

file

September 7, 1962

Mr. A. R. Thompson, Manager
Publication Production
Bell Telephone Laboratories
463 West Street
New York 14, New York

Dear Mr. Thompson,

I am sorry we have been rather a long time acknowledging your letter of June 1 addressed to Dr. Emberson.

We are very grateful for the offer of a replica of the Jansky antenna for the Observatory, and we are now ready to go ahead with our particular work that is involved.

Can you let me know what we should prepare to do. I assume that we shall prepare the foundation and build the track on which the antenna will rotate. I expect also that we shall assemble the antenna from its component parts when you are able to send these to us.

Do you have any drawings or sketches of the replica which will help us in getting this work started? If a visit from one of our engineering staff to you or to the Bell Laboratories would help, perhaps you can let me know and we will arrange this.

Sincerely yours,

John W. Findlay,
Deputy Director

JWF/pj

cc: DSHeeschen

BELL TELEPHONE LABORATORIES

485 WEST STREET, NEW YORK 14, N. Y.

AREA CODE 212

CHELSEA 9-1000

September 12, 1962

MR. JOHN W. FINDLAY, Deputy Director
National Radio Astronomy Observatory
Post Office Box 2
Green Bank, West Virginia

Dear Mr. Findlay:

Thank you for your letter of September 7, concerning the erection of the Jansky antenna replicas at Green Bank. I believe that the preparations you mention, plus the erection of the material we supply will take care of the job. Our carpenter shop at Holmdel, New Jersey, is now cutting up the lumber as its schedule permits. I am afraid I can't give you an exact date when this work will be finished, but it should be within a month or two. As soon as we are far enough along to justify further planning, we will be in touch with you.

Very truly yours,

A. R. Thompson

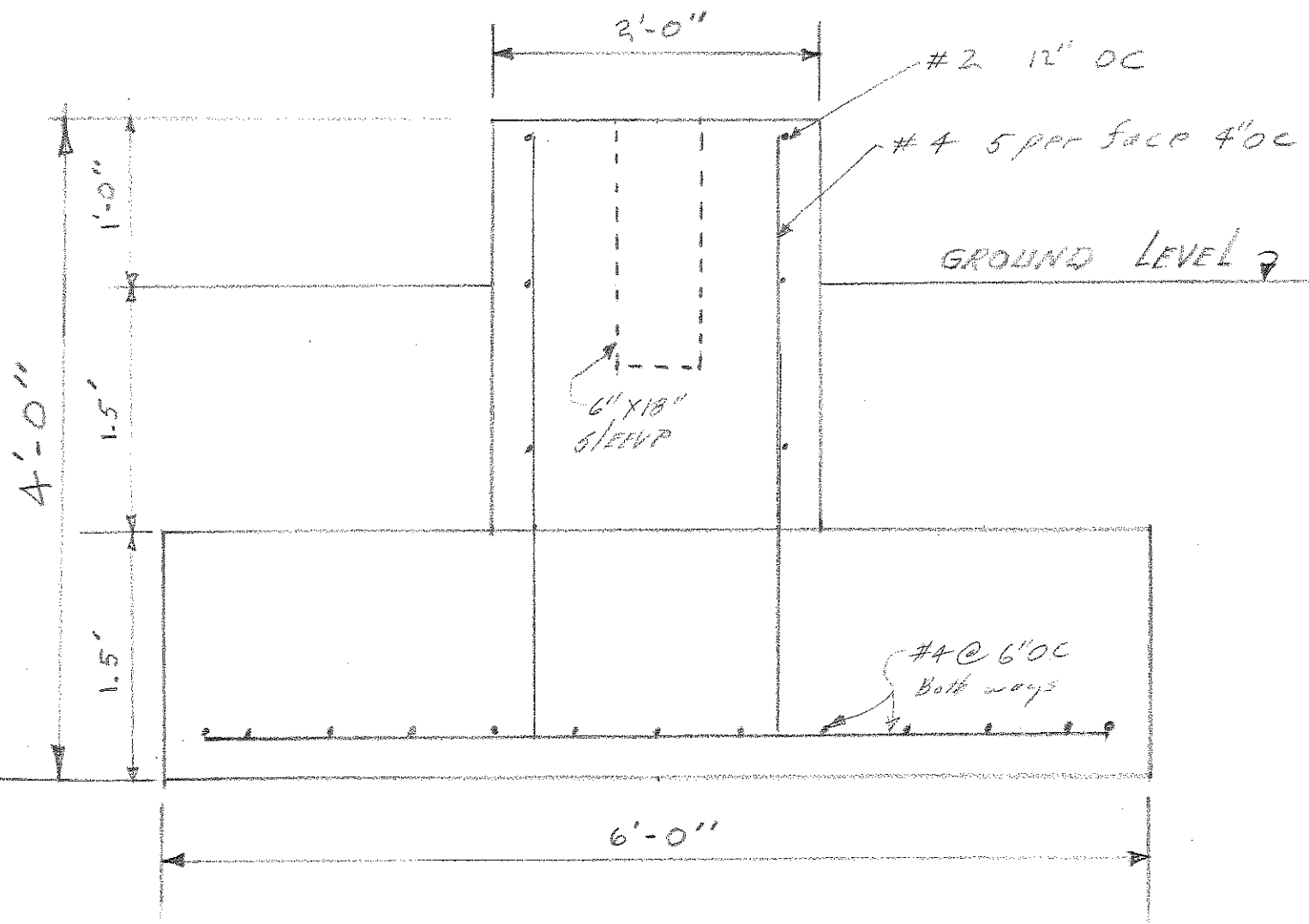
A. R. THOMPSON
Manager, Publication Production

J. L. Smith

1-2-63

DESIGN PIVOT BEARING JANSKY ANTENNA

USE 3000[#]/IN² CONCRETE @ 28 DAYS
3000[#]/FT² BEARING FOR EARTH
WIND = 6000[#]



3.6.5. 1-2-63

Pintle

2/

Weight

$$1.5 \times 6 \times 6 \times 150 = 8,100^{\#} \text{ Concrete}$$

$$2 \times 2 \times 2.5 \times 150 = 1,500^{\#} \text{ Concrete}$$

$$16 \times 1.5 \times 2 \times 100 = 4,800^{\#} \text{ Dirt}$$

$$\underline{14,400^{\#}}$$

Wind will act around 5'-0" above bottom of footer.

∴ For over turning

$$14,400^{\#} \times 3' = 6000^{\#} \times 5'$$

$$44,200^{\#} = 3000^{\#} \text{ OK}$$

$$14,400 \times .05 = 7,200^{\#} \text{ for slide OK}$$

Res = 2' from center See page 3

$$\text{Ground pressure at toe} = \frac{2W}{l} = \frac{2 \times 14,400}{6 \times 6} = \frac{28,800}{18} = 800^{\#} \text{ OK}$$

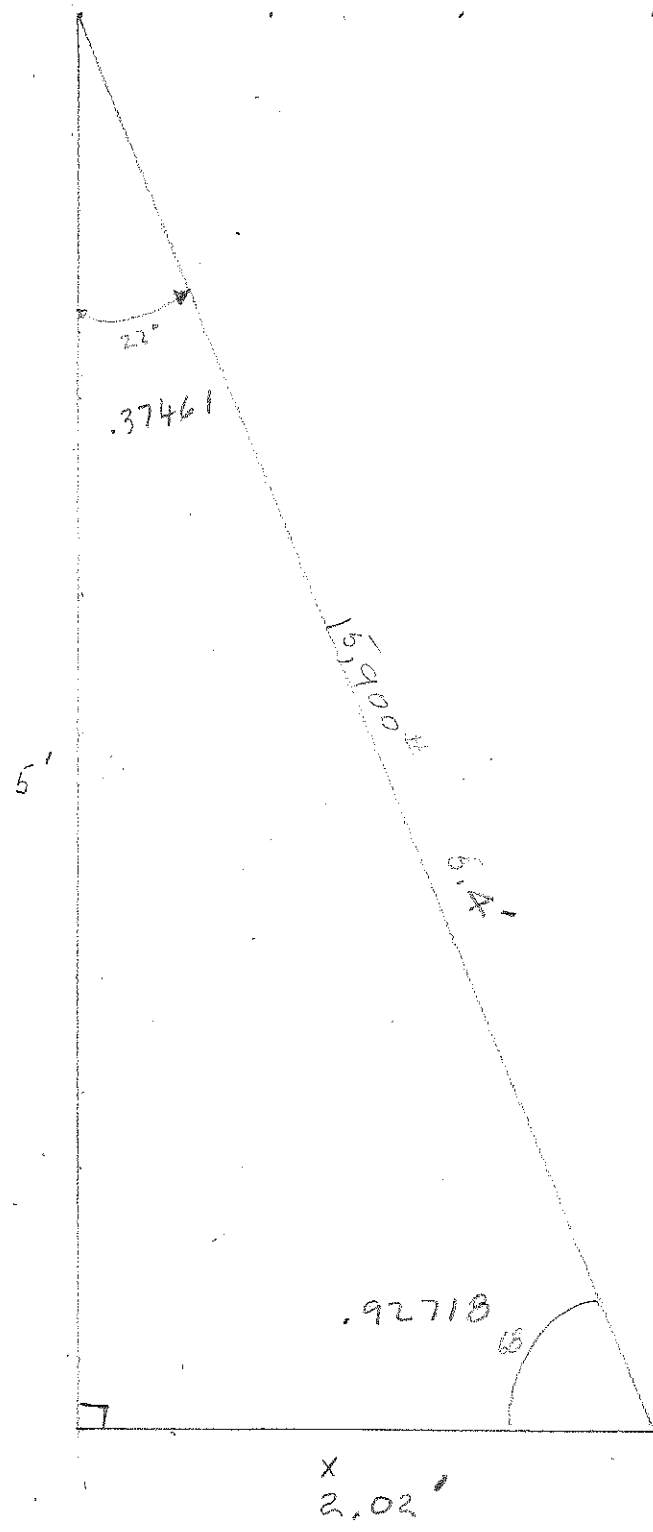
Dowels in sheet

Bars go for 12,000[#]

$$20 \text{ BAR} \times 0.20 \text{ IN}^2 \times 12,000 = 48,000^{\#}$$

BOND

$$100/\text{IN}^2 \times 5 \times 15 \times 1.6$$



$$\frac{5}{.92718} = \frac{x}{.37461}$$

$$x = \frac{5 \times .37461}{.92718}$$

$$x = 2.02$$

September 9, 1963

Mr. Grote Reber
C.S.I.R.O.
Stowell Avenue
Hobart, Tasmania
AUSTRALIA

Dear Sir:

We are planning on reconstructing the Jansky antenna at Green Bank. It is now at Bell Labs, Crawford Hill, Holmdel, New Jersey, and they have assembled all the components except the auto wheels on which it rotates. They are depending on us to furnish these, and I understand you procured some for the Observatory when you worked here.

Could you let me know where they are, and what arrangements can be made to have them ready for mounting on the antenna within the next few months.

Sincerely yours,

W. W. Pleasants,
Chief Engineer

WNP/pj

Air Mail

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION
TASMANIAN REGIONAL LABORATORY

"STOWELL", STOWELL AVENUE,
HOBART, TASMANIA,
AUSTRALIA

16th September, 1963.

Mr. W.W. Pleasants,
N.R.A.O.,
P.O. Box 2,
Green Bank,
West Virginia, U.S.A.

Dear Mr. Pleasants,

Thank you for your interesting letter of the 9th. I am happy to learn the Jansky Antenna project is going ahead and hope it will be mounted at the right side of front entrance. Yes, I have an ample supply of front axles, wheels and rims and will be pleased to donate these. Presently they are in storage at Round Brook, New Jersey. I will have them sent to Holmdel or to Green Bank upon learning your instructions. The correct wheels are the large ones which I have.

The type of tires is disputable. Beck says they were hard solid rubber tires when he used the machine a few years later. He should know. However the picture in lobby clearly shows pneumatic tires. It seems likely the latter were changed to the former after Jansky finished his observations. Today the pneumatic tires and tubes can be purchased new from Sears Roebuck. The solid tires may be very difficult to secure.

Please keep me advised of progress on this project.

I am,

Yours faithfully,

Grote Reber
Grote Reber.

September 25, 1963

Mr. Arthur Thompson
Bell Telephone Laboratories
463 West Street
New York 14, New York

Dear Mr. Thompson:

In accordance with our discussion during my visit to Holmdel on September 5, I am enclosing photos of the Reber telescope and the site proposed for the Jansky antenna.

Enclosed also is a copy of a letter just received from Mr. Grote Reber explaining that the wheels and axles are located in New Jersey.

Perhaps you would want to get them from him and ship them down with the telescope. You might want to communicate directly with him to this end.

Please let me know if I can provide any more information

Sincerely yours,

W. W. Pleasants,
Chief Engineer

WWP/j

Encl.

COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANIZATION
TASMANIAN REGIONAL LABORATORY

4th October 1963

"STOWELL", STOWELL AVENUE,
HOBART, TASMANIA,
AUSTRALIA

Mr. W. W. Pleasants
N.R.S.O.
P.O. Box 2
Green Bank
West Virginia, U.S.A.

Dear Mr. Pleasants:

Recently, Mr. A. R. Thompson of BTL has informed me that they will pickup the axles and wheels from Bound Brook. I am writing to him details about tires, etc. There probably will be some extra parts left when the Jansky antenna is completed. I would suggest that these be placed in a suitable case and put in storage at Green Bank. Ford model T parts are becoming very scarce. Someone might like them at a future date.

I hope the antenna will be installed at right side of front entrance. This happens to be lower than left side. I would suggest the following.

A. Scrape off the small mound at very right front to level or below the road. Push this dirt into low spot.

B. Jansky had his track only about a foot above ground. It seems to have been made of concrete blocks with a cement top surface. To partially overcome the low terrain, it might be well to raise the track about four feet on a solid concrete wall closely similar to what my equipment is installed.

C. The pleats in surface of wall are rather pretty. They are caused by allowing the masonite forms to bend when concrete is put in.

D. Plant same type of evergreen hedge around wall.

Please keep me advised of developments and send to me a picture when finished. I am.

Yours faithfully,

Grote Reber
Grote Reber

BELL TELEPHONE LABORATORIES

INCORPORATED

CRAWFORD HILL LABORATORY
Box 400, HOLMDEL, NEW JERSEY 07733

TELEPHONE
AREA CODE 201
949-3000
HOH-L141

November 22, 1963

MR. W. W. PLEASANTS
Chief Engineer
National Radio
Astronomy Observatory
Green Bank, West Virginia

Dear Mr. Pleasants:

Enclosed are two sets of prints of the Jansky antenna and its markings for assembly. These have the following numbers:

B - 608241 - 2 inc.
B - 608249 - 61 inc.
B - 796291, two sheets
B - 799805

I hope that the information is good enough for its assembly. If there is any question, do not hesitate to get in touch with me or with Mr. Thompson. We are very much interested in the progress of the project, naturally.

Good luck.

Very truly yours,


A. C. BECK

1-17-64

To = W. W. P.

From: S. L. S.

Subject: Tires for Jansky
antenna

Tires 30x3 1/2 34.00 Ea.

Tubes 30x3 1/2 3.18 Ea

Total cost \$148.72

FOUNDATION JANSKY

34' OUTSIDE WALL DIAMETER

$$34 \times 3.1416 = 106.8 \text{ FT}$$

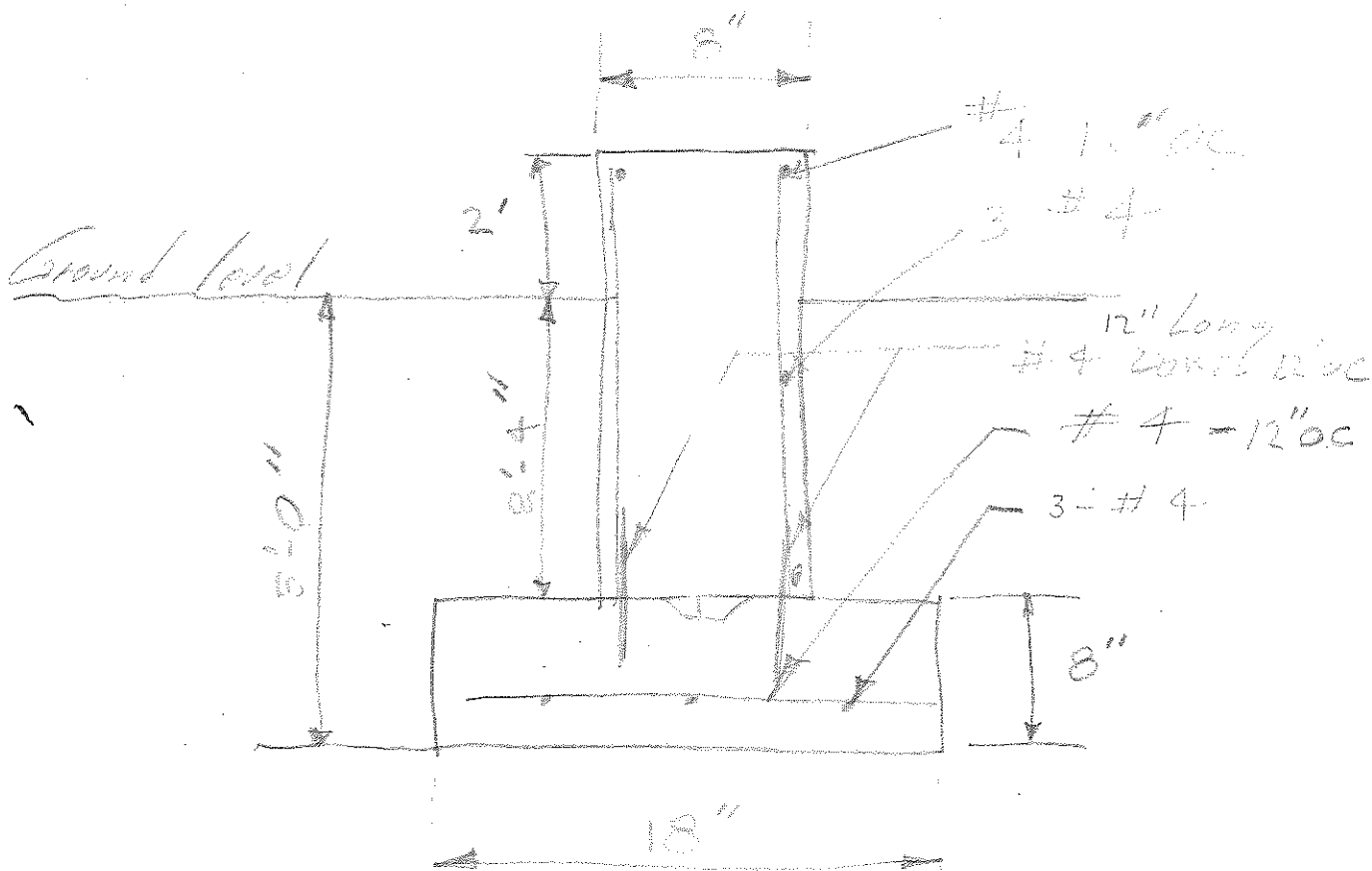
TAKE 106'

$$\frac{106 \times 1.5^2 \times 8}{27 \times \frac{16}{8}} = 1.31$$

$$\frac{106 \times 4.5^2 \times 8}{27 \times \frac{16}{8}} = 11.80$$

13.11 w.g.l.

$$13.5 \times 70.00 \text{ per ft} = \text{plan } \$945.0$$



September 2, 1964

Mr. E. F. Carpenter

Mr. Arthur Thompson
Bell Telephone Laboratories
463 West Street
New York 14, New York

Dear Mr. Thompson:

We have completed erection of the Jansky Antenna. I am under the understanding that the Bell Lab has a plaque to be installed near the antenna. If not we will have one made. Suggestions to the wording of the plaque would be appreciated.

Sincerely yours,

S. C. Smith
S. C. Smith
For J. A. Hangerbuhler
Head of Engineering

SCS/cp

November 17, 1964

Mr. E. F. Carpenter
Bell Telephone Laboratories
463 West Street
New York 14, New York

Dear Mr. Carpenter:

The enclosed photograph shows the erected Jansky Antenna. The wood is painted white, the concrete green and the spokes of the wheels red. The only item left to complete the project is a suitable plaque.

Mr. A. C. Beck of your organization stopped on his recent vacation trip south and looked over the job. We loosely discussed the plaque, which Mr. Beck said is yet to be made. Since Mr. Beck's departure some of our people have expressed a desire to see the wording before the plaque is made. If this meets with your approval and can be arranged we would greatly appreciate it.

Sincerely yours,

S. C. Smith
For J. A. Hungerbuhler
Head of Engineering Div.

SCS/ep

Enc.

February 1, 1965

Mr. W. M. Johnson
Bell Telephone Laboratory
463 West Street
New York 14, New York

Dear Mr. Johnson:

In reply to our telephone conversation of January 29, 1965, find enclosed two photographs. One showing the small plaque under Karl Jansky photograph in the main lobby of our Laboratory Building, and the other showing the plaque attached to our 85 foot Radio Telescope.

If I can be of more help in any way do not hesitate to call.

Sincerely yours,

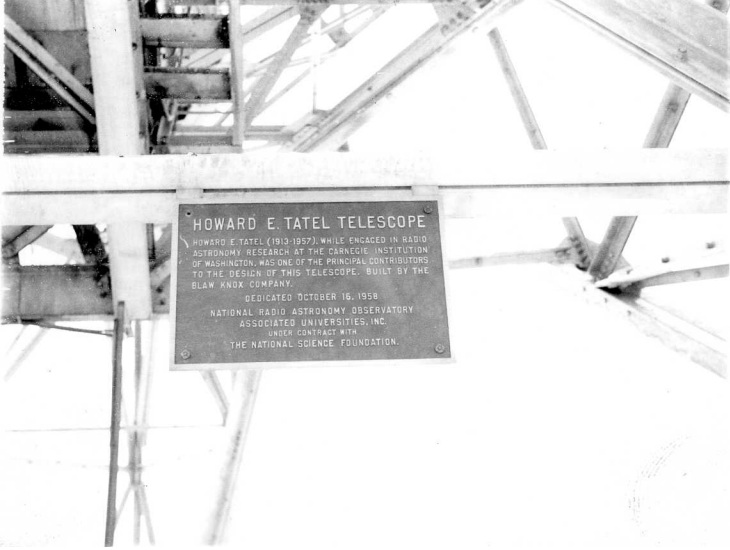

Sidney C. Smith

SCS/cp

Enc.



KARL G. JANSKY
FATHER OF THE RADIOTELESCOPE
FIRST TO DISCOVER RADIO ASTRONOMY
FROM HIS OFFICE AT
BELL TELEPHONE LABORATORIES
HOUSTON, TEXAS



HOWARD E. TATEL TELESCOPE

HOWARD E. TATEL (1910-1987), WHILE ENGAGED IN RADIO ASTRONOMY RESEARCH AT THE CARNEGIE INSTITUTION OF WASHINGTON, WAS ONE OF THE PRINCIPAL CONTRIBUTORS TO THE DESIGN OF THIS TELESCOPE. BUILT BY THE BLEN KNOX COMPANY.

DEDICATED OCTOBER 18, 1958

NATIONAL RADIO ASTRONOMY OBSERVATORY
ASSOCIATED UNIVERSITIES, INC.
UNDER CONTRACT WITH
THE NATIONAL SCIENCE FOUNDATION.

October 12, 1965

Mr. William Robinson
General Information Department
Room 1116B
Bell Telephone Laboratories
463 West Street
New York, New York 10014

Dear Mr. Robinson:

In your letter of October 4 you suggested that Dr. W. O. Baker, a Vice President of Bell Laboratories, could make the presentation of the plaque for the Jansky antenna to this Observatory at the time of the meeting of the National Science Board in March, 1966. Your suggestion sounds like a good idea.

The text on the plaque described in your letter looks fine. What will be the dimensions of the plaque and where will it be placed?

Please let me know if I can be of further assistance to you.

Sincerely yours,

William H. Howard
Associate Scientist and
Assistant to the Director

Concrete 51D00556

WALL

$$3.1416 \times 17 = 53.5$$

$$\frac{3}{4} \times \frac{1.5}{1} \times \frac{53.5}{1} = 60.3 \text{ cu. ft.}$$

$$\frac{3}{4} \times \frac{4}{1} \times \frac{53.5}{1} = 160.5$$

$$220.8 \div 27 = 8.2 \text{ cu. yd.}$$

DRIVE FOUNDATION

$$4 \times 2 \times 2.5 = 20.0 = 0.75 \text{ cu. yd.}$$

PIPING

$$6 \times 6 \times 1.5 = 54$$

$$2 \times 2 \times 2.5 = 10$$

$$64 \div 27 =$$

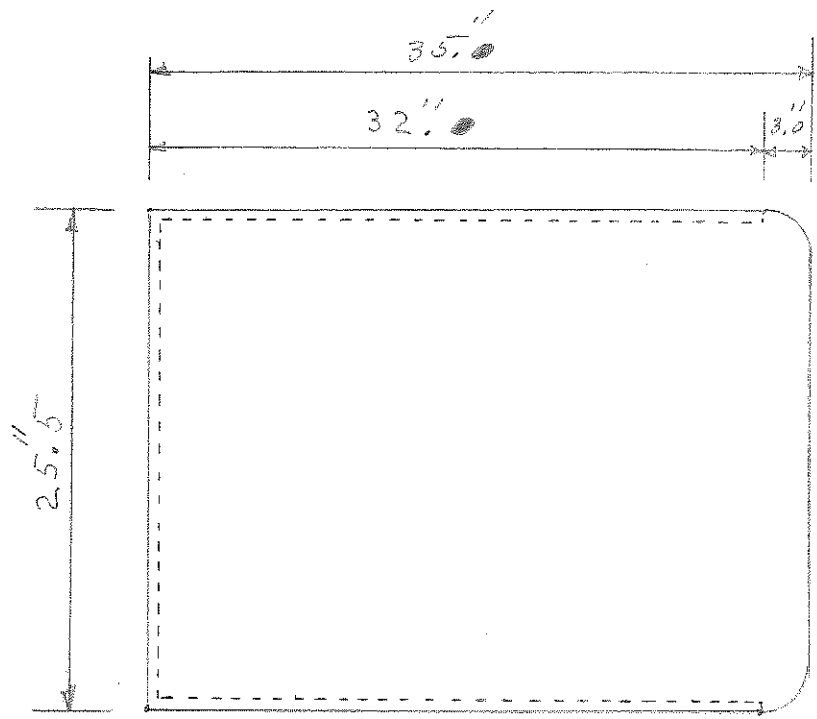
$$\begin{array}{r} 2 \\ 27 \overline{) 64} \\ \underline{54} \\ 10 \end{array}$$

$$2.4 \text{ cu. yd.}$$

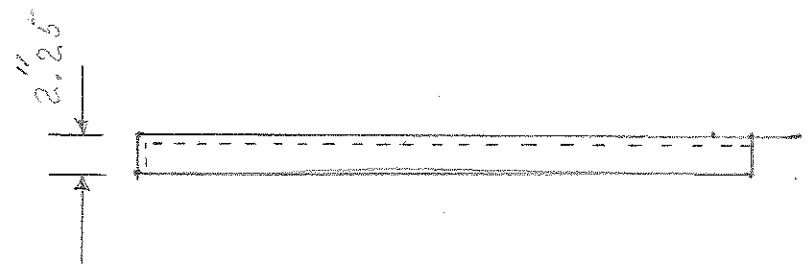
$$\begin{array}{r} 2.5 \\ 11 \overline{) 27} \\ \underline{22} \\ 5 \end{array}$$

$$12 \text{ cu. yd.}$$

$\frac{1}{4}$ AL. Lid for Jansky Drive Box



PLAN



NATIONAL RADIO ASTRONOMY OBSERVATORY

October 5, 1977

MEMO TO: B. Peery
FROM: S. C. Smith *S.C.S.*
SUBJECT: Jansky Antenna

In making a safety inspection with Al Steinemann, we found the lid covering the drive package in bad shape exposing the drive motor to the weather. The drive chain was off of the main sprocket and on the ground.

As a safety measure, Al and I decided to make a new lid for the drive box to protect the motor.

I think it might be best to make a new drive package covering large enough to enclose the chain after it has been cleaned and oiled.

To sketch a new covering, it would be helpful to know if the antenna is likely to be used again and if the chain should be on or off.

The wooden members will need to be painted this coming summer.

SCS/s

10.-6-77.

To: R. Moore
From: Buck Peery - Engineering.
Subject: Jansky Antenna.

Please find attached S.C. Smith's memo of 10/5/77.

It is recommended that maintenance of the structure to include painting be scheduled and carried out. It is recommended the drive chain be stored inside the enclosure for the motor - That is the drive system be left disconnected unless some one knows of plans to operate the antenna.

C.G. R. Brown
F. Crews
S. Smith. ✓

MEMORANDUM
OF CALL

TO: _____

YOU WERE CALLED BY— YOU WERE VISITED BY—

OF (Organization) _____

PLEASE CALL → PHONE NO. CODE/EXT. _____

WILL CALL AGAIN IS WAITING TO SEE YOU

RETURNED YOUR CALL WISHES AN APPOINTMENT

MESSAGE

D. Stone given
this file Feb. 23, 1977

RECEIVED BY	DATE	TIME

STANDARD FORM 63
REVISED AUGUST 1967
GSA FPMR (41 CFR) 101-11.6

GPO : 1969-O-48-10-80341-1 332-389

63-108