



DEPARTMENT OF THE ARMY

NEW ORLEANS DISTRICT, CORPS OF ENGINEERS

P.O. BOX 60267

NEW ORLEANS, LOUISIANA 70160-0267

A0000109

REPLY TO
ATTENTION OF

January 4, 1988

Engineering Division
Structural Design Section

Mr. Barney T. Martin, Jr.
Modjeski and Masters
Consulting Engineers
1055 St. Charles Avenue
New Orleans, Louisiana 70130

Dear Mr. Martin:

Reference is made to your letter dated November 2, 1987 to Mr. Ed Bailey, Chief Engineer of the Orleans Levee District, and to your letter dated November 12, 1987 to this office, in which you requested our review of the in-progress plans and specifications for the 17th Street Canal, Parallel Flood Protection, Phase 1B, Hammond Highway to Southern Railway, OLB project number 2043-2047.

We are considering changes in the factors of safety used in determining penetration of I-wall sheet piling and changes in the method of determining I-wall deflections. We will let you know more by the end of January 1988. However, we have reviewed the subject plans and specifications based on present criteria and offer the following comments:

a. Sta. 636+00 to Sta. 638.31. Our preliminary analysis indicates that a higher tip penetration for the steel piling in this area can be obtained by applying submerged soil weight on the floodside of the floodwall and also by raising the levee crown to elevation 11.0 National Geodetic Vertical Datum.

b. A transition in sheet pile tip penetration is required for the sections between station 589+00 and station 590+00, station 614+00 and station 615+00, and between station 635+00 and station 636+00.

c. Station 625+00 to Sta. 635+00. Our preliminary analysis indicates that a lower tip penetration of the sheet piling than the penetration shown on the plan is required to satisfy the floodwall stability into the canal.

d. Based on the information presented in the typical sections, drawing number 3, a discontinuity in the sheetpile wall would occur at station 589+00. This should be clarified.

e. Our stability analysis of the floodwall reaches described in enclosures 1 through 8, indicates that a more economical design for the floodwall in those reaches can be obtained by using the floodwall layout depicted on the enclosures. It is recommended that you revise the subject plans to reflect the floodwall layout shown on the enclosures.

f. Since the dredging of the canal will not extend into the Jefferson Parish side, the potential for scour of the levee on this bank of the canal will exist. To be able to detect such scour, control lines, as shown on enclosures 9 through 13 will be required. These control lines should be added to the drawings. Additionally, survey cross-sections of the existing levee and canal bank, with initial cross-sections of the levee and dredged canal immediately after construction and cross-sectional surveys taken on a yearly basis thereafter, must be provided to this office. These surveys are required to detect erosion into the control lines, which if it occurs, could cause failure of the subject levee. Should erosion beyond the control lines occur, the Sewerage and Water Board of New Orleans will be responsible for taking corrective action at their own cost.

If there are any questions concerning our requirements, please let us know.

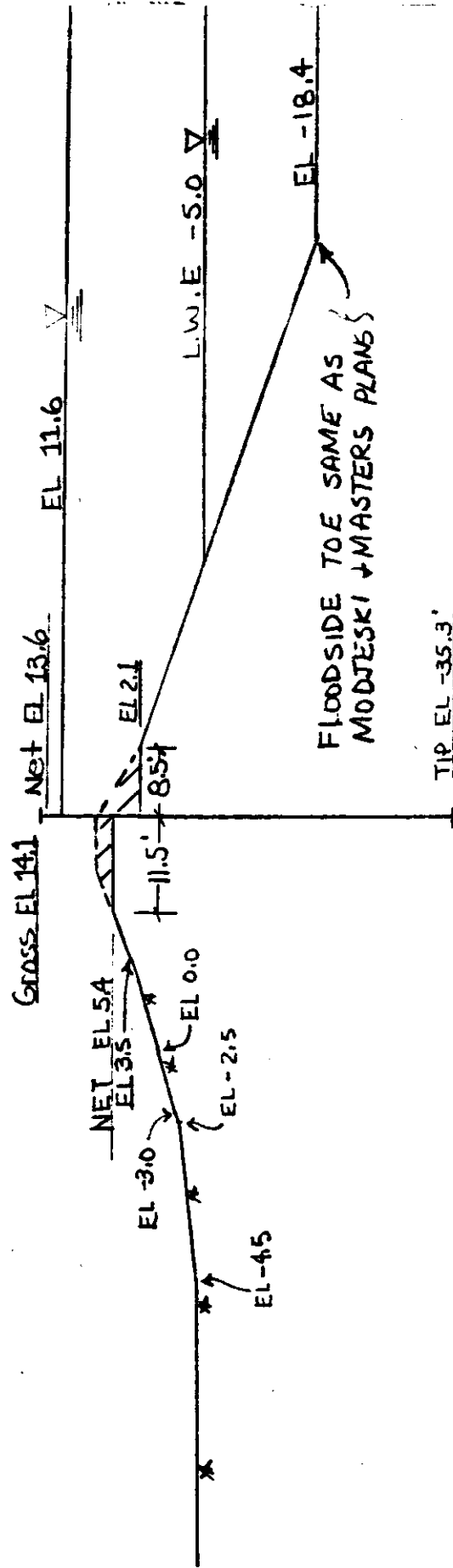
Frederic M. Chatry
Chief, Engineering
Division

Enclosures

FW
CELMN-ED-DD
GUGGENHEIMER
MS
CELMN-ED-D
JUDLIN
FV
CELMN-ED-FD
PICCIOLA

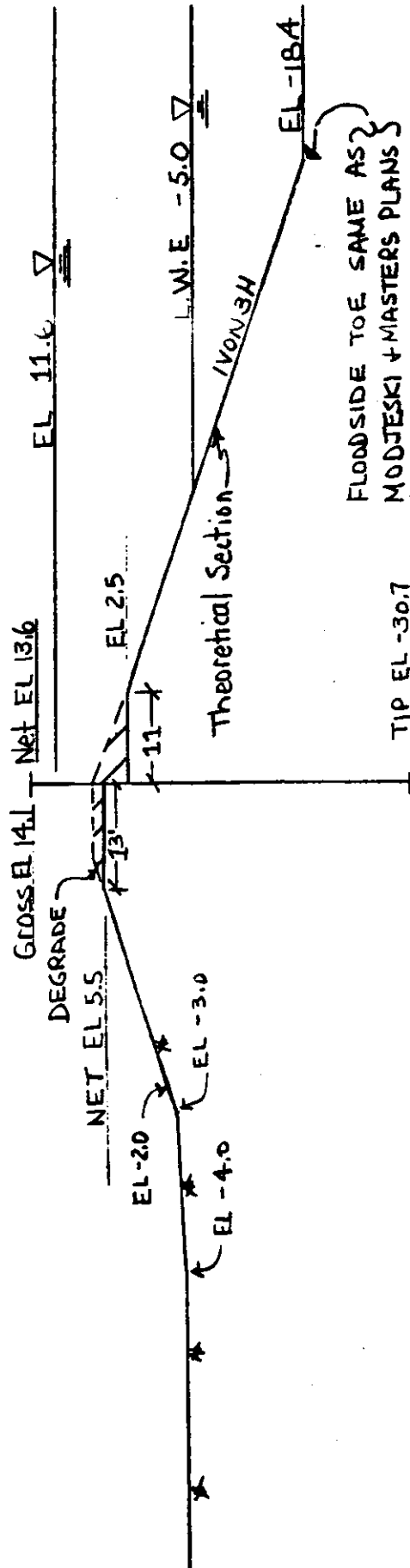
CELMN-ED
CHATRY

STA 553+70 TO STA 568+00
ORLEANS SIDE



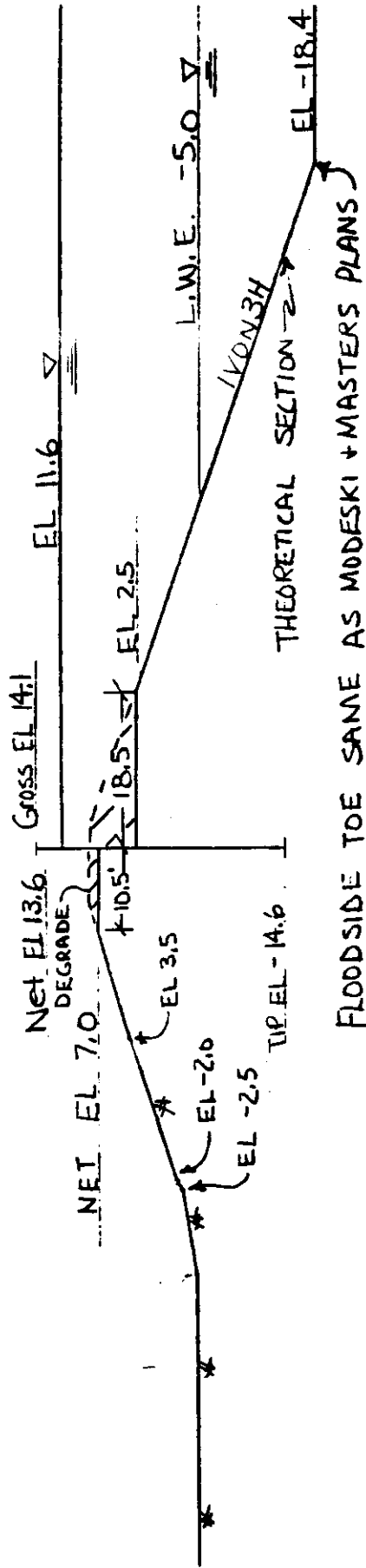
SCALE : 1" = 20'

STA 568+00 TO STA 589+00
ORLEANS SIDE



SCALE 1" = 20'
ELEVATION IN FEET NGVD

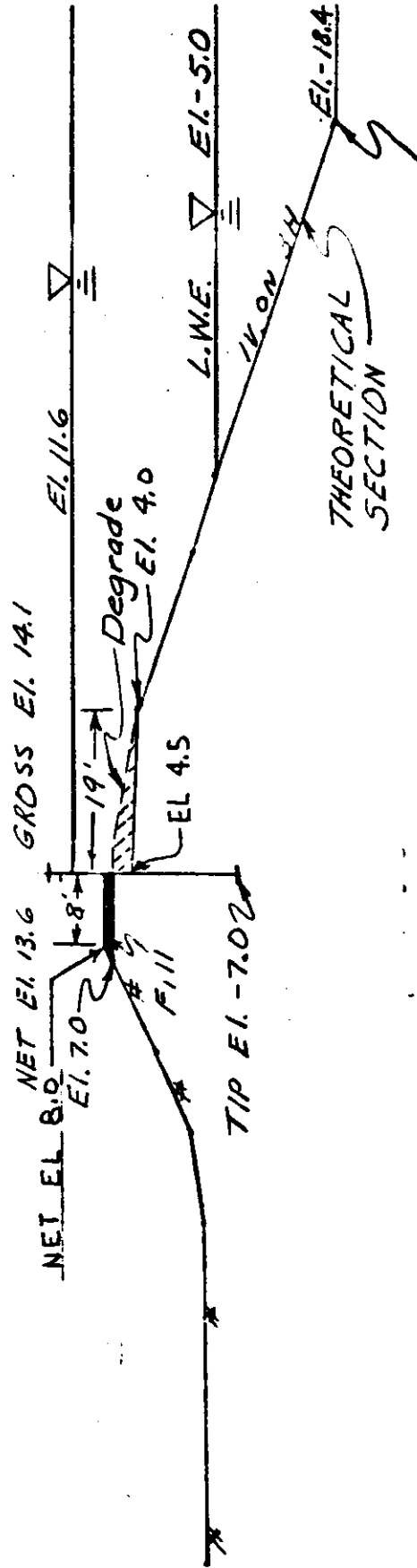
STA 589+00 TO STA 614+00
ORLEANS SIDE



FLOODSIDE TOE SAME AS MODESKI + MASTERS PLANS

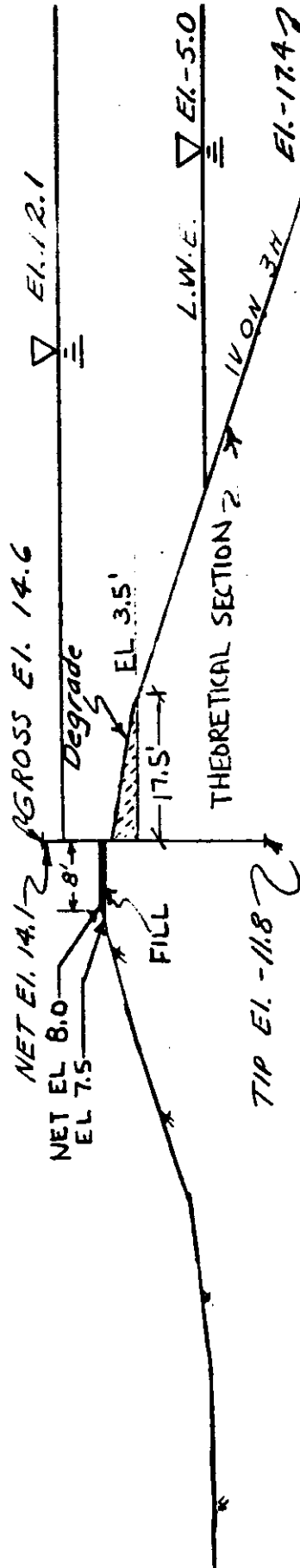
SCALE: 1" = 20'

STA. 614+00 TO STA. 625+00
ORLEANS SIDE



FLOODSIDE TOE SAME AS MODESKI & MASTERS PLAN
SCALE: 1" = 20'

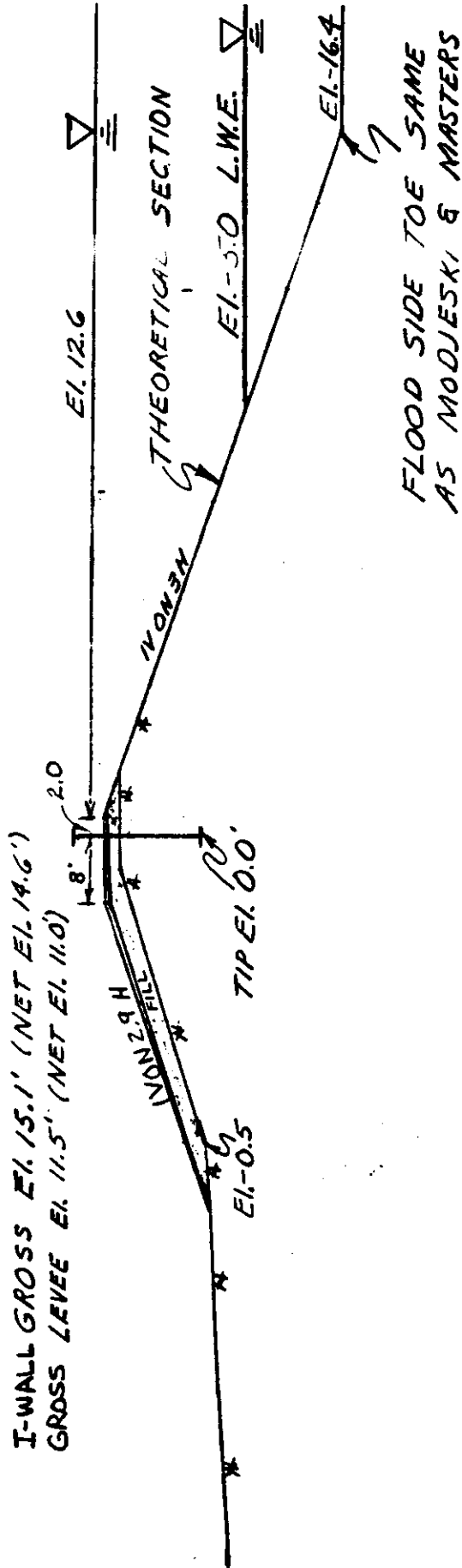
STA. 625+00 TO STA 635+00
ORLEANS SIDE



FLOODSIDE TOE SAME AS MUDJESKI + MASTERS PLANS

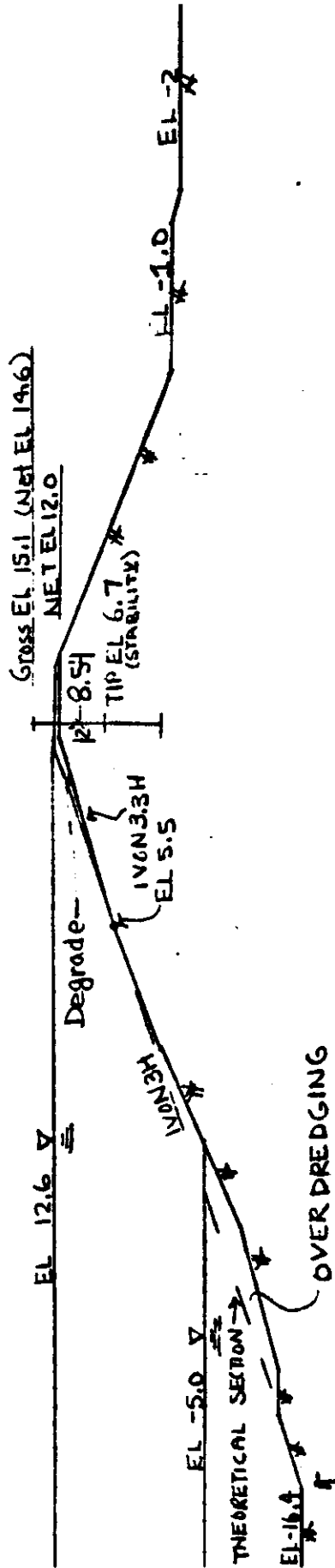
SCALE: 1" = 20'

STA. 635+00 TO STA. 647+00
ORLEANS SIDE



SCALE: 1" = 20'
ELEVATION IN FEET N.G.M.D.

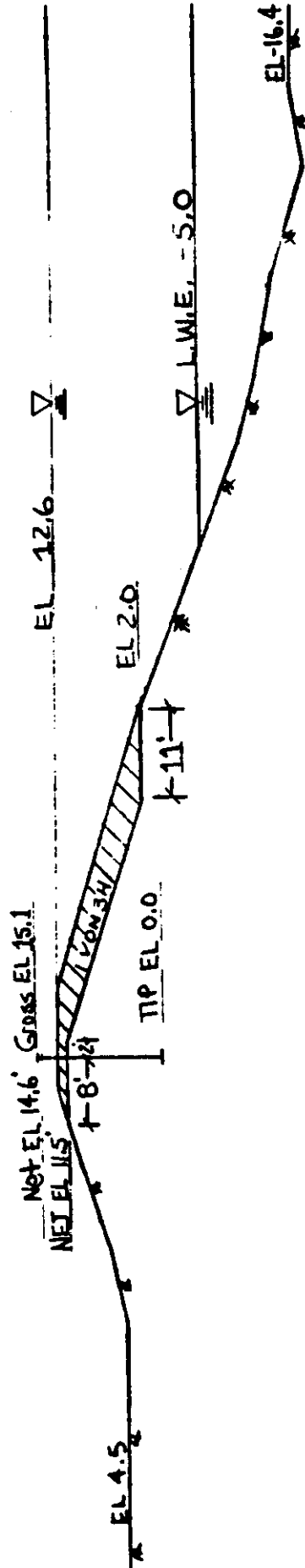
STA 647+00 TO STA 663+00
ORLEANS AND JEFFERSON SIDE



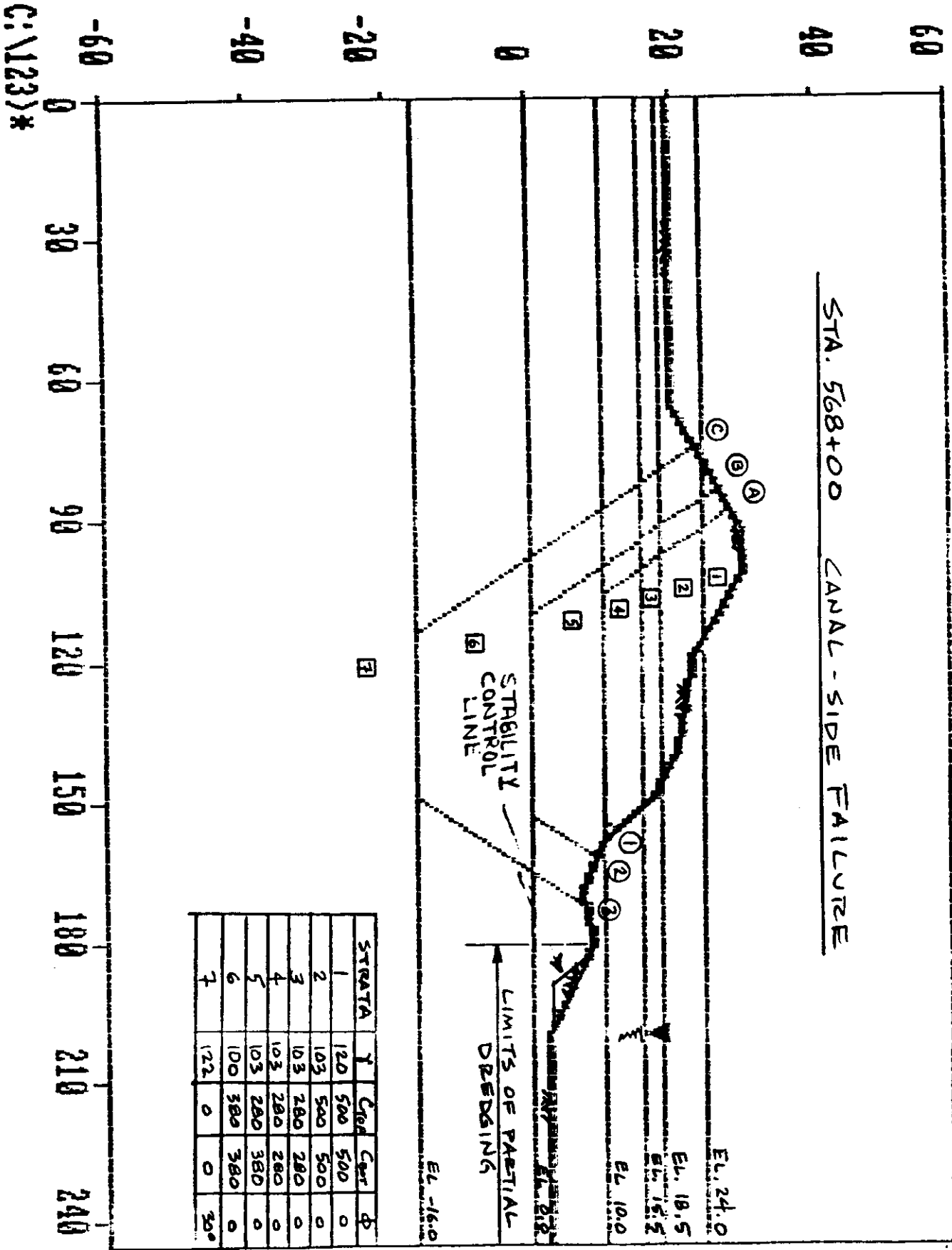
Floodside levee toe same as Modjeski + Masters Plans

Scale: 1" = 20'
Elevations in Feet N.G.M.D.

STA 663+00 TO STA 670+00
ORLEANS SIDE



SCALE 1" = 20'
ELEVATION IN FEET NGVD

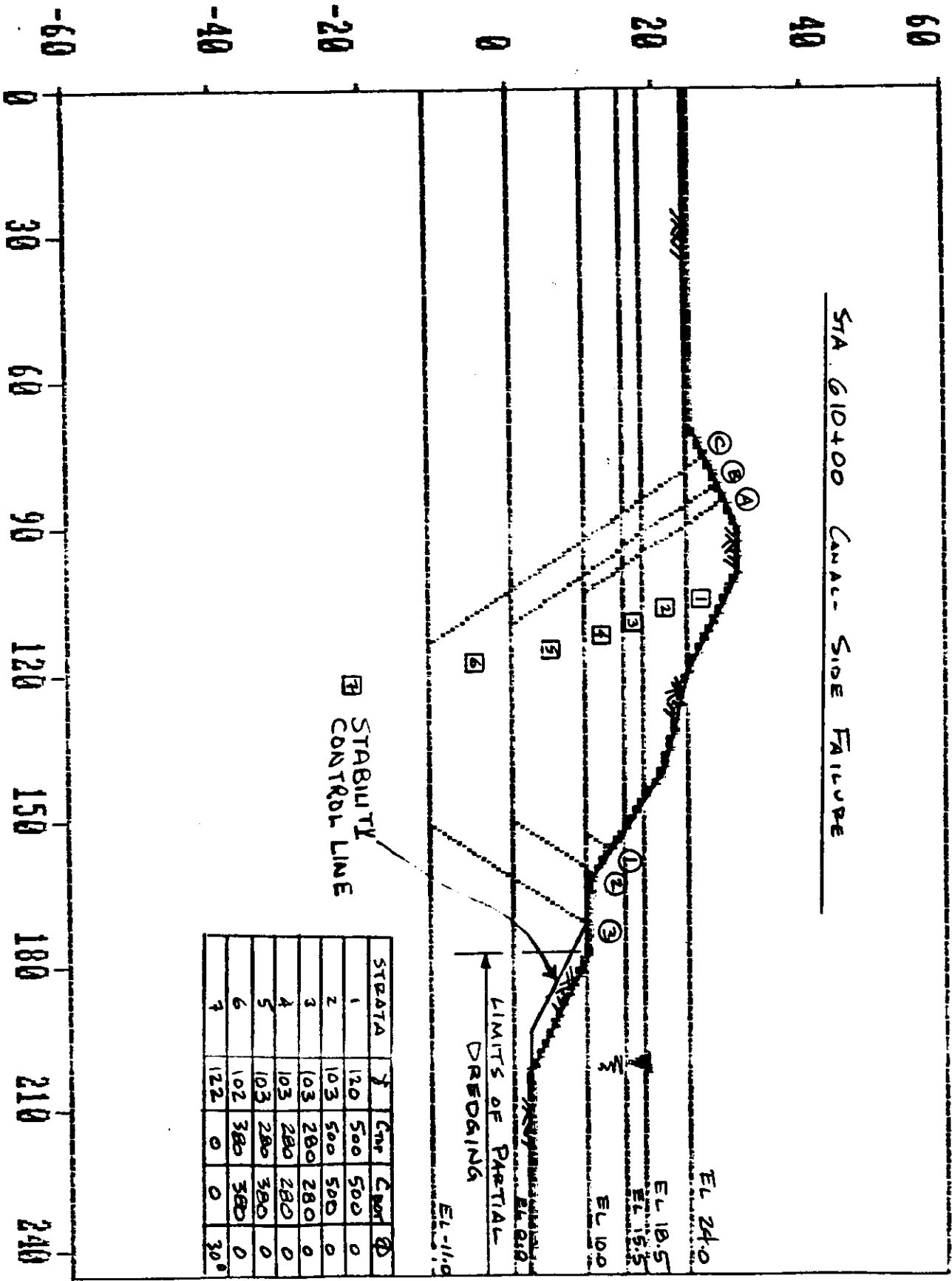


STA. 568+00 CANAL-SIDE FAILURE

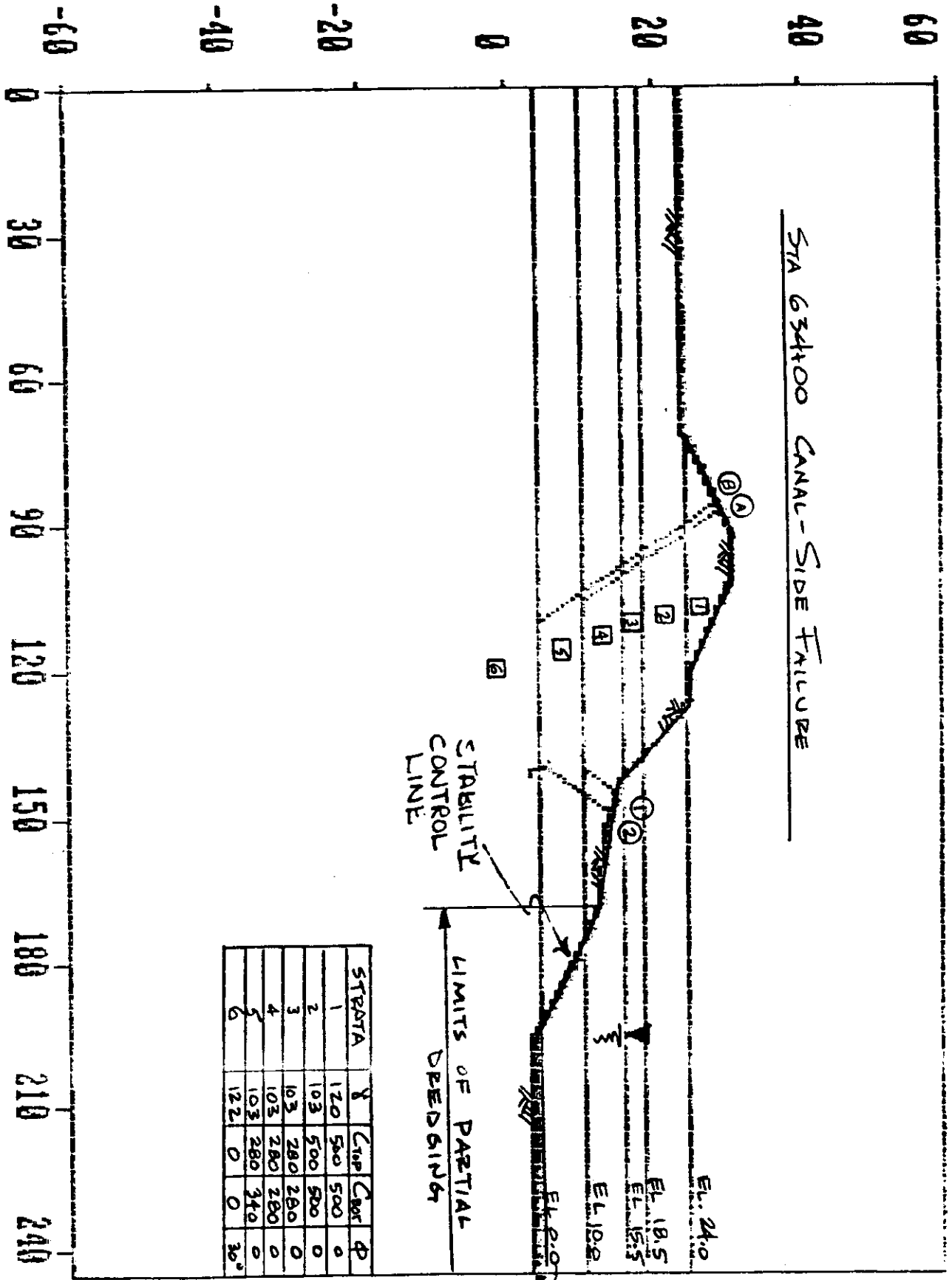
STRATA	T	Grid	Cent	φ
1	120	500	500	0
2	103	500	500	0
3	103	280	280	0
4	103	280	280	0
5	103	280	380	0
6	100	380	380	0
7	122	0	0	30°

* NOTE : ELEVATIONS REFER TO CAIRO DATUM *

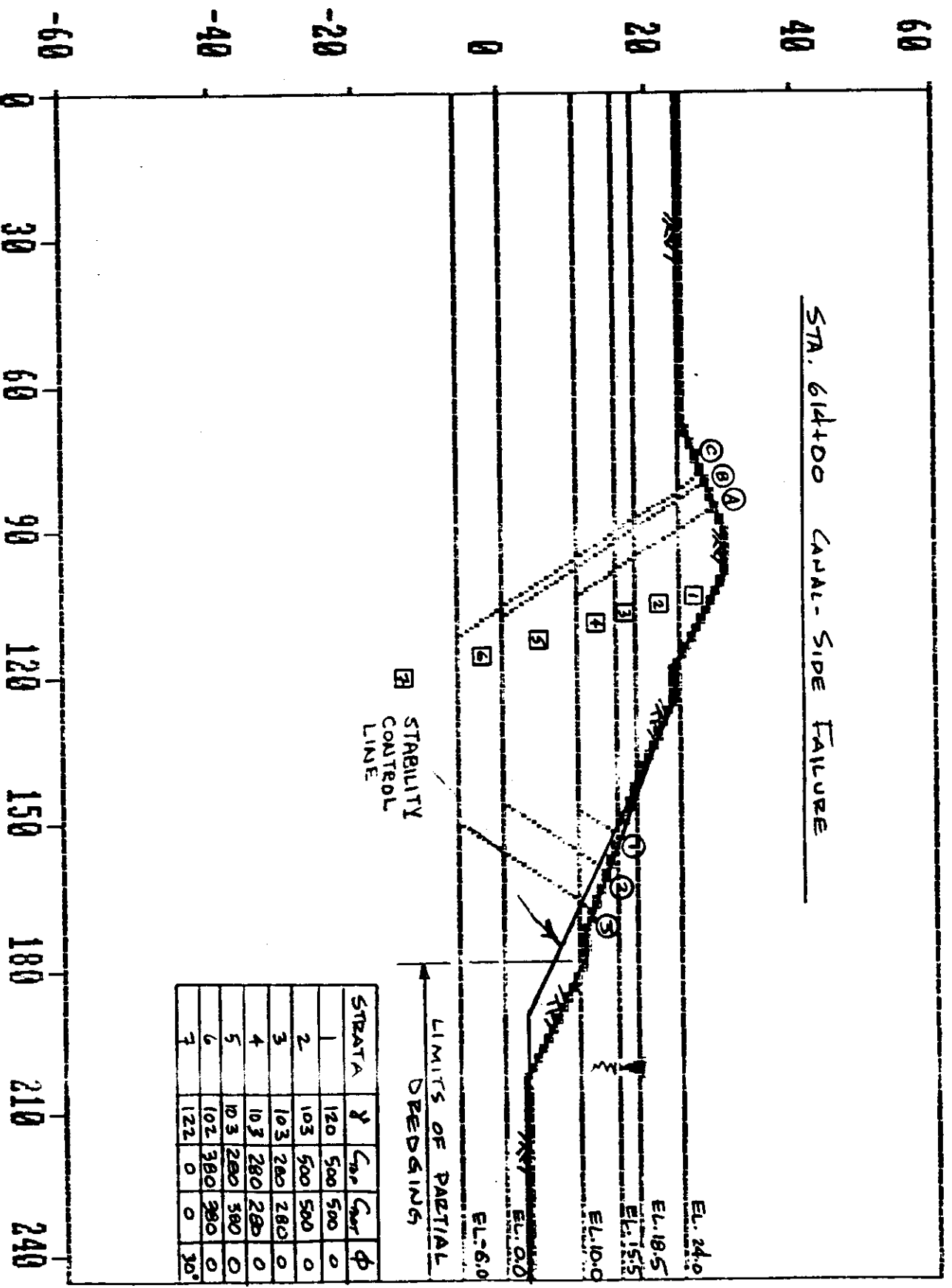
C:\123)*



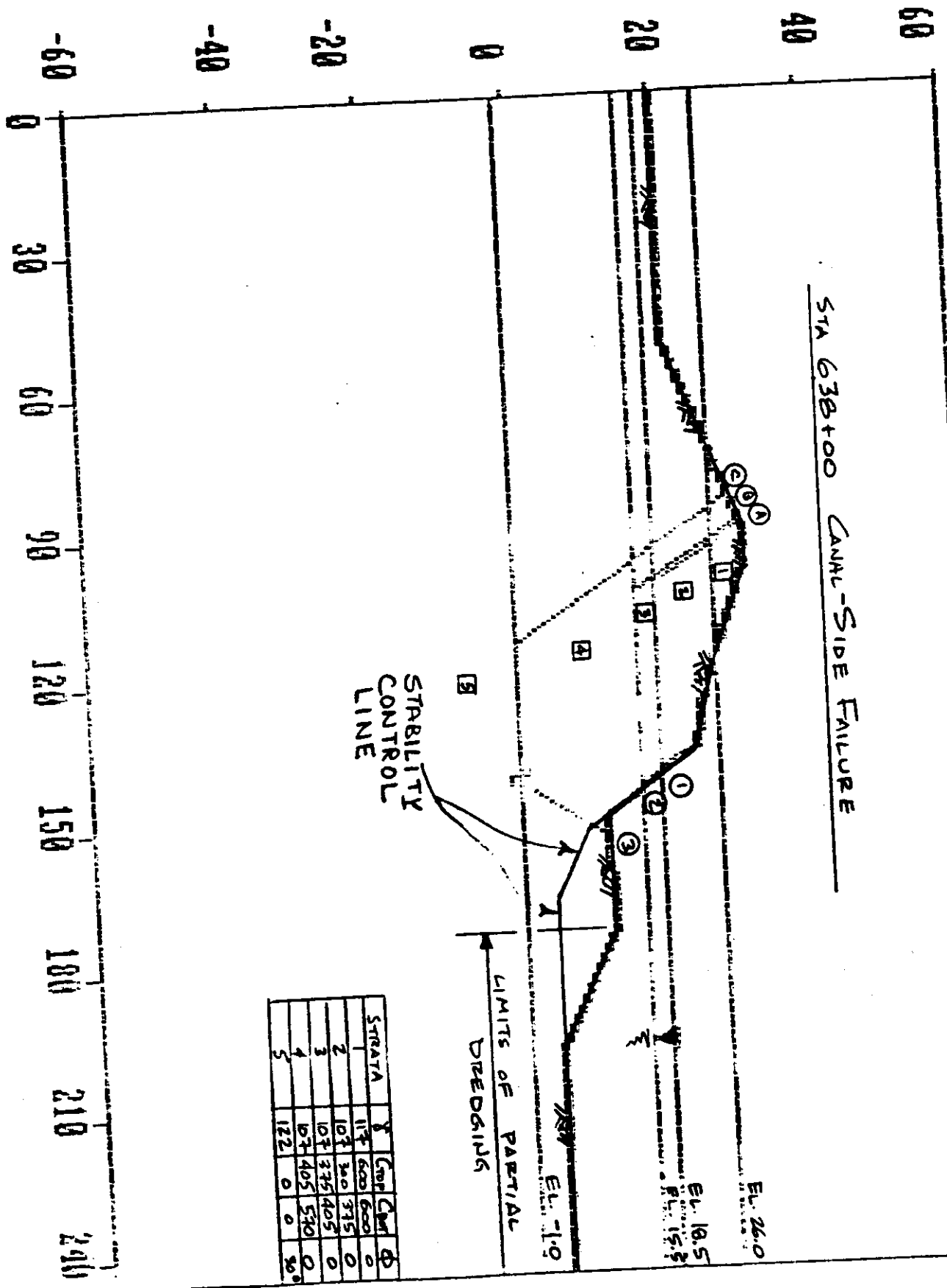
* NOTE: ELEVATIONS REFER TO CAIRO DATUM *



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STRATA	γ	C _{eff}	C _{int}	φ
1	114	600	600	0
2	107	300	315	0
3	107	330	405	0
4	107	405	530	0
5	122	0	0	30°

* NOTE: ELEVATIONS REFER TO CAIRO DATUM *