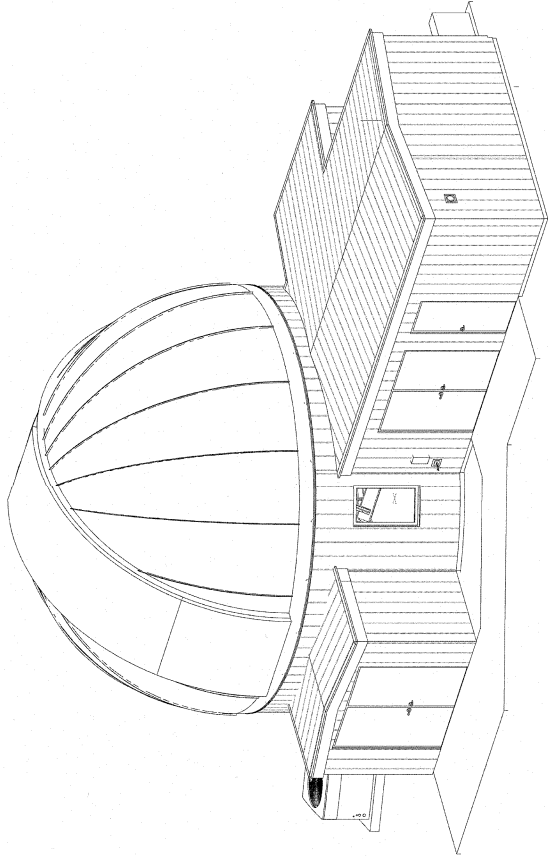




KMTNET OBSERVATORY ENCLOSURE

SUTHERLAND, SOUTH AFRICA

KMTNET OBSERVATORY
ENCLOSURE AND
CONTROL BUILDING



2081 W. SUNSET RD.
SUITE NO. 101
TUCSON, ARIZONA 85704
TEL: (520) 324-1444
FAX: (520) 324-1444
WWW.KMTNET.ORG

ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT

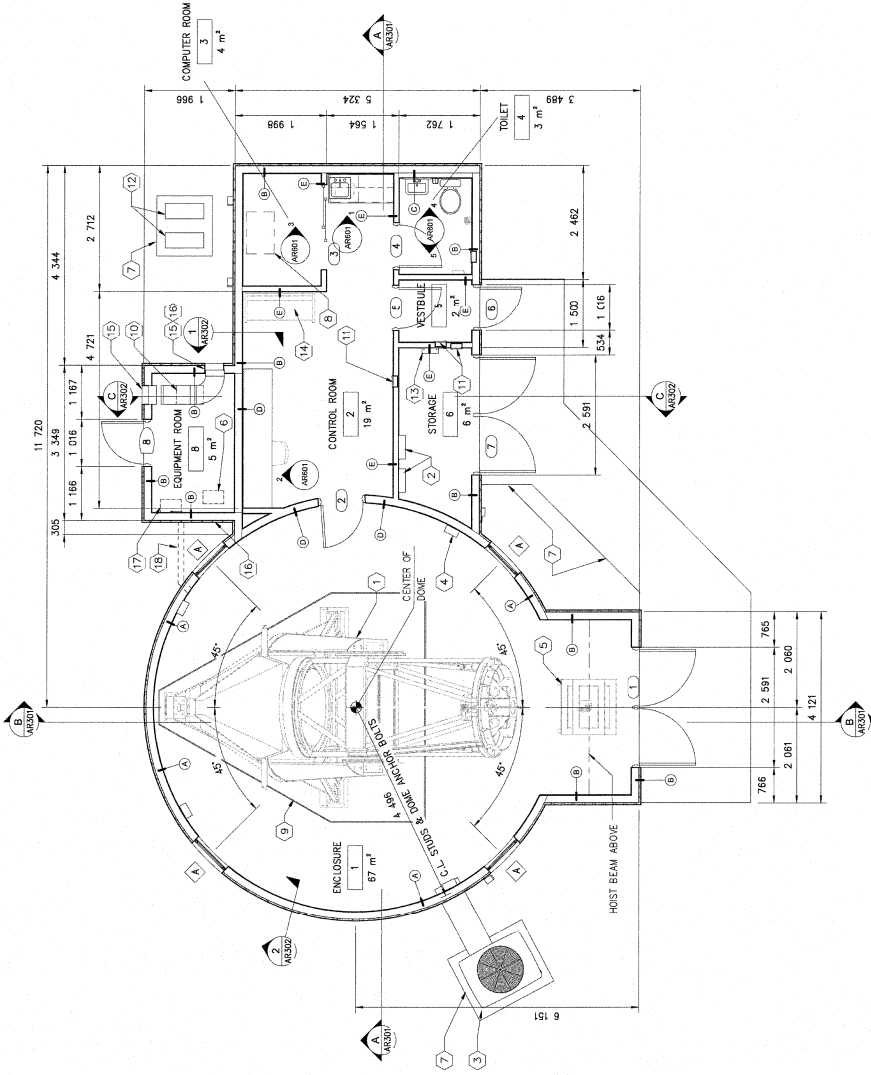


Revisions		
#	Description	Date
1	CLIENT REVIEW	05/04/12

Owner:	S.P.O.
Checked:	J.T.
Issue Date:	05/28/2011
Drawing Title:	SOUTH AFRICA
General:	SOUTH AFRICA
Project Cover:	General
Sheet:	PROJECT COVER
Sheet Number:	SHEET
Sheet Number:	GI001
Sheet Number:	M32N 100125
Sheet Number:	5/3/2012 4:48:31 PM

KEYNOTES

- 1 KMT TELESCOPE (BY OTHERS)
- 2 ELECTRICAL PANEL - SEE EPI01
- 3 A/C UNIT - SEE MH101
- 4 WALL MOUNTED LIGHT FIXTURE - SEE ELI01, TYPICAL
- 5 ERROR CART - SHOWN FOR REFERENCE ONLY
- 6 OUTLINE OF CRYOTIGERS (BY OTHERS)
- 7 CONCRETE PAD OR SIDEWALK - SEE SB101
- 8 COMPUTER RACK (BY OTHERS)
- 9 50mm STYROFOAM ISOLATION JOINT AROUND TELESCOPE FOUNDATION, TYPICAL
- 10 CHILLER / GLYCOL CIRCULATOR (BY OTHERS)
- 11 WALL HEATER - SEE MH101
- 12 CONDENSING UNIT - SEE MP101
- 13 WATER HEATER - SEE MP101
- 14 FURNITURE SHOWN FOR REFERENCE - BY OTHERS
- 15 WALL LOUVER (BY OTHERS)
- 16 MOTORIZED WALL LOUVER (BY OTHERS)
- 17 OUTLINE OF WALL MOUNTED HEATER
- 18 PVC CONDUIT ABOVE FOR CABLES - SEE EPI01



FLOOR PLAN

SCALE: 1:50

WALL TYPES

MARK	DESCRIPTION
A	METAL SIDING OVER SHEET METAL SHEATHING OVER 7/16" PAINT GRADE PLYWOOD. PROVIDE R-19 BATT INSULATION. SEE DETAIL 9/AR501 FOR PLAN VIEW.
B	METAL SIDING OVER 7/16" PAINT GRADE PLYWOOD OVER 6"x18 GA. METAL STUDS @ 406 MM O.C. WITH 7/16" PAINT GRADE PLYWOOD. PROVIDE R-19 BATT INSULATION. SEE DETAIL 9/AR501 FOR PLAN VIEW.
C	METAL SIDING OVER 7/16" PAINT GRADE PLYWOOD OVER 4"x22 GA. METAL STUDS @ 406 MM O.C. WITH 7/16" PAINT GRADE PLYWOOD. PROVIDE R-19 BATT INSULATION.
D	7/16" PAINT GRADE PLYWOOD ON BOTH SIDES OF 6"x18 GA. METAL STUDS @ 406 MM O.C.
E	7/16" PAINT GRADE PLYWOOD ON BOTH SIDES OF 4"x22 GA. METAL STUDS @ 406 MM O.C.

NOTES:

1. ATTACH ALL INTERIOR WALLS TO THE STRUCTURAL TRUSSES WITH A SIP TRACK PER DETAIL 5/AR502.
2. PROVIDE A METAL STUD HEADER OVER ALL INTERIOR DOORS PER DETAIL 4/AR502. SEE DETAIL 10 FOR WALL HEADERS OVER EXTERIOR DOORS AND WINDOWS.

KMTNET OBSERVATORY
ENCLOSURE AND
CONTROL BUILDING



2001 W. SUNSET RD.
TUCSON, ARIZONA 85718
PHONE: (520) 326-1000
FAX: (520) 326-1001
WWW.KMTNET.ORG

ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT



Revisions

#	Description	Date
1	CLIENT REV. 1	10/04/12

Drawn: S.P.D.
Checked: J.T.
Issue Date: 06/28/2011

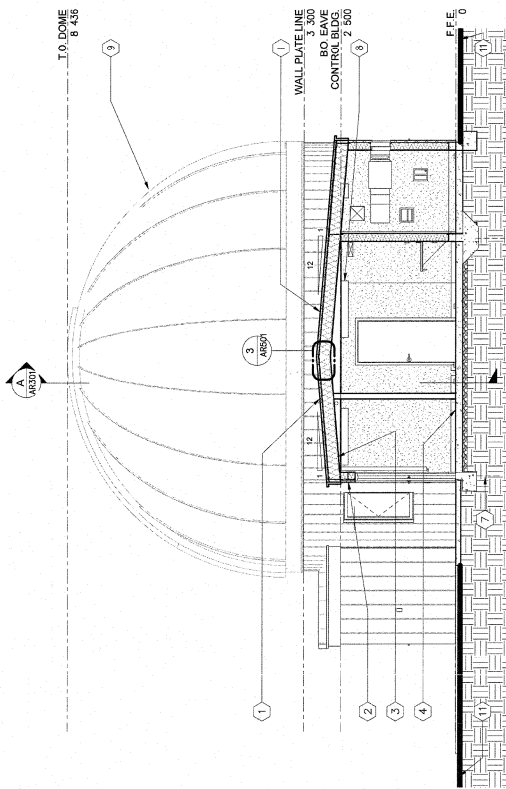
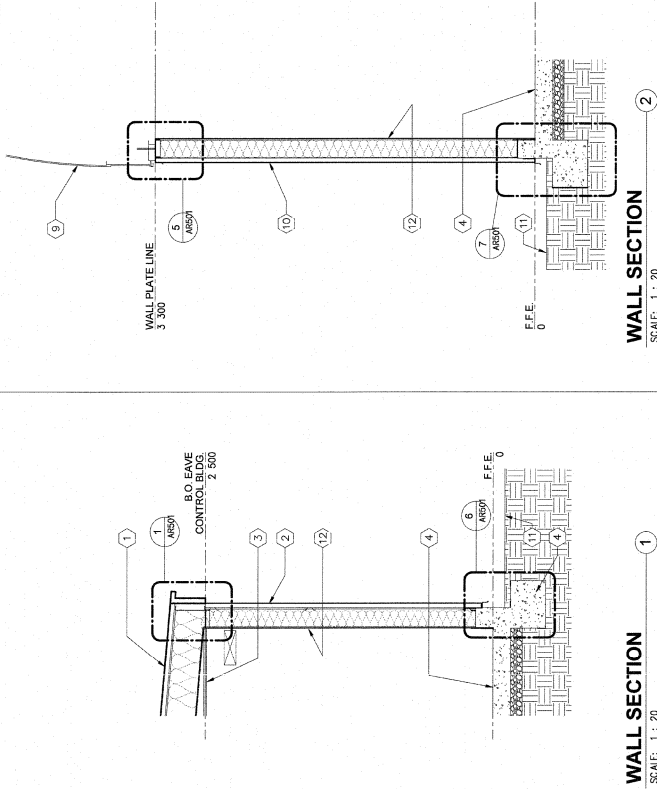
Drawing Title:
SOUTH AFRICA
Architecture
FLOOR PLAN

Sheet Number:
AR101

KSPN 100120
5/2/2012 4:48:13 PM

KEYNOTES

- 1 METAL ROOFING OVER PLYWOOD SHEATHING OVER METAL TRUSSES WITH R-19 BATT INSULATION
- 2 METAL SIDING OVER PLYWOOD SHEATHING OVER METAL STUDS WITH R-19 BATT INSULATION - SEE AR101
- 3 PAINT GRADE PLYWOOD CEILING, TYPICAL
- 4 CONCRETE FLOOR SLAB AND FOOTING - SEE SB101
- 5 KMT TELESCOPE (BY OTHERS)
- 6 TELESCOPE CONCRETE FOOTING - SEE SB101 LOCATION
- 7 ROCK ANCHOR WHERE APPLICABLE - SEE SB101 FOR LOCATION
- 8 ELECTRICAL LIGHT FIXTURE, TYPICAL - SEE EL101
- 9 9.2M DOME (BY OTHERS)
- 10 METAL SIDING OVER SHEET METAL OVER METAL STUDS WITH R-19 BATT INSULATION - SEE AR101
- 11 FINISH GRADE
- 12 PAINT GRADE PLYWOOD, TYPICAL
- 13 CABLE TRAY - SEE EY101
- 13 MIRROR CELL ASSEMBLY CRANE (3 TON CAPACITY BY OTHERS)



BUILDING SECTION C-C

SCALE: 1:50

KMTNET OBSERVATORY
ENCLOSURE AND
CONTROL BUILDING



2001 W. SUNSET RD.
SUITE 100
TUCSON, ARIZONA 85704
PH: (520) 790-1000
WWW.M3ARCH.COM

ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT



Revisions	#	Description	Date
1	CLIENT REV.	10/1/2011	

Drawn: J.T.
Checked: J.T.
Issue Date: 06/28/2011

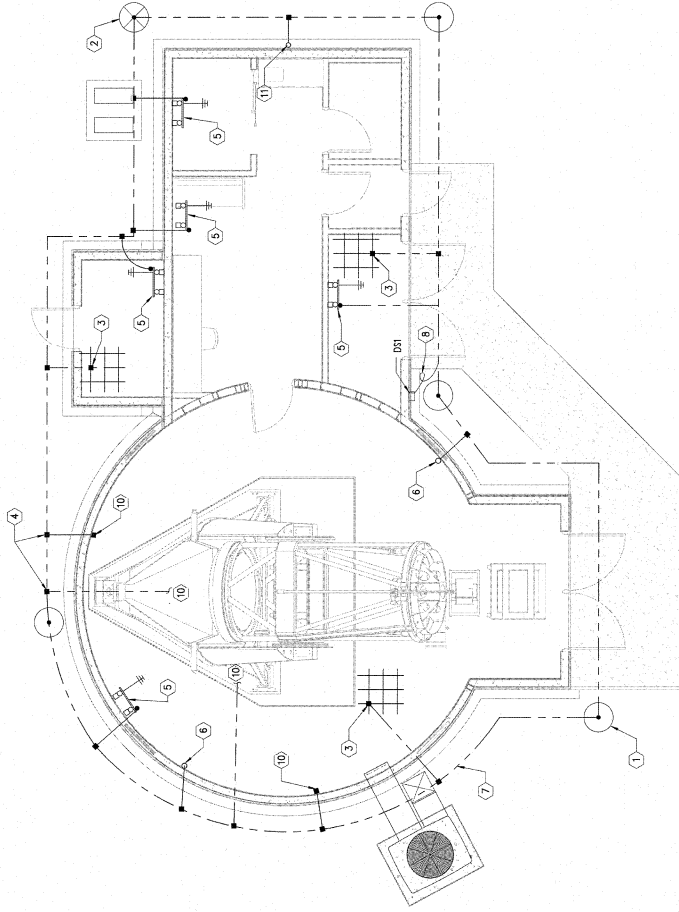
Drawing Title
SOUTH AFRICA
Architecture
WALL SECTIONS
AND DETAILS

Sheet Number
AR302

M3PN 100120
5/3/2011 4:48:25 PM

KEYNOTES

1. PROVIDE 3/4" X 10' COPPER CLAD STEEL ROD, TYPICAL OF 5.
2. PROVIDE GROUNDING RING TEST WELL.
3. BOND TO FOUNDATION/CONCRETE SLAB REINFORCING REBAR. PROVIDE EXOTHERMIC WELD AT EACH BONDING LOCATION.
4. EXOTHERMIC WELD, TYPICAL.
5. PROVIDE 2" X 1/4" X 12' LONG MINIMUM GROUND BUS BAR MOUNTED TO WALL AT 467.2mm (18") AFF. TYPICAL.
6. INTERCONNECT LIGHTNING PROTECTION SYSTEM DOWNLEAD COMING FROM COLLECTOR SHOE TO ENCLOSURE GROUNDING RING CONDUCTOR.
7. PROVIDE 1 #4/0 SIBC GROUNDING RING CONDUCTOR. INSTALL MINIMUM OF 774.6mm (30.5") BELOW FINISH GRADE AND MINIMUM OF 508.0mm (20") FROM BUILDING FOUNDATION.
8. PROVIDE 1 #2 GROUNDING ELECTRODE CONDUCTOR BOND TO GROUNDING RING CONDUCTOR AT SERVICE ENTRANCE DISCONNECT.
9. BOND TO TELESCOPE PIER FOUNDATION REINFORCING REBAR. PROVIDE EXOTHERMIC WELD AT BONDING LOCATION.
10. BOND TO FOOTING REINFORCING REBAR. PROVIDE EXOTHERMIC WELD.
11. INTERCONNECT LIGHTNING PROTECTION SYSTEM DOWNLEAD COMING FROM ROOF LEVEL AIR TERMINAL TO GROUNDING RING CONDUCTOR.



GROUNDING PLAN
SCALE: 1 : 50

KMTNET OBSERVATORY
ENCLOSURE AND
CONTROL BUILDING



2001 W. SUNSET RD.
SUITE NO. 101
TUCSON, ARIZONA 85704
TEL: (520) 293-1888
FAX: (520) 293-1888
www.h3m.com

ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT



Revisions

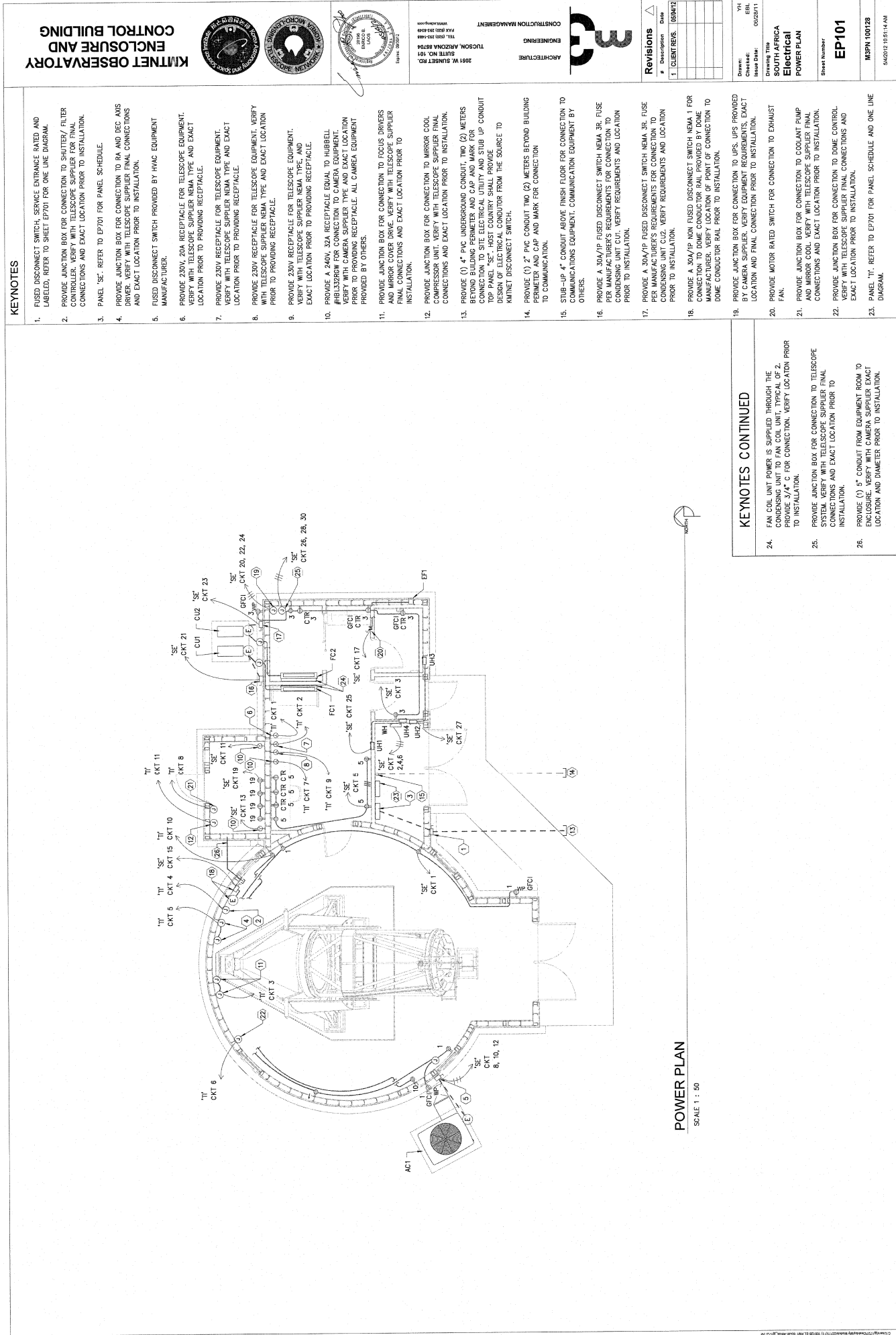
#	Description	Date
1	CLIENT REV. 05/04/12	05/04/12

Drawn: YH
Checked: ERL
Issue Date: 06/28/11

Drawing Title
SOUTH AFRICA
Electrical
GROUNDING PLAN

Sheet Number
EG101

Project Number
M3PN 100128
5/4/2012 12:55:59 AM



KEYNOTES

1. FUSED DISCONNECT SWITCH, SERVICE ENTRANCE RATED AND LABELED, REFER TO SHEET EP701 FOR ONE LINE DIAGRAM.
2. PROVIDE JUNCTION BOX FOR CONNECTION TO SHUTTER/ FILTER CONTROLLER. VERIFY WITH TELESCOPE SUPPLIER FOR FINAL CONNECTIONS AND EXACT LOCATION PRIOR TO INSTALLATION.
3. PANEL "SE". REFER TO EP701 FOR PANEL SCHEDULE.
4. PROVIDE JUNCTION BOX FOR CONNECTION TO RA AND DEC AXIS DRIVER. VERIFY WITH TELESCOPE SUPPLIER FINAL CONNECTIONS AND EXACT LOCATION PRIOR TO INSTALLATION.
5. FUSED DISCONNECT SWITCH PROVIDED BY HVAC EQUIPMENT MANUFACTURER.
6. PROVIDE 230V, 32A RECEPTACLE FOR TELESCOPE EQUIPMENT. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO PROVIDING RECEPTACLE.
7. PROVIDE 230V RECEPTACLE FOR TELESCOPE EQUIPMENT. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO PROVIDING RECEPTACLE.
8. PROVIDE 230V RECEPTACLE FOR TELESCOPE EQUIPMENT. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO PROVIDING RECEPTACLE.
9. PROVIDE 230V RECEPTACLE FOR TELESCOPE EQUIPMENT. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO PROVIDING RECEPTACLE.
10. PROVIDE A 240V, 32A RECEPTACLE EQUAL TO HUBBELL HUBBELL 32A RECEPTACLE. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO PROVIDING RECEPTACLE. ALL CAMERA EQUIPMENT PROVIDED BY OTHERS.
11. PROVIDE JUNCTION BOX FOR CONNECTION TO FOCUS DRIVERS AND MIRROR COVER DRIVERS WITH TELESCOPE SUPPLIER. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO INSTALLATION.
12. PROVIDE JUNCTION BOX FOR CONNECTION TO MIRROR COOL COMPRESSOR UNIT. VERIFY WITH TELESCOPE SUPPLIER FINAL CONNECTIONS AND EXACT LOCATION PRIOR TO INSTALLATION.
13. PROVIDE (1) 4" PVC UNDERGROUND CONDUIT, TWO (2) METERS BEYOND BUILDING PERIMETER AND CAP AND MARK FOR CONNECTION TO SITE ELECTRICAL UTILITY AND STUB UP CONDUIT TOP PANEL "SE". HOST COUNTRY SHALL PROVIDE DESIGN OF ELECTRICAL CONDUIT FROM THE SOURCE TO KINET DISCONNECT SWITCH.
14. PROVIDE (1) 2" PVC CONDUIT TWO (2) METERS BEYOND BUILDING PERIMETER AND CAP AND MARK FOR CONNECTION TO COMMUNICATION.
15. STUB-UP 4" CONDUIT ABOVE FINISH FLOOR FOR CONNECTION TO COMMUNICATIONS EQUIPMENT. COMMUNICATION EQUIPMENT BY OTHERS.
16. PROVIDE A 30A/1P FUSED DISCONNECT SWITCH NEMA 3R, FUSE PER MANUFACTURER'S REQUIREMENTS FOR CONNECTION TO CONDENSING UNIT CU2. VERIFY REQUIREMENTS AND LOCATION PRIOR TO INSTALLATION.
17. PROVIDE A 30A/1P FUSED DISCONNECT SWITCH NEMA 3R, FUSE PER MANUFACTURER'S REQUIREMENTS FOR CONNECTION TO CONDENSING UNIT CU2. VERIFY REQUIREMENTS AND LOCATION PRIOR TO INSTALLATION.
18. PROVIDE A 30A/1P NON FUSED DISCONNECT SWITCH NEMA 1 FOR CONNECTION TO DOME CONDUCTOR RAIL PROVIDED BY DOME MANUFACTURER. VERIFY LOCATION OF POINT OF CONNECTION TO DOME CONDUCTOR RAIL PRIOR TO INSTALLATION.
19. PROVIDE JUNCTION BOX FOR CONNECTION TO UPS. UPS PROVIDED BY CAMERA SUPPLIER. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO INSTALLATION.
20. PROVIDE MOTOR RATED SWITCH FOR CONNECTION TO EXHAUST FAN.
21. PROVIDE JUNCTION BOX FOR CONNECTION TO COOLANT PUMP. VERIFY WITH TELESCOPE SUPPLIER NEMA TYPE AND EXACT LOCATION PRIOR TO INSTALLATION.
22. PROVIDE JUNCTION BOX FOR CONNECTION TO DOME CONTROL. VERIFY WITH TELESCOPE SUPPLIER FINAL CONNECTIONS AND EXACT LOCATION PRIOR TO INSTALLATION.
23. PANEL "TT". REFER TO EP701 FOR PANEL SCHEDULE AND ONE LINE DIAGRAM.

KEYNOTES CONTINUED

24. FAN COIL UNIT POWER IS SUPPLIED THROUGH THE CONDENSING UNIT TO FAN COIL UNIT, TYPICAL OF 2. PROVIDE 1/2" C FOR CONNECTION. VERIFY LOCATION PRIOR TO INSTALLATION.
25. PROVIDE JUNCTION BOX FOR CONNECTION TO TELESCOPE SYSTEM. VERIFY WITH TELESCOPE SUPPLIER FINAL CONNECTIONS AND EXACT LOCATION PRIOR TO INSTALLATION.
26. PROVIDE (1) 5" CONDUIT FROM EQUIPMENT ROOM TO ENCLOSURE. VERIFY WITH CAMERA SUPPLIER EXACT LOCATION AND DIAMETER PRIOR TO INSTALLATION.

KINET OBSERVATORY
ENCLOSURE AND
CONTROL BUILDING



2051 W. SUNSET RD.
SUITE 100, OK 73104
TEL: 202-333-4444
WWW.KINET.OB.Org

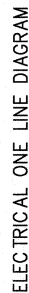
ARCHITECTURE
ENGINEERING
CONSTRUCTION MANAGEMENT



Revisions	#	Description	Date
1	CLIENT REV.	05/04/12	

Drawn: YH
Checked: EEL
Issue Date: 06/25/11
Drawing Title: SOUTH AFRICA
Electrical
POWER PLAN

Sheet Number
EP101
M3PN 100128
5/4/2012 10:51:44 AM



PANEL 'SE' LOAD SUMMARY

TELESCOPE LOADS:

PROVIDE 200A 380/220V, 3 PHASE, 4 WIRE RATED ELECTRICAL SERVICE ENTRANCE EQUIPMENT AND LATERAL

* BOTTOM FED PANEL* BOTTOM FED PANEL

3 PHASE FAULT SYMMETRICAL

- ASSUMPTIONS:
1. SERVICE ENTRANCE TRANSFORMER IS 150KVA, 3Ø, PAD MOUNTED TYPE.
 2. SERVICE LATERAL CONDUCTOR SIZE IS #4/Ø AND 100' (30M)
- F AVL = 12100
- | | | |
|----|---|------|
| F1 | = | 9589 |
| F2 | = | 8591 |
| F3 | = | 8393 |

1. PROVIDE A 200A/75P FUSED DISCONNECT SWITCH, SOLID NEUTRAL SERVICE ENTRANCE RATED AND LABELED, NEMA 3R, WITH (3) 200A CURRENT LIMITING TYPE FUSES.
2. PROVIDE PANEL "SE" PER SCHEDULE.
3. PROVIDE GROUND FAULT EQUIPMENT PROTECTION (GFP) CIRCUIT BREAKER.
4. PROVIDE PANEL "TI" PER SCHEDULE.
5. ONCE HOST ELECTRIC UTILITY COMPANY SERVICE CONNECTION AND LOCATION IS ESTABLISHED, PROVIDE MINIMUM 4 #4/0 SERVICE LATERAL CONDUCTORS IN 4" CONDUIT.

GENERAL NOTES

- A. REFERENCE TO DRAWING E001 FOR ELECTRICAL SYMBOLS, ABBREVIATIONS, GENERAL NOTES.
- B. ALL CONDUCTORS SHALL BE COPPER (Cu), INSULATION TYPE THHW/THWN OR XHHW, 75° C UON.