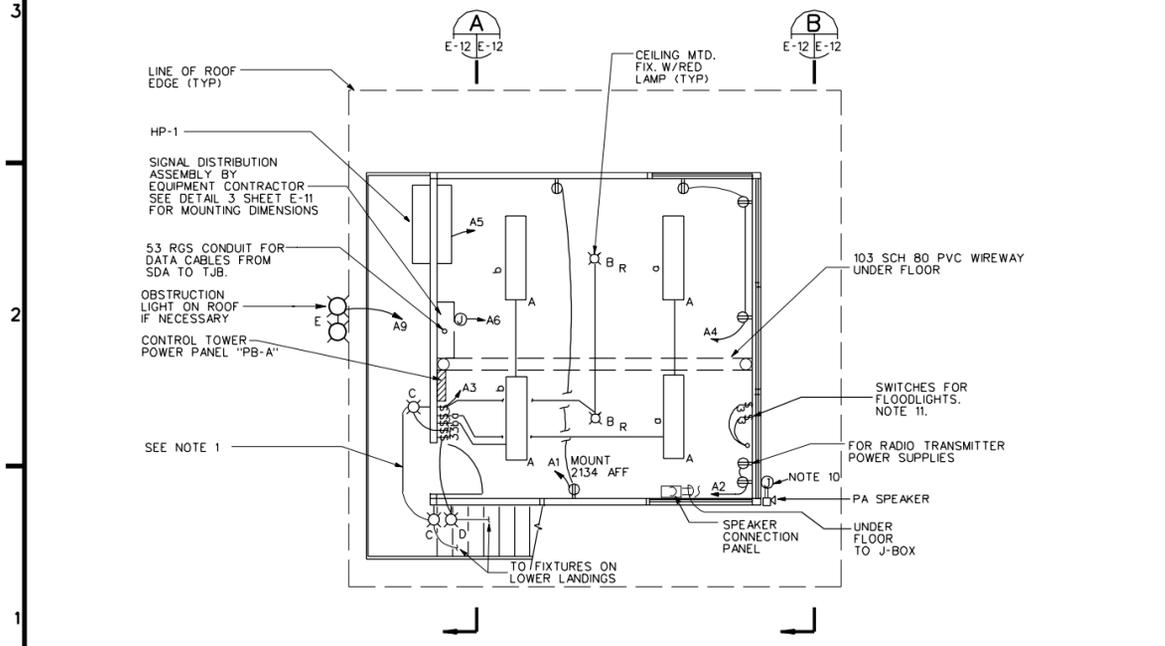
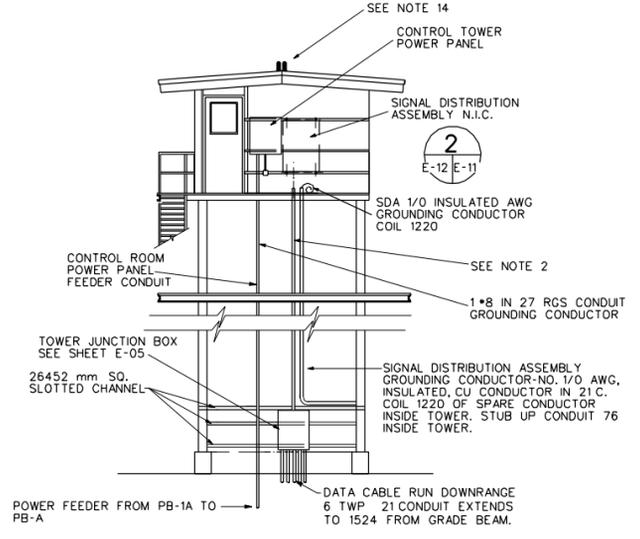


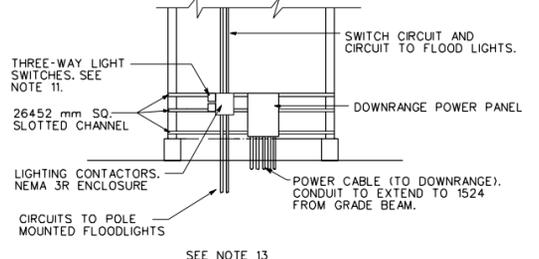
POWER, COMMUNICATIONS, & GROUNDING PLAN @ GRADE
SCALE: 1:50



POWER PLAN @ FLOOR LEVEL
SCALE: 1:50



SECTION A
N.T.S.

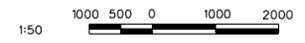


SECTION B
N.T.S.

CONTROL TOWER NOTES:

1. 4 NO. 12 CONDUCTORS IN 16 CONDUIT DOWN TO OTHER FIXTURES (ONE PER FLIGHT OF STEPS) AND THREE-WAY SWITCH MOUNTED TO STRUCTURE AT THE BOTTOM OF THE FIRST STAIRWAY, 1530 ABOVE GRADE.
2. PROVIDE AN EMPTY 53 CONDUIT BETWEEN TJB AND SDA LOCATION, STUB UP 101 INSIDE TOWER, PROVIDE PULL-WIRE. TARGET EQUIPMENT CONTRACTOR WILL INSTALL CONDUCTOR.
3. GROUND RESISTANCE NOT TO EXCEED 25 OHMS TO GROUND.
4. ALL CONDUCTORS SHALL BE COPPER AND MINIMUM SIZE SHALL BE NO. 12 AWG UNLESS OTHERWISE NOTED.
5. CIRCUITS SHALL CONTAIN A GREEN GROUNDING CONDUCTOR FOR EQUIPMENT. CONDUCTOR SHALL BE CONNECTED AT PANEL AND EQUIPMENT.
6. ELECTRICAL CONTRACTOR TO COORDINATE LOCATION OF CONDUIT AND GRADE BEAM WITH FOUNDATION CONTRACTOR.
7. COORDINATE LOCATIONS OF CONDUIT AND SLEEVES WITH THE STRUCTURAL WORK.
8. TOWER JUNCTION BOX SHALL BE WEATHERPROOF ENCLOSURE. ALL COUPLINGS, FITTINGS, ETC., SHALL BE WEATHERPROOF.
9. PROVIDE TWO EXTERIOR LIGHTS ABOVE EACH STAIRWAY LANDING, ONE TYPE D FIXTURE WITH A RED LAMP MOUNTED 2133 ABOVE THE TOP OF THE LANDING TO TOWER SUPPORT, AND ONE TYPE C FIXTURE WITH WHITE L.F.S. LAMP MOUNTED 2438 ABOVE THE TOP OF THE LANDING DIRECTLY ABOVE TYPE D FIXTURE.
10. JUNCTION BOX TO CONNECT CABLE AND CONDUIT TO TOWER SPEAKER AND FIRING LINE SPEAKERS.
11. THREE-WAY SWITCHES FOR LIGHTING CONTACTORS 1 AND 2. LOCATE ONE SET IN THE CONTROL ROOM AND ONE SET ADJACENT TO THE CONTACTORS.
12. THREE-WAY SWITCHES FOR EXTERIOR RED AND WHITE LIGHTS. LOCATE ONE SET AT THE BASE OF THE TOWER AND ONE SET IN THE CONTROL ROOM.
13. FLOODLIGHTS, THEIR CONTACTORS AND THREE-WAY SWITCHES ARE NEEDED ONLY WHEN THE RANGE WILL HAVE NIGHTFIRE OPERATION.
14. TWO STEADY BURNING RED OBSTRUCTION LIGHTS WITH PHOTO ELECTRIC CONTROL SHALL BE INSTALLED AT TOP OF HIGHEST POINT ON CONTROL TOWER. UNITS SHALL BE HOUSED IN ALUMINUM AND MEET FAA/FCC STANDARDS FOR LIGHTING HAZARD TO AIR NAVIGATIONS.
15. SEE SHEET E-13 FOR TYPICAL LIGHTING FOR OBSERVATION PLATFORM.
16. * DENOTES INTERFACE REQUIREMENT

GRAPHIC SCALES



Date	Rev.	Description
01 APR 98	N/A	

Designed by:	Checked by:	Reviewed by:	Submitted by:
JTP	M.R.	WLS	RHM

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE HUNTSVILLE, ALABAMA

FORCE XXI/FORCE MODERNIZATION PROGRAM
STANDARD DESIGN
CONTROL TOWER (2 OF 3)
(INFANTRY RANGES)

Sheet reference number:
E-12
Sheet of