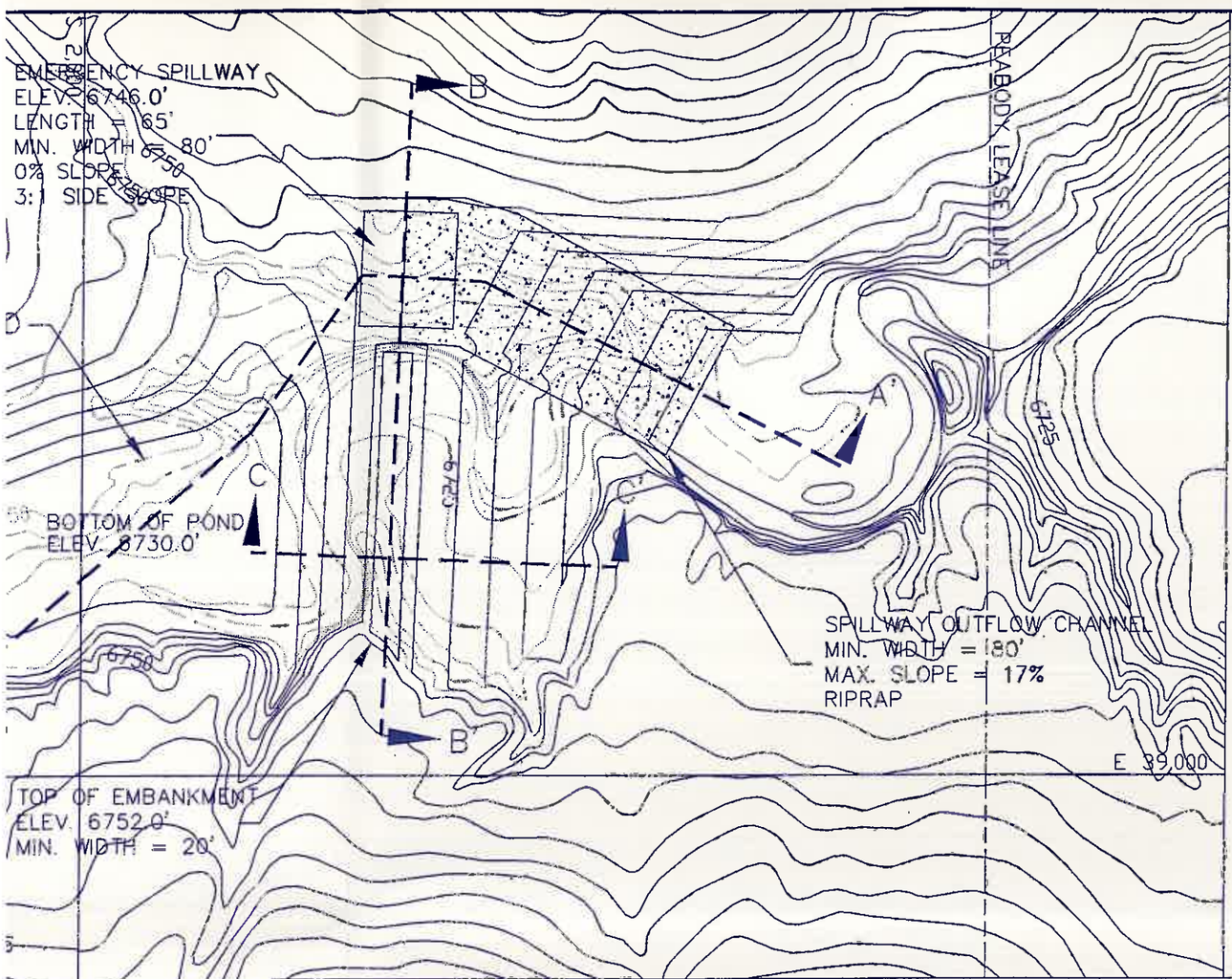
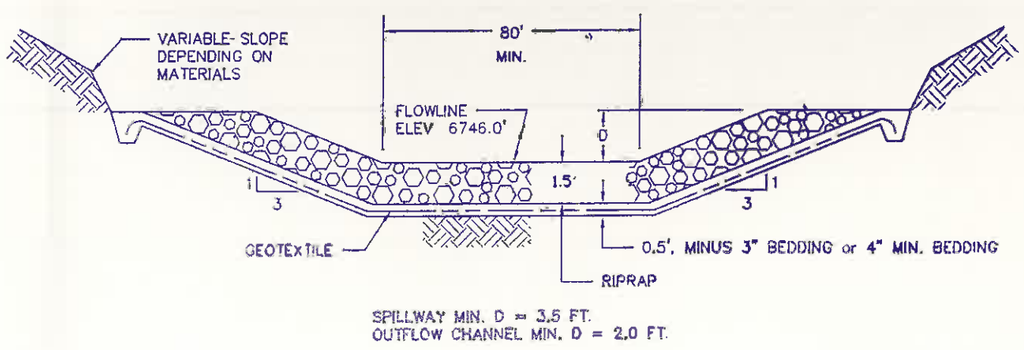


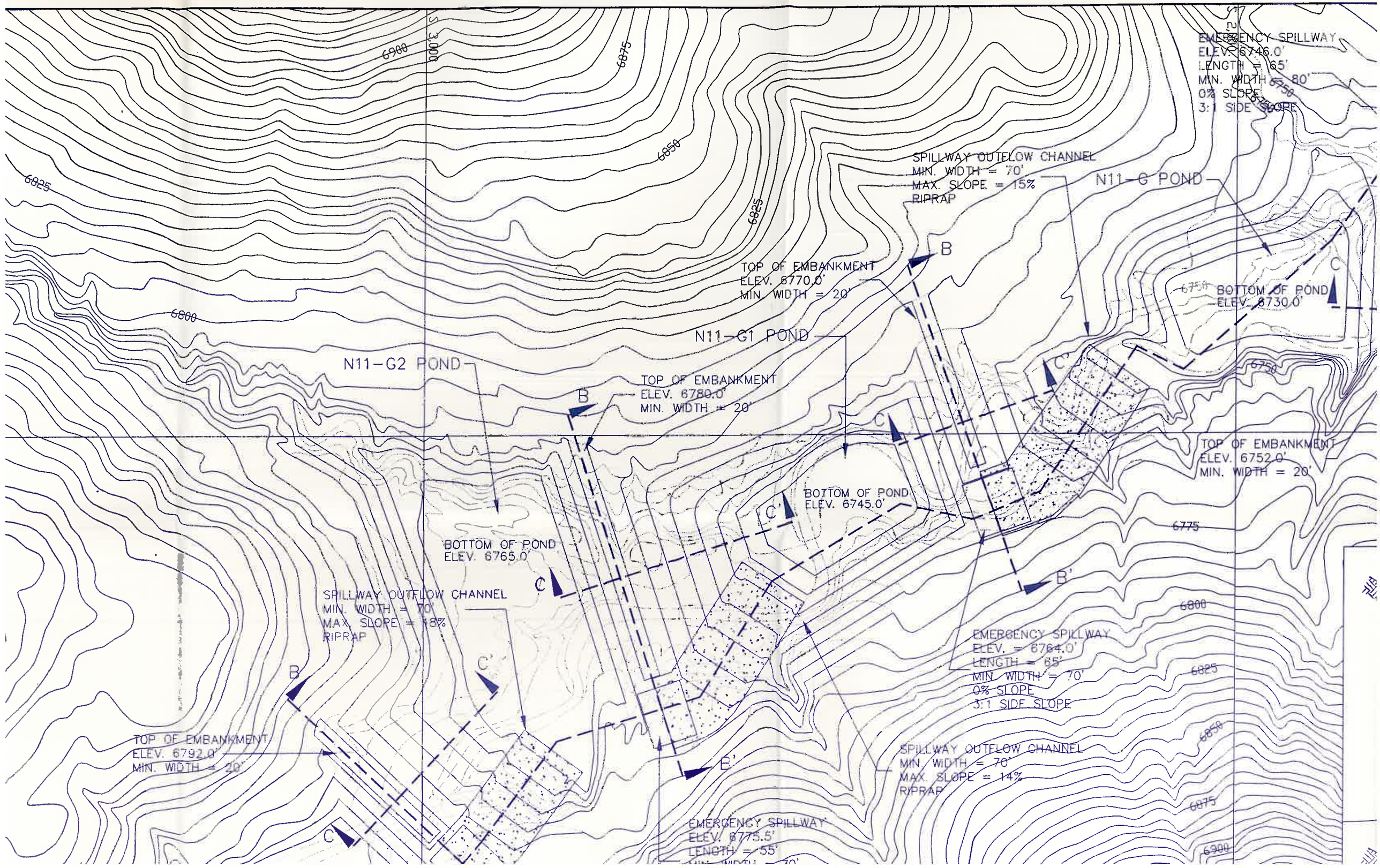


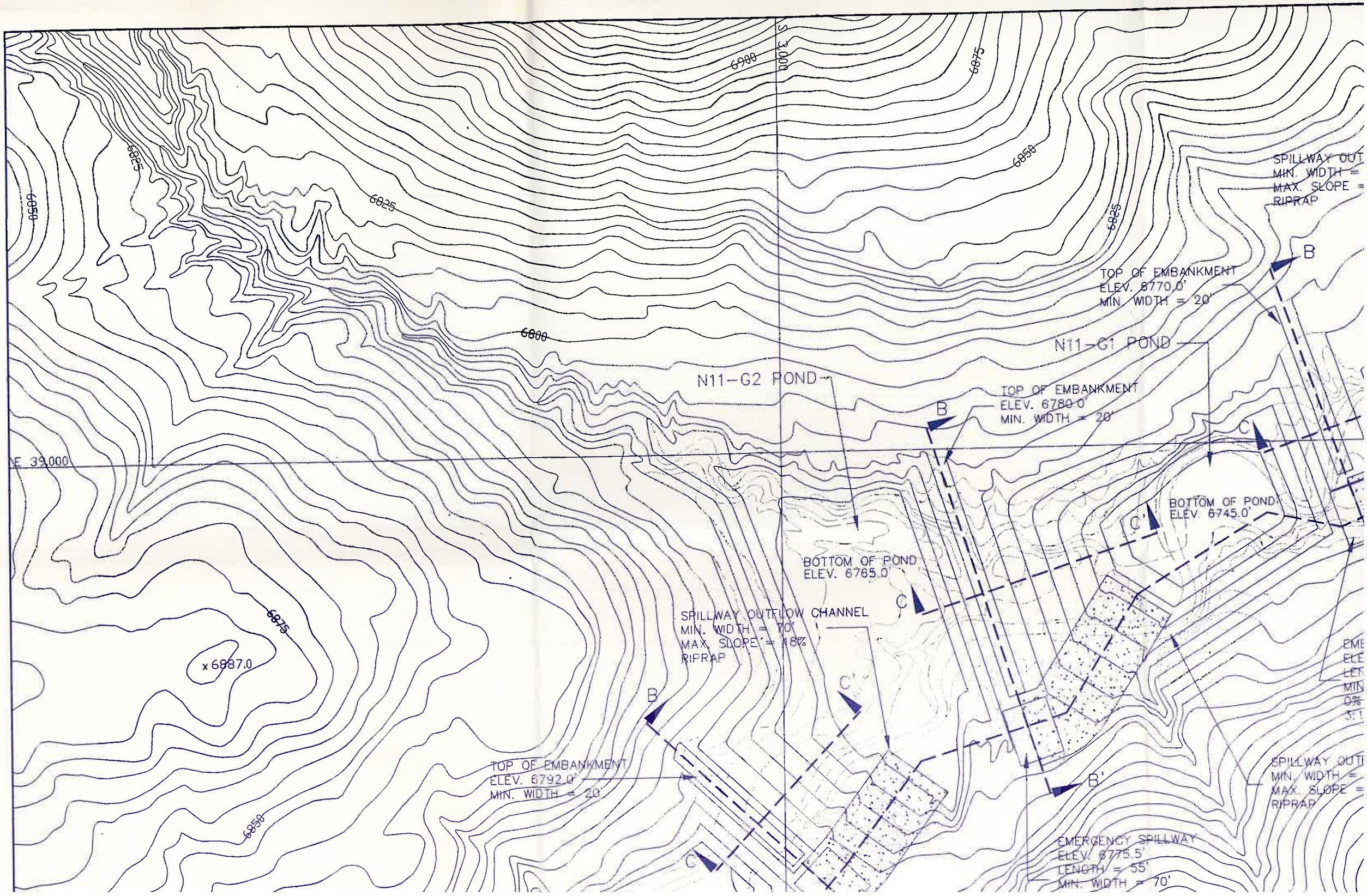
N11-G POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

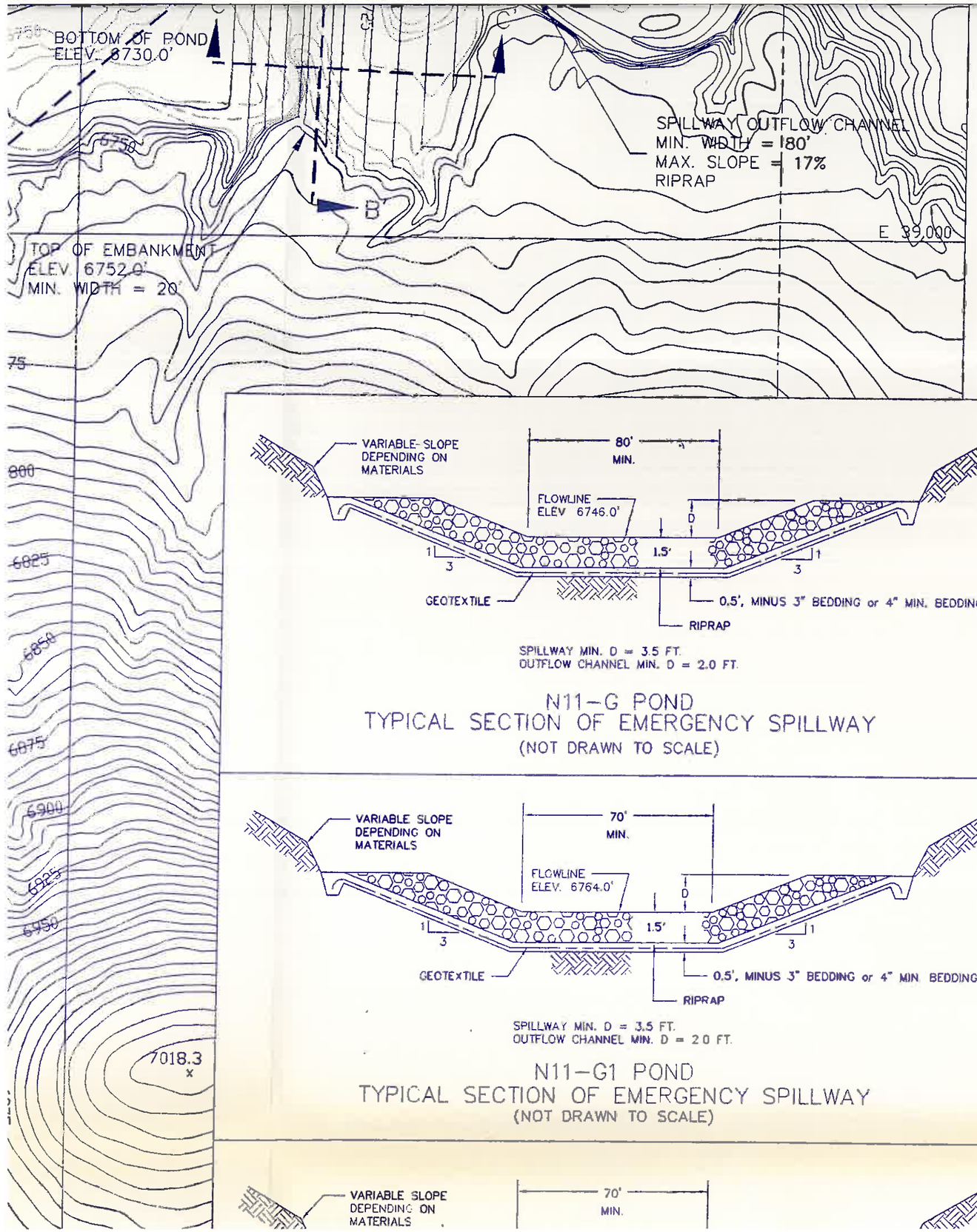
N11-G POND STAGE CAPICITY TABLE

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAP. (AC.-FT.)	TOT. CAP. (AC.-FT.)	DESCRIPTION
6730	0.00	0.56	0.00	0.00	BOTTOM OF POND
6735	5.00	1.08	4.03	4.03	
6740	10.00	1.33	6.01	10.04	
6745	15.00	1.80	7.80	17.84	
6746	16.00	1.91	1.85	19.69	EMERGENCY SPILLWAY
6750	20.00	2.36	8.53	28.22	
6752	22.00	2.65	5.01	33.23	TOP OF EMBANKMENT

N11-G1 POND STAGE CAPACITY TABLE


EMERGENCY SPILLWAY
ELEV. 6746.0'
LENGTH = 65'
MIN. WIDTH = 80'
0% SLOPE
3:1 SIDE SLOPE
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 15%
RIPRAP
N11-G POND
TOP OF EMBANKMENT
ELEV. 6770.0'
MIN. WIDTH = 20'
BOTTOM OF POND
ELEV. 6730.0'
N11-G1 POND
N11-G2 POND
TOP OF EMBANKMENT
ELEV. 6780.0'
MIN. WIDTH = 20'
TOP OF EMBANKMENT
ELEV. 6752.0'
MIN. WIDTH = 20'
BOTTOM OF POND
ELEV. 6745.0'
BOTTOM OF POND
ELEV. 6765.0'
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 18%
RIPRAP
EMERGENCY SPILLWAY
ELEV. = 6764.0'
LENGTH = 65'
MIN. WIDTH = 70'
0% SLOPE
3:1 SIDE SLOPE
TOP OF EMBANKMENT
ELEV. 6792.0'
MIN. WIDTH = 20'
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 14%
RIPRAP
EMERGENCY SPILLWAY
ELEV. 6775.5'
LENGTH = 55'
6900
6875
6850
6825
6800
6775
6750
B
B'
C
C'
E
E'


6900
6875
6850
6825
6800
6850
6825
6875
6850
6825
x 6887.0
E 39,000
N11-G2 POND
N11-G1 POND
TOP OF EMBANKMENT
ELEV. 6770.0'
MIN. WIDTH = 20'
TOP OF EMBANKMENT
ELEV. 6780.0'
MIN. WIDTH = 20'
BOTTOM OF POND
ELEV. 6745.0'
BOTTOM OF POND
ELEV. 6765.0'
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 18%
RIPRAP
TOP OF EMBANKMENT
ELEV. 6792.0'
MIN. WIDTH = 20'
EMERGENCY SPILLWAY
ELEV. 6775.5'
LENGTH = 55'
MIN. WIDTH = 70'
SPILLWAY OUT
MIN. WIDTH =
MAX. SLOPE =
RIPRAP
B
B'
C
C'



N11-G POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

N11-G POND STAGE CAPICITY TABLE

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAP. (AC.-FT.)	TOT. CAP. (AC.-FT.)	DESCRIPTION
6730	0.00	0.56	0.00	0.00	BOTTOM OF POND
6735	5.00	1.08	4.03	4.03	
6740	10.00	1.33	6.01	10.04	
6745	15.00	1.80	7.80	17.84	
6746	16.00	1.91	1.85	19.69	EMERGENCY SPILLWAY
6750	20.00	2.36	8.53	28.22	
6752	22.00	2.65	5.01	33.23	TOP OF EMBANKMENT

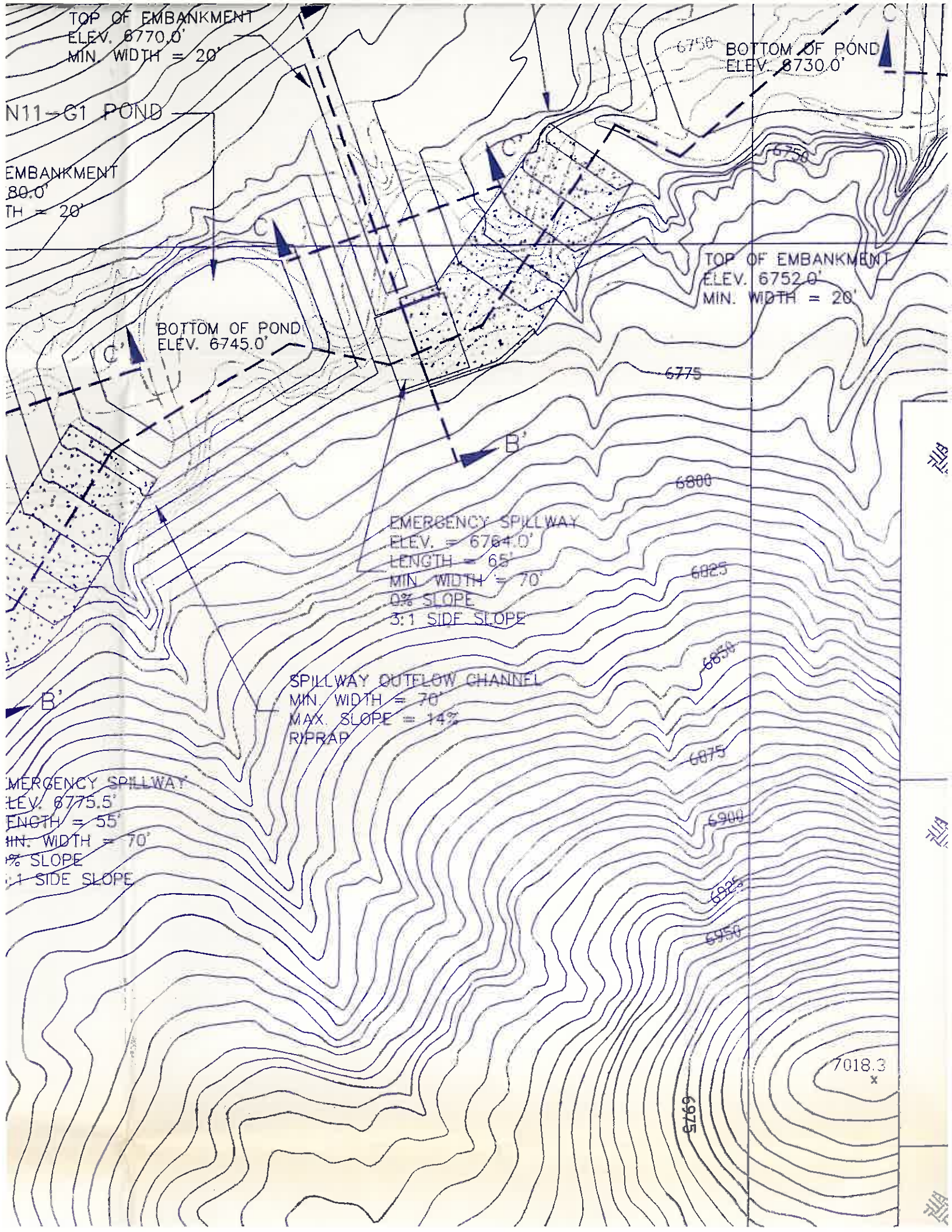
N11-G1 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

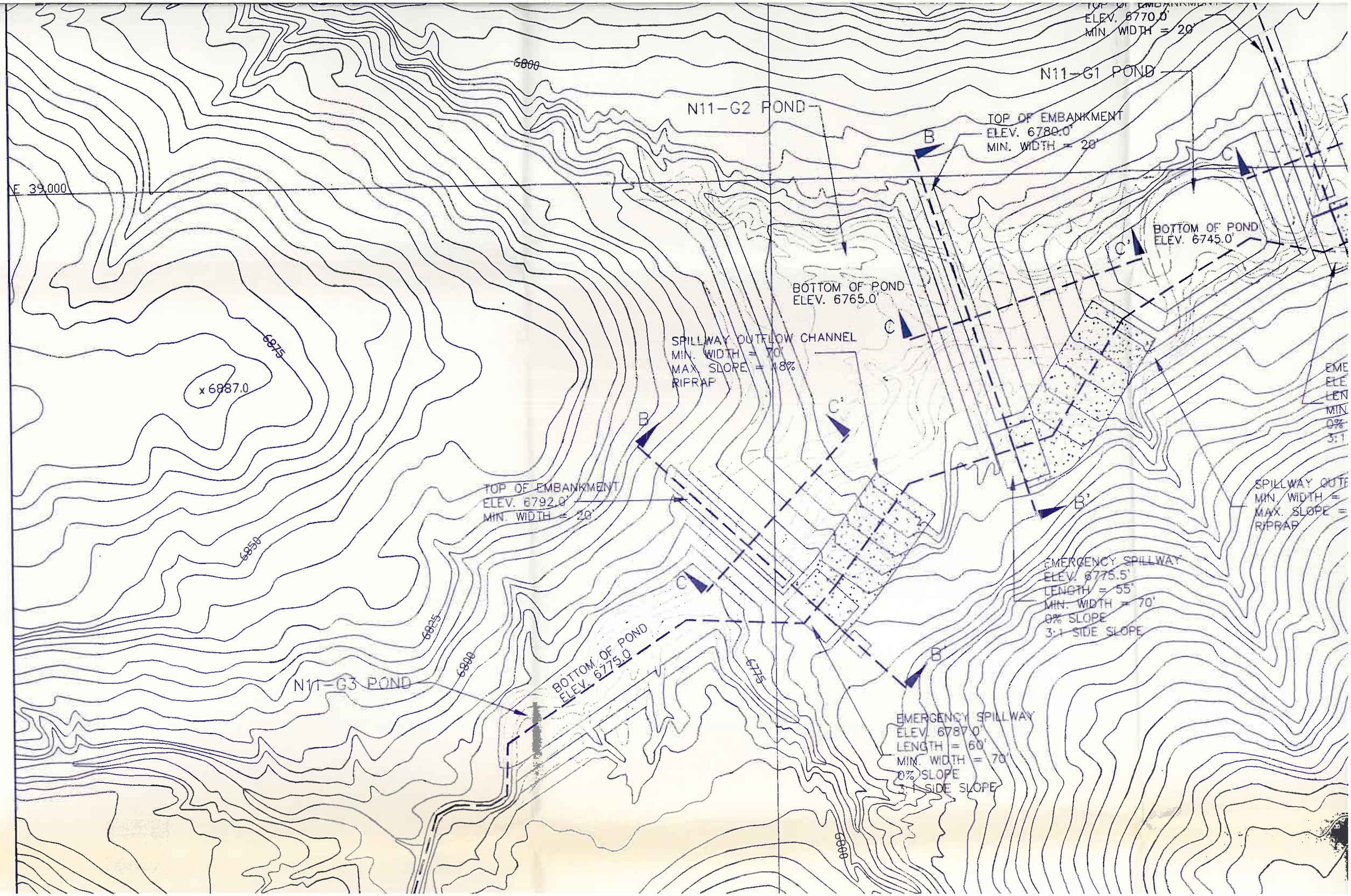
N11-G1 POND STAGE CAPACITY TABLE

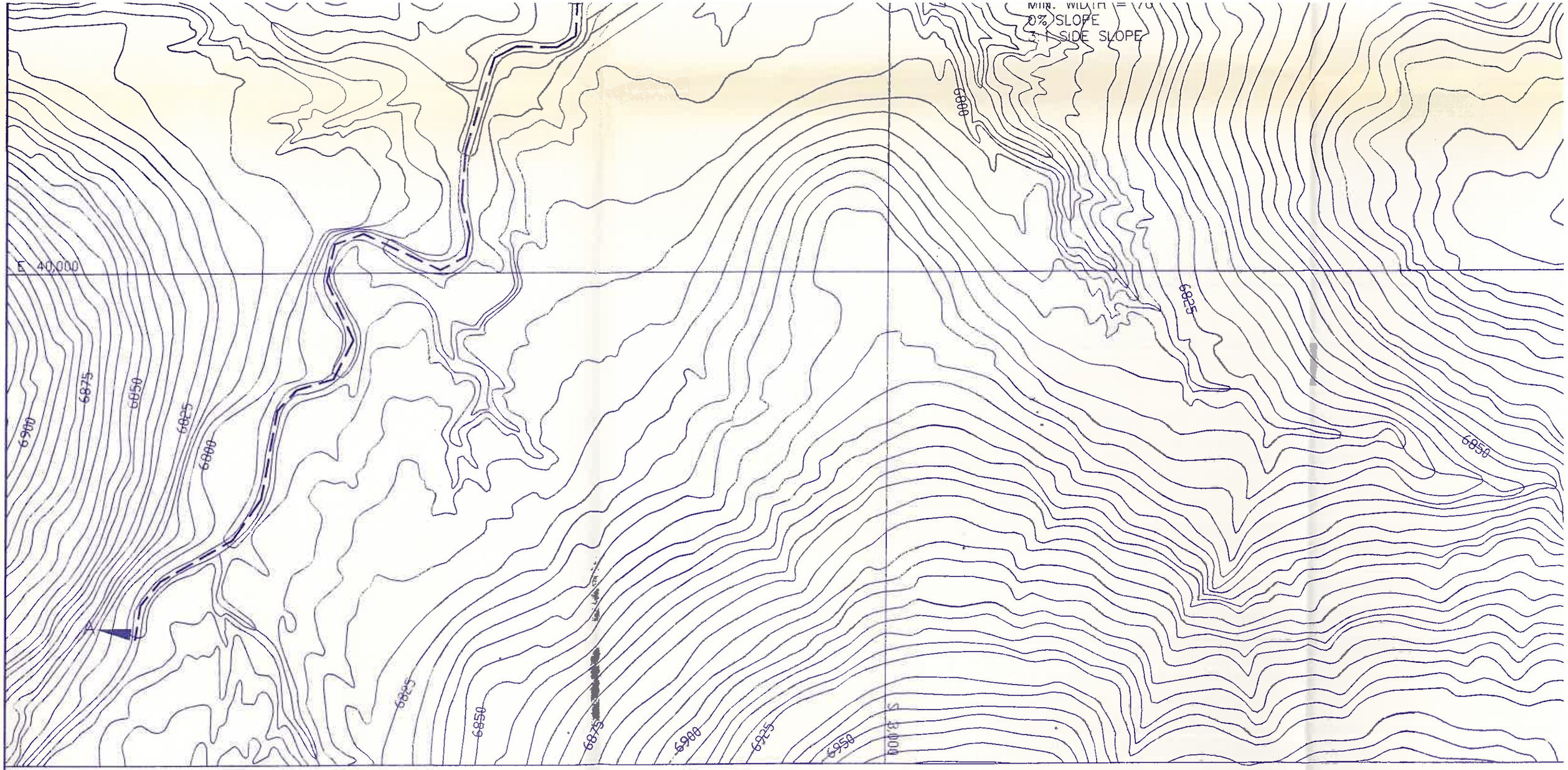
ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAP. (AC.-FT.)	TOT. CAP. (AC.-FT.)	DESCRIPTION
6745	0.00	0.46	0.00	0.00	BOTTOM OF POND
6750	5.00	0.70	2.88	2.88	
6755	10.00	0.99	4.20	7.08	
6760	15.00	1.36	5.85	12.93	
6764	19.00	1.75	6.21	19.14	EMERGENCY SPILLWAY
6765	20.00	1.85	1.80	20.94	
6770	25.00	2.51	10.86	31.80	TOP OF EMBANKMENT

N11-G2 POND STAGE CAPACITY TABLE

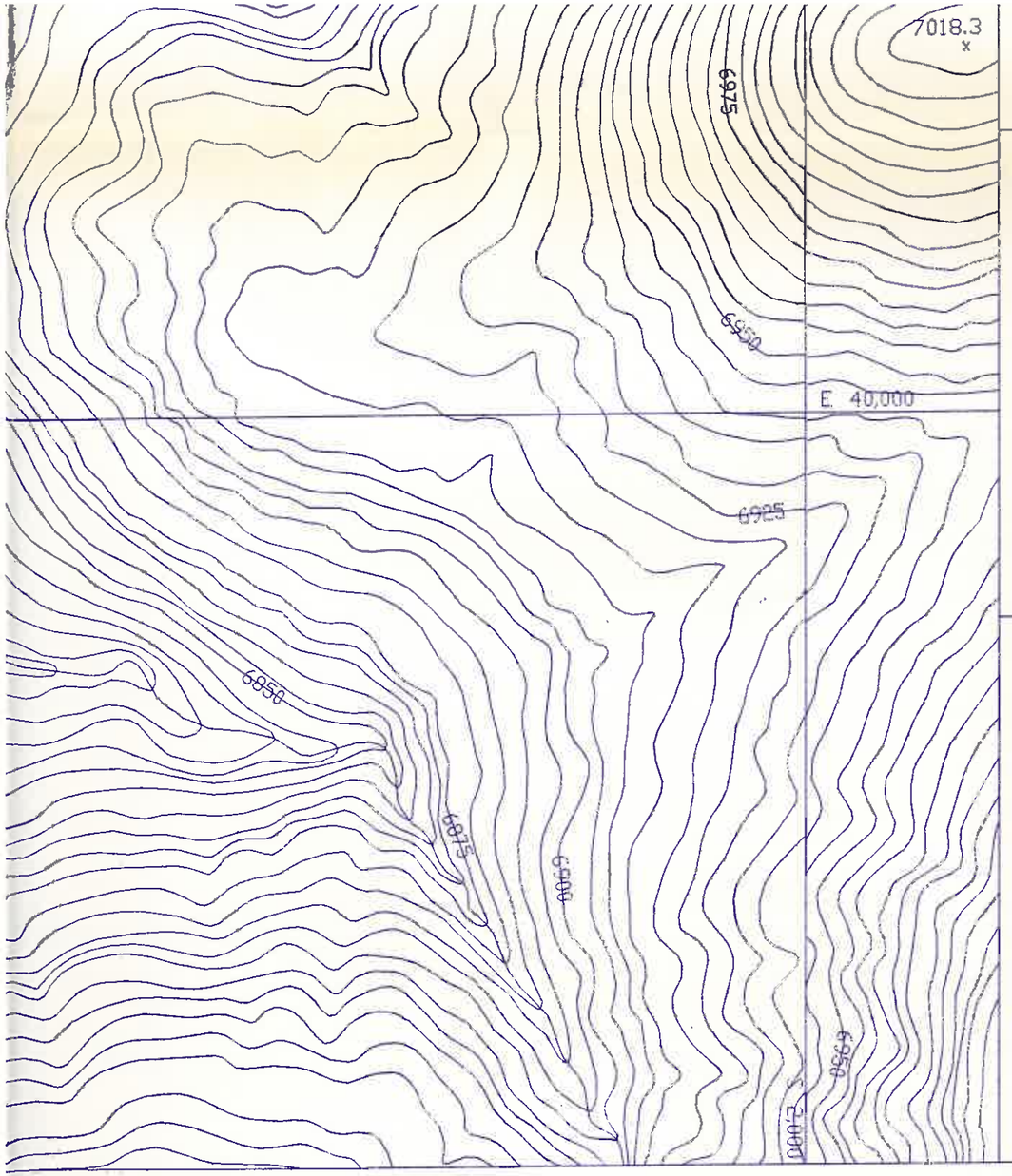
ELEV.	STAGE	AREA	CAP.	TOT. CAP.


TOP OF EMBANKMENT
ELEV. 6770.0'
MIN. WIDTH = 20'
N11-G1 POND
EMBANKMENT
80.0'
TH = 20'
BOTTOM OF POND
ELEV. 6730.0'
6750
C
C'
TOP OF EMBANKMENT
ELEV. 6752.0'
MIN. WIDTH = 20'
BOTTOM OF POND
ELEV. 6745.0'
6775
B'
6800
EMERGENCY SPILLWAY
ELEV. = 6764.0'
LENGTH = 65'
MIN. WIDTH = 70'
0% SLOPE
3:1 SIDE SLOPE
6825
6850
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 14%
RIPRAP
6875
MERGENCY SPILLWAY
LEV. 6775.5'
ENGTH = 55'
IN. WIDTH = 70'
% SLOPE
:1 SIDE SLOPE
6900
6925
6950
7018.3
6975

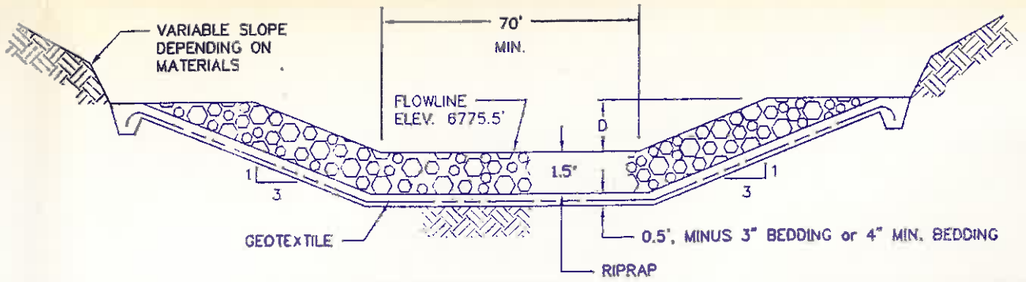

TOP OF EMBANKMENT
ELEV. 6770.0'
MIN. WIDTH = 20'
N11-G1 POND
6800
N11-G2 POND
TOP OF EMBANKMENT
ELEV. 6780.0'
MIN. WIDTH = 20'
B
E 39,000
BOTTOM OF POND
ELEV. 6745.0'
C'
BOTTOM OF POND
ELEV. 6765.0'
C
SPILLWAY OUTFLOW CHANNEL
MIN. WIDTH = 70'
MAX. SLOPE = 18%
RIPRAP
6875
x 6887.0
C'
B
B'
TOP OF EMBANKMENT
ELEV. 6792.0'
MIN. WIDTH = 20'
6850
C
EMERGENCY SPILLWAY
ELEV. 6775.5'
LENGTH = 55'
MIN. WIDTH = 70'
0% SLOPE
3:1 SIDE SLOPE
6825
6800
BOTTOM OF POND
ELEV. 6775.0'
N11-G3 POND
6775
B'
EMERGENCY SPILLWAY
ELEV. 6787.0'
LENGTH = 60'
MIN. WIDTH = 70'
0% SLOPE
3:1 SIDE SLOPE
6800



PLAN VIEW
SCALE: 1"=100'
PHOTO DATE: 5-12-83
C.I. = 5 FT.



N11-G1 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

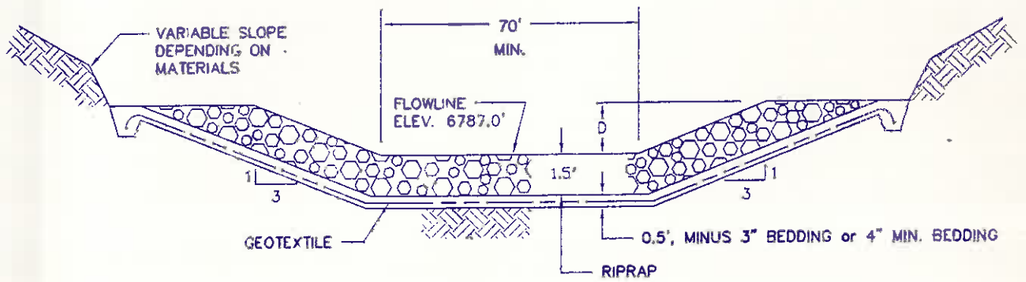


SPILLWAY MIN. D = 3.5 FT.
OUTFLOW CHANNEL MIN. D = 2.0 FT.

N11-G2

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)
6765	0.00	1.26
6770	5.00	1.72
6775	10.00	2.31
6775.5	10.50	2.38
6780	15.00	3.01

N11-G2 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)



SPILLWAY MIN. D = 3.0 FT.
OUTFLOW CHANNEL MIN. D = 2.0 FT.

N11-G3

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)
6775	0.00	0.65
6780	5.00	1.25
6785	10.00	2.31
6787	12.00	2.87
6790	15.00	3.82
6792	17.00	4.56

N11-G3 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

PLAN VIEW
LE: 1"=100'
TO DATE: 5-12-83
= 5 FT.

EER'S CERTIFICATION

Registered Professional Engineer (Civil) CERTIFICATE NO. 18782 JAMES GARY SCHLENVOGT Date Signed ARIZONA, U.S.A.

JAMES SCHLENVOGT
Senior Engineer
Peabody Company

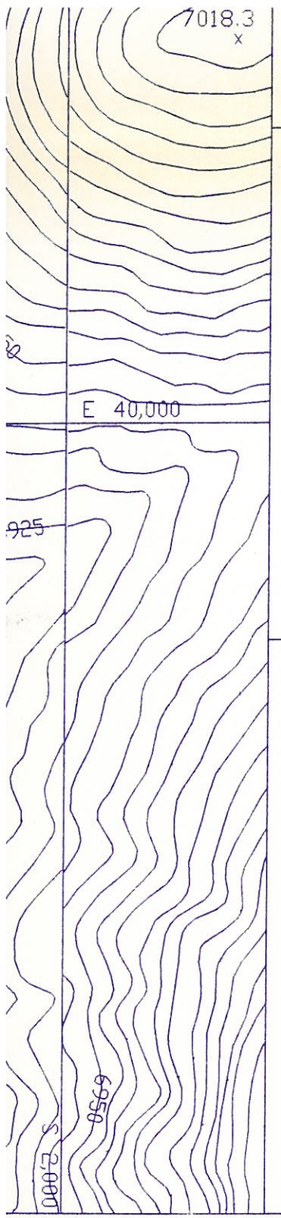
ARIZONA P.E. 18782

Date: SEP 08 1993

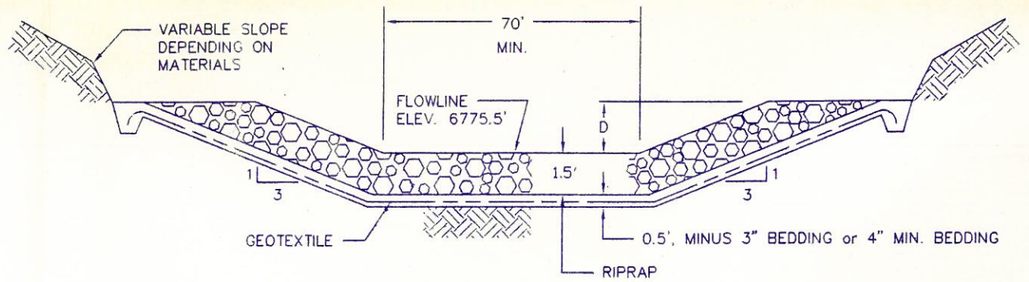
NOTES:
1) General location, see Drawing 85400, Sheet L-7 and Drawing No. 85405.
2) See Chapter 6, Black Mesa PAP for Construction Specifications.
3) See Vol. 2, Chapter 6, Attachment D, Sections 1-3 for description of Geotechnical Evaluation.
4) Salvage topsoil in accordance with approved topsoil salvage plan.
5) Reclamation of the disturbed area above the high waterline shall be in accordance with the approved reclamation plan.
6) Ponding area side slopes; typical 3:1 slope or flatter and blend into natural topography.

N

PE
DE
DR
CH
CO



N11-G1 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

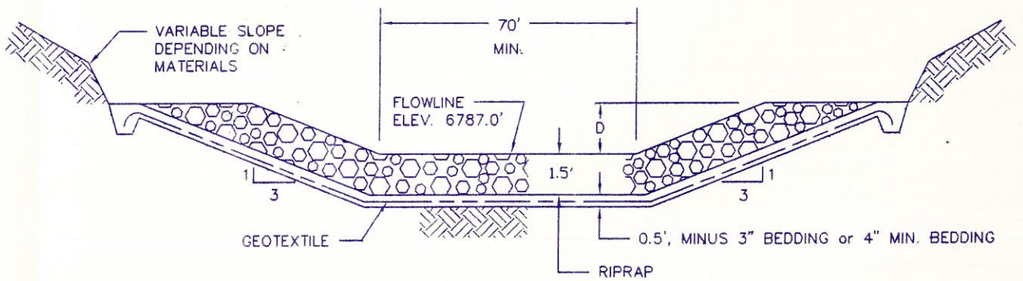


SPILLWAY MIN. D = 3.5 FT.
OUTFLOW CHANNEL MIN. D = 2.0 FT.

N11-G2 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

N11-G2 POND STAGE CAPACITY TABLE

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAP. (AC.-FT.)	TOT. CAP. (AC.-FT.)	DESCRIPTION
6765	0.00	1.26	0.00	0.00	BOTTOM OF POND
6770	5.00	1.72	7.42	7.42	
6775	10.00	2.31	10.04	17.46	
6775.5	10.50	2.38	1.17	18.63	EMERGENCY SPILLWAY
6780	15.00	3.01	12.10	30.73	TOP OF EMBANKMENT



SPILLWAY MIN. D = 3.0 FT.
OUTFLOW CHANNEL MIN. D = 2.0 FT.

N11-G3 POND
TYPICAL SECTION OF EMERGENCY SPILLWAY
(NOT DRAWN TO SCALE)

N11-G3 POND STAGE CAPACITY TABLE

ELEV. (FT.-MSL)	STAGE (FT.)	AREA (ACRES)	CAP. (AC.-FT.)	TOT. CAP. (AC.-FT.)	DESCRIPTION
6775	0.00	0.65	0.00	0.00	BOTTOM OF POND
6780	5.00	1.25	4.67	4.67	
6785	10.00	2.31	8.77	13.44	
6787	12.00	2.87	5.17	18.61	EMERGENCY SPILLWAY
6790	15.00	3.82	10.00	28.61	
6792	17.00	4.56	8.37	36.98	TOP OF EMBANKMENT

ENGINEER'S CERTIFICATION

GARY J. GIESENVOGT
Registered Professional Engineer
U.S.A. Company

ARIZONA P.E. 18782

Date: SEP 08 1993

NOTES:
1) General location, see Drawing 85400, Sheet L-7 and Drawing No. 85405.
2) See Chapter 6, Black Mesa PAP for Construction Specifications.
3) See Vol. 2, Chapter 6, Attachment D, Sections 1-3 for description of Geotechnical Evaluation.
4) Salvage topsoil in accordance with approved topsoil salvage plan.
5) Reclamation of the disturbed area above the high waterline shall be in accordance with the approved reclamation plan.
6) Ponding area side slopes; typical 3:1 slope or flatter and blend into natural topography.

EXHIBIT 1
N11-G, N11-G1, N11-G2, & N11-G3 SEDIMENTATION PONDS
SHEET 1 OF 3

KAYENTA MINE
PEABODY WESTERN 1300 S. YALE FLAGSTAFF, AZ 86001

DESIGNED BY: J.G.S.	SCALE: AS SHOWN
DRAWN BY: P.W.C.C.	DRAWING DATE: 8-20-93
CHECKED BY: J.G.S.	PHOTO DATE: 5-12-83
CONTOUR INTERVAL: 5 FEET	