CERTIFICATE OF AUTHENTICITY

THIS IS TO CERTIFY THAT THE FOLLOWING ELECTRONIC RECORDS ARE TRUE AND ACCURATE REPRODUCTIONS OF THE ORIGINAL RECORDS OF JAMES CITY COUNTY GENERAL SERVICES DEPARTMENT- STORMWATER DIVISION; WERE SCANNED IN THE REGULAR COURSE OF BUSINESS PURSUANT TO GUIDELINES ESTABLISHED BY THE LIBRARY OF VIRGINIA AND ARCHIVES; AND HAVE BEEN VERIFIED IN THE CUSTODY OF THE INDIVIDUAL LISTED BELOW.

BMP NUMBER: **PC142**

DATE VERIFIED: **November 2, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 13, 2010

TO: Michael J. Gillis, Virginia Correctional Enterprises Document Management Services

FROM: Jo Anna Ripley, Stormwater

PO: 270712

RE: Files Approved for Scanning

General File ID or BMP ID: PC142

PIN: 38301000009

Subdivision, Tract, Business or Owner Name (if known): Powhatan Secondary

Property Description:

Site Address: 4551 News Road

(For internal use only) **Box** 4 **Drawer:** 3

Agreements: (in file as of scan date) **N** **Book or Doc#:** **Page:**

Comments

TEMP. SEDIMENT TRAP
REQ'D VOL. = 449 CU. YDS.
VOL. PROVIDED = 450 CU. YDS.
H = 4' - H₀ = 3'
LENGTH OF GRAVEL OUTLET STRUCTURE = 40.2'
TOP OF EMBANKMENT ELEV. = 53.5
LOW PT. IN TRAP : ELEV. = 49.5

P.O.T. STA. 1+75.17 "D" R.P.

STA. 1+00 "C" 16.5' RT.
BEGIN 250 L.F. PG-2A
W₁ = 1.33' ; W₂ = 2' ; d = 0.67'
INV. = 63.65

P.T. STA. 0+76.54 "C"

STA. 3+50 "C" 16.5' RT.
BEGIN 100 L.F. PG-2A
W₁ = 2' ; W₂ = 3' ; d = 1.0'
INV. = 55.5

P.C. STA. 1+84.54 "C"

STA. 4+50 "C" 16.5' RT.
END PG-2A
INV. = 52.34 OCC

LINE DITCHES WITH 60 L.F. x 5' WIDE CLASS I RIP-RAP
d_{50} = 0.5'

CD TEMP. ROCK CHECK DAM
H = 1.0' (TYP.)

STA. 1+00 "A" 16.5' LT.
BEGIN 300 L.F. PG-2A
W₁ = 1.33' ; W₂ = 2' ; d = 0.67'
INV. = 63.65

P.O.C. STA. 5+03.82 "C"
STA. 0+00 "D"
STA. 0+50 "D" 16.5' LT.
BEGIN 400 L.F. PG-2A
W₁ = 1.33' ; W₂ = 2' ; d = 0.67'
INV. = 51.18
END 400 L.F. PG-2A
@ STA. 0+50 16.5' RT.

P.T. STA. 4+00.52 "C"

P.C. STA. 4+00.52 "C"

P.O.C. STA. 6+81.42 "C" R.P.

IP INLET PROTECTION (TYP.)

VARIABLE WIDTH DRAINAGE ESM'T TO INCLUDE PAVED DITCH OUTSIDE OF R.O.W. TO BE DEDICATED TO V.D.O.T.

20' DRAINAGE ESM'T. TO BE DEDICATED TO V.D.O.T.

OP OUTLET PROTECTION
19 S.Y. CLASS I RIP-RAP
d₅₀ = 0.67'
W₁ = 3.75 ; W₂ = 17.25 ; La = 16'

STRAW BALE BARRIER (TYP.)

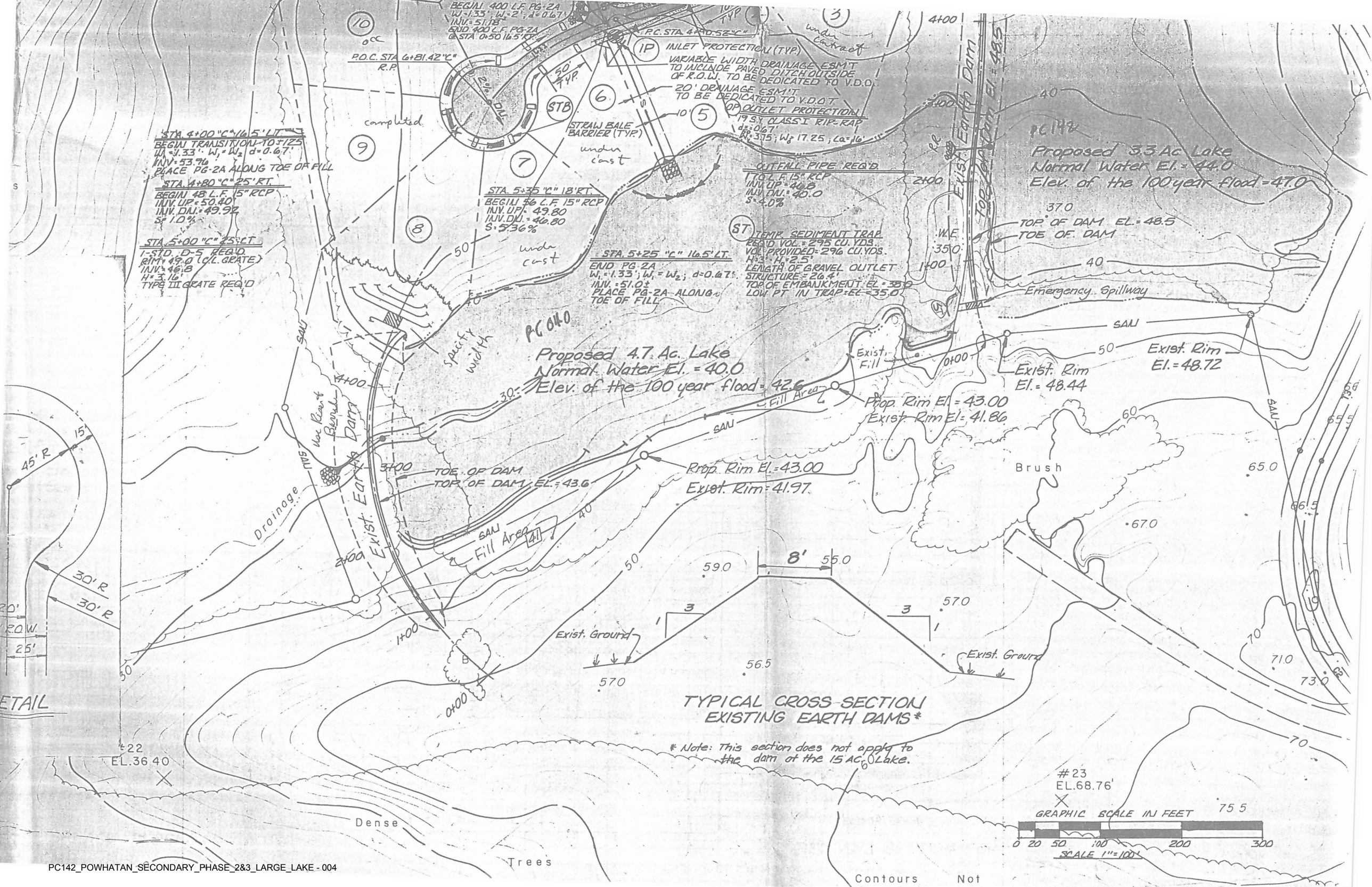
OUTFALL PIPE REQ'D.
170 L.F. 15" RCP
INV. UP = 46.8
INV. DN. = 40.0
S = 4.0%

STA. 5+35 "C" 18' RT.
BEGIN 56 L.F. 15" RCP
INV. UP = 49.80
INV. DN. = 46.80
S = 5.36%

ST TEMP. SEDIMENT TRAP
REQ'D. VOL. = 295 CU. YDS.
VOL. PROVIDED = 296 CU. YDS.
H = 3' H = 2.5'
LENGTH OF GRAVEL OUTLET STRUCTURE = 26.4'
TOP OF EMBANKMENT EL. = 38.0
LOW PT. IN TRAP = EL. = 35.0

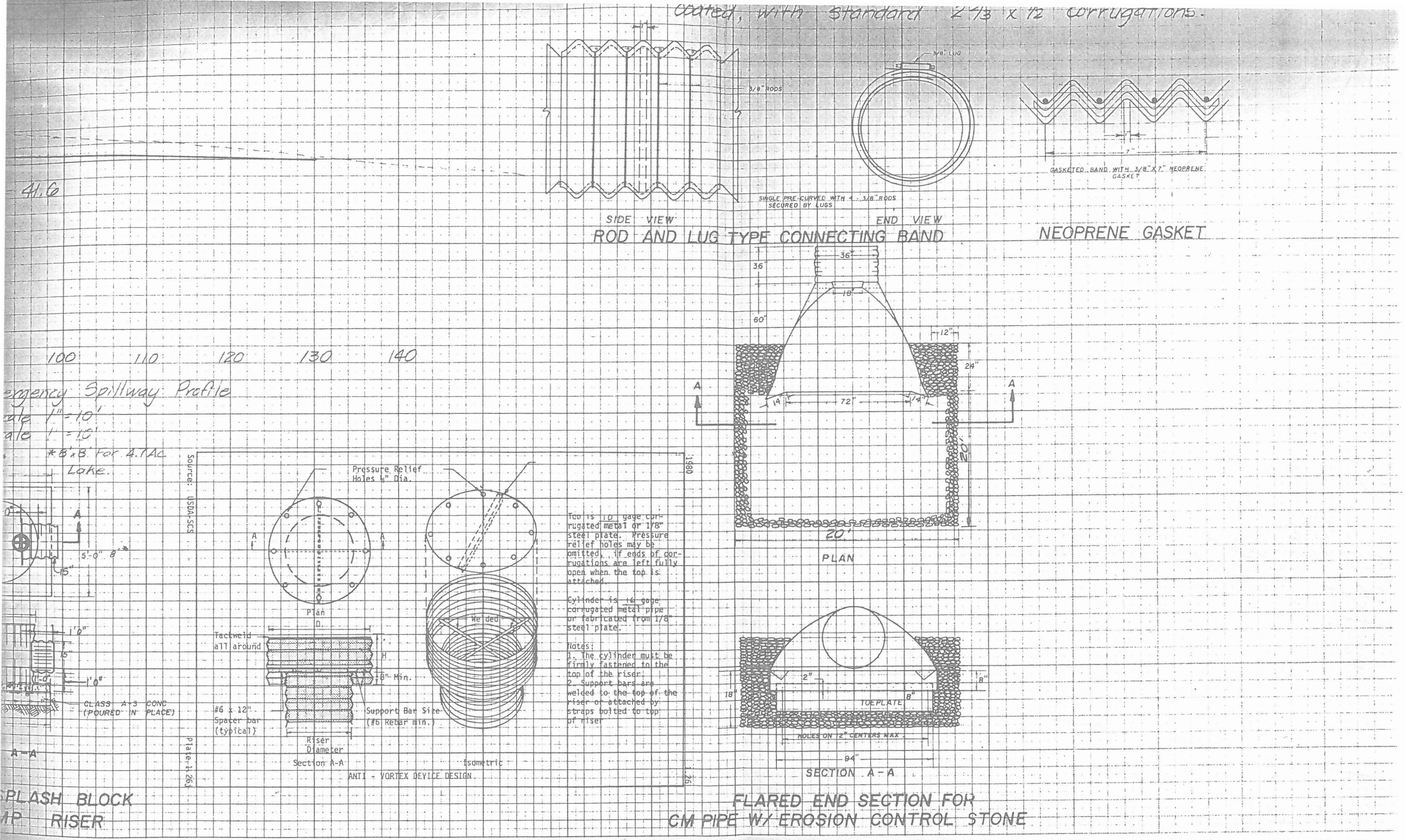
STA. 5+25 "C" 16.5' LT.
END PG-2A
W₁ = 1.33' ; W₁ = W₂ ; d = 0.67'
INV. = 51.0±
PLACE PG-2A ALONG TOE OF FILL

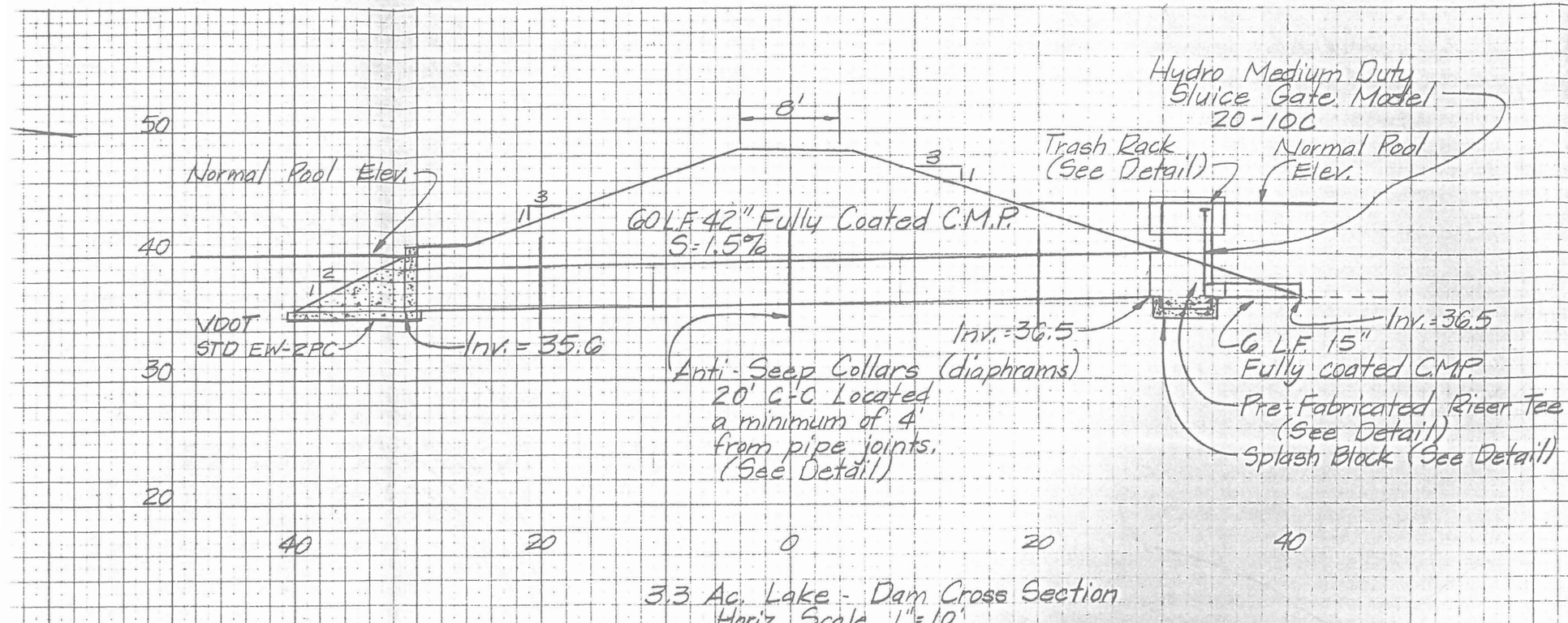
Cluster Homes
Trees
Contours Not To Spec
Proposed 3.3 Ac. Lake
Normal Water El. = 44.0
Elev. of the 100 year flood = 47.0
TOP OF DAM EL. = 48.5
TOE OF DAM
Emergency Spillway
Exist. Rim El. = 48.72
Exist. Rim El. = 48.44
Exist. Earth Dam
Proposed 4.7 Ac. Lake
Normal Water El. = 40.0
Elev. of the 100 year flood = 42.6
Exist. Fill
Fill Area
Prop. Rim El. = 43.00
Exist. Rim El. = 41.86
Prop. Rim El. = 43.00
Exist. Rim = 41.97
TOE OF DAM
TOP OF DAM EL. = 43.6
Brush
Drainage
Liquid Bit. Material
RC-70, MC-70 or RC-250 @ 0.35 gals per Sq. Yd
6" GR. T.
PC142
PC142
PC040
PH 2+3



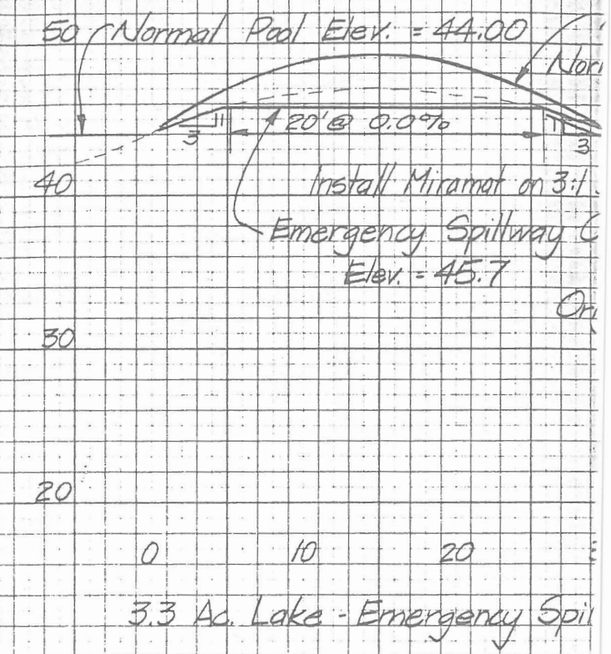
PC142_POWHATAN_SECONDARY_PHASE_2&3_LARGE_LAKE - 004

coated, with standard 2 2/3 x 1/2 corrugations.

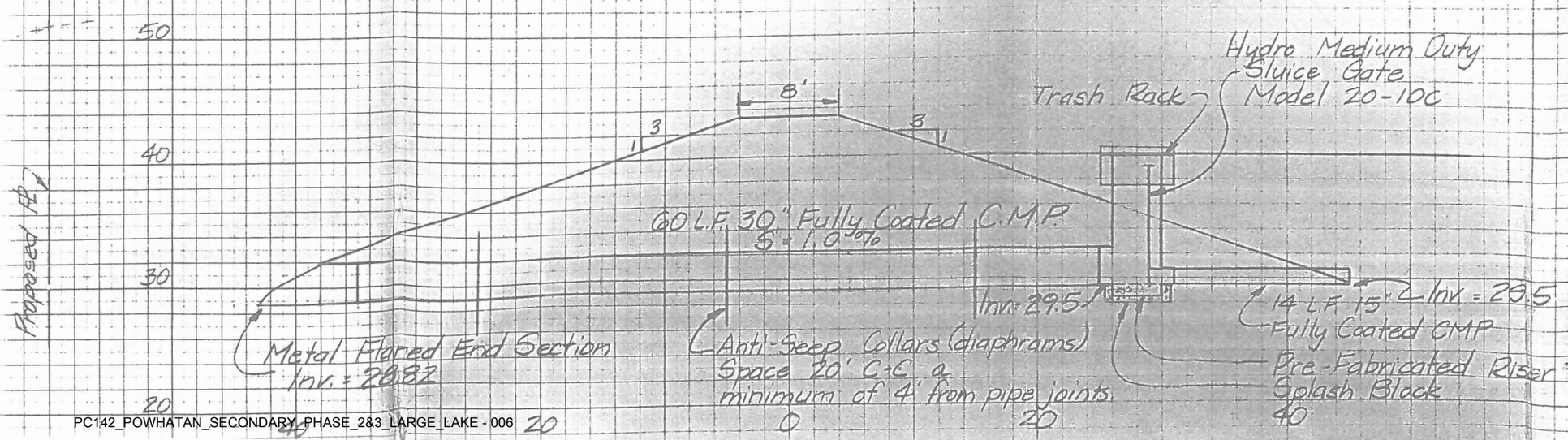


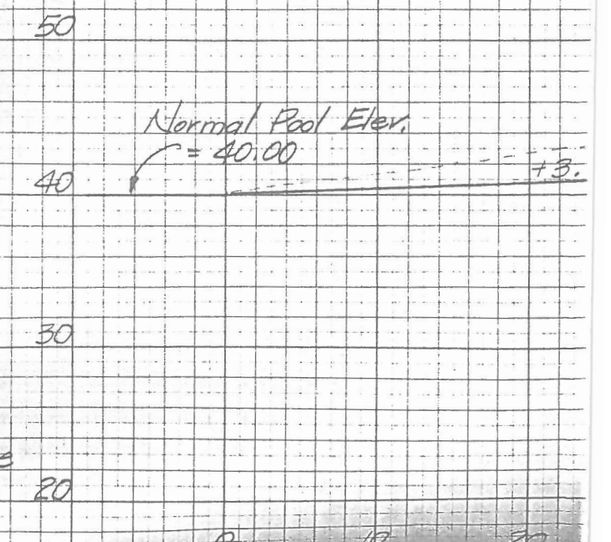


3.3 Ac. Lake - Dam Cross Section
Horiz. Scale 1" = 10'
Vert. Scale 1" = 10'

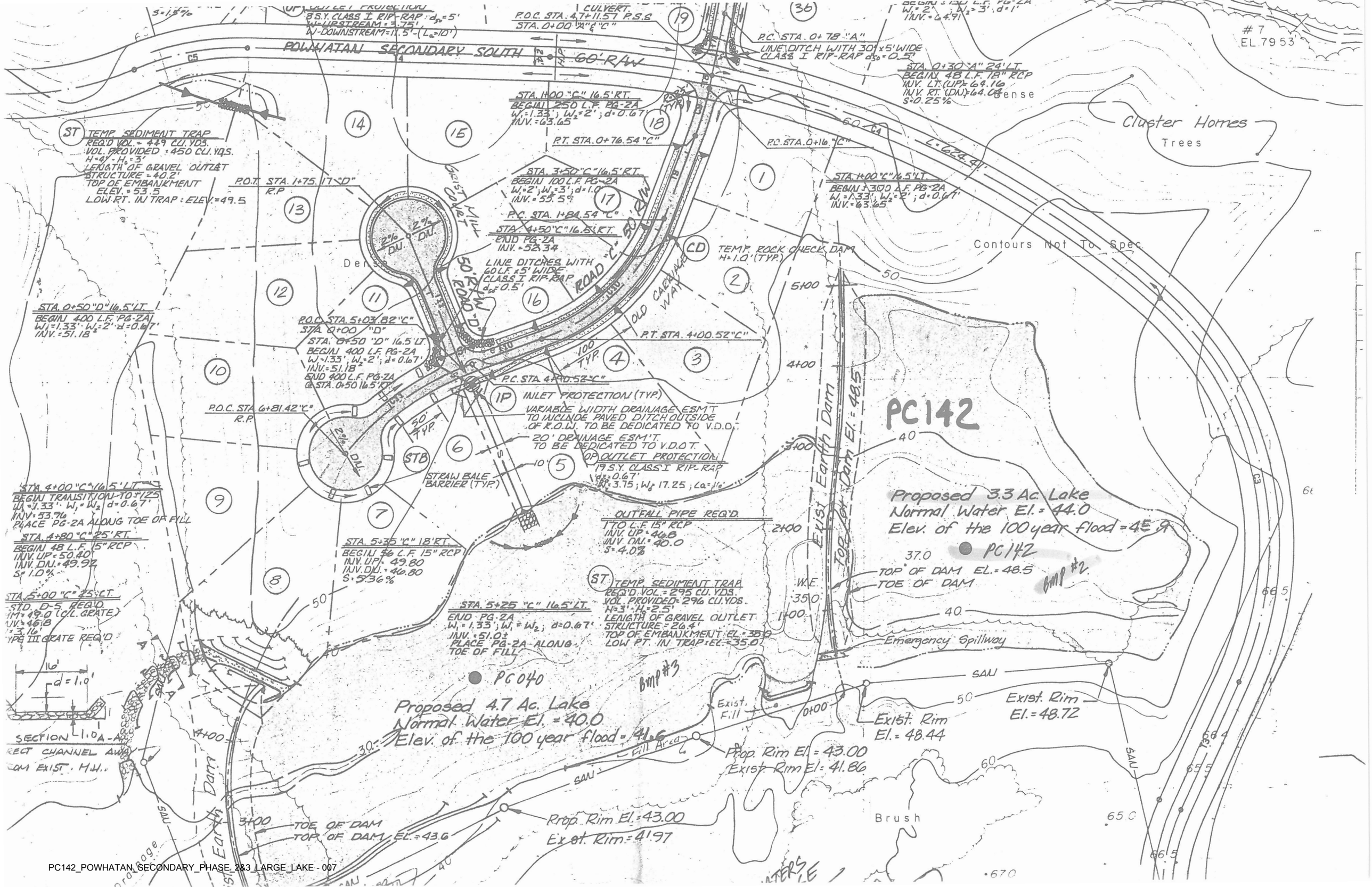


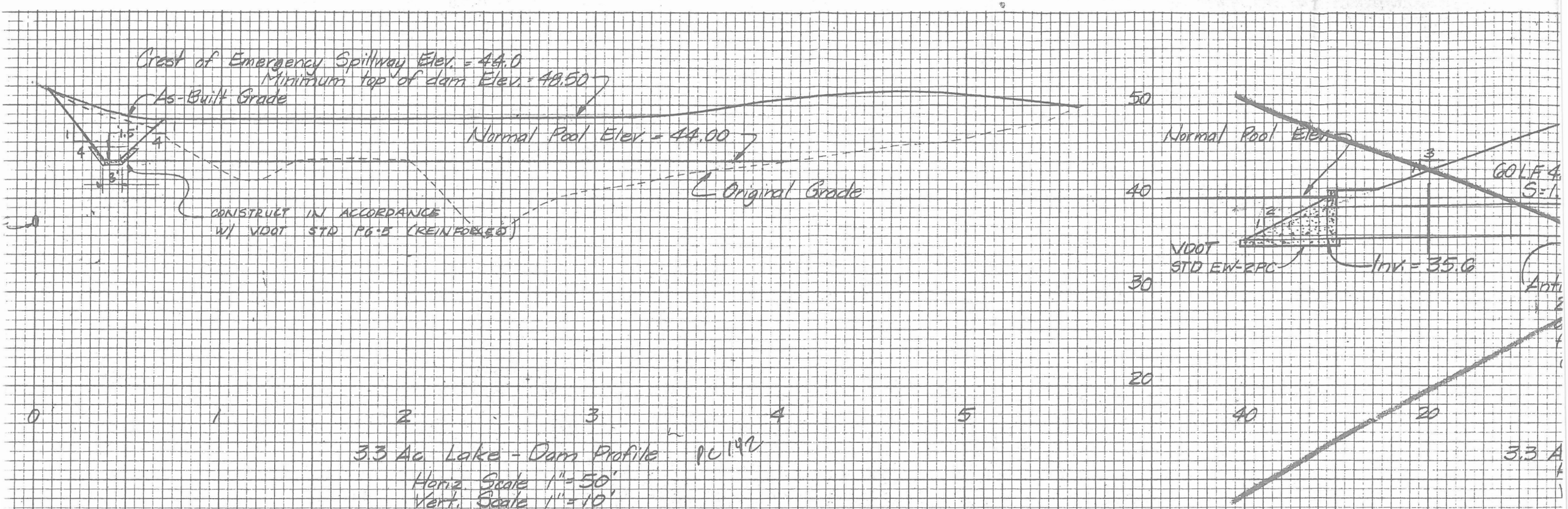
3.3 Ac. Lake - Emergency Spil
Horiz. Scale 1" = 10'
Vert. Scale 1" = 10'





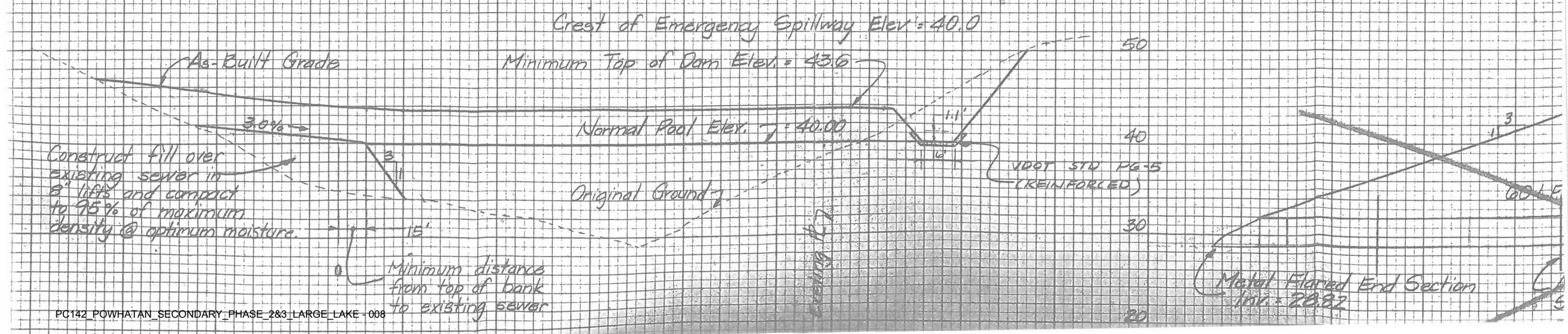
Proposed #1


POWHATAN SECONDARY SOUTH
60' R/W
OUTLET PROTECTION
8 S.Y. CLASS I RIP-RAP
W-UPSTREAM = 3.75'
W-DOWNSTREAM = 11.5'
CULVERT
P.O.C. STA. 4+11.57 P.S.S
STA. 0+00 "A" ℄ "C"
P.C. STA. 0+78 "A"
LINE DITCH WITH 30' x 5' WIDE
CLASS I RIP-RAP
STA. 0+30 "A" 24' LT.
BEGIN 48 L.F. 18" RCP
INV. LT. (UP) = 64.16
INV. RT. (DN) = 64.08
S = 0.25%
#7
EL. 79.53
Cluster Homes
Trees
Contours Not To Spec
STA. 1+00 "C" 16.5' RT.
BEGIN 250 L.F. PG-2A
INV. = 63.65
P.T. STA. 0+76.54 "C"
P.C. STA. 0+16 "C"
L = 624.41'
STA. 1+00 "C" 16.5' LT.
BEGIN 300 L.F. PG-2A
INV. = 63.65
TEMP. SEDIMENT TRAP
REQ'D VOL. = 449 CU. YDS.
VOL. PROVIDED = 450 CU. YDS.
LENGTH OF GRAVEL OUTLET STRUCTURE = 40.2'
TOP OF EMBANKMENT ELEV. = 53.5
LOW PT. IN TRAP: ELEV. = 49.5
P.O.T. STA. 1+75.17 "D"
R.P.
STA. 3+50 "C" 16.5' RT.
BEGIN 100 L.F. PG-2A
INV. = 55.5
P.C. STA. 1+84.54 "C"
STA. 4+50 "C" 16.5' RT.
END PG-2A
INV. = 52.34
LINE DITCHES WITH 60 L.F. x 5' WIDE CLASS I RIP-RAP
TEMP. ROCK CHECK DAM
H = 1.0' (TYP.)
ROAD "C" 50' R/W
ROAD "D" 50' R/W
OLD CARTHAGE WAY
STA. 0+50 "D" 16.5' LT.
BEGIN 400 L.F. PG-2A
INV. = 51.18
P.O.C. STA. 5+03.82 "C"
STA. 0+00 "D"
STA. 0+50 "D" 16.5' LT.
BEGIN 400 L.F. PG-2A
INV. = 51.18
END 400 L.F. PG-2A
@ STA. 0+50 16.5' RT.
P.T. STA. 4+00.52 "C"
P.C. STA. 4+10.52 "C"
INLET PROTECTION (TYP.)
VARIABLE WIDTH DRAINAGE ESM'T TO INCLUDE PAVED DITCH OUTSIDE OF R.O.W. TO BE DEDICATED TO V.D.O.T.
20' DRAINAGE ESM'T TO BE DEDICATED TO V.D.O.T.
OUTLET PROTECTION
19 S.Y. CLASS I RIP-RAP
P.O.C. STA. 6+81.42 "C"
R.P.
STRAW BALE BARRIER (TYP.)
STA. 4+00 "C" 16.5' LT.
BEGIN TRANSITION OUT TO 25'
INV. = 53.76
PLACE PG-2A ALONG TOE OF FILL
STA. 4+80 "C" 25' RT.
BEGIN 48 L.F. 15" RCP
INV. UP = 50.40
INV. DN. = 49.92
S = 1.0%
STA. 5+00 "C" 25' LT.
STD. D-5 REQ'D.
STA. 5+35 "C" 18' RT.
BEGIN 56 L.F. 15" RCP
INV. UP = 49.80
INV. DN. = 46.80
S = 5.36%
OUTFALL PIPE REQ'D.
170 L.F. 15" RCP
INV. UP = 46.8
INV. DN. = 40.0
S = 4.0%
TEMP. SEDIMENT TRAP
REQ'D VOL. = 295 CU. YDS.
VOL. PROVIDED = 296 CU. YDS.
LENGTH OF GRAVEL OUTLET STRUCTURE = 26.4'
TOP OF EMBANKMENT EL. = 35.0
LOW PT. IN TRAP: EL. = 35.0
STA. 5+25 "C" 16.5' LT.
END PG-2A
INV. = 51.0±
PLACE PG-2A ALONG TOE OF FILL
PC040
Proposed 4.7 Ac. Lake
Normal Water El. = 40.0
Elev. of the 100 year flood = 41.6
bmp #3
PC142
Proposed 3.3 Ac. Lake
Normal Water El. = 44.0
Elev. of the 100 year flood = 45.9
TOP OF DAM EL. = 48.5
TOE OF DAM
bmp #2
Emergency Spillway
Exist. Rim El. = 48.72
Exist. Rim El. = 48.44
Prop. Rim El. = 43.00
Exist. Rim El. = 41.86
Prop. Rim El. = 43.00
Exist. Rim = 41.97
TOE OF DAM
TOP OF DAM EL. = 43.6
Exist. Earth Dam
Top of Dam El. = 48.5
Brush
SAN
Fill Area
Exist. Fill
SECTION A-A
d = 1.0'
16'
RECT CHANNEL AWAY FROM EXIST. H.W.

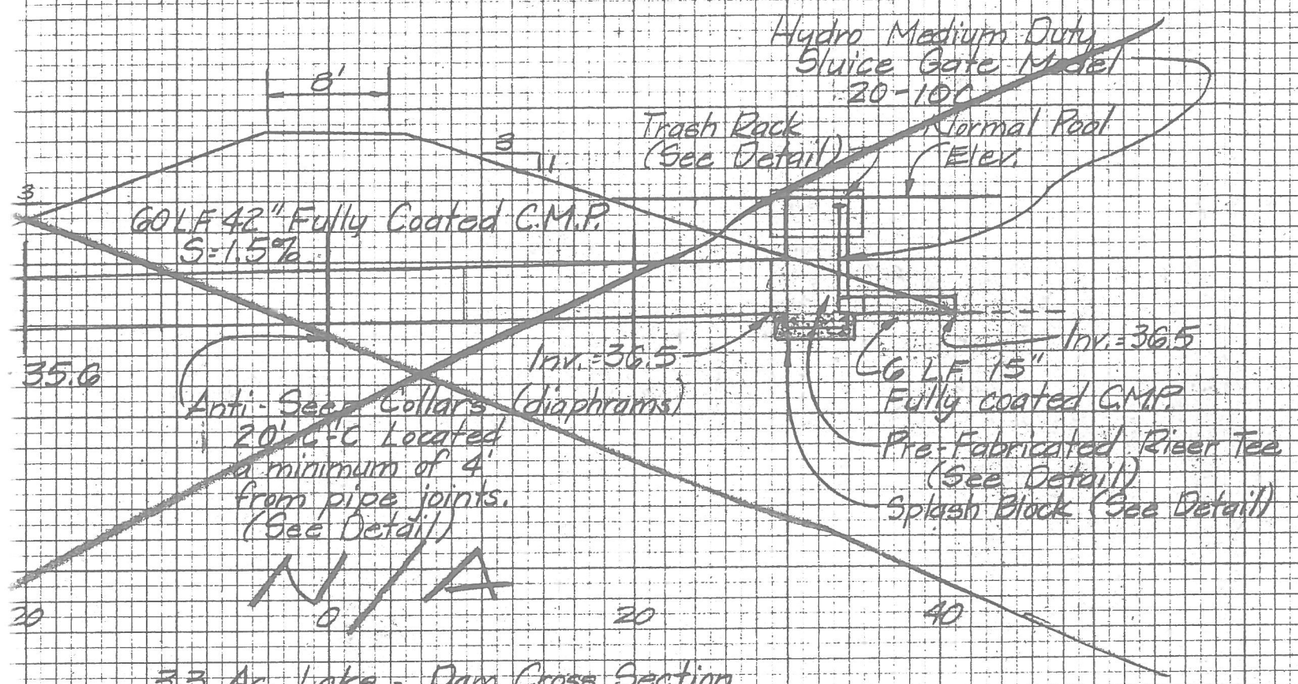


33 Ac Lake - Dam Profile PC 142

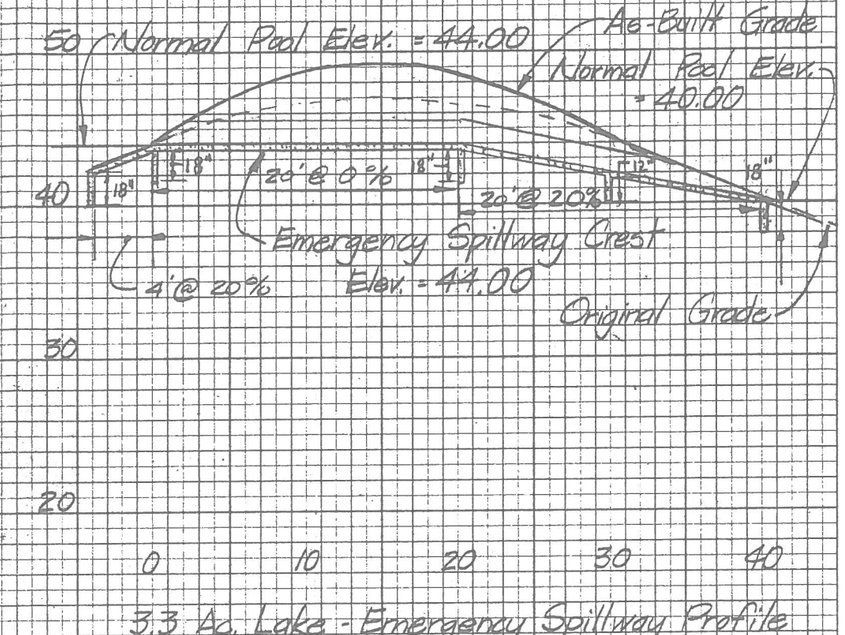
Horiz. Scale 1" = 50'
Vert. Scale 1" = 10'



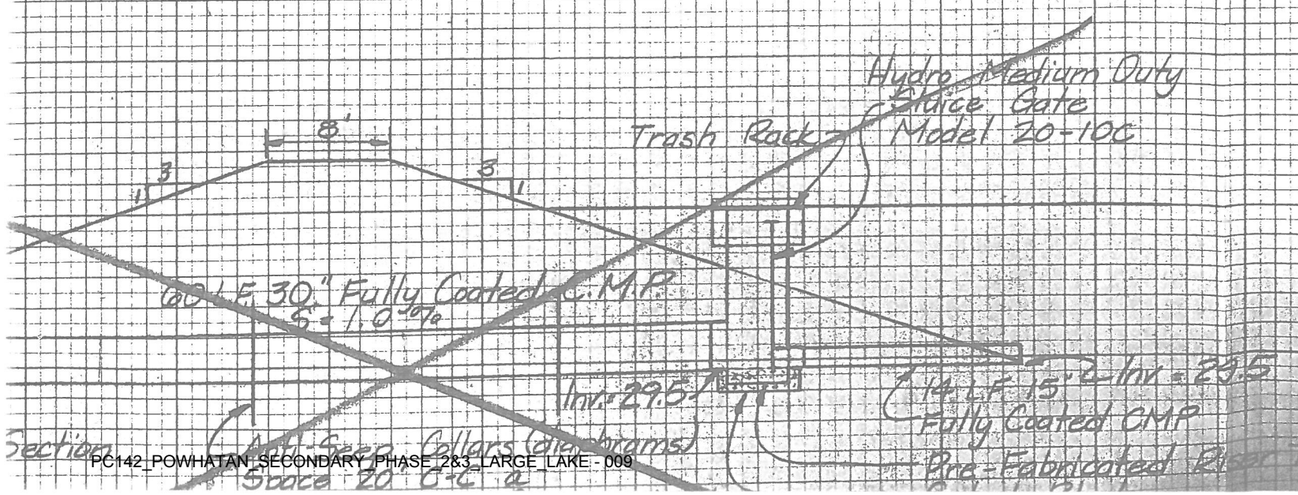
PC 040



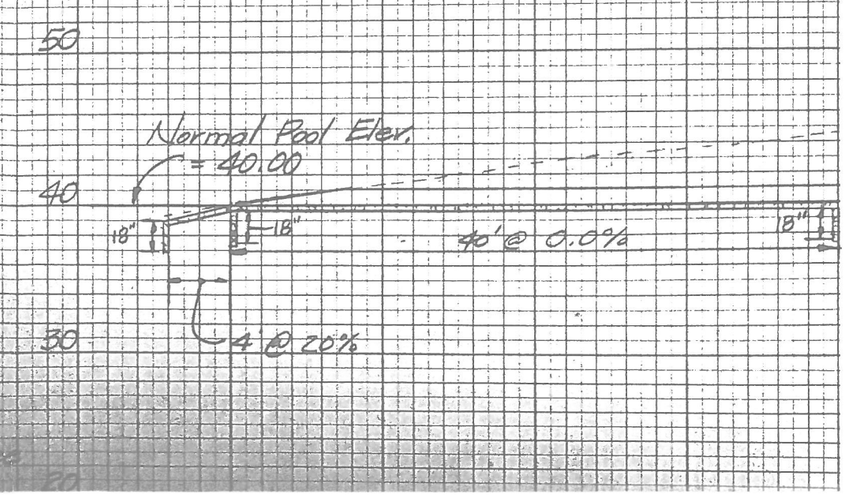
3.3 Ac. Lake - Dam Cross Section
Horiz. Scale 1"=10'
Vert. Scale 1"=10'



3.3 Ac. Lake - Emergency Spillway Profile
Horiz. Scale 1"=10'
Vert. Scale 1"=10'



Section



Langley and McDonald
A PROFESSIONAL CORPORATION
ENGINEERS • PLANNERS • SURVEYORS
VIRGINIA BEACH - WILLIAMSBURG, VIRGINIA

HYDROLOGIC STUDY FOR

POWHATAN

POWHATAN OF WILLIAMSBURG SECONDARY II

JAMES CITY COUNTY, VIRGINIA

by

LANGLEY & McDONALD, P.C.

204 PACKETTS COURT

WILLIAMSBURG, VIRGINIA 23185

6/27/89

42_POWHATAN_SECONDARY_PHASE_2&3_LARGE_LAKE - 010

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LANGLEY & McDONALD, P.C.
WILLIAMSBURG, VIRGINIA
8/23/88

HYDROLOGIC REPORT FOR

POWHATAN

S. C. S. HYDROGRAPH

BASIN IDENTIFICATION 3.3 AC. LAKE
BASIN DISCHARGES INTO 4.7 AC. LAKE

BASIN AREA	=	25.50	ACRES
BASIN CURVE NUMBER	=	83.00	
24-HOUR PRECIPITATION	=	8.50	INCHES
AVERAGE BASIN SLOPE	=	4.0	%
HYDRAULIC LENGTH	=	1200.0	FEET
BASIN LAG	=	.17	HOURS

HYDROGRAPH RUNOFF VALUES
100 YEAR STORM FREQUENCY

TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.	TIME HOUR	RUNOFF C.F.S.
3.00	0.0	3.25	0.0	3.50	0.0	3.75	0.0
4.00	0.0	4.25	0.0	4.50	.1	4.75	.2
5.00	.3	5.25	.4	5.50	.5	5.75	.6
6.00	.7	6.25	.9	6.50	1.1	6.75	1.2
7.00	1.3	7.25	1.4	7.50	1.5	7.75	1.6
8.00	1.7	8.25	2.1	8.50	2.5	8.75	2.7
9.00	2.8	9.25	3.2	9.50	3.6	9.75	4.0
10.00	4.4	10.25	5.3	10.50	6.1	10.75	7.6
11.00	8.8	11.25	12.1	11.50	14.7	11.75	45.7
12.00	145.1	12.25	105.9	12.50	37.7	12.75	22.3
13.00	15.8	13.25	13.0	13.50	11.3	13.75	9.8
14.00	8.8	14.25	7.3	14.50	6.3	14.75	6.2
15.00	6.2	15.25	6.2	15.50	6.2	15.75	6.2
16.00	6.2	16.25	4.9	16.50	3.9	16.75	3.8
17.00	3.7	17.25	3.7	17.50	3.7	17.75	3.7
18.00	3.7	18.25	3.7	18.50	3.7	18.75	3.7
19.00	3.7	19.25	3.7	19.50	3.6	19.75	3.6
20.00	3.6	20.25	3.1	20.50	2.6	20.75	2.5
21.00	2.5	21.25	2.5	21.50	2.5	21.75	2.5
22.00	2.5	22.25	2.5	22.50	2.4	22.75	2.4
23.00	2.4	23.25	2.4	23.50	2.4	23.75	2.4
24.00	2.4	24.25	.5	24.50	0.0	24.75	0.0
25.00	0.0	25.25	0.0	25.50	0.0	25.75	0.0
26.00	0.0	26.25	0.0	26.50	0.0	26.75	0.0

LANGLEY & McDONALD P.C.
WILLIAMSBURG, VIRGINIA
6/27/89

HYDROLOGIC REPORT FOR

POWHATAN

STAGE, STORAGE & DISCHARGE

POND IDENTIFIER 3.3 AC. LAKE SUM

ELEV	STORAGE (CU.FT.)	OUTFLOW (CFS)	2S/T+O (CFS)
44.0	0.0	0.0	0.0
44.2	29200.0	2.5	67.4
44.4	58800.0	7.5	138.2
44.6	88800.0	14.8	212.1
44.8	119200.0	24.2	289.1
45.0	150000.0	35.9	369.2
45.2	181200.0	49.9	452.5
45.4	212800.0	66.2	539.1
45.6	244800.0	85.1	629.1
45.8	277200.0	106.5	722.5
46.0	310000.0	130.5	819.4

LANGLEY & McDONALD P.C.
WILLIAMSBURG, VIRGINIA
6/27/89

HYDROLOGIC REPORT FOR

POWHATAN

HYDROGRAPH RESERVOIR ROUTING

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY

T	I1	I2	2S1/T	O1	2S2/T +O2	O2	2S2/T
3.75	0.0	.1	0.0	0.0	.1	0.0	.1
4.00	.1	.1	.1	0.0	.3	0.0	.3
4.25	.1	.2	.3	0.0	.6	0.0	.6
4.50	.2	.4	.6	0.0	1.2	0.0	1.1
4.75	.4	.6	1.1	0.0	2.1	.1	2.0
5.00	.6	.8	2.0	.1	3.3	.1	3.2
5.25	.8	1.1	3.2	.1	5.0	.2	4.8
5.50	1.1	1.3	4.8	.2	7.0	.3	6.7
5.75	1.3	1.5	6.7	.3	9.3	.3	9.0
6.00	1.5	1.8	9.0	.3	12.0	.4	11.6
6.25	1.8	2.2	11.6	.4	15.1	.6	14.5
6.50	2.2	2.6	14.5	.6	18.7	.7	18.0
6.75	2.6	2.9	18.0	.7	22.8	.8	22.0
7.00	2.9	3.3	22.0	.8	27.3	1.0	26.3
7.25	3.3	3.6	26.3	1.0	32.3	1.2	31.1
7.50	3.6	4.0	31.1	1.2	37.5	1.4	36.2
7.75	4.0	4.4	36.2	1.4	43.2	1.6	41.6
8.00	4.4	4.7	41.6	1.6	49.1	1.8	47.3
8.25	4.7	5.5	47.3	1.8	55.7	2.0	53.7
8.50	5.5	6.2	53.7	2.0	63.2	2.3	60.9
8.75	6.2	6.7	60.9	2.3	71.5	2.8	68.7
9.00	6.7	7.3	68.7	2.8	80.0	3.4	76.7
9.25	7.3	8.5	76.7	3.4	89.1	4.0	85.1
9.50	8.5	9.7	85.1	4.0	99.3	4.7	94.5
9.75	9.7	11.0	94.5	4.7	110.5	5.5	104.9
10.00	11.0	12.3	104.9	5.5	122.7	6.4	116.3
10.25	12.3	14.2	116.3	6.4	136.4	7.4	129.0
10.50	14.2	16.1	129.0	7.4	152.0	8.9	143.1
10.75	16.1	19.0	143.1	8.9	169.4	10.6	158.8
11.00	19.0	22.0	158.8	10.6	189.2	12.5	176.7
11.25	22.0	27.5	176.7	12.5	213.6	15.0	198.7
11.50	27.5	33.1	198.7	15.0	244.4	18.7	225.7
11.75	33.1	68.9	225.7	18.7	309.0	27.1	281.9
12.00	68.9	182.7	281.9	27.1	506.4	60.0	446.3
12.25	182.7	166.2	446.3	60.0	735.2	109.6	625.5
12.50	166.2	[illegible]	625.5	109.6	793.6	124.1	669.5
12.75	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

HYDROLOGIC REPORT FOR POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

13.00	100.9	96.1	642.6	115.2	724.4	106.9	617.4
13.25	96.1	93.8	617.4	106.9	700.4	101.4	599.0
13.50	93.8	92.0	599.0	101.4	683.4	97.5	585.9
13.75	92.0	90.0	585.9	97.5	670.3	94.5	575.8
14.00	90.0	88.4	575.8	94.5	659.7	92.1	567.6
14.25	88.4	86.3	567.6	92.1	650.2	89.9	560.3
14.50	86.3	84.5	560.3	89.9	641.2	87.8	553.3
14.75	84.5	83.6	553.3	87.8	633.6	86.1	547.5
15.00	83.6	82.8	547.5	86.1	627.8	84.8	543.0
15.25	82.8	81.7	543.0	84.8	622.7	83.7	539.0
15.50	81.7	80.6	539.0	83.7	617.6	82.7	534.9
15.75	80.6	79.6	534.9	82.7	612.5	81.6	530.9
16.00	79.6	78.5	530.9	81.6	607.4	80.5	526.8
16.25	78.5	76.1	526.8	80.5	600.9	79.2	521.7
16.50	76.1	73.8	521.7	79.2	592.5	77.4	515.1
16.75	73.8	72.4	515.1	77.4	584.0	75.6	508.4
17.00	72.4	71.0	508.4	75.6	576.2	74.0	502.2
17.25	71.0	69.4	502.2	74.0	568.7	72.4	496.2
17.50	69.4	67.9	496.2	72.4	561.1	70.8	490.3
17.75	67.9	66.4	490.3	70.8	553.7	69.3	484.4
18.00	66.4	65.1	484.4	69.3	546.7	67.8	478.9
18.25	65.1	64.0	478.9	67.8	540.1	66.4	473.7
18.50	64.0	62.8	473.7	66.4	534.0	65.3	468.8
18.75	62.8	61.7	468.8	65.3	528.0	64.1	463.9
19.00	61.7	60.1	463.9	64.1	521.6	62.9	458.7
19.25	60.1	58.6	458.7	62.9	514.5	61.6	452.9
19.50	58.6	57.0	452.9	61.6	507.0	60.1	446.8
19.75	57.0	55.6	446.8	60.1	499.3	58.7	440.6
20.00	55.6	54.0	440.6	58.7	491.5	57.2	434.3
20.25	54.0	51.6	434.3	57.2	482.7	55.6	427.1
20.50	51.6	49.3	427.1	55.6	472.5	53.6	418.9
20.75	49.3	47.4	418.9	53.6	462.0	51.7	410.4
21.00	47.4	45.6	410.4	51.7	451.8	49.7	402.1
21.25	45.6	43.8	402.1	49.7	441.8	48.1	393.8
21.50	43.8	42.0	393.8	48.1	431.5	46.3	385.2
21.75	42.0	40.3	385.2	46.3	421.2	44.6	376.6
22.00	40.3	38.7	376.6	44.6	410.9	42.9	368.1
22.25	38.7	37.2	368.1	42.9	401.0	41.2	359.8
22.50	37.2	35.7	359.8	41.2	391.5	39.6	351.9
22.75	35.7	34.4	351.9	39.6	382.4	38.1	344.3

HYDROLOGIC REPORT FOR

POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

23.00	34.4	33.1	344.3	38.1	373.8	36.6	337.2
23.25	33.1	31.9	337.2	36.6	365.6	35.3	330.3
23.50	31.9	30.8	330.3	35.3	357.7	34.2	323.5
23.75	30.8	29.8	323.5	34.2	349.9	33.1	316.8
24.00	29.8	28.8	316.8	33.1	342.3	32.0	310.4
24.25	28.8	25.7	310.4	32.0	332.9	30.6	302.3
24.50	25.7	23.9	302.3	30.6	321.3	28.9	292.4
24.75	23.9	22.4	292.4	28.9	309.9	27.2	282.6
25.00	22.4	21.0	282.6	27.2	298.9	25.6	273.2
25.25	21.0	19.8	273.2	25.6	288.4	24.1	264.3
25.50	19.8	18.6	264.3	24.1	278.5	22.9	255.6
25.75	18.6	17.4	255.6	22.9	268.7	21.7	247.0
26.00	17.4	16.4	247.0	21.7	259.1	20.5	238.6
26.25	16.4	15.4	238.6	20.5	249.9	19.4	230.5
26.50	15.4	14.5	230.5	19.4	240.9	18.3	222.6
26.75	14.5	13.6	222.6	18.3	232.4	17.3	215.1
27.00	13.6	12.8	215.1	17.3	224.2	16.3	207.9
27.25	12.8	12.0	207.9	16.3	216.5	15.3	201.2
27.50	12.0	11.4	201.2	15.3	209.3	14.5	194.8
27.75	11.4	10.8	194.8	14.5	202.6	13.8	188.7
28.00	10.8	10.3	188.7	13.8	196.0	13.2	182.8
28.25	10.3	9.7	182.8	13.2	189.5	12.6	177.0
28.50	9.7	9.2	177.0	12.6	183.4	12.0	171.4
28.75	9.2	8.7	171.4	12.0	177.4	11.4	166.0
29.00	8.7	8.3	166.0	11.4	171.7	10.8	160.9
29.25	8.3	7.8	160.9	10.8	166.2	10.3	155.9
29.50	7.8	7.4	155.9	10.3	160.9	9.7	151.2
29.75	7.4	7.0	151.2	9.7	155.9	9.3	146.6
30.00	7.0	6.7	146.6	9.3	151.1	8.8	142.3
30.25	6.7	6.3	142.3	8.8	146.5	8.3	138.2
30.50	6.3	6.0	138.2	8.3	142.2	7.9	134.3
30.75	6.0	5.7	134.3	7.9	138.0	7.5	130.5
31.00	5.7	5.4	130.5	7.5	134.1	7.2	126.8
31.25	5.4	5.1	126.8	7.2	130.1	6.9	123.2
31.50	5.1	4.8	123.2	6.9	126.2	6.7	119.5
31.75	4.8	4.6	119.5	6.7	122.3	6.4	115.9
32.00	4.6	4.4	115.9	6.4	118.4	6.1	112.3
32.25	4.4	4.2	112.3	6.1	114.8	5.9	109.0
32.50	4.2	4.1	109.0	5.9	111.5	5.6	105.9
32.75	4.1	4.0	105.9	5.6	108.3	5.4	103.0

HYDROLOGIC REPORT FOR

POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

33.00	4.0	3.9	103.0	5.4	105.4	5.2	100.2
33.25	3.9	3.8	100.2	5.2	102.7	5.0	97.7
33.50	3.8	3.6	97.7	5.0	100.1	4.8	95.3
33.75	3.6	3.5	95.3	4.8	97.7	4.6	93.1
34.00	3.5	3.4	93.1	4.6	95.4	4.5	90.9
34.25	3.4	3.3	90.9	4.5	93.2	4.3	88.9
34.50	3.3	3.2	88.9	4.3	91.2	4.2	87.0
34.75	3.2	3.1	87.0	4.2	89.2	4.0	85.2
35.00	3.1	3.0	85.2	4.0	87.3	3.9	83.5
35.25	3.0	3.0	83.5	3.9	85.6	3.8	81.8
35.50	3.0	2.9	81.8	3.8	83.9	3.6	80.2
35.75	2.9	2.8	80.2	3.6	82.2	3.5	78.7
36.00	2.8	2.7	78.7	3.5	80.6	3.4	77.2
36.25	2.7	2.6	77.2	3.4	79.1	3.3	75.8
36.50	2.6	2.5	75.8	3.3	77.7	3.2	74.5
36.75	2.5	2.5	74.5	3.2	76.3	3.1	73.2
37.00	2.5	2.4	73.2	3.1	74.9	3.0	71.9
37.25	2.4	2.3	71.9	3.0	73.6	2.9	70.7
37.50	2.3	2.3	70.7	2.9	72.4	2.8	69.6
37.75	2.3	2.2	69.6	2.8	71.2	2.7	68.4
38.00	2.2	2.1	68.4	2.7	70.0	2.7	67.3
38.25	2.1	2.1	67.3	2.7	68.9	2.6	66.3
38.50	2.1	2.0	66.3	2.6	67.8	2.5	65.3
38.75	2.0	1.9	65.3	2.5	66.7	2.4	64.3
39.00	1.9	1.9	64.3	2.4	65.7	2.4	63.3
39.25	1.9	1.8	63.3	2.4	64.6	2.4	62.2
39.50	1.8	1.8	62.2	2.4	63.4	2.3	61.1
39.75	1.8	1.7	61.1	2.3	62.3	2.3	60.0
40.00	1.7	1.7	60.0	2.3	61.1	2.2	58.9
40.25	1.7	1.6	58.9	2.2	59.9	2.2	57.7
40.50	1.6	1.6	57.7	2.2	58.7	2.2	56.6
40.75	1.6	1.5	56.6	2.2	57.5	2.1	55.4
41.00	1.5	1.5	55.4	2.1	56.3	2.1	54.2
41.25	1.5	1.4	54.2	2.1	55.1	2.0	53.1
41.50	1.4	1.4	53.1	2.0	53.9	2.0	51.9
41.75	1.4	1.4	51.9	2.0	52.7	1.9	50.7
42.00	1.4	1.3	50.7	1.9	51.5	1.9	49.6
42.25	1.3	1.3	49.6	1.9	50.3	1.8	48.5
42.50	1.3	1.2	48.5	1.8	49.1	1.8	47.3
42.75	1.2	1.2	47.3	1.8	48.0	1.8	46.2

HYDROLOGIC REPORT FOR

POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

43.00	1.2	1.2	46.2	1.8	46.8	1.7	45.1
43.25	1.2	1.1	45.1	1.7	45.7	1.7	44.0
43.50	1.1	1.1	44.0	1.7	44.6	1.6	42.9
43.75	1.1	1.1	42.9	1.6	43.4	1.6	41.9
44.00	1.1	1.0	41.9	1.6	42.4	1.6	40.8
44.25	1.0	1.0	40.8	1.6	41.3	1.5	39.8
44.50	1.0	1.0	39.8	1.5	40.2	1.5	38.8
44.75	1.0	.9	38.8	1.5	39.2	1.4	37.8
45.00	.9	.9	37.8	1.4	38.2	1.4	36.8
45.25	.9	.9	36.8	1.4	37.2	1.4	35.8
45.50	.9	.9	35.8	1.4	36.2	1.3	34.9
45.75	.9	.8	34.9	1.3	35.3	1.3	34.0
46.00	.8	.8	34.0	1.3	34.3	1.3	33.1
46.25	.8	.8	33.1	1.3	33.4	1.2	32.2
46.50	.8	.8	32.2	1.2	32.5	1.2	31.3
46.75	.8	.7	31.3	1.2	31.6	1.2	30.5
47.00	.7	.7	30.5	1.2	30.8	1.1	29.7
47.25	.7	.7	29.7	1.1	29.9	1.1	28.8
47.50	.7	.7	28.8	1.1	29.1	1.1	28.1
47.75	.7	.7	28.1	1.1	28.3	1.0	27.3
48.00	.7	.6	27.3	1.0	27.6	1.0	26.5
48.25	.6	.6	26.5	1.0	26.8	1.0	25.8
48.50	.6	.6	25.8	1.0	26.0	1.0	25.1
48.75	.6	.6	25.1	1.0	25.3	.9	24.4
49.00	.6	.6	24.4	.9	24.6	.9	23.7
49.25	.6	.6	23.7	.9	23.9	.9	23.1
49.50	.6	.5	23.1	.9	23.3	.9	22.4
49.75	.5	.5	22.4	.9	22.6	.8	21.8
50.00	.5	.5	21.8	.8	22.0	.8	21.2
50.25	.5	.5	21.2	.8	21.3	.8	20.6
50.50	.5	.5	20.6	.8	20.7	.8	20.0
50.75	.5	.5	20.0	.8	20.2	.7	19.4
51.00	.5	.4	19.4	.7	19.6	.7	18.9
51.25	.4	.4	18.9	.7	19.0	.7	18.3
51.50	.4	.4	18.3	.7	18.5	.7	17.8
51.75	.4	.4	17.8	.7	18.0	.7	17.3
52.00	.4	.4	17.3	.7	17.4	.6	16.8
52.25	.4	.4	16.8	.6	16.9	.6	16.3
52.50	.4	.4	16.3	.6	16.5	.6	15.8
52.75	.4	.4	15.8	.6	16.0	.6	15.4

HYDROLOGIC REPORT FOR

POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

53.00	.4	.4	15.4	.6	15.5	.6	15.0
53.25	.4	.3	15.0	.6	15.1	.6	14.5
53.50	.3	.3	14.5	.6	14.6	.5	14.1
53.75	.3	.3	14.1	.5	14.2	.5	13.7
54.00	.3	.3	13.7	.5	13.8	.5	13.3
54.25	.3	.3	13.3	.5	13.4	.5	12.9
54.50	.3	.3	12.9	.5	13.0	.5	12.5
54.75	.3	.3	12.5	.5	12.6	.5	12.2
55.00	.3	.3	12.2	.5	12.3	.4	11.8
55.25	.3	.3	11.8	.4	11.9	.4	11.5
55.50	.3	.3	11.5	.4	11.6	.4	11.1
55.75	.3	.3	11.1	.4	11.2	.4	10.8
56.00	.3	.2	10.8	.4	10.9	.4	10.5
56.25	.2	.2	10.5	.4	10.6	.4	10.2
56.50	.2	.2	10.2	.4	10.3	.4	9.9
56.75	.2	.2	9.9	.4	10.0	.4	9.6
57.00	.2	.2	9.6	.4	9.7	.4	9.3
57.25	.2	.2	9.3	.4	9.4	.3	9.1
57.50	.2	.2	9.1	.3	9.1	.3	8.8
57.75	.2	.2	8.8	.3	8.9	.3	8.5
58.00	.2	.2	8.5	.3	8.6	.3	8.3
58.25	.2	.2	8.3	.3	8.3	.3	8.0
58.50	.2	.2	8.0	.3	8.1	.3	7.8
58.75	.2	.2	7.8	.3	7.9	.3	7.6
59.00	.2	.2	7.6	.3	7.6	.3	7.4
59.25	.2	.2	7.4	.3	7.4	.3	7.1
59.50	.2	.2	7.1	.3	7.2	.3	6.9
59.75	.2	.2	6.9	.3	7.0	.3	6.7
60.00	.2	.2	6.7	.3	6.8	.2	6.5
60.25	.2	.1	6.5	.2	6.6	.2	6.3
60.50	.1	.1	6.3	.2	6.4	.2	6.2
60.75	.1	.1	6.2	.2	6.2	.2	6.0
61.00	.1	.1	6.0	.2	6.0	.2	5.8
61.25	.1	.1	5.8	.2	5.8	.2	5.6
61.50	.1	.1	5.6	.2	5.7	.2	5.5
61.75	.1	.1	5.5	.2	5.5	.2	5.3
62.00	.1	.1	5.3	.2	5.3	.2	5.1
62.25	.1	.1	5.1	.2	5.2	.2	5.0
62.50	.1	.1	5.0	.2	5.0	.2	4.8
62.75	.1	.1	4.8	.2	4.9	.2	4.7

HYDROLOGIC REPORT FOR

POWHATAN

BASIN IDENTIFIER 3.3 AC. SUM
POND IDENTIFIER 3.3 AC. LAKE SUM
100 YEAR STORM FREQUENCY (CONT'D)

63.00	.1	.1	4.7	.2	4.7	.2	4.6
63.25	.1	.1	4.6	.2	4.6	.2	4.4
63.50	.1	.1	4.4	.2	4.5	.2	4.3
63.75	.1	.1	4.3	.2	4.3	.2	4.2
64.00	.1	.1	4.2	.2	4.2	.2	4.0
64.25	.1	.1	4.0	.2	4.1	.1	3.9
64.50	.1	.1	3.9	.1	4.0	.1	3.8
64.75	.1	.1	3.8	.1	3.8	.1	3.7
65.00	.1	.1	3.7	.1	3.7	.1	3.6
65.25	.1	.1	3.6	.1	3.6	.1	3.5
65.50	.1	.1	3.5	.1	3.5	.1	3.4
65.75	.1	.1	3.4	.1	3.4	.1	3.3
66.00	.1	.1	3.3	.1	3.3	.1	3.2
66.25	.1	.1	3.2	.1	3.2	.1	3.1
66.50	.1	.1	3.1	.1	3.1	.1	3.0
66.75	.1	.1	3.0	.1	3.0	.1	2.9
67.00	.1	.1	2.9	.1	2.9	.1	2.8
67.25	.1	.1	2.8	.1	2.8	.1	2.7
67.50	.1	.1	2.7	.1	2.8	.1	2.7
67.75	.1	.1	2.7	.1	2.7	.1	2.6
68.00	.1	.1	2.6	.1	2.6	.1	2.5
68.25	.1	.1	2.5	.1	2.5	.1	2.4
68.50	.1	.1	2.4	.1	2.5	.1	2.4
68.75	.1	.1	2.4	.1	2.4	.1	2.3
69.00	.1	.1	2.3	.1	2.3	.1	2.2
69.25	.1	0.0	2.2	.1	2.2	.1	2.2
69.50	0.0	0.0	2.2	.1	2.1	.1	2.0
69.75	0.0	0.0	2.0	.1	2.0	.1	1.9
70.00	0.0	0.0	1.9	.1	1.8	.1	1.8
70.25	0.0	0.0	1.8	.1	1.7	.1	1.6
70.50	0.0	0.0	1.6	.1	1.6	.1	1.5
70.75	0.0	0.0	1.5	.1	1.5	.1	1.4
71.00	0.0	0.0	1.4	.1	1.3	0.0	1.3

MAXIMUM OUTFLOW = 124.1 C.F.S.
MAXIMUM STORAGE = 301275.6 CU FT.
MAXIMUM ELEVATION = 45.9 FEET

Date Record Created:

Created By:

WS_BMPNO: PC142

PRINTED ON
Thursday, March 04, 2010
2:20:20 PM

WATERSHED	PC
BMP ID NO	142
PLAN NO	
TAX PARCEL	
PIN NO	3830100009
CONSTRUCTION DATE	
PROJECT NAME	Powhatan Secondary Basin 2
FACILITY LOCATION	Across Powhatan Secondary from Clusters
CITY-STATE	Williamsburg, VA
CURRENT OWNER	Powhatan Enterprises
OWNER ADDRESS	13441 Warwick Blvd.
OWNER ADDRESS 2	
CITY-STATE-ZIP CODE	Newport News, VA 23602
OWNER PHONE	
MAINT AGREEMENT	No
EMERG ACTION PLAN	No

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MAINTENANCE PLAN	No
SITE AREA acre	
LAND USE	
old BMP TYP	Wet Pond
JCC BMP CODE	A2 Wet Pond
POINT VALUE	10
SVC DRAIN AREA acres	25.9
SERVICE AREA DESCRI	
IMPERV AREA acres	0.00
RECV STREAM	
EXT DET-WQ-CTRL	No
WTR QUAL VOL acre-ft	
CHAN PROT CTRL	No
CHAN PROT VOL acre-ft	
SW/FLOOD CONTROL	No
GEOTECH REPORT	No

CTRL STRUC DESC	
CTRL STRUC SIZE inches	
OTLT BARRL DESC	
OTLT BARRL SIZE inch	
EMERG SPILLWAY	Yes
DESIGN HW ELEV	45.90
PERM POOL ELEV	44.0
2-YR OUTFLOW cfs	0.00
10-YR OUTFLOW cfs	71.20
REC DRAWING	No
CONSTR CERTIF	No

LAST INSP DATE 3/1/2002 Inspected by:

INTERNAL RATING 3

MISC/COMMENTS

BMP # 2; 3.3 acre large lake.

Additional Comments: