4/28/88

(A0000759)

17th St Canal
Pump Sta EAST RETAINING WALL

QFile Q17PC
- F.S. = 1.2
- S-CASE
- SWL 17 & N.O. St W.B

DRW 27A
DRW 35A
PZ 40A

OUTPUT		DEPL.	MMAX	f_s
Q17PC1)	DRW 35A)	2.63		2780
~~Q17PC2~~)	~~PZ40A~~)	~~1.42~~	115,475	~~2200~~
Q17PCO				
Q17PC2	PZ40A	1.93	115,475	2200

Q17PC FS=1.2 S-CASE

$f_{s_{MAX}}$ = 11.7 PILE TIP -12.50

ANCHOR LOAD 10 963 #/FT

	I_{xx}	A_{EFF}	f_s (#/IN²)	M_b (FT-#)	DEFL (IN)
PZ 27					
PZ 35	361.22	3.95	2776	115475 M_{MAX} = ~~70,931 FT-#~~ 72,749	2.63
PZ 40	490.85	4.91	2233	115475 M_{MAX} = ~~88773 FT-#~~ 91,000	1.93

```
_I Q17PC1
1
2                        BEAMS (SHEAR, MOMENT, DEFLECTION)
3
5    17T STR-Q17PC-SWL=17-BULKHD EAST OF PUMP STA-FS=1.2-S CASE
6      LK
7
8   THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT
9   INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS
10   AS COUNTERCLOCKWISE.
11
12
13    THE MAXIMUM DEFLECTION IS  -7.06 INCHES AND OCCURS AT MEMBER COORDINATE
14    26.10 FT.
15
16
17
18   Z35            HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.
19
20   THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.
21
22
23         CALCULATED EXTERNAL LOADS

24
25   DISTANCE FROM    TYPE OF    MAGNITUDE OF
26   REFERENCE(FT)     LOAD            LOAD
27
28          -12.50  POINT LD       -6.70 LBF
2            26.00  POINT LD  -21927.34 LBF
30
31
32                INPUTTED LOADS
33
34   DISTANCE FROM    TYPE OF    MAGNITUDE OF
35   REFERENCE(FT)     LOAD            LOAD
36
37            26.10  CONTN LD        0.00 LBF/SQ FT
38            26.00  CONTN LD        5.70 LBF/SQ FT
39            26.00  CONTN LD        5.70 LBF/SQ FT
40            26.00  CONTN LD        5.70 LBF/SQ FT
41            26.00  POINT LD    10963.66 LBF
42            25.00  CONTN LD       93.94 LBF/SQ FT
43            24.00  CONTN LD      182.18 LBF/SQ FT
44            23.00  CONTN LD      270.42 LBF/SQ FT
45            22.00  CONTN LD      358.66 LBF/SQ FT
46            22.00  CONTN LD      358.66 LBF/SQ FT

47            21.00  CONTN LD      446.91 LBF/SQ FT
48            20.00  CONTN LD      535.15 LBF/SQ FT
49            19.00  CONTN LD      635.68 LBF/SQ FT
50            18.00  CONTN LD      740.64 LBF/SQ FT
51            17.00  CONTN LD      845.61 LBF/SQ FT
52            16.00  CONTN LD      888.07 LBF/SQ FT
5             15.00  CONTN LD      930.54 LBF/SQ FT
5             15.00  CONTN LD      930.54 LBF/SQ FT
55            14.00  CONTN LD      973.00 LBF/SQ FT
56            13.00  CONTN LD     1015.47 LBF/SQ FT
57            12.00  CONTN LD     1057.93 LBF/SQ FT
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58	11.00	CONTN LD	1100.40	LBF/SQ FT
59	11.00	CONTN LD	1100.40	LBF/SQ FT
60	10.00	CONTN LD	1142.86	LBF/SQ FT
61	10.00	CONTN LD	1142.86	LBF/SQ FT
62	9.00	CONTN LD	1082.29	LBF/SQ FT
63	8.00	CONTN LD	1021.72	LBF/SQ FT
64	7.00	CONTN LD	961.15	LBF/SQ FT
65	6.00	CONTN LD	900.58	LBF/SQ FT
66	5.00	CONTN LD	840.01	LBF/SQ FT
67	4.00	CONTN LD	779.44	LBF/SQ FT
68	3.00	CONTN LD	718.87	LBF/SQ FT
69	2.00	CONTN LD	658.30	LBF/SQ FT
70	1.00	CONTN LD	597.73	LBF/SQ FT
71	0.00	CONTN LD	537.16	LBF/SQ FT
72	-0.50	CONTN LD	506.88	LBF/SQ FT
73	-0.50	CONTN LD	5.24	LBF/SQ FT
74	-0.55	CONTN LD	0.00	LBF/SQ FT
75	-1.50	CONTN LD	-105.80	LBF/SQ FT
76	-2.50	CONTN LD	-216.85	LBF/SQ FT
77	-3.50	CONTN LD	-327.89	LBF/SQ FT
78	-4.50	CONTN LD	-442.65	LBF/SQ FT
79	-5.50	CONTN LD	-565.45	LBF/SQ FT
80	-6.50	CONTN LD	-688.25	LBF/SQ FT
81	-7.50	CONTN LD	-811.05	LBF/SQ FT
82	-8.50	CONTN LD	-933.85	LBF/SQ FT
83	-9.50	CONTN LD	-1056.65	LBF/SQ FT
84	-10.50	CONTN LD	-1179.45	LBF/SQ FT
85	-11.50	CONTN LD	-1302.25	LBF/SQ FT
86	-12.50	CONTN LD	-1425.05	LBF/SQ FT
87	-12.50	CONTN LD	-1425.05	LBF/SQ FT
88	-12.50	CONTN LD	0.00	LBF/SQ FT
89				
90				
91	Z35	PROPERTIES ARE AS FOLLOWS.		
92				
93				
94	MOMENT OF INERTIA=	361.22 IN. TO THE 4TH PER FOOT OF WALL		
95	CROSS SECTIONAL AREA=	3.95 SQ IN.		
96	ELASTIC MODULUS=	29000000. LBF/SQ IN.		
97	DEFLECTION REFERENCE IS AT -12.500			
98				
99				
100	THE MAXIMUM BENDING MOMENT IS	-115474.96 LBF-FT AND OCCURS AT	9.72	
101	WHICH HAS THE SHEAR FORCE OF	6.14 LBF.		
102				

103	104	105	106	107	108	109	110	111	112	113	114	115
DISTANCE (FEET)	SHEAR FOR (LBF)	SHEAR STR (LBF/SQIN)	BENDING MOM (LBF-FT)	DEFLECTION FROM TANG. THRU DEFLE REFERENCE (INCHES)	DEFL.FROM A PARALLEL TO THE UNDEFORMED AXIS & THRU DEFL REF NOTE SIGN (IN.)
26.100	0.00	0.00	0.00	-7.0578	-0.0226
26.099	0.00	0.00	0.00	-7.0574	-0.0224
26.001	0.28	0.07	0.01	-7.0169	0.0002
25.999	-10963.40	-2775.54	-10.95	-7.0157	0.0011
25.000	-10913.58	-2762.93	-10945.84	-6.6037	0.2310
24.000	-10775.52	-2727.98	-21797.74	-6.1931	0.4593
23.000	-10549.22	-2670.69	-32467.47	-5.7861	0.6840

```
116    22.000  -10234.68   -2591.06    -42866.77     -5.3844      0.9034
117    21.000   -9831.90   -2489.09    -52907.41     -4.9898      1.1158
118    20.000   -9340.87   -2364.78    -62501.15     -4.6040      1.3194
119    19.000   -8755.45   -2216.57    -71557.69     -4.2284      1.5127
120    18.000   -8067.29   -2042.35    -79977.80     -3.8646      1.6942
121    17.000   -7274.17   -1841.56    -87657.28     -3.5140      1.8626
122    16.000   -6407.33   -1622.11    -94501.57     -3.1778      2.0165
123    15.000   -5498.02   -1391.90   -100457.78     -2.8572      2.1549
124    14.000   -4546.25   -1150.95   -105483.45     -2.5531      2.2767
125    13.000   -3552.02    -899.24   -109536.13     -2.2664      2.3811
126    12.000   -2515.32    -636.79   -112573.33     -1.9978      2.4675
127    11.000   -1436.15    -363.58   -114552.61     -1.7476      2.5354
128    10.000    -314.52     -79.63   -115431.48     -1.5164      2.5844
129     9.717       6.14       1.55   -115474.96     -1.4545      2.5948
130     9.000     798.05     202.04   -115184.67     -1.3042      2.6144
131     8.000    1850.06     468.37   -113855.56     -1.1109      2.6254
132     7.000    2841.49     719.37   -111504.74     -0.9364      2.6176
133     6.000    3772.36     955.03   -108192.77     -0.7802      2.5915
134     5.000    4642.65    1175.36   -103980.21     -0.6419      2.5476
135     4.000    5452.38    1380.35    -98927.65     -0.5207      2.4865
136     3.000    6201.53    1570.01    -93095.65     -0.4159      2.4091
137     2.000    6890.12    1744.33    -86544.77     -0.3263      2.3164
138     1.000    7518.13    1903.32    -79335.60     -0.2510      2.2095

139     0.000    8085.58    2046.98    -71528.70     -0.1888      2.0894
140    -0.549    8346.72    2113.09    -67011.04     -0.1597      2.0184
141    -0.551    8346.72    2113.09    -66994.34     -0.1597      2.0181
142    -1.000    8335.44    2110.24    -63248.36     -0.1384      1.9575
143    -2.000    8229.68    2083.46    -54956.53     -0.0984      1.8153
144    -3.000    8012.83    2028.57    -46826.02     -0.0674      1.6640
145    -4.000    7684.48    1945.44    -38967.95     -0.0442      1.5050
146    -5.000    7240.82    1833.12    -31495.40     -0.0274      1.3395
147    -6.000    6675.37    1689.97    -24527.07     -0.0159      1.1688
148    -7.000    5987.12    1515.73    -18185.59     -0.0084      0.9941
149    -8.000    5176.07    1310.40    -12593.75     -0.0039      0.8163
150    -9.000    4242.22    1073.98     -7874.37     -0.0015      0.6364
151   -10.000    3185.57     806.47     -4150.24     -0.0004      0.4552
152   -11.000    2006.12     507.88     -1544.16     -0.0001      0.2733
153   -12.000     703.87     178.20      -178.92      0.0000      0.0911
154   -12.499       8.12       2.06        -0.01      0.0000      0.0002
155   -12.500       0.00       0.00         0.00      0.0000      0.0000
156
157
158
159   *RUN COMPLETED*
160
EOT..
LI DRW35A
1 100 2 26.1 -12.5 1 -12.5 0 -1 26
2 200 PZ35
3 300 29000000 3.95 361.22
4 400 -12.5 26
EOT..
LI Q17PC2
1
2                    BEAMS (SHEAR, MOMENT, DEFLECTION)
3
4
5    17T STR-Q17PC-SWL=17-BULKHD EAST OF PUMP STA-FS=1.2-S CASE
```

LK

THE REFERENCE SYSTEM SELECTED DEFINES POSITIVE FORCES AS TO THE LEFT INCREASING MEMBER COORDINATES AS UPWARD, AND POSITIVE MOMENTS AS COUNTERCLOCKWISE.

THE MAXIMUM DEFLECTION IS -5.19 INCHES AND OCCURS AT MEMBER COORDINATE 26.10 FT.

Z40 HAS BEEN GIVEN TO SUPPORT THE LOAD SYSTEM.

THE WEIGHT OF THIS VERTICAL MEMBER HAS BEEN NEGLECTED.

CALCULATED EXTERNAL LOADS

DISTANCE FROM REFERENCE(FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
-12.50	POINT LD	-6.70 LBF
26.00	POINT LD	-21927.34 LBF

INPUTTED LOADS

DISTANCE FROM REFERENCE(FT)	TYPE OF LOAD	MAGNITUDE OF LOAD
26.10	CONTN LD	0.00 LBF/SQ FT
26.00	CONTN LD	5.70 LBF/SQ FT
26.00	CONTN LD	5.70 LBF/SQ FT
26.00	CONTN LD	5.70 LBF/SQ FT
26.00	POINT LD	10963.66 LBF
25.00	CONTN LD	93.94 LBF/SQ FT
24.00	CONTN LD	182.18 LBF/SQ FT
23.00	CONTN LD	270.42 LBF/SQ FT
22.00	CONTN LD	358.66 LBF/SQ FT
22.00	CONTN LD	358.66 LBF/SQ FT
21.00	CONTN LD	446.91 LBF/SQ FT
20.00	CONTN LD	535.15 LBF/SQ FT
19.00	CONTN LD	635.68 LBF/SQ FT
18.00	CONTN LD	740.64 LBF/SQ FT
17.00	CONTN LD	845.61 LBF/SQ FT
16.00	CONTN LD	888.07 LBF/SQ FT
15.00	CONTN LD	930.54 LBF/SQ FT
15.00	CONTN LD	930.54 LBF/SQ FT
14.00	CONTN LD	973.00 LBF/SQ FT
13.00	CONTN LD	1015.47 LBF/SQ FT
12.00	CONTN LD	1057.93 LBF/SQ FT
11.00	CONTN LD	1100.40 LBF/SQ FT
11.00	CONTN LD	1100.40 LBF/SQ FT
10.00	CONTN LD	1142.86 LBF/SQ FT
10.00	CONTN LD	1142.86 LBF/SQ FT
9.00	CONTN LD	1082.29 LBF/SQ FT
8.00	CONTN LD	1021.72 LBF/SQ FT

7.00	CONTN LD	961.15	LBF/SQ FT
6.00	CONTN LD	900.58	LBF/SQ FT
5.00	CONTN LD	840.01	LBF/SQ FT
4.00	CONTN LD	779.44	LBF/SQ FT
3.00	CONTN LD	718.87	LBF/SQ FT
2.00	CONTN LD	658.30	LBF/SQ FT
1.00	CONTN LD	597.73	LBF/SQ FT
0.00	CONTN LD	537.16	LBF/SQ FT
-0.50	CONTN LD	506.88	LBF/SQ FT
-0.50	CONTN LD	5.24	LBF/SQ FT
-0.55	CONTN LD	0.00	LBF/SQ FT
-1.50	CONTN LD	-105.80	LBF/SQ FT
-2.50	CONTN LD	-216.85	LBF/SQ FT
-3.50	CONTN LD	-327.89	LBF/SQ FT
-4.50	CONTN LD	-442.65	LBF/SQ FT
-5.50	CONTN LD	-565.45	LBF/SQ FT
-6.50	CONTN LD	-688.25	LBF/SQ FT
-7.50	CONTN LD	-811.05	LBF/SQ FT
-8.50	CONTN LD	-933.85	LBF/SQ FT
-9.50	CONTN LD	-1056.65	LBF/SQ FT
-10.50	CONTN LD	-1179.45	LBF/SQ FT
-11.50	CONTN LD	-1302.25	LBF/SQ FT
-12.50	CONTN LD	-1425.05	LBF/SQ FT
-12.50	CONTN LD	-1425.05	LBF/SQ FT
-12.50	CONTN LD	0.00	LBF/SQ FT

Z40 PROPERTIES ARE AS FOLLOWS.

MOMENT OF INERTIA= 490.85 IN. TO THE 4TH PER FOOT OF WALL
CROSS SECTIONAL AREA= 4.91 SQ IN.
ELASTIC MODULUS= 29000000. LBF/SQ IN.
DEFLECTION REFERENCE IS AT -12.500

THE MAXIMUM BENDING MOMENT IS -115474.96 LBF-FT AND OCCURS AT 9.72
WHICH HAS THE SHEAR FORCE OF 6.14 LBF.

DISTANCE (FEET)	SHEAR FOR (LBF)	SHEAR STR (LBF/SQIN)	BENDING MOM (LBF-FT)	DEFLECTION FROM TANG. THRU DEFLE REFERENCE (INCHES)	DEFL.FROM A PARALLEL TO THE UNDEFORMED AXIS & THRU DEFL REF NOTE SIGN (IN.)
26.100	0.00	0.00	0.00	-5.1939	-0.0167
26.099	0.00	0.00	0.00	-5.1936	-0.0165
26.001	0.28	0.06	0.01	-5.1638	0.0001
25.999	-10963.40	-2232.87	-10.95	-5.1629	0.0008
25.000	-10913.58	-2222.73	-10945.84	-4.8597	0.1700
24.000	-10775.52	-2194.61	-21797.74	-4.5575	0.3380
23.000	-10549.22	-2148.52	-32467.47	-4.2580	0.5034
22.000	-10234.68	-2084.46	-42866.77	-3.9624	0.6648
21.000	-9831.90	-2002.42	-52907.41	-3.6721	0.8211
20.000	-9340.87	-1902.42	-62501.15	-3.3881	0.9709
19.000	-8755.45	-1783.19	-71557.69	-3.1117	1.1132
18.000	-8067.29	-1643.03	-79977.80	-2.8440	1.2468

121	17.000	-7274.17	-1481.50	-87657.28	-2.5860	1.3707
122	16.000	-6407.33	-1304.95	-94501.57	-2.3386	1.4840
123	15.000	-5498.02	-1119.76	-100457.78	-2.1026	1.5858
124	14.000	-4546.25	-925.92	-105483.45	-1.8789	1.6754
	13.000	-3552.02	-723.42	-109536.13	-1.6679	1.7523
126	12.000	-2515.32	-512.28	-112573.33	-1.4702	1.8159
127	11.000	-1436.15	-292.50	-114552.61	-1.2861	1.8658
128	10.000	-314.52	-64.06	-115431.48	-1.1159	1.9019
129	9.717	6.14	1.25	-115474.96	-1.0703	1.9095
130	9.000	798.05	162.54	-115184.67	-0.9597	1.9239
131	8.000	1850.06	376.79	-113855.56	-0.8175	1.9320
132	7.000	2841.49	578.72	-111504.74	-0.6891	1.9263
133	6.000	3772.36	768.30	-108192.77	-0.5742	1.9071
134	5.000	4642.65	945.55	-103980.21	-0.4724	1.8748
135	4.000	5452.38	1110.46	-98927.65	-0.3832	1.8298
136	3.000	6201.53	1263.04	-93095.65	-0.3060	1.7729
137	2.000	6890.12	1403.28	-86544.77	-0.2401	1.7047
138	1.000	7518.13	1531.19	-79335.60	-0.1847	1.6260
139	0.000	8085.58	1646.76	-71528.70	-0.1389	1.5376
140	-0.549	8346.72	1699.94	-67011.04	-0.1175	1.4854
141	-0.551	8346.72	1699.94	-66994.34	-0.1175	1.4851
142	-1.000	8335.44	1697.65	-63248.36	-0.1019	1.4406
143	-2.000	8229.68	1676.11	-54956.53	-0.0724	1.3359
144	-3.000	8012.83	1631.94	-46826.02	-0.0496	1.2245
145	-4.000	7684.48	1565.07	-38967.95	-0.0325	1.1075
146	-5.000	7240.82	1474.71	-31495.40	-0.0202	0.9857
147	-6.000	6675.37	1359.55	-24527.07	-0.0117	0.8601
148	-7.000	5987.12	1219.37	-18185.59	-0.0061	0.7315
149	-8.000	5176.07	1054.19	-12593.75	-0.0028	0.6007
	-9.000	4242.22	864.00	-7874.37	-0.0011	0.4684
151	-10.000	3185.57	648.79	-4150.24	-0.0003	0.3350
152	-11.000	2006.12	408.58	-1544.16	0.0000	0.2011
153	-12.000	703.87	143.36	-178.92	0.0000	0.0671
154	-12.499	8.12	1.65	-0.01	0.0000	0.0001
155	-12.500	0.00	0.00	0.00	0.0000	0.0000

156
157
158
159 *RUN COMPLETED*
160
EOT..
LI PZ40A
1 100 2 26.1 -12.5 1 -12.5 0 -1 26
2 200 PZ40
3 300 29000000 4.91 490.85
4 400 -12.5 26.0
EOT..

9/28/89

17th St Outfall Canal
GDM

ORLEANS

STATION	Req'd TIP PENETRATION	Q-FILES
553+70 TO 568+00	-9.75 [1]	Q67*
568+00 TO 589+00	-9.75 [1]	Q67A*
589+00 TO 614+25	-9.75 [1]	Q68*
614+25 TO 625+25	-6.25 [1]	Q69*
625+25 TO 635+00	-5.0 [2]	Q70*
635+00 TO 642+00	0.0 [2]	Q71*
642+00 TO 663+00	0.0 [2]	Q72*
663+00 TO 670+63	0.0 [2]	Q73*

JEFFERSON

549+22 TO 552+70	0.0 [2]	Q74*
554+00 TO 589+00	-8.0 [1]	Q75*
589+00 TO 614+00	-4.5 [1]	Q76*
614+00 TO 625+25	-2.75 [1]	Q77*
625+25 TO 635+00	-2.25 [1]	Q78*
635+00 TO 641+50	0.0 [2]	Q79*
641+50 TO 663+00	0.0 [2]	Q80*
663+00 TO 670+00	-1.0 [2]	Q81*

* Q-CASE F.S. = 1.0 with SWL plus 2ft freeboard
1 2.5 to 1 penetration to head ratio
2 Tip extended for seepage

Qualifier : 213ABØ4

17TH STR. OUTFALL CANAL
RETAINING WALL @ PUMP STATION

				f_b	f_{allow}	σ (+)OVERSTRESS (−)UNDERSTRESS OF ALLOWABLE
QP17A	F.S. = ~~1.2~~	SWL = 17S + WB	S-CASE	PZ-27 26.3ksi	18ksi	(+)46%
ANCHOR FORCE = 6442 #/FT	TIP EL −13.5	~~−3.43~~ NGVD −4.93		PZ-35 16.4ksi	18ksi	(−)91%
QP17B	F.S. = 1.0	SWL = 17S + WB	S-CASE	PZ-27 16.2ksi	18ksi	(−) 90%
ANCHOR FORCE = 4564 #/FT	TIP EL −13.5	~~−3.43~~ NGVD −4.93		PZ-35 10.1ksi	18ksi	(−) 56%
QP17C	FS = 1.0	SWL = −4.93 NGVD	S-CASE	PZ27 21.9	18ksi	+22%
ANCHOR FORCE = 5611 #/FT	TIP EL −5.48			PZ35 13.6	18ksi	(−) 75%
QP17D	FS = 1.2	SWL = −4.93 NGVD	S-CASE	PZ27 = 28.0ksi	18ksi	(+) 55%
ANCHOR FORCE = 6723 #/FT	TIP EL −8.87			PZ35 17.4ksi	18ksi	(−) 97%

DEFLECTIONS NOT SIGNIFICANT

RECOMMENDED FACTOR OF SAFETY
FOR PILE CAPACITY CURVES

	With Pile Load Test	W/O Pile Load Test
Q-Case	2.0	3.0
S-Case	2.0 (Dead load only)*	3.0 (Dead load only)*
	1.0 (Total load)	1.5 (Total load)

* NORMAL NON-HURRICANE LOAD

Enclosure # 5 LMNED-FS 26 Aug 86

```
10 CLEAR
20 1 999
30 STORE
40 6
50 2 -875.2400 -73.3721
60 3 -2132.8762 -167.9834
70 103 -1090.9805 134.0304
80 104 -1117.7634 155.4858
90 105 -1260.8932 139.6785
100 106 -1258.3537 105.9224
110 T/O
120 203 103 2 3
130 204 104 2 3
140 205 105 2 3
150 206 106 2 3
160 END
```

File Name

HEMNDHwy C = East, Hammond high

pt. 2 = sta. 550+22.11

pt 3 = sta. 562+83.30

pt. 103 = sta. 7+08.77 w/L

pt. 104 = sta 7+43.09 w/L

pt. 105 = sta. 8+87.09 w/L

pt 106 = sta 9+20.94 w/L

```
DESKTOP

C:\GCOGO (for help type HELP)>echo off
EGA Graphics routine is already resident
ENTER DISPLAY TYPE (CGA OR EGA)
EGA
                          ************************************
                          *  CORPS PROGRAM  #  U0002         *
                          *  MICRO VERSION  # 87/09/09-A     *
                          ************************************


PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 10:53:40    --04-10-
                     - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED MAR 1988

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1
<CR>


EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=A:EHMNDHWY

CLEAR

BETWEEN POINTS     1  AND   999

STORE

T/O

TANGENT/OFF
PT.   203     Y=     -1074.2515     X=       -88.3436
FROM PT. 103 TO PT. 203   DIST=       223.0024 <-- offset to ℄
FROM PT.   2 TO PT. 203   DIST=       199.5738 <-- sta. 552+21.68
FROM PT.   3 TO PT. 203   DIST=      1061.6162

T/O
<CR>


TANGENT/OFF
PT.   204     Y=     -1099.2786     X=       -90.2264
FROM PT. 104 TO PT. 204   DIST=       246.4065 <-- offset
FROM PT.   2 TO PT. 204   DIST=       224.6717 <-- sta. 552+46.78
```

```
FROM PT.   3 TO PT. 204   DIST=       1036.5182

T/O

TANGENT/OFF
PT.   205      Y=      -1242.7854      X=       -101.0223
FROM PT. 105 TO PT. 205   DIST=         241.3810 <-- offset
FROM PT.   2 TO PT. 205   DIST=         368.5840 <-- sta 553+90.69
FROM PT.   3 TO PT. 205   DIST=         892.6059

T/O

TANGENT/OFF
PT.   206      Y=      -1242.7854      X=       -101.0223
FROM PT. 106 TO PT. 206   DIST=         207.5295 <-- offset
FROM PT.   2 TO PT. 206   DIST=         368.5840 <-- sta 553+90.69
FROM PT.   3 TO PT. 206   DIST=         892.6060
<CR>


END
DO YOU HAVE MORE DATA TO RUN?
(Ø NO, 1 YES )
=Ø
```

```
10 CLEAR
20 1 999
30 STORE
40 4
50 1 0 0
60 106 -1258.3537 105.9224
70 119 -8367.6145 -442.2758
80 120 -8479.3868 -449.4134
90 L/A
100 1 2 878.31 4 47 31
110 2 3 1261.19 4 18 08
120 2 207 577.89 4 18 08
130 207 107 208.9 274 18 08
140 3 4 1354.76 4 28 38
150 3 208 316.7 4 28 38
160 208 108 206.8 274 28 38
170 4 5 1145.76 5 54 11
180 5 6 422.96 5 31 26
190 6 7 1593.22 4 01 26
200 6 215 1193.22 4 01 26
210 215 115 231.5 274 01 26
220 7 8 1700 4 16 26
230 7 218 1627 4 16 26
240 218 118 222.5 274 16 26
250 8 9 1360 3 01 26
260 8 221 228 3 01 26
270 221 121 219.7 273 01 26
280 8 223 900 3 01 26
290 223 123 207.9 273 01 26
300 8 225 1331 3 01 26
310 225 125 216.9 273 01 26
320 9 10 391.97 5 01 26
330 10 11 1538.66 4 31 26
340 10 226 38.66 4 31 26
350 226 126 223 274 31 26
360 10 227 1438.66 4 31 26
370 227 127 219 274 31 26
380 11 12 1325 3 56 26
390 11 229 500 3 56 26
400 229 129 229 273 56 26
410 11 230 1250 3 56 26
420 230 130 229 273 56 26
430 11 231 1263 3 56 26
440 231 131 241 273 56 26
450 I/A
460 106 107
470 107 108
480 108 115
490 115 118
493 118 119
496 119 120
500 120 121
510 121 123
520 123 125
530 125 126
540 126 127
550 127 129
560 129 130
570 130 131
580 END
```

oct-89

Revised run based on Modjeski & Master's wall line.
PJ points elemineted from March 89 run

Pt.	B/L station	offset	
106			
107	556+00	208.9	
108	566+00	206.8	
115	604+00	231.50	
118	624+27	222.50	
119			} Vet. highway see Run for vet. highway.
120			
121	627+28	219.7	
123	634+00	207.9	
125	638+31	216.9	— INTERSTATE
126	643+00	223.0	
127	657+00	219.0	
129	663+00	229.0	
130	670+50	229.0	
131	670+63	241.0	

```
?

? Error: Data format error in file USER
  Error Code 1274. Status  000E
PC = 000F: 000A; SS = 4F10, FP = 3C0C, SP = BD60
^

←[1;33;44m1;67HTue 10-24-19892;67H 8:07:26.00C:\GCOGO(CADD)>echo off
EGA Graphics routine is already resident
ENTER DISPLAY TYPE (CGA OR EGA)
ega
                          ************************************
                          *  CORPS PROGRAM  #  U0002         *
                          *  MICRO VERSION  # 87/09/09-A     *
                          ************************************


PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 08:07:32    --10-24-89
                      - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED MAR 1988

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1
<CR>


EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=a:orlin2

CLEAR

BETWEEN POINTS     1  AND   999

STORE

L/A

LOCATE/AZI
    1     2       878.3100     4     47    31.0
PT.     2     Y=       -875.2400     X=        -73.3721

L/A

LOCATE/AZI
<CR>
```

```
    2      3        1261.1900      4      18      8.0
PT.        3       Y=       -2132.8762       X=        -167.9834

L/A

LOCATE/AZI
    2    207        577.8900      4      18      8.0
PT.      207       Y=       -1451.5016       X=        -116.7240

L/A

LOCATE/AZI
  207    107        208.9000    274      18      8.0
PT.      107       Y=       -1467.1727       X=          91.5874

L/A

LOCATE/AZI
    3      4       1354.7600      4      28     38.0
PT.        4       Y=       -3483.5021       X=        -273.7398

L/A
<CR>


LOCATE/AZI
    3    208        316.7000      4      28     38.0
PT.      208       Y=       -2448.6098       X=        -192.7059

L/A

LOCATE/AZI
  208    108        206.8000    274      28     38.0
PT.      108       Y=       -2464.7531       X=          13.4630

L/A

LOCATE/AZI
    4      5       1145.7600      5      54     11.0
PT.        5       Y=       -4623.1865       X=        -391.5763

L/A

LOCATE/AZI
    5      6        422.9600      5      31     26.0
PT.        6       Y=       -5044.1823       X=        -432.2908
<CR>
```

```
L/A

LOCATE/AZI
     6       7        1593.2200       4       1     26.0
PT.      7       Y=       -6633.4748       X=        -544.0910

L/A

LOCATE/AZI
     6     215        1193.2200       4       1     26.0
PT.    215       Y=       -6234.4609       X=        -516.0220

L/A

LOCATE/AZI
   215     115         231.5000     274       1     26.0
PT.    115       Y=       -6250.7058       X=        -285.0926

L/A

LOCATE/AZI
<CR>

     7       8        1700.0000       4      16     26.0
PT.      8       Y=       -8328.7475       X=        -670.7824

L/A

LOCATE/AZI
     7     218        1627.0000       4      16     26.0
PT.    218       Y=       -8255.9505       X=        -665.3421

L/A

LOCATE/AZI
   218     118         222.5000     274      16     26.0
PT.    118       Y=       -8272.5321       X=        -443.4608

L/A

LOCATE/AZI
     8       9        1360.0000       3       1     26.0
PT.      9       Y=       -9686.8538       X=        -742.5256

L/A
<CR>

LOCATE/AZI
     8     221         228.0000       3       1     26.0
PT.    221       Y=       -8556.4300       X=        -682.8099

L/A

LOCATE/AZI
```

```
  221    121          219.7000    273      1    26.0
PT.  121       Y=      -8568.0196      X=       -463.4158

L/A

LOCATE/AZI
    8    223          900.0000      3      1    26.0
P    223       Y=      -9227.4943      X=       -718.2595

L/A

LOCATE/AZI
  223    123          207.9000    273      1    26.0
PT.    123       Y=      -9238.4615      X=       -510.6490
<CR>


L/A

LOCATE/AZI
    8    225         1331.0000      3      1    26.0
PT.    225       Y=      -9657.8942      X=       -740.9958

L/A

LOCATE/AZI
  225    125          216.9000    273      1    26.0
PT.    125       Y=      -9669.3361      X=       -524.3978

L/A

LOCATE/AZI
   9     10          391.9700      5      1    26.0
P       10       Y=     -10077.3180      X=       -776.8509

L/A

LOCATE/AZI
<CR>









   10     11         1538.6600      4     31    26.0
PT.     11       Y=     -11611.1843      X=       -898.2125

L/A

LOCATE/AZI
   10    226           38.6600      4     31    26.0
PT.    226       Y=     -10115.8575      X=       -779.9002

L/A

LOCATE/AZI
  226    126          223.0000    274     31    26.0
P      126       Y=     -10133.4466      X=       -557.5950

L/A

LOCATE/AZI
   10    227         1438.6600      4     31    26.0
PT.    227       Y=     -11511.4959      X=       -890.3250
```

```
L/A
<CR>


LOCATE/AZI
  227   127        219.0000   274    31    26.0
PT.   127      Y=     -11528.7694      X=       -672.0073

L/A

LOCATE/AZI
   11    12       1325.0000     3     56    26.0
PT.    12      Y=     -12933.0519      X=       -989.2685

L/A

LOCATE/AZI
   11   229        500.0000     3     56    26.0
PT.   229      Y=     -12110.0023      X=       -932.5732

L/A

LOCATE/AZI
  229   129        229.0000   273    56    26.0
PT.   129      Y=     -12125.7394      X=       -704.1146
<CR>


L/A

LOCATE/AZI
   11   230       1250.0000     3     56    26.0
PT.   230      Y=     -12858.2292      X=       -984.1144

L/A

LOCATE/AZI
  230   130        229.0000   273    56    26.0
PT.   130      Y=     -12873.9664      X=       -755.6558

L/A

LOCATE/AZI
   11   231       1263.0000     3     56    26.0
PT.   231      Y=     -12871.1984      X=       -985.0078

L/A

LOCATE/AZI
<CR>
```

```
  231    131         241.0000    273      56    26.0
P      131       Y=     -12697.7603       X=        -744.5775

I/A

INVERSE/AZ
FROM   106 TO   107, DIST =         209.3105
AZIMUTH =      3   55   37.5

I/A

INVERSE/AZ
FROM   107 TO   108, DIST =        1000.6349
AZIMUTH =      4   28   40.5

I/A

INVERSE/AZ
FROM   108 TO   115, DIST =        3797.7063
AZIMUTH =      4   30   32.2

I/A
<CR>


INVERSE/AZ
FROM   115 TO   118, DIST =        2028.0193
AZIMUTH =      4   28   43.6

I/A

INVERSE/AZ
FROM   118 TO   119, DIST =          95.0898
AZIMUTH =    359   17    9.4

I/A

INVERSE/AZ
FROM   119 TO   120, DIST =         112.0000
AZIMUTH =      3   39   13.9

I/A

INVERSE/AZ
FROM   120 TO   121, DIST =          89.7321
AZIMUTH =      8   58   39.1
<CR>
```

```
I..

INVERSE/AZ
FROM  121 TO  123, DIST =        672.1036
AZIMUTH =     4   1  47.6

I/A

INVERSE/AZ
FROM  123 TO  125, DIST =        431.0940
AZIMUTH =     1  49  39.5

I/A

INVERSE/AZ
FROM  125 TO  126, DIST =        465.2962
AZIMUTH =     4   5  28.7

I/A

INVERSE/AZ
<CR>

FROM  126 TO  127, DIST =       1400.0057
AZIMUTH =     4  41  15.3

I/A

INVERSE/AZ
FROM  127 TO  129, DIST =        597.8328
AZIMUTH =     3   4  43.0

I/A

INVERSE/AZ
FROM  129 TO  130, DIST =        750.0000
AZIMUTH =     3  56  26.0

I/A

INVERSE/AZ
FROM  130 TO  131, DIST =         17.6918
AZIMUTH =   321  13  52.2

END
<CR>
```

```
D YOU HAVE MORE DATA TO RUN?
(  NO, 1 YES )
=0

? Error: Data format error in file USER
  Error Code 1274, Status  000E
PC = 000F: 000A; SS = 4F10, FP = 3C0C, SP = BD60
^C

[1;33;44m1;67HTue 10-24-19892;67H 8:10:57.60C:\(CADD)>list a:orlin2

[1;33;44m1;67HTue 10-24-19892;67H 8:11:16.80C:\(CADD)>
```

March 89

```
Write fault error writing device PRN
Abort, Retry, Ignore? I

s1;33;44m1;67HWed  4-05-19892;67H 9:18:15.90@C:\(CADD)>
s1;33;44m1;67HWed  4-05-19892;67H 9:18:16.50@C:\(CADD)>10 CLEAR
20 1 999
30 STORE
40 1
50 1 0.0 0.0
60 L/A
70 1 2 878.31 4 47 31
80 2 3 1261.19 4 18 08
90 3 4 1354.76 4 28 38
100 4 5 1145.76 5 54 11
110 5 6 422.96 5 31 26
120 6 7 1593.22 4 01 26
130 7 8 1700 4 16 26
140 8 9 1360 3 01 26
150 9 10 391.97 5 01 26
160 10 11 1538.66 4 31 26
170 11 12 1325 3 56 26
180 1 31 439.2 4 47 31
190 31 102 224.7 274 47 31
200 102 103 636.7705 4 47 31
210 103 104 34.3171 321 18 08
220 104 105 144 6 18 08
230 105 506 100 94 18 08
240 2 32 277.89 4 18 08
250 32 606 207.5 274 18 08
260 3 507 204.7 274 18 09
270 3 607 204.7 274 28 38
280 3 33 516.7 4 28 38
290 33 108 206.3 274 28 38
300 3 34 716.7 4 28 38
310 34 109 209.6 274 28 38
320 3 35 1116.7 4 28 38
330 35 110 210.2 274 28 38
340 4 511 207.2 274 28 38
350 4 611 207.2 275 54 11
360 5 36 116.18 5 31 26
370 36 112 238.6 275 31 26
380 5 37 216.18 5 31 26
390 5 38 416.18 5 31 26
400 37 113 233.6 275 31 26
410 38 114 237.6 275 31 26
420 7 515 227.4 274 01 26
430 7 615 227.4 274 16 26
440 7 39 600 4 16 26
450 39 116 226.2 274 16 26
455 7 40 800 4 16 26
460 40 117 226.1 274 16 26
480 7 41 1627 4 16 26
490 41 118 224.2 274 16 26
500 8 42 30.23 3 01 26
510 42 801 1.0167 273 39 14
520 801 802 6 183 39 14
530 802 902 1 273 30 14
540 902 119 228.17 273 39 14
550 119 120 112 3 39 14
```

ORLINE

Pt No	B/L sta	Pt No	Offset	w/L sta
1	541+43.80			
31	545+83.00	102	224.70	
2	550+22.11			
32	554+00.00	606	207.50	
3	562+83.30	507	204.70	
		607	204.70	
33	568+00.00	108	206.30	
34	570+00.00	109	209.60	
35	574+00.00	110	210.20	
4	576+38.06	511	207.2	
		611		
5	587+83.82			
36	589+00.00	112	238.6	
37	590+00.00	113	233.6	
6 38	592+00.00	114	237.6	
7	608+00.00	515	227.4	
		615		
39	614+00.00	116	226.2	
40	616+00.00	117	226.2	
41	624+27.00	118	224.2	
8	625+00.00			
42	625+30.23	801	1.0167	

```
560 8 43 228 3 01 26
570 43 121 222.8 273 01 26
580 8 44 300 3 01 26
590 44 122 219.8 273 01 26
600 8 45 900 3 01 26
610 45 123 207.6 273 01 26
620 8 46 1000 3 01 26
630 46 124 212.1 273 01 26
632 9 125 215.8 273 01 26
634 10 47 38.66 4 31 26
636 47 126 222.5 274 31 26
638 10 48 1438.66 4 31 26
640 48 524 217 274 31 26
642 11 49 100 3 56 26
644 49 624 219.5 273 56 26
646 11 50 300 3 56 26
648 50 128 224.5 273 56 26
650 11 51 500 3 56 26
660 51 129 232 273 56 26
670 11 52 1187 3 56 26
680 52 130 232 273 56 26
682 P/I
684 106 105 506 507 606
690 107 106 507 108 607
700 111 110 511 112 611
710 115 114 515 116 615
720 127 126 524 624 128
730 I/A
740 102 103
750 103 104
760 104 105
770 105 106
780 106 107
790 107 108
800 108 109
810 109 110
820 110 111
830 111 112
840 112 113
850 113 114
860 114 115
870 115 116
890 116 117
895 117 118
900 118 119
910 119 120
920 120 121
930 121 122
940 122 123
950 123 124
960 124 125
970 125 126
980 126 127
990 127 128
1000 128 129
1010 129 130
1010 END
```

8	625+00.00		
43	627+28.00	121	222.80
44	628+00.06	122	219.8
45	634+00.00	123	207.6
46	635+00.00	124	212.10
9	638+60.00	125	215.80
10	642+51.97 = 642+61.34		
47	643+00.00	126	222.5
48	657+00.00	524	217.0
11	658+00.00		
44	659+00	624	219.5
50	661+00	128	224.50
51	663+00.00	129	232.0
52	669+87.00	130	232.0

* End file is not included in this run 4/13/89

Note: Exist. wall end tied with Base line

B. sta 53+39.47 9.04' left of ℄ B

```
Desktop

←[1;33;44m1;67HWed  4-05-19892;67H 9:13:44.70QC:\GCOGO(CADD)>echo off
EGA Graphics routine is now resident (2305-237f)
ENTER DISPLAY TYPE (CGA OR EGA)
EGA
                              ************************************
                              *  CORPS PROGRAM  #  U0002         *
                              *  MICRO VERSION  # 87/09/09-A     *
                              ************************************


PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 09:14:40    --04-05-
                        - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED MAR 1988

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1
<CR>


EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=A:ORLINE

CLEAR

BETWEEN POINTS     1  AND   999

STORE

L/A

LOCATE/AZI
    1     2        878.3100     4     47    31.0
PT.     2     Y=       -875.2400     X=        -73.3721

L/A

LOCATE/AZI
<CR>

    2     3       1261.1900     4     18     8.0
PT.     3     Y=      -2132.8762     X=       -167.9834

L/A
```

```
LOCATE/AZI
    3      4        1354.7600       4      28    38.0
PT.      4       Y=       -3483.5021       X=        -273.7398

L/A

LOCATE/AZI
    4      5        1145.7600       5      54    11.0
PT.      5       Y=       -4623.1865       X=        -391.5763

L/A

LOCATE/AZI
    5      6         422.9600       5      31    26.0
PT.      6       Y=       -5044.1823       X=        -432.2908

L/A
<CR>


LOCATE/AZI
    6      7        1593.2200       4       1    26.0
PT.      7       Y=       -6633.4748       X=        -544.0910

L/A

LOCATE/AZI
    7      8        1700.0000       4      16    26.0
PT.      8       Y=       -8328.7475       X=        -670.7824

L/A

LOCATE/AZI
    8      9        1360.0000       3       1    26.0
PT.      9       Y=       -9686.8538       X=        -742.5256

L/A

LOCATE/AZI
    9     10         391.9700       5       1    26.0
PT.     10       Y=      -10077.3180       X=        -776.8509
<CR>


L/A

LOCATE/AZI
   10     11        1538.6600       4      31    26.0
PT.     11       Y=      -11611.1843       X=        -898.2125

L/A

LOCATE/AZI
   11     12        1325.0000       3      56    26.0
PT.     12       Y=      -12933.0519       X=        -989.2685

L/A

LOCATE/AZI
    1     31         439.2000       4      47    31.0
```

```
PT.     31      Y=       -437.6648      X=         -36.6898

L/A

LOCATE/AZI
<CR>

    31    102         224.7000    274     47    31.0
PT.    102      Y=       -456.4357      X=         187.2248

L/A

LOCATE/AZI
   102    103         636.7705      4     47    31.0
PT.    103      Y=      -1090.9805      X=         134.0304

L/A

LOCATE/AZI
   103    104          34.3171    321     18     8.0
PT.    104      Y=      -1117.7634      X=         155.4858

L/A

LOCATE/AZI
   104    105         144.0000      6     18     8.0
PT.    105      Y=      -1260.8932      X=         139.6785

L/A
<CR>


LOCATE/AZI
   105    506         100.0000     94     18     8.0
PT.    506      Y=      -1253.3914      X=          39.9603

L/A

LOCATE/AZI
     2     32         377.8900      4     18     8.0
PT.     32      Y=      -1252.0652      X=        -101.7205

L/A

LOCATE/AZI
    32    606         207.5000    274     18     8.0
PT.    606      Y=      -1267.6312      X=         105.1949

L/A

LOCATE/AZI
     3    507         204.7000    274     18     8.0
PT.    507      Y=      -2148.2322      X=          36.1398
<CR>


L/A

LOCATE/AZI
     3    607         204.7000    274     28    38.0
```

```
PT.    607      Y=      -2148.8556      X=          36.0919

L/A

LOCATE/AZI
     3    33          516.7000      4     28    38.0
PT.     33      Y=      -2647.9995      X=        -208.3185

L/A

LOCATE/AZI
    33   108          206.3000    274     28    38.0
PT.    108      Y=      -2664.1038      X=          -2.6480

L/A

LOCATE/AZI
<CR>

     3    34          716.7000      4     28    38.0
PT.     34      Y=      -2847.3892      X=        -223.9311

L/A

LOCATE/AZI
    34   109          209.6000    274     28    38.0
PT.    109      Y=      -2863.7511      X=         -14.9707

L/A

LOCATE/AZI
     3    35         1116.7000      4     28    38.0
PT.     35      Y=      -3246.1685      X=        -255.1562

L/A

LOCATE/AZI
    35   110          210.2000    274     28    38.0
PT.    110      Y=      -3262.5773      X=         -45.5976

L/A
<CR>


LOCATE/AZI
     4   511          207.2000    274     28    38.0
PT.    511      Y=      -3499.6766      X=         -67.1721

L/A

LOCATE/AZI
     4   611          207.2000    275     54    11.0
PT.    611      Y=      -3504.8116      X=         -67.6385

L/A

LOCATE/AZI
     5    36          116.1800      5     31    26.0
PT.     36      Y=      -4738.8270      X=        -402.7599
```

```
L/A

LOCATE/AZI
   36   112        238.6000   275     31    26.0
PT.    112      Y=      -4761.7947      X=       -165.2679
<CR>


L/A

LOCATE/AZI
    5    37        216.1800     5     31    26.0
PT.     37      Y=      -4838.3626      X=       -412.3860

L/A

LOCATE/AZI
    5    38        416.1800     5     31    26.0
PT.     38      Y=      -5037.4338      X=       -431.6381

L/A

LOCATE/AZI
   37   113        233.6000   275     31    26.0
PT.    113      Y=      -4860.8491      X=       -179.8708

L/A

LOCATE/AZI
<CR>

   38   114        237.6000   275     31    26.0
PT.    114      Y=      -5060.3053      X=       -195.1415

L/A

LOCATE/AZI
    7   515        227.4000   274      1    26.0
PT.    515      Y=      -6649.4320      X=       -317.2515

L/A

LOCATE/AZI
    7   615        227.4000   274     16    26.0
PT.    615      Y=      -6650.4216      X=       -317.3233

L/A

LOCATE/AZI
    7    39        600.0000     4     16    26.0
PT.     39      Y=      -7231.8063      X=       -588.8056

L/A
<CR>


LOCATE/AZI
   39   116        226.2000   274     16    26.0
PT.    116      Y=      -7248.6637      X=       -363.2346
```

```
L/A

LOCATE/AZI
     7     40          800.0000       4      16    26.0
PT.     40       Y=       -7431.2502        X=        -603.7105

L/A

LOCATE/AZI
    40    117          226.1000     274      16    26.0
PT.    117       Y=       -7448.1001        X=        -378.2392

L/A

LOCATE/AZI
     7     41         1627.0000       4      16    26.0
PT.     41       Y=       -8255.9505        X=        -665.3421
<CR>


L/A

LOCATE/AZI
    41    118          224.2000     274      16    26.0
PT.    118       Y=       -8272.6588        X=        -441.7656

L/A

LOCATE/AZI
     8     42           30.2300       3       1    26.0
PT.     42       Y=       -8358.9354        X=        -672.3771

L/A

LOCATE/AZI
    42    801            1.0167     273      39    14.0
PT.    801       Y=       -8359.0002        X=        -671.3625

L/A

LOCATE/AZI
<CR>

   801    802            6.0000     183      39    14.0
PT.    802       Y=       -8353.0124        X=        -670.9801

L/A

LOCATE/AZI
   802    902            1.0000     273      30    14.0
PT.    902       Y=       -8353.0735        X=        -669.9819

L/A

LOCATE/AZI
   902    119          228.1700     273      39    14.0
PT.    119       Y=       -8367.6145        X=        -442.2758

L/A
```

```
LOCATE/AZI
  119   120        112.0000      3     39    14.0
PT.   120      Y=      -8479.3868      X=       -449.4134

L/A
<CR>


LOCATE/AZI
    8    43        228.0000      3      1    26.0
PT.    43      Y=      -8556.4300      X=       -682.8099

L/A

LOCATE/AZI
   43   121        222.8000    273      1    26.0
PT.   121      Y=      -8568.1832      X=       -460.3201

L/A

LOCATE/AZI
    8    44        300.0000      3      1    26.0
PT.    44      Y=      -8628.3297      X=       -686.6081

L/A

LOCATE/AZI
   44   122        219.8000    273      1    26.0
PT.   122      Y=      -8639.9247      X=       -467.1141
<CR>


L/A

LOCATE/AZI
    8    45        900.0000      3      1    26.0
PT.    45      Y=      -9227.4943      X=       -718.2595

L/A

LOCATE/AZI
   45   123        207.6000    273      1    26.0
PT.   123      Y=      -9238.4457      X=       -510.9486

L/A

LOCATE/AZI
    8    46       1000.0000      3      1    26.0
PT.    46      Y=      -9327.3551      X=       -723.5348

L/A

LOCATE/AZI
<CR>

   46   124        212.1000    273      1    26.0
PT.   124      Y=      -9338.5438      X=       -511.7301

L/A
```

```
LOCATE/AZI
     9    125          215.8000    273       1    26.0
PT.    125       Y=      -9698.2377       X=       -527.0261

L/A

LOCATE/AZI
    10     47           38.6600      4      31    26.0
PT.     47       Y=     -10115.8575       X=       -779.9002

L/A

LOCATE/AZI
    47    126          222.5000    274      31    26.0
PT.    126       Y=     -10133.4071       X=       -558.0934

L/A
<CR>


LOCATE/AZI
    10     48         1438.6600      4      31    26.0
PT.     48       Y=     -11511.4959       X=       -890.3250

L/A

LOCATE/AZI
    48    524          217.0000    274      31    26.0
PT.    524       Y=     -11528.6117       X=       -674.0010

L/A

LOCATE/AZI
    11     49          100.0000      3      56    26.0
PT.     49       Y=     -11710.9479       X=       -905.0846

L/A

LOCATE/AZI
    49    624          219.5000    273      56    26.0
PT.    624       Y=     -11726.0322       X=       -686.1035
<CR>


L/A

LOCATE/AZI
    11     50          300.0000      3      56    26.0
PT.     50       Y=     -11910.4751       X=       -918.8289

L/A

LOCATE/AZI
    50    128          224.5000    273      56    26.0
PT.    128       Y=     -11925.9030       X=       -694.8597

L/A

LOCATE/AZI
    11     51          500.0000      3      56    26.0
```

```
PT.     51      Y=     -12110.0023      X=       -932.5732

L/A

LOCATE/AZI
<CR>

    51    129         232.0000    273     56    26.0
PT.    129      Y=     -12125.9456      X=       -701.1217

L/A

LOCATE/AZI
    11     52       1187.0000      3     56    26.0
PT.     52      Y=     -12795.3781      X=       -979.7849

L/A

LOCATE/AZI
    52    130         232.0000    273     56    26.0
PT.    130      Y=     -12811.3215      X=       -748.3334

P/I

POINTS/INT
   106    105    506    507    606
PT.    106      Y=      -1258.3537      X=        105.9224

P/I
<CR>


POINTS/INT
   107    106    507    108    607
PT.    107      Y=      -2148.5367      X=         36.1159

P/I

POINTS/INT
   111    110    511    112    611
PT.    111      Y=      -3504.7500      X=        -67.6338

P/I

POINTS/INT
   115    114    515    116    615
PT.    115      Y=      -6606.6709      X=       -313.9657

P/I

POINTS/INT
   127    126    524    624    128
<CR>

PT.    127      Y=     -11616.5668      X=       -681.3080

I/A

INVERSE/AZ
FROM   102 TO   103, DIST =        636.7705
```

```
AZIMUTH =     4  47  31.0

I/A

INVERSE/AZ
FROM  103 TO  104, DIST =          34.3171
AZIMUTH =  321  18   8.0

I/A

INVERSE/AZ
FROM  104 TO  105, DIST =         144.0000
AZIMUTH =    6  18   8.0

I/A
<CR>


INVERSE/AZ
FROM  105 TO  106, DIST =          33.8515
AZIMUTH =   94  18   8.0

I/A

INVERSE/AZ
FROM  106 TO  107, DIST =         892.9159
AZIMUTH =    4  29   1.9

I/A

INVERSE/AZ
FROM  107 TO  108, DIST =         517.0223
AZIMUTH =    4  17  59.3

I/A

INVERSE/AZ
FROM  108 TO  109, DIST =         200.0272
AZIMUTH =    3  31  55.0
<CR>


I/A

INVERSE/AZ
FROM  109 TO  110, DIST =         400.0004
AZIMUTH =    4  23  28.6

I/A

INVERSE/AZ
FROM  110 TO  111, DIST =         243.1732
AZIMUTH =    5  11  57.2

I/A

INVERSE/AZ
FROM  111 TO  112, DIST =        1260.8307
AZIMUTH =    4  26  28.4
```

```
I/A

INVERSE/AZ
<CR>

FROM  112 TO  113, DIST =        100.1249
AZIMUTH =     8  23  10.7

I/A

INVERSE/AZ
FROM  113 TO  114, DIST =        200.0400
AZIMUTH =     4  22  41.3

I/A

INVERSE/AZ
FROM  114 TO  115, DIST =       1550.9242
AZIMUTH =     4  23  38.5

I/A

INVERSE/AZ
FROM  115 TO  116, DIST =        643.8805
AZIMUTH =     4  23  18.5

I/A
<CR>


INVERSE/AZ
FROM  116 TO  117, DIST =        200.0000
AZIMUTH =     4  18   9.1

I/A

INVERSE/AZ
FROM  117 TO  118, DIST =        827.0022
AZIMUTH =     4  24  19.9

I/A

INVERSE/AZ
FROM  118 TO  119, DIST =         94.9571
AZIMUTH =     0  18  28.3

I/A

INVERSE/AZ
FROM  119 TO  120, DIST =        112.0000
AZIMUTH =     3  39  14.0
<CR>


I/A

INVERSE/AZ
FROM  120 TO  121, DIST =         89.4636
AZIMUTH =     7   0   8.9
```

```
I/A

INVERSE/AZ
FROM  121 TO  122, DIST =        72.0625
AZIMUTH =    5  24  35.4

I/A

INVERSE/AZ
FROM  122 TO  123, DIST =       600.1240
AZIMUTH =    4  11  19.5

I/A

INVERSE/AZ
<CR>

FROM  123 TO  124, DIST =       100.1012
AZIMUTH =    0  26  50.4

I/A

INVERSE/AZ
FROM  124 TO  125, DIST =       360.0190
AZIMUTH =    2  26   6.1

I/A

INVERSE/AZ
FROM  125 TO  126, DIST =       436.2769
AZIMUTH =    4   5    .6

I/A

INVERSE/AZ
FROM  126 TO  127, DIST =      1488.2690
AZIMUTH =    4  44  56.3

I/A
<CR>


INVERSE/AZ
FROM  127 TO  128, DIST =       309.6329
AZIMUTH =    2  30  30.5

I/A

INVERSE/AZ
FROM  128 TO  129, DIST =       200.1406
AZIMUTH =    1  47  34.7

I/A

INVERSE/AZ
FROM  129 TO  130, DIST =       687.0000
AZIMUTH =    3  56  26.0

END
DO YOU HAVE MORE DATA TO RUN?
```

```
(Ø NO, 1 YES )
=Ø
END GCOGO
```

```
10 CLEAR
20 1 999
30 STORE
40 1
50 1 0.0 0.0
60 L/A
70 1 2 878.31 4 47 31
80 2 3 1261.19 4 18 08
90 3 4 1354.76 4 28 38
100 4 5 1145.76 5 54 11
110 5 6 422.96 5 31 26
120 6 7 1593.22 4 01 26
130 7 8 1700 4 16 26
140 8 9 1360 3 01 26
150 9 10 391.97 5 01 26
160 10 11 1538.66 4 31 26
170 11 12 1325 3 56 26
180 1 31 439.2 4 47 31
190 31 102 224.7 274 47 31
200 102 103 636.7705 4 47 31
210 103 104 34.3171 321 18 08
220 104 105 144 6 18 08
230 105 506 100 94 18 08
240 2 32 377.89 4 18 08
250 32 606 207.5 274 18 08
260 3 507 204.7 274 18 08
270 3 607 204.7 274 28 38
280 3 33 516.7 4 28 38
290 33 108 205.6 274 28 38
300 3 34 716.7 4 28 38
310 34 109 209.6 274 28 38
320 3 35 1116.7 4 28 38
330 35 110 210.2 274 28 38
340 4 511 207.2 274 28 38
350 4 611 207.2 275 54 11
360 5 36 116.18 5 31 26
370 36 112 238.6 275 31 26
380 5 37 216.18 5 31 26
390 5 38 416.18 5 31 26
400 37 113 233.6 275 31 26
410 38 114 237.6 275 31 26
420 7 515 227.4 274 01 26
430 7 615 227.4 274 16 26
440 7 39 600 4 16 26
450 39 116 226.2 274 16 26
460 7 40 800 4 16 26
470 40 117 229.8 274 16 26
480 7 40 1627 4 16 26
490 40 118 228.1 274 16 26
500 8 41 228 3 01 26
510 41 119 221.2 273 01 26
520 8 42 900 3 01 26
530 42 120 207.6 273 01 26
540 8 43 1000 3 01 26
550 43 121 212.1 273 01 26
560 9 122 215.8 273 01 26
570 10 44 38.66 4 31 26
580 44 123 222.5 274 31 26
590 10 45 1438.66 4 31 26
600 45 524 217 274 31 26
```

ORLEAN SIDE
FLOODWALL ALIGNMENT.

FOR Alignment at VET. BLVD. SEE Run #2

Pt.1 sta. 541+43.80
Pt.2 550+22.11
Pt.3 sta. 562+83.30
Pt.4 sta. 576+38.06
Pt.5 sta 587+83.82
Pt.6 sta. 592+06.78
Pt.7 sta. 608+00.00
Pt.8 sta 625+00.00
Pt.9 sta. 638+60.00
Pt.10 sta. 642+51.97 / sta 642+61.34
Pt.11 sta 658+00.00
Pt.12 sta. 671+25.00

21. 545+83

32. sta. 554+00

33. sta. 568+00

34 sta. 570+00

35 sta. 574+00

511 } → sta. 578+45.26
611 }

36 sta. 589+00

37 sta. 590+00

38 sta. 592+00

39 sta. 614+00

115

225.5

226.2

227.1

608+00
1627

223

225.2

219 222.8

204 O.K as is ← 627+28

sta.

add
8 600 300 30126
600 601 219.80 273 0126

sta. 657

```
610 11 46 100 3 56 26
620 46 624 219.5 273 56 26
630 11 47 300 3 56 26
640 47 125 224.5 273 56 26
650 11 48 500 3 56 26
660 48 126 235 273 56 26
670 P/I
680 106 105 506 507 606
690 107 106 507 108 607
700 111 110 511 112 611
710 115 114 515 116 615
720 124 123 524 624 125
730 I/A
740 102 103
750 103 104
760 104 105
770 105 106
780 106 107
790 107 108
800 108 109
810 109 110
820 110 111
830 111 112
840 112 113
850 113 114
860 114 115
870 115 116
880 116 117
890 116 118
900 118 119
910 119 120
920 120 121
930 121 122
940 122 123
950 123 124
960 124 125
970 125 126
980 END
```

to be revised as shown

661 11 49 1187 3 56 26

662 49 127 225 273 56 26

126 127

```
DESKTOP

C:\ (for help type HELP)>DESKTOP

C:\GCOGO (for help type HELP)>ECHO OFF
                          ********************************
                          *  CORPS PROGRAM  #  U0002    *
                          *  MS-FORTRAN 77  # 86/01/01  *
                          ********************************



PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 13:40:47    --04-28-88
                      - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED NOV 1981

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1

EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=A:ORLINE
<CR>

<CR>

CLEAR

BETWEEN POINTS      1  AND   999
STORE
L/A
LOCATE/AZI
    1     2        878.3100     4    47   31.0
PT.     2     Y=       -875.2400     X=        -73.3721
L/A
LOCATE/AZI
    2     3       1261.1900     4    18    8.0
PT.     3     Y=      -2132.8762     X=       -167.9834
L/A
LOCATE/AZI
    3     4       1354.7600     4    28   38.0
PT.     4     Y=      -3483.5021     X=       -273.7398
<CR>

L/A
LOCATE/AZI
    4     5       1145.7600     5    54   11.0
```

```
PT.      5       Y=       -4623.1865       X=        -391.5763
L/A
LOCATE/AZI
     5      6          422.9600       5      31     26.0
PT.      6       Y=       -5044.1823       X=        -432.2908
L/A
LOCATE/AZI
     6      7         1593.2200       4       1     26.0
PT.      7       Y=       -6633.4748       X=        -544.0910
L/A
LOCATE/AZI
     7      8         1700.0000       4      16     26.0
PT.      8       Y=       -8328.7475       X=        -670.7824
<CR>

L/A
LOCATE/AZI
     8      9         1360.0000       3       1     26.0
PT.      9       Y=       -9686.8538       X=        -742.5256
L/A
LOCATE/AZI
     9     10          391.9700       5       1     26.0
PT.     10       Y=      -10077.3180       X=        -776.8509
L/A
LOCATE/AZI
    10     11         1538.6600       4      31     26.0
PT.     11       Y=      -11611.1843       X=        -898.2125
L/A
LOCATE/AZI
    11     12         1325.0000       3      56     26.0
PT.     12       Y=      -12933.0519       X=        -989.2685
<CR>

L/A
LOCATE/AZI
     1     31          439.2000       4      47     31.0
PT.     31       Y=        -437.6648       X=         -36.6898
L/A
LOCATE/AZI
    31    102          224.7000     274      47     31.0
PT.    102       Y=        -456.4357       X=         187.2248
L/A
LOCATE/AZI
   102    103          636.7705       4      47     31.0
PT.    103       Y=       -1090.9805       X=         134.0304
L/A
LOCATE/AZI
   103    104           34.3171     321      18      8.0
PT.    104       Y=       -1117.7634       X=         155.4858
<CR>

L/A
LOCATE/AZI
   104    105          144.0000       6      18      8.0
PT.    105       Y=       -1260.8932       X=         139.6785
L/A
LOCATE/AZI
   105    506          100.0000      94      18      8.0
PT.    506       Y=       -1253.3914       X=          39.9603
L/A
```

```
LOCATE/AZI
     2     32          377.8900       4      18      8.0
PT.      32       Y=       -1252.0652       X=         -101.7205
L/A
LOCATE/AZI
    32    606          207.5000     274      18      8.0
PT.     606       Y=       -1267.6312       X=          105.1949
<CR>

L/A
LOCATE/AZI
     3    507          204.7000     274      18      8.0
PT.     507       Y=       -2148.2322       X=           36.1398
L/A
LOCATE/AZI
     3    607          204.7000     274      28     38.0
PT.     607       Y=       -2148.8556       X=           36.0919
L/A
LOCATE/AZI
     3     33          516.7000       4      28     38.0
PT.      33       Y=       -2647.9995       X=         -208.3185
L/A
LOCATE/AZI
    33    108          205.6000     274      28     38.0
PT.     108       Y=       -2664.0491       X=           -3.3459
<CR>

L/A
LOCATE/AZI
     3     34          716.7000       4      28     38.0
PT.      34       Y=       -2847.3892       X=         -223.9311
L/A
LOCATE/AZI
    34    109          209.6000     274      28     38.0
PT.     109       Y=       -2863.7511       X=          -14.9707
L/A
LOCATE/AZI
     3     35         1116.7000       4      28     38.0
PT.      35       Y=       -3246.1685       X=         -255.1562
L/A
LOCATE/AZI
    35    110          210.2000     274      28     38.0
PT.     110       Y=       -3262.5773       X=          -45.5976
<CR>

L/A
LOCATE/AZI
     4    511          207.2000     274      28     38.0
PT.     511       Y=       -3499.6766       X=          -67.1721
L/A
LOCATE/AZI
     4    611          207.2000     275      54     11.0
PT.     611       Y=       -3504.8116       X=          -67.6385
L/A
LOCATE/AZI
     5     36          116.1800       5      31     26.0
PT.      36       Y=       -4738.8270       X=         -402.7599
L/A
LOCATE/AZI
    36    112          238.6000     275      31     26.0
```

```
PT.    112      Y=      -4761.7947      X=       -165.2679
<CR>

L/A
LOCATE/AZI
     5    37         216.1800      5     31    26.0
PT.     37      Y=      -4838.3626      X=       -412.3860
L/A
LOCATE/AZI
     5    38         416.1800      5     31    26.0
PT.     38      Y=      -5037.4338      X=       -431.6381
L/A
LOCATE/AZI
    37   113         233.6000    275     31    26.0
PT.    113      Y=      -4860.8491      X=       -179.8708
L/A
LOCATE/AZI
    38   114         237.6000    275     31    26.0
PT.    114      Y=      -5060.3053      X=       -195.1415
<CR>

L/A
LOCATE/AZI
     7   515         227.4000    274      1    26.0
PT.    515      Y=      -6649.4320      X=       -317.2515
L/A
LOCATE/AZI
     7   615         227.4000    274     16    26.0
PT.    615      Y=      -6650.4216      X=       -317.3233
L/A
LOCATE/AZI
     7    39         600.0000      4     16    26.0
PT.     39      Y=      -7231.8063      X=       -588.8056
L/A
LOCATE/AZI
    39   116         226.2000    274     16    26.0
PT.    116      Y=      -7248.6637      X=       -363.2346
<CR>

L/A
LOCATE/AZI
     7    40         800.0000      4     16    26.0
PT.     40      Y=      -7431.2502      X=       -603.7105
L/A
LOCATE/AZI
    40   117         229.8000    274     16    26.0
PT.    117      Y=      -7448.3758      X=       -374.5495
L/A
LOCATE/AZI
     7    41        1627.0000      4     16    26.0
PT.     41      Y=      -8255.9505      X=       -665.3421
L/A
LOCATE/AZI
    41   118         228.1000    274     16    26.0
PT.    118      Y=      -8272.9494      X=       -437.8764
<CR>

L/A
LOCATE/AZI
     8    41         228.0000      3      1    26.0
```

```
PT.     41      Y=      -8556.4300      X=       -682.8099
L/A
LOCATE/AZI
    41   119        221.2600   273      1    26.0
PT.    119      Y=      -8568.1019      X=       -461.8580
L/A
LOCATE/AZI
     8    42        900.0000     3      1    26.0
PT.     42      Y=      -9227.4943      X=       -718.2595
L/A
LOCATE/AZI
    42   120        207.6000   273      1    26.0
PT.    120      Y=      -9238.4457      X=       -510.9486
<CR>

L/A
LOCATE/AZI
     8    43       1000.0000     3      1    26.0
PT.     43      Y=      -9327.3551      X=       -723.5348
L/A
LOCATE/AZI
    43   121        212.1000   273      1    26.0
PT.    121      Y=      -9338.5438      X=       -511.7301
L/A
LOCATE/AZI
     9   122        215.8000   273      1    26.0
PT.    122      Y=      -9698.2377      X=       -527.0261
L/A
LOCATE/AZI
    10    44         38.6600     4     31    26.0
PT.     44      Y=     -10115.8575      X=       -779.9002
<CR>

L/A
LOCATE/AZI
    44   123        222.5000   274     31    26.0
PT.    123      Y=     -10133.4071      X=       -558.0934
L/A
LOCATE/AZI
    10    45       1438.6600     4     31    26.0
PT.     45      Y=     -11511.4959      X=       -890.3250
L/A
LOCATE/AZI
    45   524        217.0000   274     31    26.0
PT.    524      Y=     -11528.6117      X=       -674.0010
L/A
LOCATE/AZI
    11    46        100.0000     3     56    26.0
PT.     46      Y=     -11710.9479      X=       -905.0846
<CR>

L/A
LOCATE/AZI
    46   624        219.5000   273     56    26.0
PT.    624      Y=     -11726.0322      X=       -686.1035
L/A
LOCATE/AZI
    11    47        300.0000     3     56    26.0
PT.     47      Y=     -11910.4751      X=       -918.8289
L/A
```

```
LOCATE/AZI
   47   125        224.5000   273     56    26.0
PT.   125      Y=     -11925.9030      X=       -694.8597
L/A
LOCATE/AZI
   11    48        500.0000     3     56    26.0
PT.    48      Y=     -12110.0023      X=       -932.5732
<CR>

L/A
LOCATE/AZI
   48   126        235.0000   273     56    26.0
PT.   126      Y=     -12126.1518      X=       -698.1288
P/I
POINTS/INT
  106   105    506    507   606
PT.   106      Y=      -1258.3537      X=        105.9224
P/I
POINTS/INT
  107   106    507    108   607
PT.   107      Y=      -2148.3042      X=         36.1342
P/I
POINTS/INT
  111   110    511    112   611
PT.   111      Y=      -3504.7500      X=        -67.6338
<CR>

P/I
POINTS/INT
  115   114    515    116   615
PT.   115      Y=      -6606.6709      X=       -313.9657
P/I
POINTS/INT
  124   123    524    624   125
PT.   124      Y=     -11616.5668      X=       -681.3080
I/A
INVERSE/AZ
FROM  102 TO  103, DIST =        636.7705
AZIMUTH =     4  47  31.0
I/A
INVERSE/AZ
FROM  103 TO  104, DIST =         34.3171
AZIMUTH =   321  18   8.0
<CR>

I/A
INVERSE/AZ
FROM  104 TO  105, DIST =        144.0000
AZIMUTH =     6  18   8.0
I/A
INVERSE/AZ
FROM  105 TO  106, DIST =         33.8515
AZIMUTH =    94  18   8.0
I/A
INVERSE/AZ
FROM  106 TO  107, DIST =        892.6826
AZIMUTH =     4  29   1.9
I/A
INVERSE/AZ
FROM  107 TO  108, DIST =        517.2538
```

```
AZIMUTH =     4  22  38.7
<CR>

I/A
INVERSE/AZ
FROM  108 TO  109, DIST =        200.0400
AZIMUTH =     3  19  53.3
I/A
INVERSE/AZ
FROM  109 TO  110, DIST =        400.0004
AZIMUTH =     4  23  28.6
I/A
INVERSE/AZ
FROM  110 TO  111, DIST =        243.1732
AZIMUTH =     5  11  57.2
I/A
INVERSE/AZ
FROM  111 TO  112, DIST =       1260.8307
AZIMUTH =     4  26  28.4
<CR>

I/A
INVERSE/AZ
FROM  112 TO  113, DIST =        100.1249
AZIMUTH =     8  23  10.7
I/A
INVERSE/AZ
FROM  113 TO  114, DIST =        200.0400
AZIMUTH =     4  22  41.3
I/A
INVERSE/AZ
FROM  114 TO  115, DIST =       1550.9242
AZIMUTH =     4  23  38.5
I/A
INVERSE/AZ
FROM  115 TO  116, DIST =        643.8805
AZIMUTH =     4  23  18.5
<CR>

I/A
INVERSE/AZ
FROM  116 TO  117, DIST =        200.0324
AZIMUTH =     3  14  33.7
I/A
INVERSE/AZ
FROM  117 TO  118, DIST =        827.0017
AZIMUTH =     4  23  30.0
I/A
INVERSE/AZ
FROM  118 TO  119, DIST =        296.1252
AZIMUTH =     4  38  42.6
I/A
INVERSE/AZ
FROM  119 TO  120, DIST =        672.1388
AZIMUTH =     4  11  18.3
<CR>

I/A
INVERSE/AZ
FROM  120 TO  121, DIST =        100.1012
```

```
AZIMUTH =    0  26  50.4
I/A
INVERSE/AZ
FROM  121 TO  122, DIST =        360.0190
AZIMUTH =    2  26   6.1
I/A
INVERSE/AZ
FROM  122 TO  123, DIST =        436.2769
AZIMUTH =    4   5    .6
I/A
INVERSE/AZ
FROM  123 TO  124, DIST =       1488.2690
AZIMUTH =    4  44  56.3
<CR>

I/A
INVERSE/AZ
FROM  124 TO  125, DIST =        309.6329
AZIMUTH =    2  30  30.5
I/A
INVERSE/AZ
FROM  125 TO  126, DIST =        200.2754
AZIMUTH =    0  56   7.0
END
DO YOU HAVE MORE DATA TO RUN?
(0 NO, 1 YES )
=0
END GCOGO


C:\ (for help type HELP)>
```

A DESKTOP

Run #2
Fldwall — tying to Vet. Blvd Br.

```
10 COMMENT
20 PT 1 STA 616+00 B/L
25 COMMENT
26 PT 2 STA 624+27 B/L
27 COMMENT
30 PT 3 STA 625+00 B/L
35 COMMENT
40 PT 4 STA 625+30.23 B/L & N.GTRLN W.BOUND VETHGWY
45 COMMENT
50 PT 5 STA 627+00 B/L
55 COMMENT
60 PT 6 STA 627+28 B/L
70 SKIP
80 2
90 COMMENT
100 PTS 101 THRU 199 WALL LINE ON JEFF SIDE
105 COMMENT
110 PTS 201 THRU 299 WALL LINE ON ORLEANS SIDE
115 COMMENT
120 PTS 301 THRU 399 BRIDGE
130 SKIP
140 2
150 CLEAR
160 1 999
170 STORE
175 1
180 1 0 0
190 L/A
200 1 2 827 4 16 26
205 2 3 73 4 16 26
210 3 4 30.23 3 01 26
220 3 5 200 3 01 26
230 3 6 228 3 01 26
240 2 101 11.8 274 16 26
250 4 301 1.0167 273 39 14
260 301 302 6 183 39 14
270 302 102 1 273 30 14
280 2 201 227 274 16 26
300 102 202 228.17 273 39 14
310 102 103 112 3 39 14
320 202 203 112 3 39 14
330 5 104 3.3 273 01 26
340 6 204 221.26 273 01 26
350 I/A
360 1 2
370 2 3
380 3 4
390 4 5
395 5 6
400 101 102
410 102 103
420 103 104
430 201 202
440 202 203
450 203 204
460 END
```

pt. 4

301 @ Gutterline & sheet pile

225.2

42-7

```
C:\GCOGO (for help type HELP)>ECHO OFF
                          ********************************
                          *  CORPS PROGRAM  #  U0002     *
                          *  MS-FORTRAN 77  # 86/01/01  *
                          ********************************


PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 14:07:22    --04-26-8
                      - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED NOV 1981

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1

EXPONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
PROBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=A:VTRNBR
<CR>

<CR>

COMMENT
20 PT 1 STA 616+00 B/L
COMMENT
26 PT 2 STA 624+27 B/L
COMMENT
30 PT 3 STA 625+00 B/L
COMMENT
40 PT 4 STA 625+30.23 B/L & N.GTRLN W.BOUND VETHGWY
COMMENT
50 PT 5 STA 627+00 B/L
COMMENT
60 PT 6 STA 627+28 B/L
SKIP


COMMENT
100 PTS 101 THRU 199 WALL LINE ON JEFF SIDE
COMMENT
110 PTS 201 THRU 299 WALL LINE ON ORLEANS SIDE
COMMENT
120 PTS 301 THRU 399 BRIDGE
SKIP
<CR>
```

```
CLEAR

BETWEEN POINTS      1   AND    999
STORE
L/A
LOCATE/AZI
     1      2          827.0000       4      16    26.0
PT.       2       Y=        -824.7003       X=         -61.6316
L/A
LOCATE/AZI
     2      3           73.0000       4      16    26.0
PT.       3       Y=        -897.4973       X=         -67.0719
L/A
LOCATE/AZI
<CR>

     3      4           30.2300       3       1    26.0
PT.       4       Y=        -927.6852       X=         -68.6666
L/A
LOCATE/AZI
     3      5          200.0000       3       1    26.0
PT.       5       Y=       -1097.2188       X=         -77.6224
L/A
LOCATE/AZI
     3      6          228.0000       3       1    26.0
PT.       6       Y=       -1125.1798       X=         -79.0995
L/A
LOCATE/AZI
     2    101           11.8000     274      16    26.0
PT.     101       Y=        -825.5797       X=         -49.8645
L/A
LOCATE/AZI
<CR>

     4    301            1.0167     273      39    14.0
PT.     301       Y=        -927.7500       X=         -67.6520
L/A
LOCATE/AZI
   301    302            6.0000     183      39    14.0
PT.     302       Y=        -921.7622       X=         -67.2696
L/A
LOCATE/AZI
   302    102            1.0000     273      30    14.0
PT.     102       Y=        -921.8233       X=         -66.2715
L/A
LOCATE/AZI
     2    201          227.0000     274      16    26.0
PT.     201       Y=        -841.6173       X=         164.7371
L/A
LOCATE/AZI
<CR>

   102    202          228.1700     273      39    14.0
PT.     202       Y=        -936.3643       X=         161.4347
L/A
LOCATE/AZI
   102    103          112.0000       3      39    14.0
PT.     103       Y=       -1033.5956       X=         -73.4092
```

```
L/A
LOCATE/AZI
  202   203        112.0000      3     39    14.0
PT.   203      Y=      -1048.1367      X=        154.2970
L/A
LOCATE/AZI
    5   104          3.3000    273      1    26.0
PT.   104      Y=      -1097.3929      X=        -74.3270
L/A
LOCATE/AZI
<CR>

    6   204        221.2600    273      1    26.0
PT.   204      Y=      -1136.8518      X=        141.8525
I/A
INVERSE/AZ
FROM    1 TO    2, DIST =        827.0000
AZIMUTH =     4   16   26.0
I/A
INVERSE/AZ
FROM    2 TO    3, DIST =         73.0000
AZIMUTH =     4   16   26.0
I/A
INVERSE/AZ
FROM    3 TO    4, DIST =         30.2300
AZIMUTH =     3    1   26.0
I/A
INVERSE/AZ
<CR>

FROM    4 TO    5, DIST =        169.7700
AZIMUTH =     3    1   26.0
I/A
INVERSE/AZ
FROM    5 TO    6, DIST =         28.0000
AZIMUTH =     3    1   26.0
I/A
INVERSE/AZ
FROM  101 TO  102, DIST =         97.6321
AZIMUTH =     9   40   28.0
I/A
INVERSE/AZ
FROM  102 TO  103, DIST =        112.0000
AZIMUTH =     3   39   14.0
I/A
INVERSE/AZ
<CR>

FROM  103 TO  104, DIST =         63.8039
AZIMUTH =     0   49   27.3
I/A
INVERSE/AZ
FROM  201 TO  202, DIST =         94.8046
AZIMUTH =     1   59   46.5
I/A
INVERSE/AZ
FROM  202 TO  203, DIST =        112.0000
AZIMUTH =     3   39   14.0
I/A
INVERSE/AZ
```

```
FROM  203 TO  204, DIST =        89.5837
AZIMUTH =    7  59   6.4
END
DO YOU HAVE MORE DATA TO RUN?
(0 NO, 1 YES )
=0
END GCOGO
```

```
PRESS SPACE OR ARROW KEYS TO SELECT - PRESS <ENTER> TO RUN        DeskTop
                                                                  APR 26,
                                                                  02:08:2
```

```
     SUPERCALC-4                          LOTUS 123

     PC-WRITE                             WINDOWS

     *** PROCOMM MENU ***                 DOS TUTORIAL

     GCOGO                                PC PAINT

     *** STRUC DESIGN MENU ***


HELP (F1) ▪ DOS COMMAND PROCESSOR (F2) ▪ EXIT MENU (ESC)
```

```
Write fault error writing device PRN
Abort, Retry, Ignore? I

C:\ (for help type HELP)>A:

A:\ (for help type HELP)>LIST VETBRG
10 COMMENT
20 PT 1 STA 625+00 B/L
30 SKIP
35 2
40 COMMENT
45 PT 2 STA 625+25.65 B/L
50 SKIP
55 2
57 COMMENT
60 PT 3 STA 625+72.92
70 SKIP
100 2
105 COMMENT
110 PT 4 STA 625+86.54
120 SKIP
130 2
135 COMMENT
140 PT 5 STA 626+33.77
150 SKIP
160 2
165 COMMENT
170 PT 6 STA 625+28.37
180 SKIP
190 2
195 COMMENT
200 PT 7 STA 625+75.62
210 SKIP
220 2
225 COMMENT
230 PT 8 STA 625+89.10
240 SKIP
250 2
255 COMMENT
260 PT 9 STA 626+36.43
270 SKIP
280 2
290 CLEAR
300 1 999
310 STORE
320 1 2                    -8328.7475    -670.7824
330 1 0.0 0.0 118          -8272.9492    -437.8764
340 L/A
350 1 2 25.65 3 01 26
360 1 3 72.92 3 01 26
370 1 4 86.54 3 01 26
380 1 5 133.77 3 01 26
390 1 6 28.37 3 01 26
450 SKIP
480 SKIP
490 PT 53 N.END/W.ABUT E.BOUND VET HGWY OFFSET 1.8733
500 PT 54 S.END/W.ABUT E.BOUND VET HGWY OFFSET 1.3273
540 SKIP
550 2
555 COMMENT
560 PT 55 N.END/E.ABUT W.BOUND VET HGWY OFFSET 228.52
570 SKIP
580 2
```

```
585 COMMENT
590 PT 56 S.END/E.ABUT W.BOUND VET HGWY OFFSET 228.11
600 SKIP
610 2
615 COMMENT
620 PT 57 N.END/E.ABUT E.BOUND VET HGWY OFFSET 227.85
630 SKIP
    2
645 COMMENT
650 PT 58 S.END/E.ABUT E.BOUND VET HGWY OFFSET 227.19
655 SKIP
657 2
660 L/A
670 2 51 2.4997 273 01 26
680 3 52 2.1152 273 01 26
690 4 53 1.8733 273 01 26
700 5 54 1.3273 273 01 26
710 6 55 228.52 273 01 26
720 7 56 228.11 273 01 26
730 8 57 227.85 273 01 26
740 9 58 227.19 273 01 26
750 I/A
760 51 52
770 51 53
780 51 54
790 55 56
800 55 57
810 55 58
820 51 55
830 52 56
820 53 57
830 54 58
840 END

A:\ (for help type HELP)>DESKTOP
```

```
Write fault error writing device PRN
Abort, Retry, Ignore? I

C:\GCOGO (for help type HELP)>ECHO OFF
                          ********************************
                          *  CORPS PROGRAM  #  U0002    *
                          *  MS-FORTRAN 77  # 86/01/01  *
                          ********************************


PROGRAM GCOGO -- USAE WATERWAYS EXPERIMENT STATION-- 09:44:51    --01-05-88
                      - CORPS SYSTEM PROGRAM U0002 -
COORDINATE GEOMETRY ANALYSIS PROGRAM  733-F3-R0 002   REVISED NOV 1981

DATA INPUT FORM --
 ENTER 0 IF FROM A DISK DATA FILE
    OR 1 IF IN RESPONSE TO QUESTIONS FROM THE TERMINAL

=0


ANGLE DATA CONVENTIONS --
   QUADRANTS   1 = NE   2 = SE   3 = SW   4 = NW
   SIGN = + TO RIGHT, - TO LEFT
   SELECT AN OPTION DEFINING AZIMUTHS ( 1=POSITIVE CLOCKWISE
   FROM SOUTH, 2=POSITIVE CLOCKWISE FROM NORTH)
=1

PONENT OVERFLOW, EXPONENT UNDERFLOW, AND DIVIDE CHECK MESSAGES
 JBABLY INDICATE INCOMPLETE DATA.

ENTER THE DATA FILE NAME.(EG: C:FNAME.EXT):
=A:VETBRG
<CR>

<CR>

COMMENT
20 PT 1 STA 625+00 B/L
SKIP


COMMENT
45 PT 2 STA 625+25.65 B/L
SKIP


COMMENT
60 PT 3 STA 625+72.92
SKIP


COMMENT
110 PT 4 STA 625+86.54
P


<CR>

COMMENT
140 PT 5 STA 626+33.77
SKIP
```

```
COMMENT
170 PT 6 STA 625+28.37
SKIP

COMMENT
200 PT 7 STA 625+75.62
SKIP

COMMENT
230 PT 8 STA 625+89.10
SKIP

<CR>

COMMENT
260 PT 9 STA 626+36.43
SKIP

CLEAR

BETWEEN POINTS      1  AND    999
STORE
L/A
LOCATE/AZI
     1      2          25.6500      3      1    26.0
PT.      2      Y=          -25.6143      X=           -1.3531
L/A
LOCATE/AZI
     1      3          72.9200      3      1    26.0
PT.      3      Y=          -72.8185      X=           -3.8467
<CR>

L/A
LOCATE/AZI
     1      4          86.5400      3      1    26.0
PT.      4      Y=          -86.4195      X=           -4.5652
L/A
LOCATE/AZI
     1      5         133.7700      3      1    26.0
PT.      5      Y=         -133.5837      X=           -7.0567
L/A
LOCATE/AZI
     1      6          28.3700      3      1    26.0
PT.      6      Y=          -28.3305      X=           -1.4966
L/A
LOCATE/AZI
     1      7          75.6200      3      1    26.0
PT.      7      Y=          -75.5147      X=           -3.9891
<CR>

L/A
LOCATE/AZI
     1      8          89.1000      3      1    26.0
PT.      8      Y=          -88.9759      X=           -4.7002
L/A
LOCATE/AZI
     1      9         136.4300      3      1    26.0
PT.      9      Y=         -136.2400      X=           -7.1970
COMMENT
440 PT 51 N.END/W.ABUT W.BOUND VET HGWY OFFSET 2.4997
```

SKIP

COMMENT
470 PT 52 S.END/W.ABUT W.BOUND VET HGWY OFFSET 2.1152
SKIP

<CR>

COMMENT
500 PT 53 N.END/W.ABUT E.BOUND VET HGWY OFFSET 1.8733
SKIP

COMMENT
530 PT 54 S.END/W.ABUT E.BOUND VET HGWY OFFSET 1.3273
SKIP

COMMENT
560 PT 55 N.END/E.ABUT W.BOUND VET HGWY OFFSET 228.52
SKIP

COMMENT
590 PT 56 S.END/E.ABUT W.BOUND VET HGWY OFFSET 228.11
SKIP

<CR>

COMMENT
650 PT 57 N.END/E.ABUT E.BOUND VET HGWY OFFSET 227.85
SKIP

COMMENT
650 PT 58 S.END/E.ABUT E.BOUND VET HGWY OFFSET 227.19
SKIP

L/A
LOCATE/AZI
2 51 2.4997 273 1 26.0
PT. 51 Y= -25.7462 X= 1.1431
L/A
LOCATE/AZI
3 52 2.1152 273 1 26.0
PT. 52 Y= -72.9300 X= -1.7345
<CR>

L/A
LOCATE/AZI
4 53 1.8733 273 1 26.0
PT. 53 Y= -86.5183 X= -2.6945
L/A
LOCATE/AZI
5 54 1.3273 273 1 26.0
PT. 54 Y= -133.6538 X= -5.7312
L/A
LOCATE/AZI
6 55 228.5200 273 1 26.0
PT. 55 Y= -40.3854 X= 226.7052
L/A
LOCATE/AZI

```
    7     56        228.1100    273      1    26.0
PT.     56      Y=        -87.5480      X=        223.8033
<CR>

L/A
LOCATE/AZI
    8     57        227.8500    273      1    26.0
        57      Y=        -100.9955      X=        222.8325
L/A
LOCATE/AZI
    9     58        227.1900    273      1    26.0
PT.     58      Y=        -148.2248      X=        219.6767
I/A
INVERSE/AZ
FROM    51 TO    52, DIST =         47.2716
AZIMUTH =     3  29  23.8
I/A
INVERSE/AZ
FROM    51 TO    53, DIST =         60.8932
AZIMUTH =     3  36  47.9
<CR>

I/A
INVERSE/AZ
FROM    51 TO    54, DIST =        108.1264
AZIMUTH =     3  38  42.6
I/A
INVERSE/AZ
FROM    55 TO    56, DIST =         47.2518
AZIMUTH =     3  31  15.8
I/A
INVERSE/AZ
FROM    55 TO    57, DIST =         60.7337
AZIMUTH =     3  39  21.5
I/A
INVERSE/AZ
FROM    55 TO    58, DIST =        108.0682
AZIMUTH =     3  43  44.6
<CR>

I/A
INVERSE/AZ
FROM    51 TO    55, DIST =        226.0367
AZIMUTH =   273  42  48.1
I/A
INVERSE/AZ
FROM    52 TO    56, DIST =        226.0109
AZIMUTH =   273  42  30.1
I/A
INVERSE/AZ
FROM    53 TO    57, DIST =        225.9912
AZIMUTH =   273  40  22.6
I/A
INVERSE/AZ
FROM    54 TO    58, DIST =        225.8784
AZIMUTH =   273  41  55.1
<CR>

E
    YOU HAVE MORE DATA TO RUN?
    NO, 1 YES )

  ) GCOGO
```

Ave. Az: 3° 36' 33"

Use 3° 39 14

Δ = 90°

Ave. Az: 273° 41' 54"

273° 39' 14"