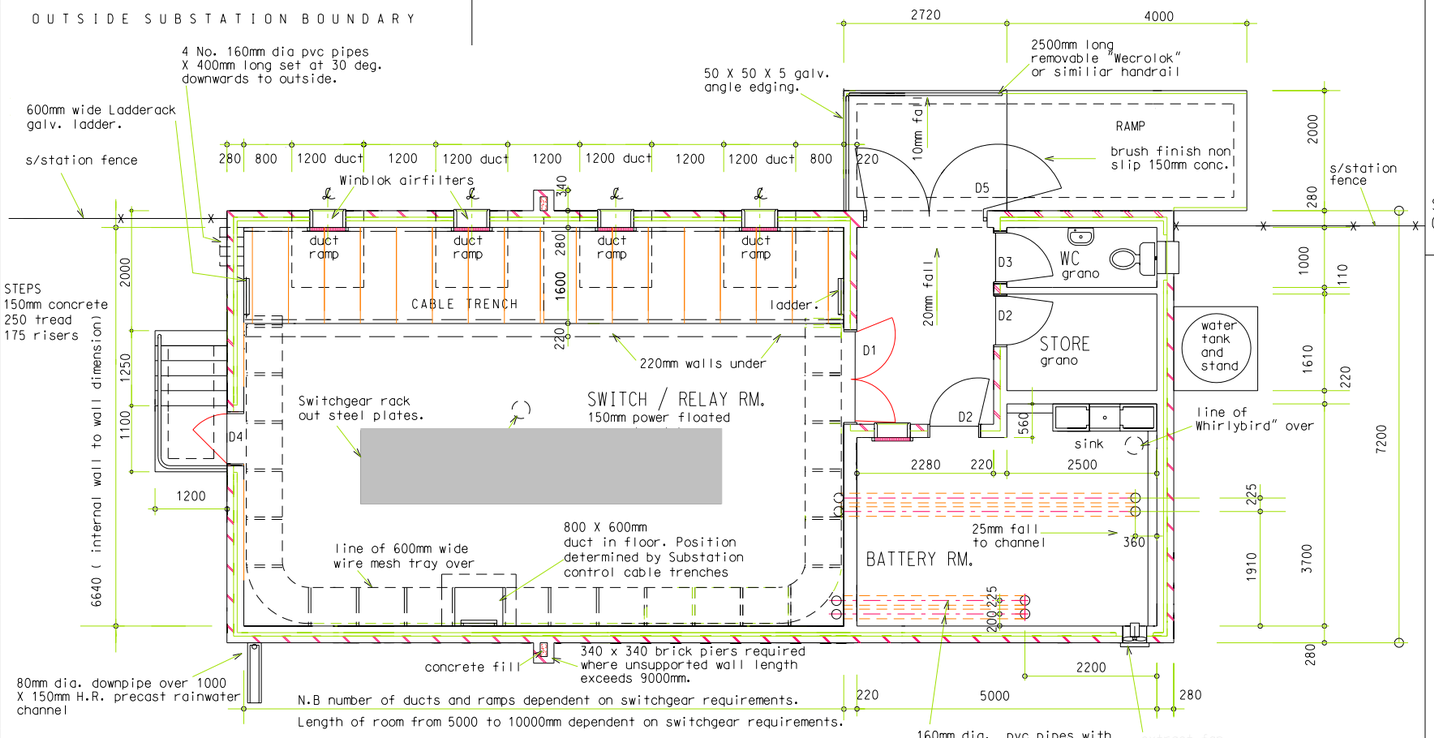
STORE AND WC : 25mm timber floated grano screed on 30 mPa concrete, 100mm thickness.

STEPS AND LOADING BAY : 150mm brush finish 30mPa concrete layed to falls as shown. Reinforcing as Switch rm.

FLOOR FINISHES:
Store room and W/C : Natural grey finish. Relay/Switch room: 2 coats Sika Purigo 5S transparent sealer or equal approved applied after commissioning of panels and switchgear by Contractor.
N.B. NO skirtings required.
CEILINGS: See roof construction.
DOORS: Refer to door schedule drg D-DT-5238 sheet 13 for details.
AIRFILTERS: To be Winblok WI(A)66 fitted with external nat. anodised al. louvre and purpose made al. frame internally. Std burglar bars to be fitted to outside. See detail drg. D-DT-5238 sheet 13. Rev 1
WINDOW:
Wispeco type NC5F galv. steel. Glazing to be 6mm Georgian wired cast.
SERVICE TRENCHES: Walls to be bagged brick, all trench covers and channels by contractor. Refer to D-DT-5238 Sh.13 for trench details. edging. Trench covers as shown ex 4.5mm thk. "vastrap" 25mm dia lifting holes.
SWITCHGEAR RACK OUT STEEL PLATES : Contractor to fix in position (after installation of switchgear by specialist contractor) 3mm thick X 1225mm galv.plates with CSK s/steel screws @ 500mm c/cs.
Contractor to refer to Design Document as to extent (length) of plates required.

SANITARYWARE: WC : Vaal " Klip" suite white vitreous china with seat & lid, Cobra 'Star' cp stop valve, cp toilet roll holder. Basin: Vaal 'Bantam' 455x290 white vitreous china complete with wall brackets, cp plug & chain. Cobra 'Star cp cold water tap. Hose tap: Cobra No. 108LK
PAINTER: Galv. steel: Galvkleen followed by 1 coat calcium plumbate primer, 1 coat universal undercoat, 1 coat gloss enamel.
Trench covers: one coat red lead primer, 1 coat u/ undercoat, 2 coats eggshell enamel. Colour: light grey to ESKOM approval.
Internal walls & ceilings: 1 filler coat, 2 coats Dulux "Wash 'n Wear" pva, or similiar approved. colour white. Final coat to be applied by contractor only after commissioning of all electrical equipment by Eskom.
Battery rm. floor : Acid resisting twin coat epoxy finish to ESKOM approval and manufacturers spec.
Walls & ceiling : 1 coat filler, 2 coats acid resisting paint.
Rafter ends and sprockets : 1 coat pink primer, 2 coats flat enamel. Colour - white .
WATER SUPPLY : Run in 20mm copper from water tank /municipal supply to wc ,basin, batteryroom sink and external tap.

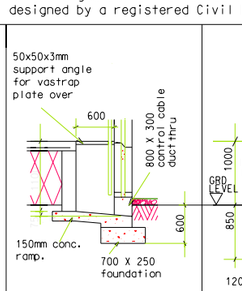
OUTSIDE SUBSTATION BOUNDARY



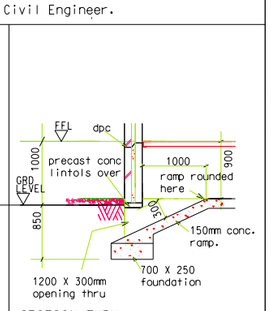

PLAN TYPE 8.(RELAY /SWITCH RM. BATTERY RM. STORE AND WC.)

SCALE 1 : 50

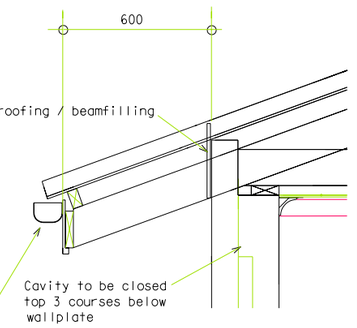
SUBSTATION YARD SIDE




SECTION THRU CONTROL CABLE DUCT




SECTION THRU SERVICE DUCTS




GUTTERS : 120 X 80 D shape upvc or similiar on 225 X 9 mm upvc fascia or similiar on 144 X 44 S.A. pine backing piece. Sprockets to be PAR for painting.

DETAIL AT EAVES

N.B. Where climatic conditions are desert like the use of gutters can be dispensed with.

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | 5238 SH.16 | LIGHTING AND POWER LAYOUT |
| | | | | | 5238 SH.14 | BATTERY RM. SINK |
| | | | | | 5238 SH.13 | DETAILS AND DOOR SCHEDULE |
| | | | | | D-DT- | |
| | | | | | DRG NO. | REFERENCE DRAWINGS: |
| 1 | D-DT-5074 CHANGED TO D-DT-5238 | PBM | B.P.H | B.P.H. | 05/04/2005 | |
| 0 | DRAWING NO. CHANGED FROM D-DT-5074 | VvZ | JFS | JFS | 10/12/2002 | |
| REV | REVISION DESCRIPTION | BY | CHKD | AUTH | DATE | PROJECT NO. |

THIS DRAWING IS THE NEW OFFICIAL REVISION. IT SUPERCEDES ALL OTHER PUBLISHED DRAWINGS.

THIS DRAWING HAS BEEN CREATED ON A C.A.D. SYSTEM AND ANY AMENDMENT TO THE DRAWING MUST BE EFFECTED ONLY ON THE SAME C.A.D. SYSTEM

SCALE 1:

THIS DRAWING IS THE PROPERTY OF ESKOM

Eskom Distribution

AUTH: B.P. HILL
DATE: 10/12/2002
CHKD: J.F. SCHOLTZ
DATE: 10/12/2002
DRAWN: C.GRAY
DATE: 09/12/2002

# NATIONAL STD.(CONVENTIONAL ROOF) "COMBO" CONTROL BUILDING TYPE 8 DETAIL PLAN, SECTIONS & ELEVATIONS

D-DT-5238

| SET | SHEET | REVISION |
|---|---|---|
| 16 | 8 | 1 |