

NATIONAL RADIO ASTRONOMY OBSERVATORY
CHARLOTTESVILLE, VIRGINIA

July 13, 1984

TO: M. BALISTER, B. BRUNDAGE, L. D'ADDARIO, D. THOMPSON,
S. WEINREB

FROM: B. PEERY

SUBJECT: TELEPHONE CONFERENCE 840620
RE: ANTENNA SITE CONTROL BUILDING

THE FOLLOWING IS A SUMMARY OF MY UNDERSTANDING OF DECISIONS REACHED
RELATIVE TO THE ANTENNA SITE CONTROL BUILDING:

01. SIZE AND GENERAL ARRANGEMENT TO BE AS SHOWN IN LARRY'S SKETCH 840606
EXCEPT,
 - A. EQUIPMENT ROOM TO BE 12' X 16'
 - B. CONTROL ROOM TO BE 12' X 24'
 - C. TOILET TO BE AWAY FROM THE MAIN ENTRANCE
 - D. PROVIDE SPACE NEAR THE MAIN ENTRANCE
FOR COATS AND BOOTS (MUD ROOM) AND MAIL BOXES
 - E. ENTRANCE TO BE MOVED AS REQUIRED TO MEET CONDITIONS AT
THE PARTICULAR SITE
 - F. DIMENSIONS SHOWN ARE CLEAR FLOOR SPACE.
02. TAPE STORAGE IS TO BE IN THE CONTROL ROOM. CHECK WITH C. BIGNELL
AND RECORDING GROUP FOR SPACE REQUIREMENTS. IF MORE IS NEEDED ADD
TO THE OVERALL SIZE OF THE BUILDING.
03. SPACE FOR A WORK TABLE (CONFERENCE) AND CHAIRS IS PART OF THE
LARGE OPEN SPACE. TABLE TO BE USED FOR AN EATING PLACE. PROVIDE SPACE
FOR A SINK, REFRIGERATOR AND HOT PLATE NEAR BY. REVIEW WITH C. BIGNELL.
04. MECHANICAL EQUIPMENT (A/C EQUIPMENT ETC.) TO BE OUTSIDE THESE AREAS.
05. EQUIPMENT ROOM AND CONTROL ROOM TO USE REMOVABLE COMPUTER ROOM
FLOORING (REMOVABLE SECTIONS) WITH RECESSED FLOOR UNDERNEATH (12"
TO 18" OF SPACE UNDERNEATH).
06. THE RECESSED FLOOR UNDER THE EQUIPMENT ROOM WILL BE AN ISOLATED
SLAB (SEPARATED FROM THE REST OF THE BUILDING STRUCTURE) TO
ELIMINATE VIBRATIONS FROM OTHER EQUIPMENT.
07. THE MASER WILL NOT REST ON THE COMPUTER FLOOR. IT WILL BE SUPPORTED
FROM THE ISOLATED FLOOR BELOW.
08. THE BUILDING WILL HAVE MINIMUM WINDOWS AND DOORS FOR IMPROVED SECURITY
AND TEMPERATURE CONTROL. THIS IS TO BE REVIEWED WITH C. BIGNELL.

09. THE WALLS, CEILING AND FLOOR ARE TO BE INSULATED TO AN R FACTOR OF 30 (.11 WATTS/DEG.F/SQ.FT.).
10. COLD AIR IS TO BE SUPPLIED, IN DUCTS, TO CONNECTIONS AT THE BOTTOM OF THE MASER RACK, IF RACKS, LO RACKS, DIGITAL RACKS, RECORDER RACKS ETC.

THE AIR IS TO BE AT A CONSTANT TEMPERATURE OF $\pm .2$ DEG. C. THE VOLUMN OF AIR (CFM) NEEDED AND THE HEAT GENERATED (WATTS) BY EACH RACK WILL BE NEEDED BY THE SITE GROUP AS SOON AS POSSIBLE.
11. THE ROOM AIR WILL BE CONTROLLED TO ± 2 DEG. F AND 40 % $\pm 10\%$ RELATIVE HUMIDITY.
12. THE CONTROL ROOM WILL BE RFI PROOFED BY INSTALLING COPPER SCREEN WIRE, PROPERLY BONDED AND GROUNDED, IN WALLS, CEILING, FLOOR AND WINDOW. THE DOORS WILL BE METAL PROPERLY BONDED TO THE SCREEN IN THE WALLS.
13. ALL SERVICES, ELECTRIC, TELEPHONE, SIGNAL ETC. ENTERING AND LEAVING THE CONTROL ROOM WILL BE FILTERED. SPECIAL ALUMINUM PANELS (BULK HEADS) WILL BE INSTALLED FOR SIGNAL CABLES.
14. THE CONTROL BUILDING WILL BE LOCATED AS NEAR THE BASE OF THE TELESCOPE AS POSSIBLE CONSISTENT WITH SPACE REQUIRED FOR TELESCOPE OPERATION AND MAINTENANCE. IF NECESSARY TO PROVIDE A CLEAR HORIZON, THE CONTROL BUILDING WILL BE PARTIALLY UNDERGROUND. THE CONTROL BUILDING WILL BE LOCATED TO THE NORTH OF THE TELESCOPE AS MUCH AS POSSIBLE.
15. SMOKE DETECTORS AND HAND FIRE EXTINGUISHERS WILL BE INSTALLED.
16. ONE ITEM THAT WAS NOT DISCUSSED THAT WILL BE NEEDED AS SOON AS POSSIBLE IS THE ELECTRIC POWER REQUIREMENTS FOR EACH RACK AND OR PIECE OF EQUIPMENT, WITH A LIST OF WHICH SHOULD BE ON UPS AND THE EMERGENCY SYSTEM.
17. THE A/E WILL MAKE A CONCEPTUAL PLAN INCORPORATING THESE POINTS, FOR REVIEW, BEFORE STARTING DETAIL DESIGN.

PLEASE ADVISE OF ANY CORRECTIONS.

CC C. BIGNELL