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25 February 1959

TO: Jobsite Engineering Files

Subject: INSPECTION OF WEATHER STATIONS.

During the time elapsed from February 16 to February 24, 1959, survey teams inspected the weather station facilities at the following stations and reported no evidence of vandalism or major disrepair.

Ujelang

Kapingamarangi

Kusaie

Wotho

Utirik

Inspection of the facilities at Rongelap was prevented by rough seas.

REPOSITORY NATIONAL ARCHIVES
PACIFIC SOUTHWEST REGION

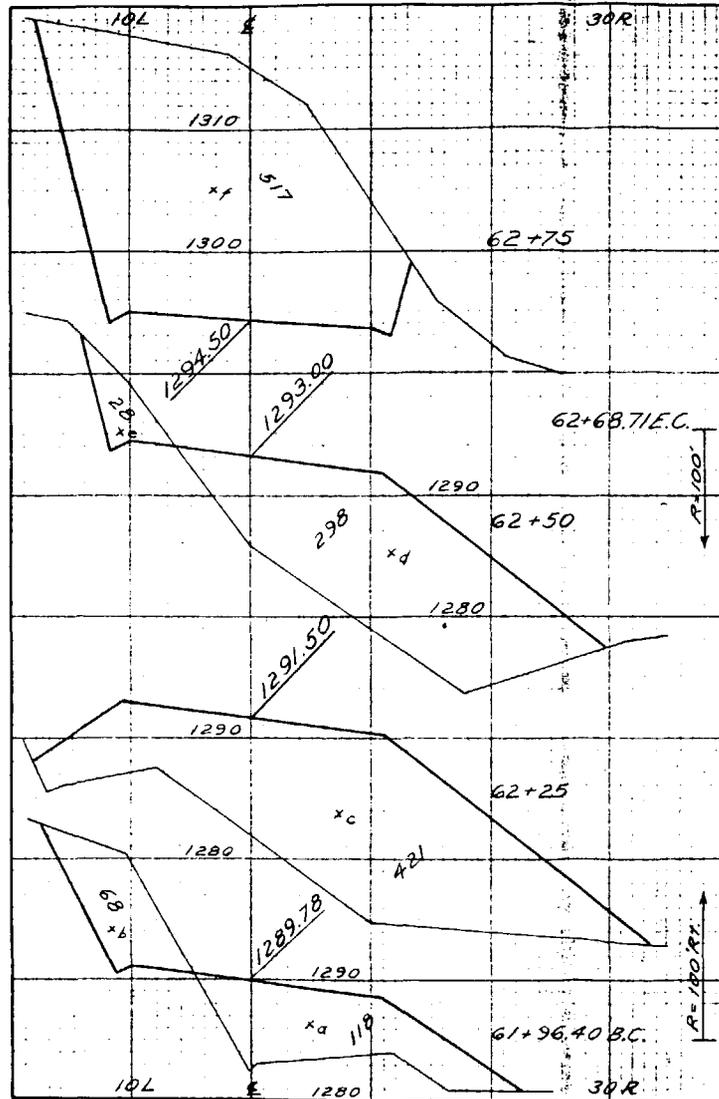
COLLECTION RG 326 ATOMIC ENERGY COMMISSION

BOX No. 52670 (#28) A16164 326-658730

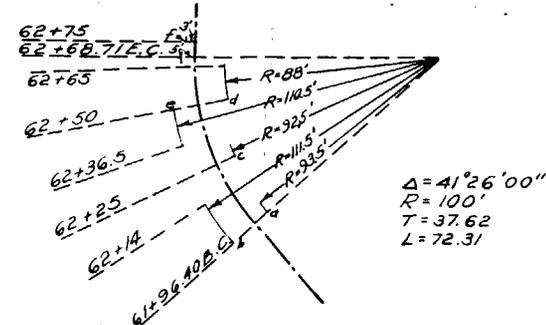
FOLDER WEATHER STATIONS

R.R.Gunny/jm
2/25/59

COMPENSATION FOR CURVATURE - CUBIC YARDAGE CALCULATIONS



METHOD OF COMPENSATING DISTANCE BETWEEN STATIONS OF CROSS SECTIONS TAKEN ON CURVES



In the cross sections at the left, and in the above plan, points x_1, x_2, x_3, \dots , and points a, b, c, \dots , respectively, indicate the location of the centers of gravity of the end areas with respect to centerline.

The compensated distance between adjacent sections is to the distance between their stations as the radius at the average center of gravity is to the center line radius.

If the roadbed runs out of, or into, cut or fill between sections, the compensated distance to or from the end or beginning, respectively, of cut or fill, is to the centerline distance as the radius to the center of gravity of the adjacent section is to the centerline radius. The centerline distance may be graphically determined thus: first, plot from the cross sections a profile through the zero point of cut or fill; second, scale distance from adjacent section to grade point on profile. Computations for sections shown;

$$D_{a-c} : 28.60 ; \frac{98.5 + 92.5}{2} ; 100 ; \text{whence } D_{a-c} = 28.60 \times 0.93 = 26.6.$$

$$D_{c-d} : 26.00 ; \frac{92.5 + 88.0}{2} ; 100 ; \text{whence } D_{c-d} = 26 \times 0.9025 = 23.6.$$

$$D_{d-o} : 15 \text{ (scaled)} ; 88 ; 100 ; \text{whence } D_{d-o} = 15 \times 0.88 = 13.2.$$

$$D_{b-o} : 17.6 \text{ (scaled)} ; 111.5 ; 100 ; \text{whence } D_{b-o} = 17.6 \times 1.115 = 19.6.$$

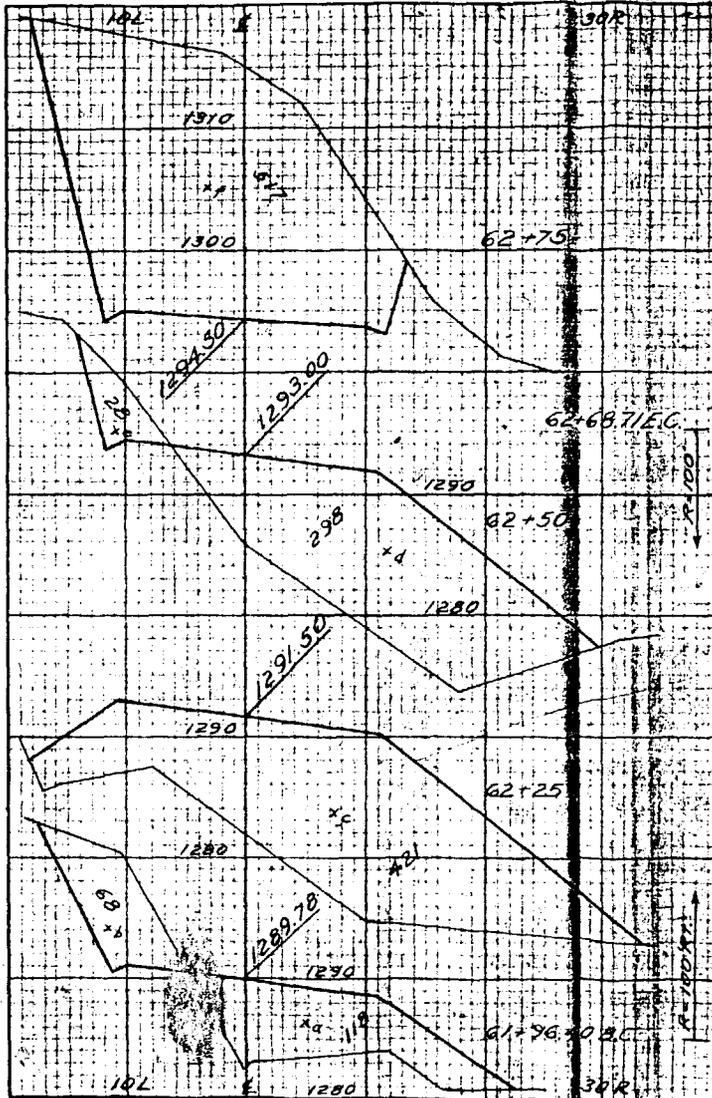
$$D_{o-e} : 13.5 \text{ (scaled)} ; 110.5 ; 100 ; \text{whence } D_{o-e} = 13.5 \times 1.105 = 14.9.$$

When a B.C. or an E.C. lies between adjacent sections, compensate distance for curved portion of earthwork and add to it the tangent distance to obtain compensated distance. Proportion between the centers of gravity at the tangent and curve sections for the center gravity at the B.C. or E.C. and apply the general formula. Computation; by proportion the center of gravity at 62+68.71 E.C. is found to be approximately 5 feet to the left of the centerline. Therefore

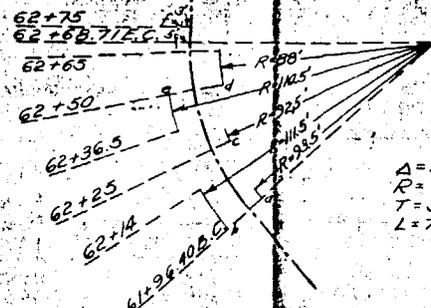
$$D_{c-E.C.} : 18.71 ; \frac{110.5 + 105.0}{2} ; 100 ; \text{whence } D_{c-E.C.} = 18.71 \times 1.0775 = 20.2.$$

$$D_{e-f} = 20.2 + 6.3 = 26.5.$$

COMPENSATION FOR CURVATURE - CUBIC YARDAGE CALCULATIONS



METHOD OF COMPENSATING DISTANCE BETWEEN STATIONS OF CROSS SECTIONS TAKEN ON CURVES



Δ=41°26'00"
 R=100'
 T=37.62
 L=72.31'

In the cross sections at the left, and in the above plan, points x_0, x_1, x_2, \dots , and points a, b, c, \dots , respectively, indicate the location of the centers of gravity of the end areas with respect to centerline.

The compensated distance between adjacent sections is to the distance between their stations as the radius at the average center of gravity is to the centerline radius.

If the roadbed runs out of, or into, out or fill between sections, the compensated distance to or from the end or beginning, respectively, of out or fill is to the centerline distance as the radius to the center of gravity of the adjacent section is to the centerline radius. The centerline distance may be graphically determined thus: first, plot from the cross sections a profile through the zero point of out or fill; second, scale distance from adjacent section to grade point on profile. Computation for sections shown:

$$D_{a-c} = 28.60 \times \frac{95.5 + 92.5}{2} \div 100; \text{ whence } D_{a-c} = 28.60 \times 0.93 = 26.6$$

$$D_{c-d} = 25.00 \times \frac{92.5 + 88.0}{2} \div 100; \text{ whence } D_{c-d} = 25 \times 0.9025 = 22.6$$

$$D_{d-e} = 15 \text{ (scaled)} \times \frac{88}{100}; \text{ whence } D_{d-e} = 15 \times 0.88 = 13.2$$

$$D_{e-f} = 17.6 \text{ (scaled)} \times \frac{111.5}{100}; \text{ whence } D_{e-f} = 17.6 \times 1.115 = 19.6$$

$$D_{f-g} = 13.5 \text{ (scaled)} \times \frac{110.5}{100}; \text{ whence } D_{f-g} = 13.5 \times 1.105 = 14.9$$

When a B.C. or an E.C. lies between adjacent sections, compensate distance for curved portion of earthwork and add to it the tangent distance to obtain compensated distance. Proportion between the centers of gravity at the tangent and curve sections for the center gravity at the B.C. or E.C. and apply the general formula. Computation: by proportion the center of gravity at 62+68.71 E.C. is found to be approximately 5 feet to the left of the centerline. Therefore

$$D_{c-EC} = 18.71 \times \frac{110.5 + 105.0}{2} \div 100; \text{ whence } D_{c-EC} = 18.71 \times 1.0775 = 20.2$$

$$D_{e-f} = 20.2 \times 1.3 = 26.5$$

