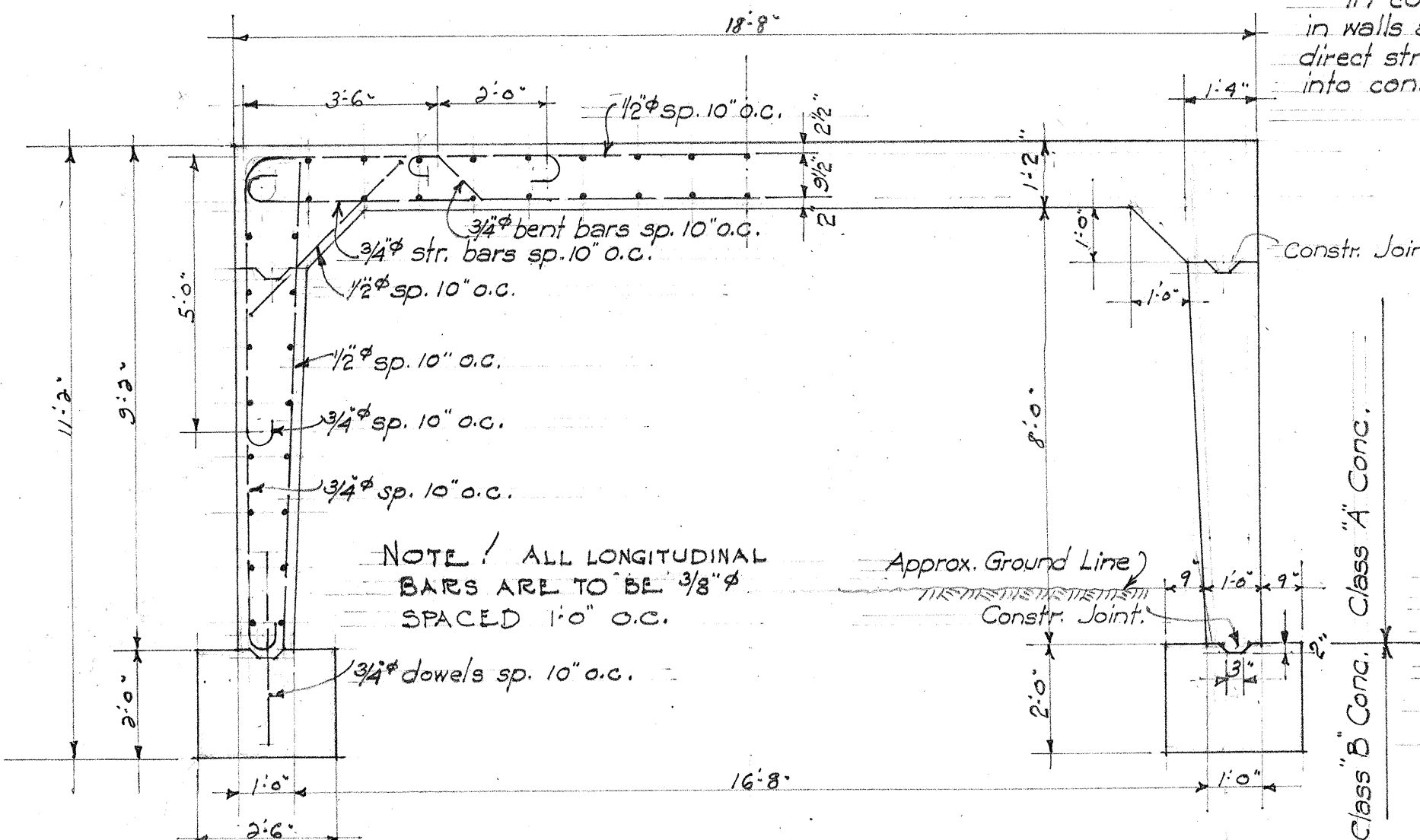
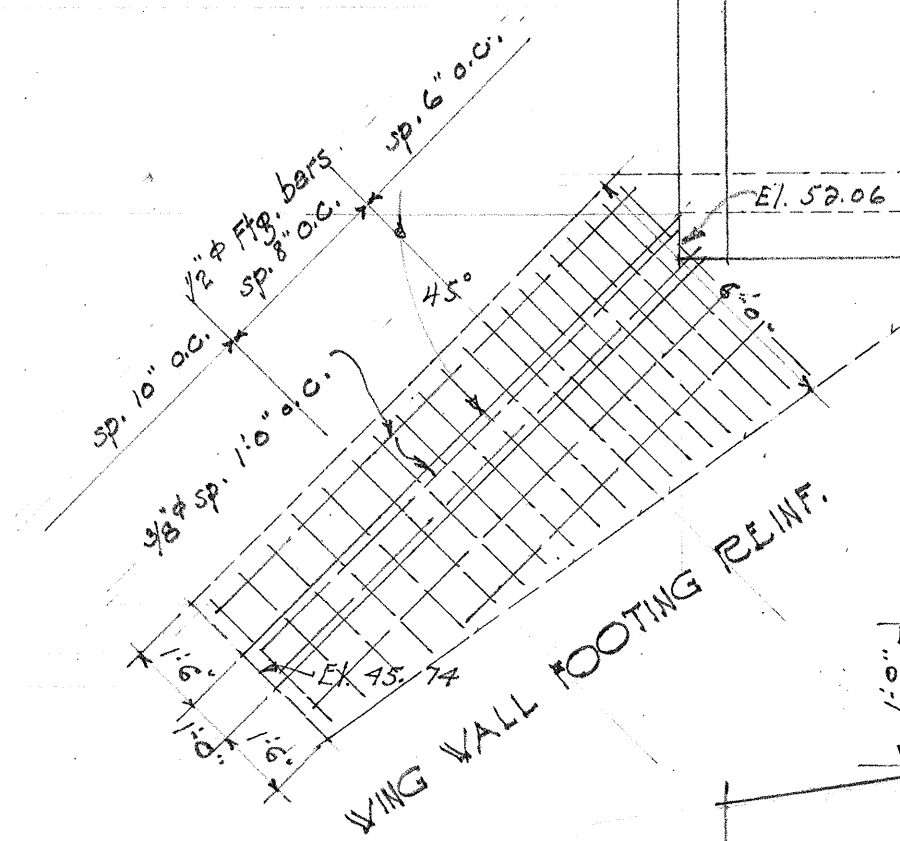


NOTE TO U.S. BUREAU OF PUBLIC ROADS.
In computing tensile reinf. in walls and deck the effect of direct stress has been taken into consideration.

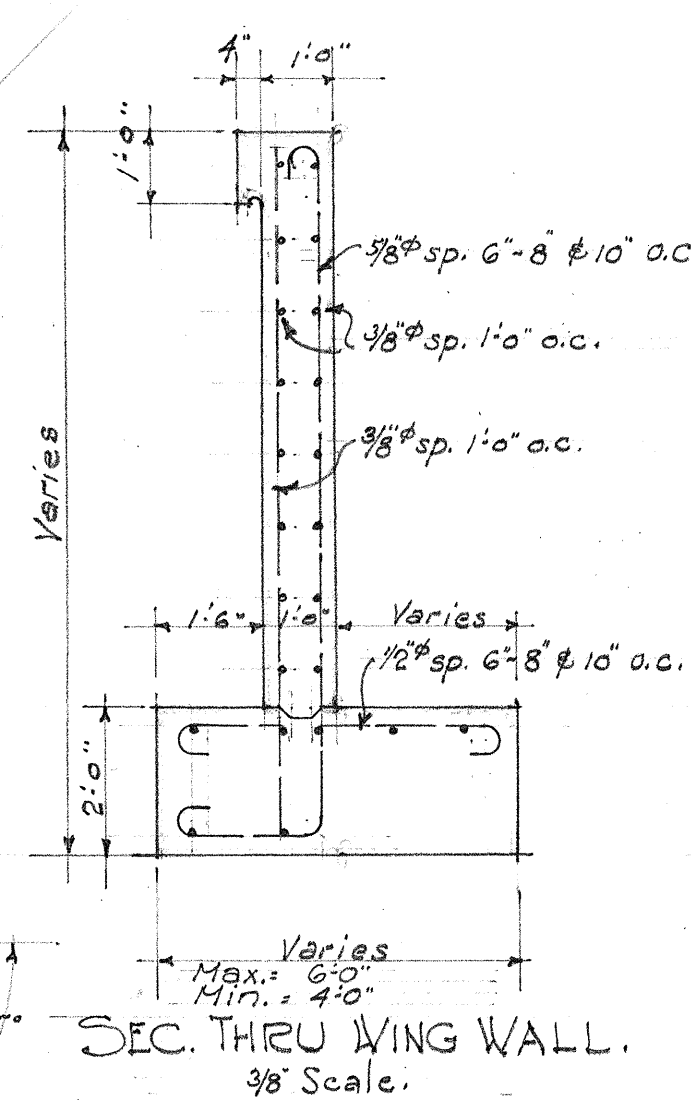


CONTRACTORS NOTE!
Footings must be excavated to neat lines, where this is not possible on account of local conditions, space between excavation line and theoretical footing line to be filled with concrete.



HEAD WALL SECTION.
3/4" Scale.

LAYOUT PLAN OF STRUCTURE.
1/4" Scale.



STEEL BENDING DIAGRAMS.

STRUCTURE QUANTITIES.					
LOCATION	STB. Exc.	Channel Exc.	CONC. CLASS A	CONC. CLASS B	STEEL
Footings	46.0			37.35	1,028
Trunk		52.0	93.13		17,775
Total	46.0 CY	52.0 CY	93.13 CY	37.35 CY	18,803.2 #

GENERAL NOTES

Dead Load :- Concrete at 150# per cu. ft.
Fill at 100# per cu. ft.

Live Load :- Two 15 ton trucks; impact allowance 1.75

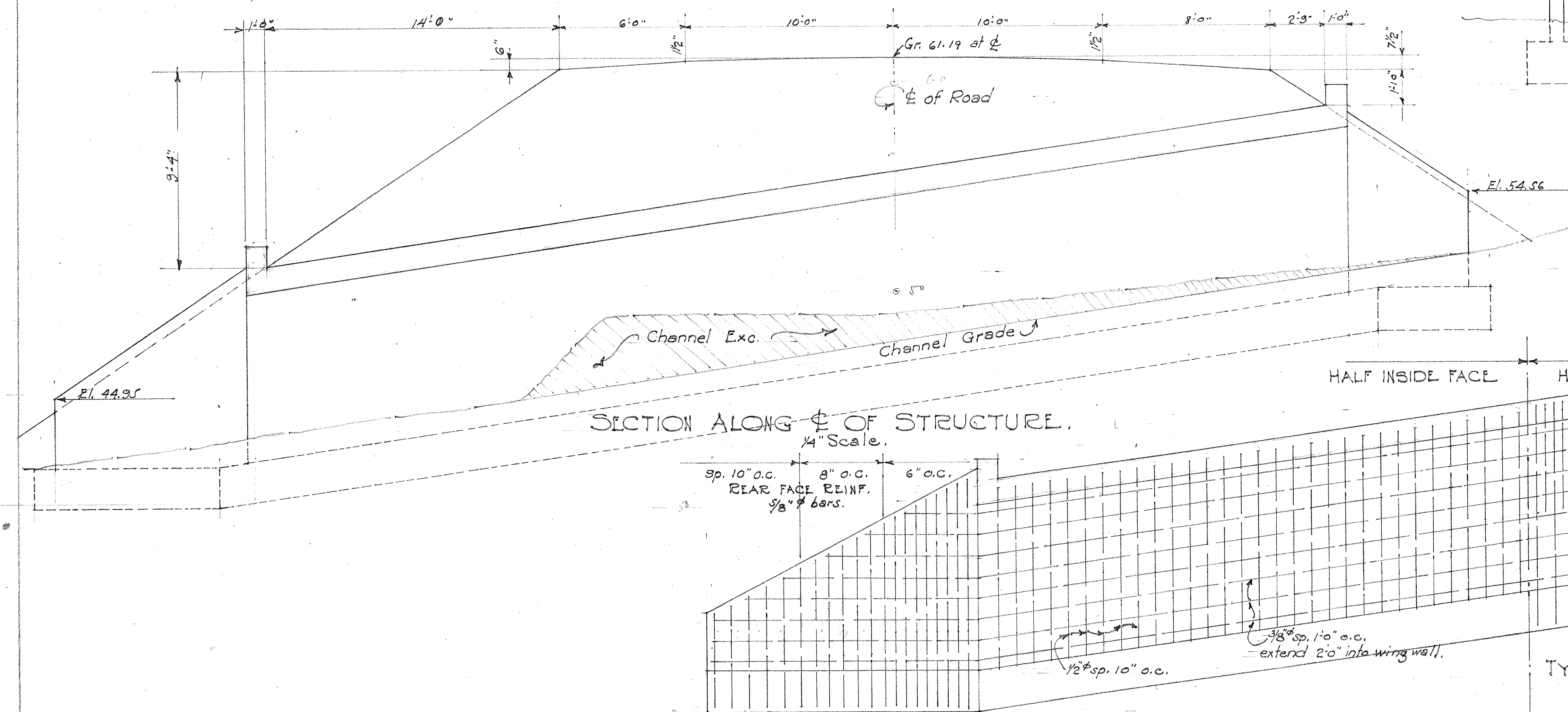
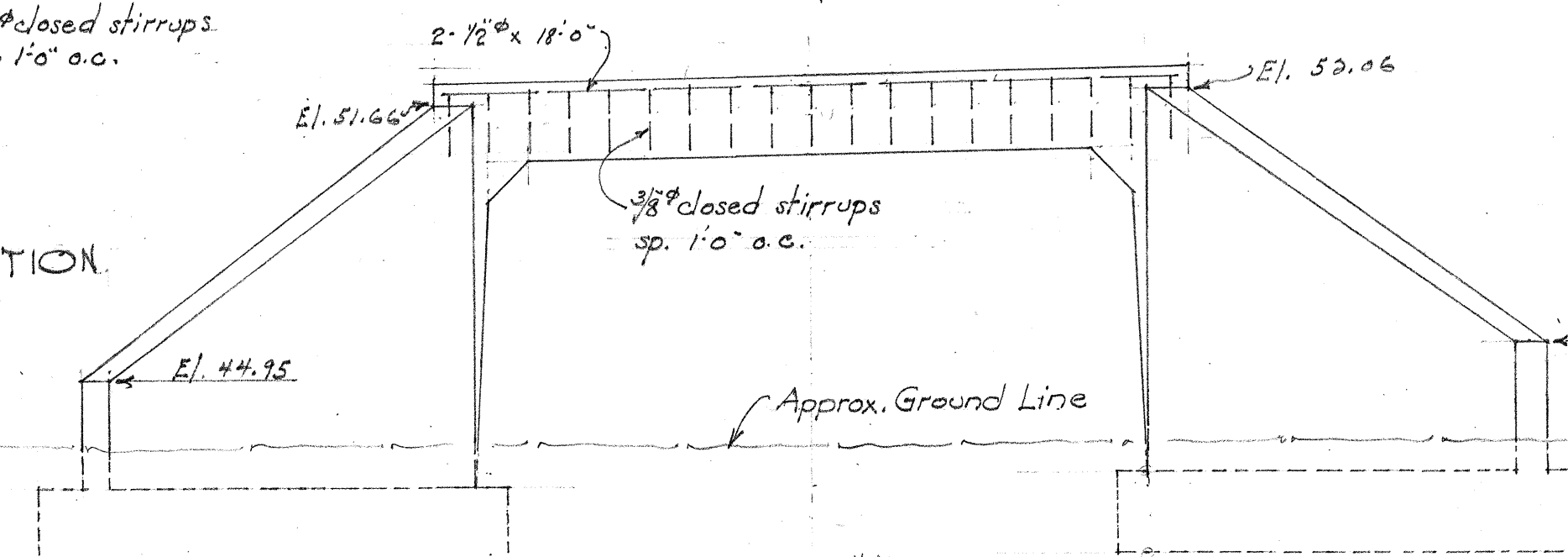
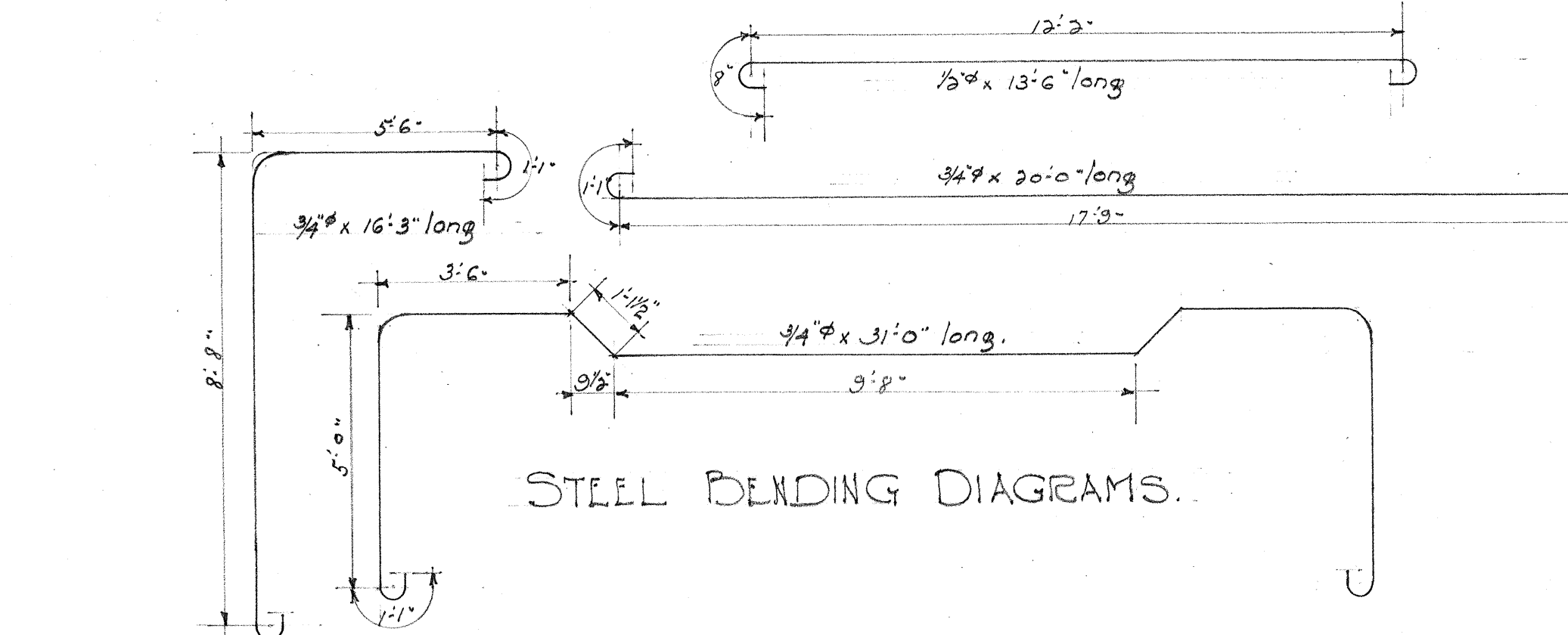
Concrete :- Footings to be of Class "B" conc. (1:2 1/2:5 mix). Sides, deck & wing walls to be Class "A" conc. (1:2:4 mix) with all exposed edges chamfered 3/4" unless otherwise noted. Allowable compression 300# per sq. inch.

Brush Coat Waterproofing :- Remove all projections, cement film, dirt, etc. and apply waterproofing as specified. Waterproofing is incidental to the concrete and will not be paid for separately.

Construction Joints :- All construction joints to have surface roughened and 1:2 cement grout applied immediately before second pour.

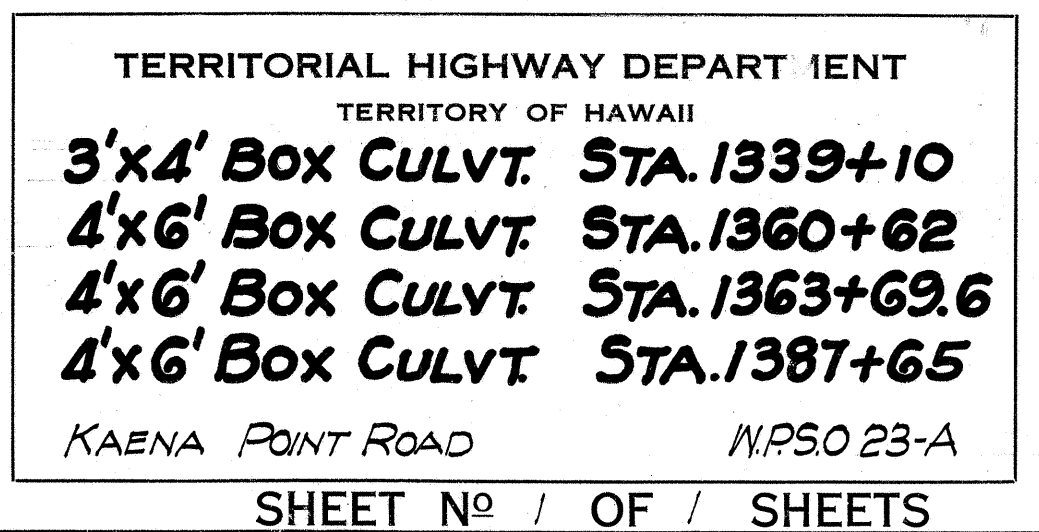
Reinforcing Steel :- Intermediate grade, allowable tensile stress 18,000# per sq. inch. All steel to be round or square deformed bars of approved design. All dimensions relating to reinforcing are to centers of bars unless otherwise noted. Where splicing is necessary bars are to be lapped 40 diameters and splices are to be staggered. No allowance will be made in the quantities for extra weight of steel required for splicing. Unless otherwise noted the minimum covering measured from the surface of concrete to the face of any steel shall be not less than 2 1/2" in abutments and 1 1/4" in slab. Steel to be held rigidly and accurately in place before and during placing of conc.

Backfill :- Backfill must be placed evenly and uniformly on both sides of culvert.



TYPICAL WALL REINF.
1/4" Scale.

BOX CULVERT AT
STA. 1289+84.
W.F.S.O. 23-A. KAENA POINT ROAD.
Scales - Noted Dec. 1935.



NOTE FOR ALL CULVERTS!
Resident Engineer may vary invert elevations
& length of Wingwalls if condition in the
field warrant such changes