12 METER MILLIMETER WAVE TELESCOPE
MEMO No. 98

NATIONAL RADIO ASTRONOMY OBSERVATORY
Green Bank, West Virginia

November 13, 1981

TO: H. Hvatum

FROM: Buck Peery

SUBJECT: Assembly and Measurement of 12 Meter Backup Structure in Warehouse at Green Bank.

Head room in the warehouse is limited and creates problems with some measurements that had been proposed. The space between the floor and the bottom of the roof joist is approximately 144 inches. The 144 inches is reduced in some places by heating pipes and roof drains to as low as 133 inches. A schedule of the clearances and required clearance is attached.

The attached sketch showing a plan and section through the assembled structure is the best location for the assembly. This arrangement has been agreed upon by most of the interested parties with the following understanding:

1. The backup structure will be assembled on the existing concrete floor with shims, approximately 1/2 inch thick, used to level and support the structure.

2. If anchoring is necessary, anchor bolts will be inserted in the existing concrete floor.

3. Gussets located on the bottom side of the BUS, for attaching members to the yoke arm and counterweight structure, will be left off until field erection so as to reduce the height of the BUS during the erection in Green Bank.

4. The template will be rotated 90 degrees and suspended at each end from a small overhead dolly to take it into and remove it from the inside of the dish.

5. If pipes on the ceiling interfere with measurement of certain radii, these radii will be skipped. There are one or two radii that might have to be skipped. Every effort will be made to orient the backup structure so these radii are near the radii on which the feed legs occur.

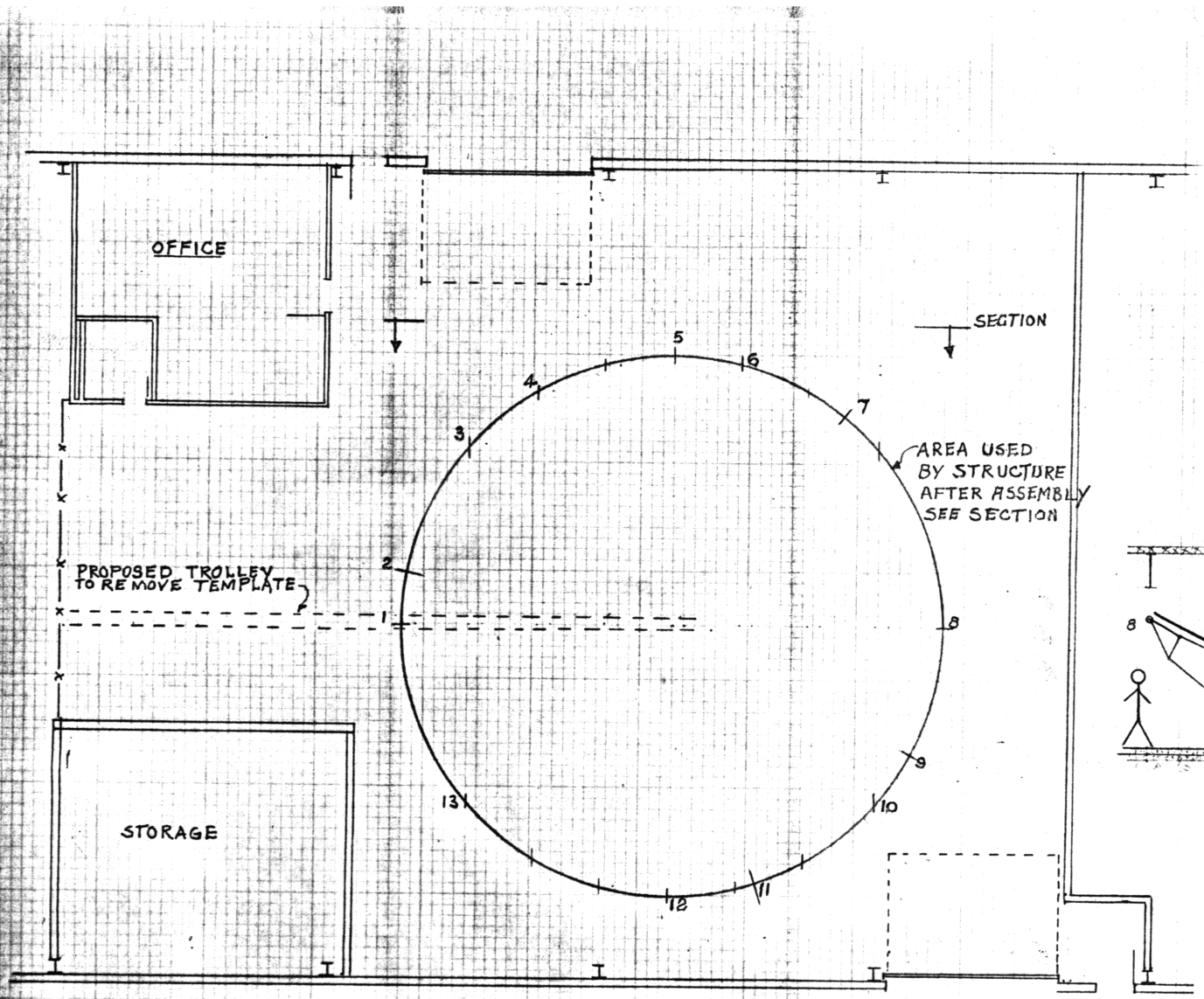
6. If interference impedes the rotation of the template, the template will be picked up and moved into the dish and passed under the interference, then set back in the measurement position.

7. If it is decided to try and duplicate forces caused by thermal differences or gravity with respect to the existing elevation axis and yoke arm, this will be done by installing tension or compression facilities in or on the BUS to simulate these forces. The equipment to do this will be installed on or above the existing concrete floor.

8. Present plans would eliminate any need to relocate any equipment on the ceiling or any cutting of the concrete floor. This decision will be reevaluated as design and fabrication proceeds.

BP/bbs

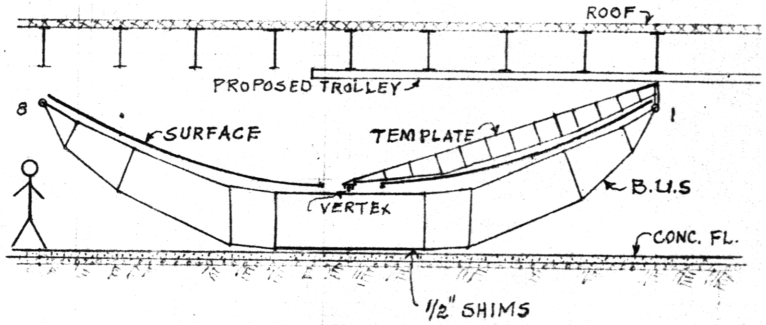
Attachment



PLAN

Point	Clearance
1	145.2"
2	135.9"
3	145.56"
4	144.96"
5	144.42"
6	144.60"
7	136.26"
8	139.08"
9	142.62"
10	144.48"
11	133.03"
12	143.94"
13	144.60"

HT. STRUCTURE & TEMPLATE = 133.6"
+ SHIM = .5
MAX. HT = MIN. CLEARANCE = 134.1



SECTION