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: **DC004**

DATE VERIFIED: **May 22, 2012**

QUALITY ASSURANCE TECHNICIAN: **Leah Hardenbergh**

Leah Hardenbergh

LOCATION: WILLIAMSBURG, VIRGINIA

Stormwater Division

MEMORANDUM

DATE: March 10, 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: DC004

PIN: 1120100001

Subdivision, Tract, Business or Owner Name (if known): James City County

Property Description: Upper County Park

Site Address: 180 Leisure Road

(For internal use only) **Box** 10 **Drawer:** 6

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

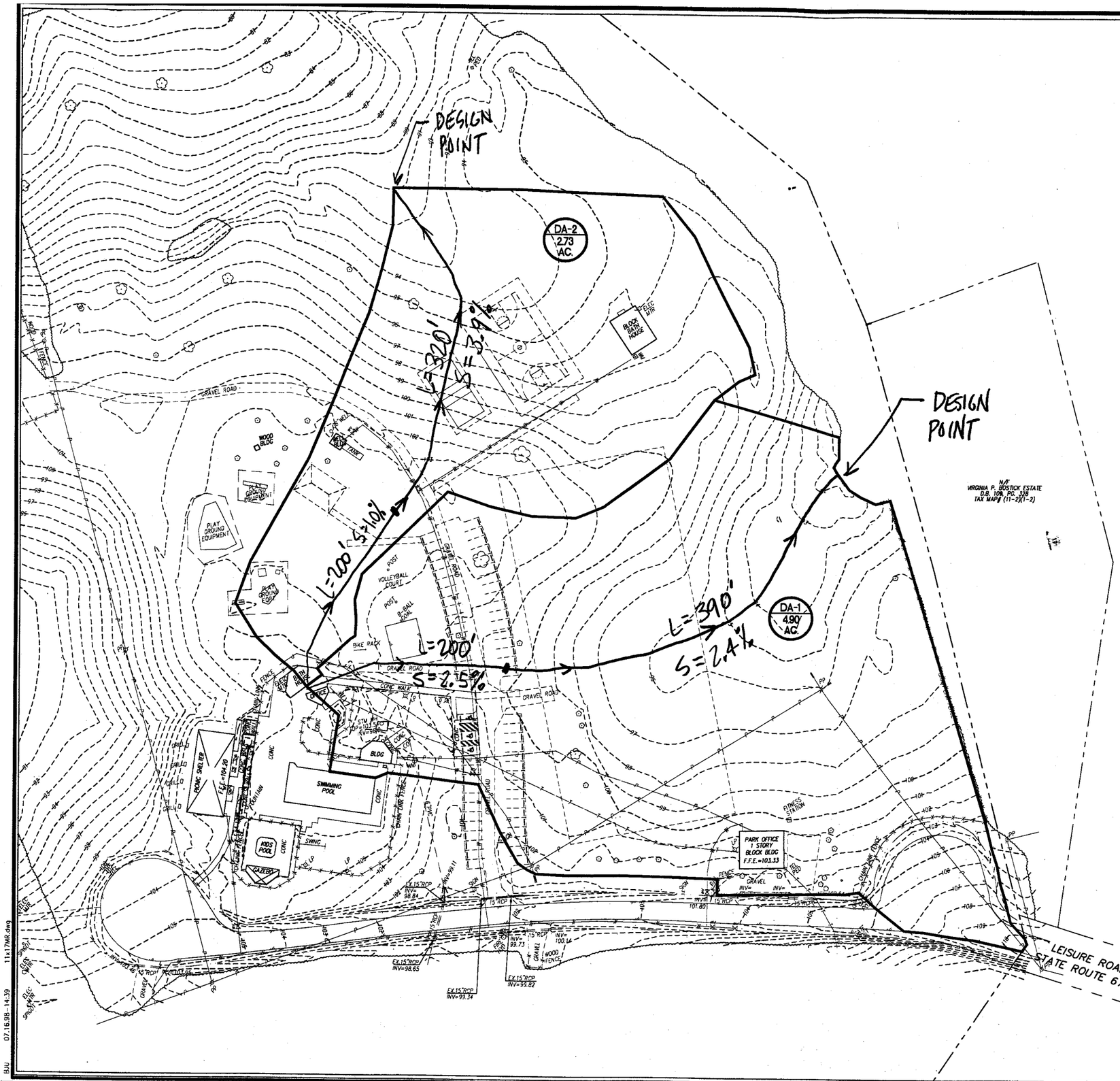
Comments

DC-004

Contents for Stormwater Management Facilities As-built Files

Each file is to contain:

1. As-built plan
2. Completed construction certification
3. Construction Plan
4. Design Calculations
5. Watershed Map
6. Maintenance Agreement
7. Correspondence with owners
8. Inspection Records
9. Enforcement Actions



PLAT OF THE PROPERTY OF
TWIN OAKS CORP. OF WILLIAMSBURG, VA
BY CLOSEN & ASSOC.
MARCH 16, 1972

DA-1

AREA = 4.9 AC. C = 0.32

OVERLAND FLOW

T_t = 15.8 MIN

SHALLOW CONCENTRATED FLOW

VELOCITY = 2.4 ft/sec

$T_t = \frac{390}{2.4} = 160$ sec ≈ 2.7 MIN

T_c = 15.8 + 2.7 = 18.5 MIN

DA-2

AREA = 2.73 C = 0.26

OVERLAND FLOW

T_t = 19 MIN

SHALLOW CONCENTRATED FLOW

VELOCITY = 3.2 ft/sec

$T_t = \frac{320}{3.2} = 100$ sec ≈ 1.7 MIN

T_c = 19 + 1.7 = 20.7 MIN

GRAPHIC SCALE

100' 0' 100' 200'

SCALE: 1" = 100'

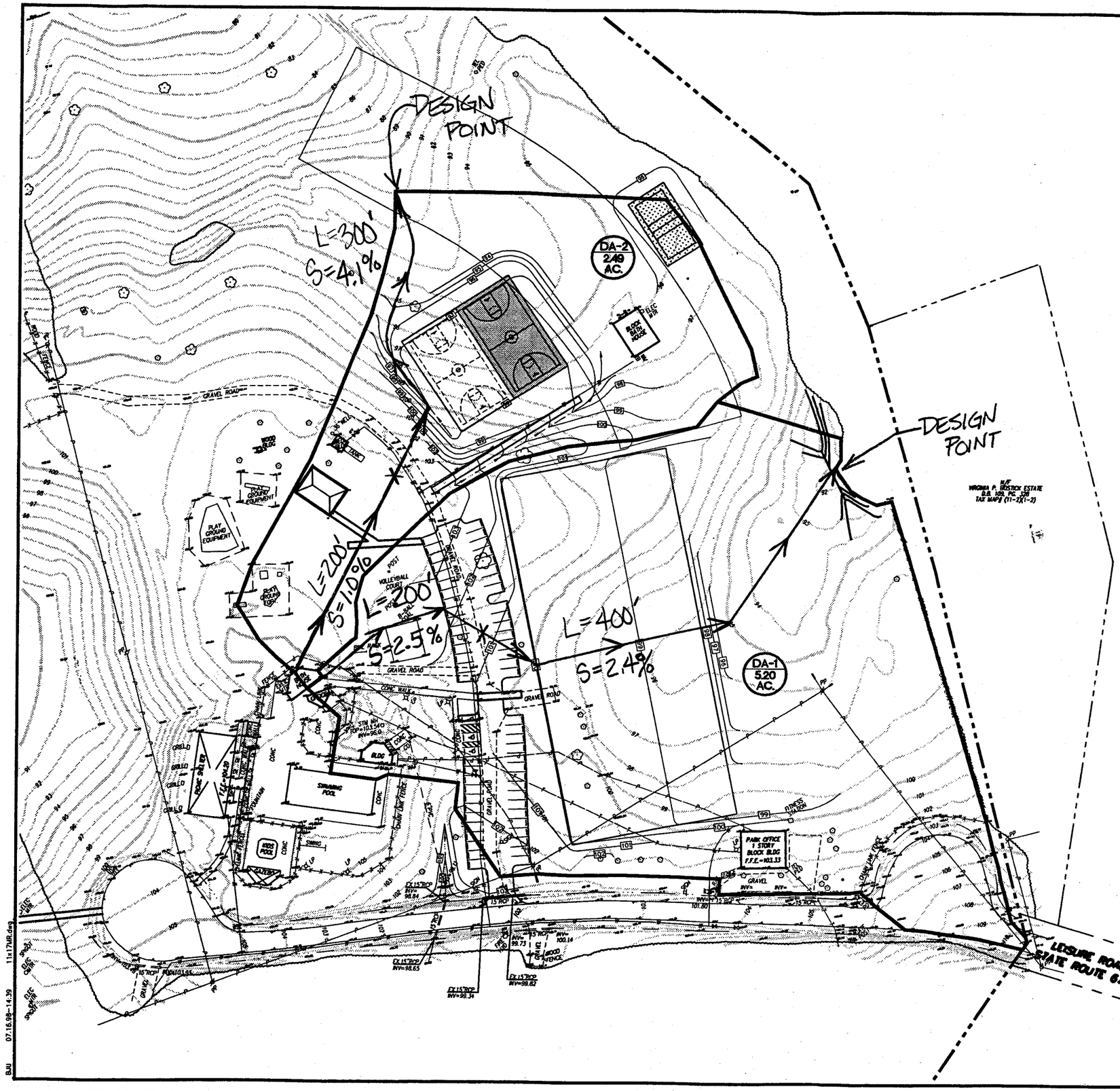
No.	DATE	REVISION / COMMENT / NOTE	BY

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994
CONSULTING ENGINEERS

UPPER COUNTY PARK
PRE-DEVELOPMENT DRAINAGE AREAS

Designed MAR	Drawn MAR
Scale 1"=100'	Date 7/19/00
Project No. 5430-69-1	
Drawing No. 1OF1	

07.16.98-14:39 11x17MR.dwg



DA-1

AREA = 5.2 AC C = 0.36

OVERLAND FLOW

T_t = 16 MIN

SHALLOW CONCENTRATED FLOW

VELOCITY = 2.4 FPS

$T_t = \frac{400}{2.4} = 166\ s = 2.8$ MIN

$T_c = 16 + 2.8 = \underline{18.8 \text{ MIN}}$

DA-2

AREA = 2.49 AC C = 0.31

OVERLAND FLOW

T_t = 19 MIN

SHALLOW CONCT'D FLOW

VELOCITY = 3.2 FPS

$T_t = \frac{300}{3.2} = 93.8\ SEC = 1.5$ MIN

$T_c = 19 + 1.5 = \underline{20.5 \text{ MIN}}$

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994

UPPER COUNTY PARK
POST DEVELOPMENT
DRAINAGE AREAS

Designed	Drawn
MAR	MAR
Scale	Date
1"=100'	7/19/0
Project No.	
5430-69-1	
Drawing No.	
1 OF 1	

07.16.98-14:39 11x17MR.dwg BJU

SEQUENCE OF CONSTRUCTION

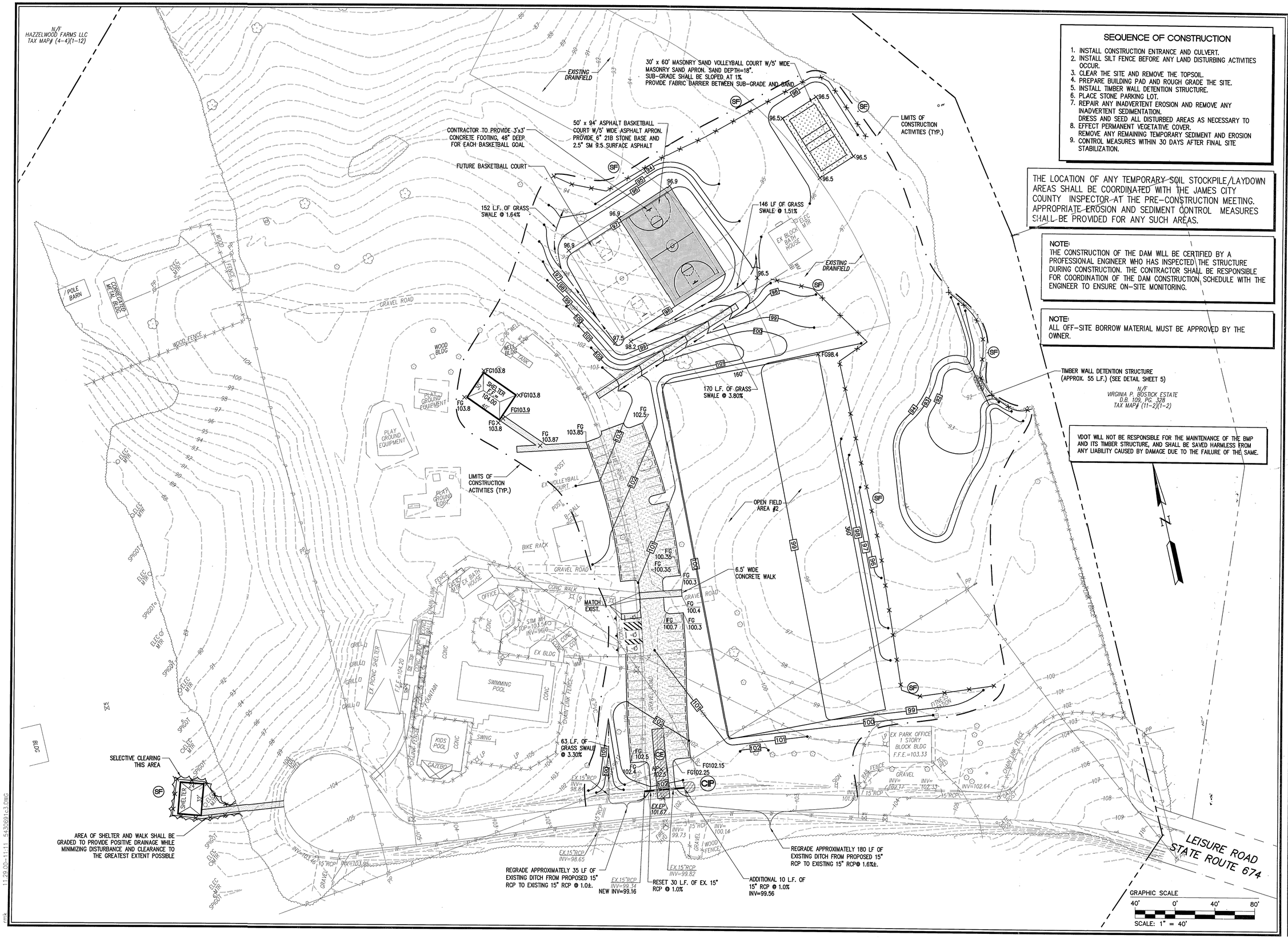
1. INSTALL CONSTRUCTION ENTRANCE AND CULVERT.
2. INSTALL SILT FENCE BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR.
3. CLEAR THE SITE AND REMOVE THE TOPSOIL.
4. PREPARE BUILDING PAD AND ROUGH GRADE THE SITE.
5. INSTALL TIMBER WALL DETENTION STRUCTURE.
6. PLACE STONE PARKING LOT.
7. REPAIR ANY INADVERTENT EROSION AND REMOVE ANY INADVERTENT SEDIMENTATION. DRESS AND SEED ALL DISTURBED AREAS AS NECESSARY TO
8. EFFECT PERMANENT VEGETATIVE COVER. REMOVE ANY REMAINING TEMPORARY SEDIMENT AND EROSION
9. CONTROL MEASURES WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION.

THE LOCATION OF ANY TEMPORARY SOIL STOCKPILE/LAYDOWN AREAS SHALL BE COORDINATED WITH THE JAMES CITY COUNTY INSPECTOR AT THE PRE-CONSTRUCTION MEETING. APPROPRIATE EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PROVIDED FOR ANY SUCH AREAS.

NOTE:
THE CONSTRUCTION OF THE DAM WILL BE CERTIFIED BY A PROFESSIONAL ENGINEER WHO HAS INSPECTED THE STRUCTURE DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF THE DAM CONSTRUCTION SCHEDULE WITH THE ENGINEER TO ENSURE ON-SITE MONITORING.

NOTE:
ALL OFF-SITE BORROW MATERIAL MUST BE APPROVED BY THE OWNER.

VDOT WILL NOT BE RESPONSIBLE FOR THE MAINTENANCE OF THE BMP AND ITS TIMBER STRUCTURE, AND SHALL BE SAVED HARMLESS FROM ANY LIABILITY CAUSED BY DAMAGE DUE TO THE FAILURE OF THE SAME.



No.	DATE	REVISION / COMMENT / NOTE	BY
2	11/29/00	REVISED PER JCC COMMENTS	MAR
1	11/01/00	REVISED PER JCC COMMENTS	MAR

PREPARED BY: G. ARCHER MARSTON, III No. 08232 11/29/00 COMMONWEALTH OF VIRGINIA PROFESSIONAL ENGINEER

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax (757) 220-8994
CONSULTING ENGINEERS

GRADING, DRAINAGE, AND EROSION/SEDIMENT CONTROL PLAN
UPPER COUNTY PARK

STONEHOUSE DISTRICT — JAMES CITY COUNTY — VIRGINIA

Designed	Drawn
MAR	EAW
Scale	Date
1"=40'	8/24/00
Project No.	
5430-69-1	
Drawing No.	
3 of 5	

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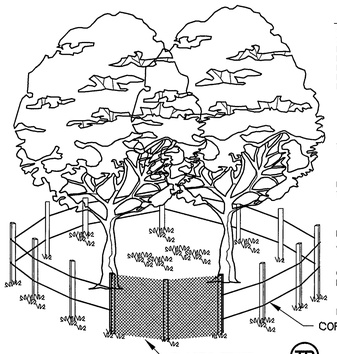
DC004_JCC_UPPER_COUNTY_PARK - 006



PLASTIC FENCING–40–INCH HIGH "INTERNATIONAL ORANGE" PLASTIC (POLYETHYLENE) WEB FENCING SECURED TO CONVENTIONAL METAL "T" OR "U" POSTS DRIVEN TO A MINIMUM DEPTH OF 18 INCHES ON 6–FOOT MINIMUM CENTERS SHALL BE INSTALLED AT THE LIMITS OF CLEARING. THE FENCE SHALL HAVE THE FOLLOWING MINIMUM PHYSICAL QUALITIES:

TENSILE YIELD: AVERAGE 2,000 LBS. PER 4–FOOT WIDTH (ASTM D638)

ULTIMATE TENSILE YIELD: AVERAGE 2,900 LBS. PER 4–FOOT WIDTH (ASTM D638)

ELONGATION AT BREAK (%): GREATER THAN 1000% (ASTM D638)

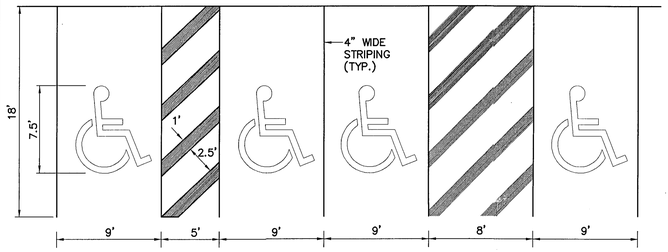
CHEMICAL RESISTANCE: INERT TO MOST CHEMICALS AND ACIDS

PLACE FENCE 5' OUTSIDE DRIPLINE

(TP) TREE PROTECTION

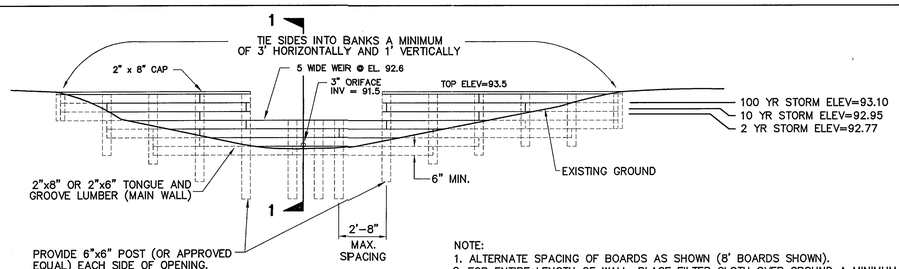
N.T.S.

ESVD–TRPRO



PARKING SPACE DETAIL

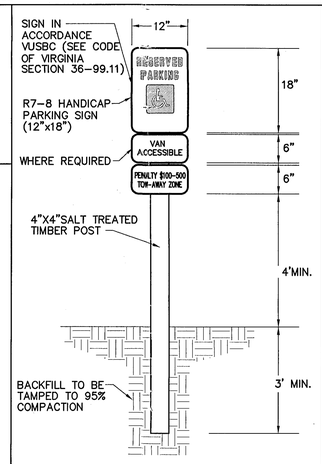
NOT TO SCALE



NOTE:
1. ALTERNATE SPACING OF BOARDS AS SHOWN (8' BOARDS SHOWN).
2. FOR ENTIRE LENGTH OF WALL, PLACE FILTER CLOTH OVER GROUND A MINIMUM OF 2' WIDE UPSTREAM AND DOWNSTREAM FROM STRUCTURE AND UP WALL 12". STAPLE CLOTH TO WALL. COVER CLOTH WITH EC–1 STONE.
3. ALL TIMBER TO BE PRESSURE TREATED. ALL FASTENERS TO BE GALVANIZED.

UPSTREAM ELEVATION
PRESSURE TREATED WOOD DRY DETENTION STRUCTURE

N.T.S.



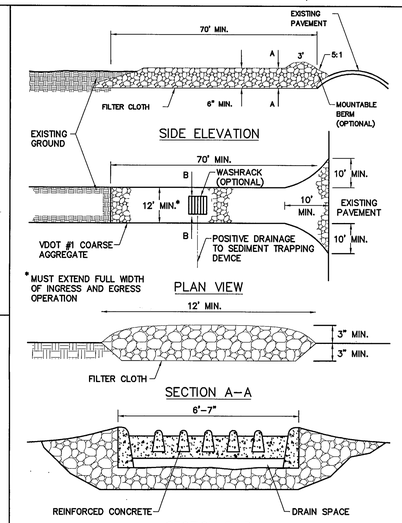
NOTES

1. THE SIGN SHALL BE FABRICATED IN ACCORDANCE WITH SECTION 701 AND INSTALLED PER INSTALLATION DETAIL WSP–1 TYPE C OF THE VDOT ROAD AND BRIDGE STANDARDS AND SPECIFICATIONS.
2. VAN ACCESSIBLE SPACES SHALL HAVE ADDITIONAL SIGNAGE READING "VAN ACCESSIBLE".

HANDICAP SIGN DETAIL

N.T.S.

D–HCSIGN–1

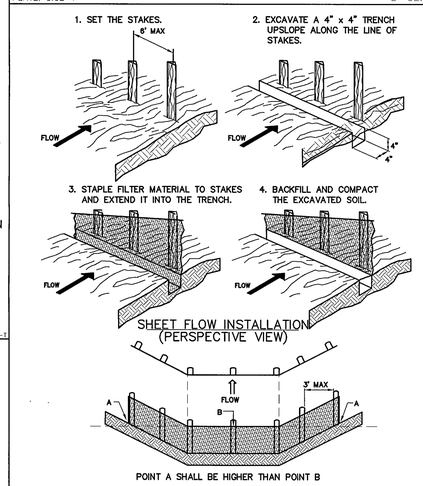


(CE) STONE CONSTRUCTION ENTRANCE

SOURCE: VA. DSWC PLATE. 3.02–1

N.T.S.

D–CE.dwg

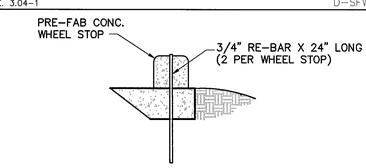


(SF) CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

SOURCE: VA. DSWC PLATE. 3.04–1

N.T.S.

D–SFWOW.dwg



CONC. WHEEL STOP DETAIL

N.T.S.

D–WLSTOP2.dwg

STANDARD EROSION AND SEDIMENT CONTROL NOTES FOR JAMES CITY COUNTY, VIRGINIA REVISED 5/5/99

THE PURPOSE OF THE EROSION CONTROL MEASURES SHOWN ON THESE PLANS SHALL BE TO PRECLUDE THE TRANSPORT OF ALL WATERBORNE SEDIMENTS RESULTING FROM CONSTRUCTION ACTIVITIES FROM ENTERING ONTO ADJACENT PROPERTIES OR STATE WATERS. IF FIELD INSPECTION REVEALS THE INADEQUACY OF THE PLAN TO CONFINE SEDIMENT TO THE PROJECT SITE, APPROPRIATE MODIFICATIONS WILL BE MADE TO CORRECT ANY PLAN DEFICIENCIES. IN ADDITION TO THESE NOTES, ALL PROVISIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS SHALL APPLY TO THIS PROJECT.

1. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK". THE CONTRACTOR SHALL BE THOROUGHLY FAMILIAR WITH ALL APPLICABLE MEASURES CONTAINED THEREIN WHICH MAY BE PERTINENT TO THIS PROJECT.

2. ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS SHALL BE PROTECTED BY A TEMPORARY CONSTRUCTION ENTRANCE TO PREVENT TRACKING OF MUD ONTO PUBLIC RIGHT–OF–WAYS. AN ENTRANCE PERMIT FROM VDOT IS REQUIRED PRIOR TO ANY CONSTRUCTION ACTIVITIES WITHIN STATE RIGHTS–OF–WAYS. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, THE ROAD SHALL BE THOROUGHLY CLEANED AT THE END OF EACH DAY.

3. A PRECONSTRUCTION MEETING SHALL BE HELD ON SITE BETWEEN THE COUNTY, THE DEVELOPER, THE PROJECT ENGINEER, AND THE CONTRACTOR PRIOR TO ISSUANCE OF THE LAND DISTURBING PERMIT. THE CONTRACTOR SHALL SUBMIT A SEQUENCE OF CONSTRUCTION TO THE COUNTY FOR APPROVAL PRIOR TO THE PRECONSTRUCTION MEETING. THE CONTRACTOR WILL SUPPLY THE ENVIRONMENTAL DIVISION WITH THE NAME OF THE INDIVIDUAL WHO WILL BE RESPONSIBLE FOR ENSURING MAINTENANCE OF INSTALLED MEASURES ON A DAILY BASIS.

4. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND OTHER MEASURES INTENDED TO TRAP SEDIMENT ON–SITE MUST BE CONSTRUCTED AS A FIRST STEP IN GRADING AND BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE. EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS MUST BE SEEDED AND MULCHED IMMEDIATELY AFTER INSTALLATION. PERIODIC INSPECTIONS OF THE EROSION CONTROL MEASURES SHALL BE MADE TO ASSESS THEIR CONDITION. ANY NECESSARY MAINTENANCE OF THE MEASURES SHALL BE ACCOMPLISHED IMMEDIATELY UPON NOTIFICATION BY THE COUNTY AND SHALL INCLUDE THE REPAIR OF MEASURES DAMAGED BY ANY SUBCONTRACTOR INCLUDING THOSE OF THE PUBLIC UTILITY COMPANIES.

5. SURFACE FLOWS OVER CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER REDIRECTING FLOWS FROM TRANSVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO SAFELY LOWER WATER DOWNSLOPE WITHOUT CAUSING EROSION. A TEMPORARY FILL DIVERSION (STD. & SPEC. 3.10) SHALL BE INSTALLED PRIOR TO THE END OF EACH WORKING DAY.

6. SEDIMENT CONTROL MEASURES MAY REQUIRE MINOR FIELD ADJUSTMENTS AT TIME OF CONSTRUCTION TO INSURE THEIR INTENDED PURPOSE IS ACCOMPLISHED. ENVIRONMENTAL DIVISION APPROVAL WILL BE REQUIRED FOR OTHER DEVIATIONS FROM THE APPROVED PLANS.

7. THE CONTRACTOR SHALL PLACE SOIL STOCKPILES AT THE LOCATIONS SHOWN ON THIS PLAN OR AS DIRECTED BY THE ENGINEER. SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. OFF–SITE WASTE OR BORROW AREAS SHALL BE APPROVED BY THE ENVIRONMENTAL DIVISION PRIOR TO THE IMPORT OF ANY BORROW OR EXPORT OF ANY WASTE TO OR FROM THE PROJECT SITE.

8. THE CONTRACTOR SHALL COMPLETE DRAINAGE FACILITIES WITHIN 30 DAYS FOLLOWING COMPLETION OF ROUGH GRADING AT ANY POINT WITHIN THE PROJECT. THE INSTALLATION OF DRAINAGE FACILITIES SHALL TAKE PRECEDENCE OVER ALL UNDERGROUND UTILITIES. OUTFALL DITCHES FROM DRAINAGE STRUCTURES SHALL BE STABILIZED IMMEDIATELY AFTER CONSTRUCTION OF SAME. THIS INCLUDES INSTALLATION OF EROSION CONTROL STONE OR PAVED DITCHES WHERE REQUIRED. ANY DRAINAGE OUTFALLS REQUIRED FOR A STREET MUST BE COMPLETED BEFORE STREET GRADING OR UTILITY INSTALLATION BEGINS.

9. PERMANENT OR TEMPORARY SOIL STABILIZATION MUST BE APPLIED TO ALL DENUDED AREAS WITHIN 7 DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. SOIL STABILIZATION MUST ALSO BE APPLIED TO DENUDED AREAS WHICH MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. SOIL STABILIZATION MEASURES INCLUDE VEGETATIVE ESTABLISHMENT, MULCHING AND THE EARLY APPLICATION OF GRAVEL BASE MATERIAL ON AREAS TO BE PAVED.

10. NO MORE THAN 300 FEET OF SANITARY SEWER, STORM SEWER, WATERLINES, OR UNDERGROUND UTILITY LINES ARE TO BE OPEN AT ONE TIME. FOLLOWING INSTALLATION OF ANY PORTION OF THESE ITEMS, ALL DISTURBED AREAS ARE TO BE IMMEDIATELY STABILIZED (I.E., THE SAME DAY).

11. IF DISTURBED AREA STABILIZATION IS TO BE ACCOMPLISHED DURING THE MONTHS OF DECEMBER, JANUARY, OR FEBRUARY, STABILIZATION SHALL CONSIST OF MULCHING IN ACCORDANCE WITH SPECIFICATION 3.35. SEEDING WILL THEN TAKE PLACE AS SOON AS THE SEASON PERMITS.

12. THE TERM SEEDING, FINAL VEGETATIVE COVER OR STABILIZATION, ON THIS SITE PLAN SHALL MEAN THE SUCCESSFUL GERMINATION AND ESTABLISHMENT OF A STABLE GRASS COVER FROM A PROPERLY PREPARED SEEDBED CONTAINING THE SPECIFIED AMOUNTS OF SEED, LIME, AND FERTILIZER IN ACCORDANCE WITH SPECIFICATION 3.32, PERMANENT SEEDING. IRRIGATION SHALL BE REQUIRED AS NECESSARY TO ENSURE ESTABLISHMENT OF GRASS COVER.

13. ALL SLOPES STEEPER THAN 3:1 SHALL REQUIRE THE USE OF EROSION CONTROL BLANKETS SUCH AS EXCELSIOR BLANKETS TO AID IN THE ESTABLISHMENT OF A VEGETATIVE COVER. INSTALLATION SHALL BE IN ACCORDANCE WITH SPECIFICATION 3.35, MULCHING AND MANUFACTURER'S INSTRUCTIONS. NO SLOPES SHALL BE CREATED STEEPER THAN 2:1.

14. INLET PROTECTION IN ACCORDANCE WITH SPECIFICATION 3.07 SHALL BE PROVIDED FOR ALL STORM DRAIN INLETS AS SOON AS PRACTICAL FOLLOWING CONSTRUCTION OF SAME.

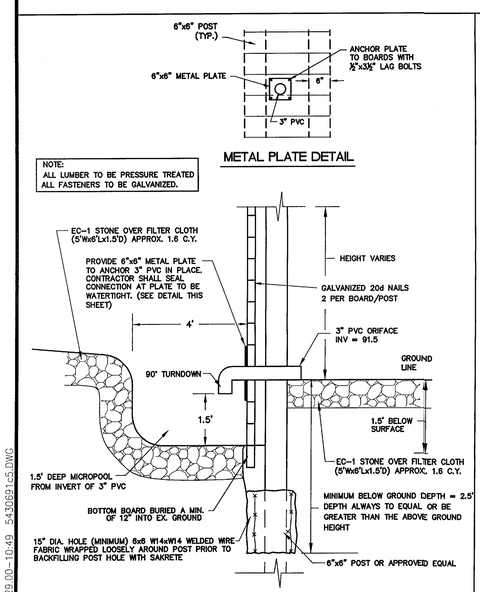
15. TEMPORARY LINERS, SUCH AS POLYETHYLENE SHEETS, SHALL BE PROVIDED FOR ALL PAVED DITCHES UNTIL THE PERMANENT CONCRETE LINER IS INSTALLED.

16. PAVED DITCHES SHALL BE REQUIRED WHEREVER EROSION IS EVIDENT. PARTICULAR ATTENTION SHALL BE PAID TO THOSE AREAS WHERE GRADES EXCEED 3 PERCENT.

17. TEMPORARY EROSION CONTROL MEASURES SUCH AS SILT FENCE ARE NOT TO BE REMOVED UNTIL ALL DISTURBED AREAS ARE STABILIZED. AFTER STABILIZATION IS COMPLETE, MEASURES SHALL BE REMOVED WITHIN 30 DAYS. TRAPPED SEDIMENT SHALL BE SPREAD AND SEEDED.

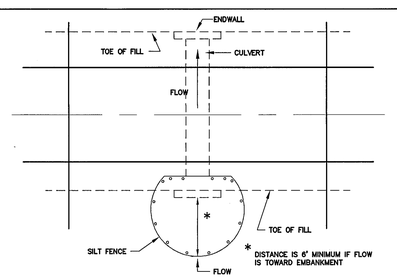
18. ALL SEDIMENT TRAPS AND BASINS SHALL REMAIN IN PLACE UNTIL THE MAJORITY OF THE SINGLE–FAMILY HOUSES HAVE BEEN CONSTRUCTED AND SHALL NOT BE REMOVED WITHOUT AUTHORIZATION FROM THE JAMES CITY COUNTY ENVIRONMENTAL DIVISION.

19. AS–BUILT DRAWINGS MUST BE PROVIDED FOR ALL DETENTION/BMP FACILITIES. ALSO UPON COMPLETION, THE CONSTRUCTION OF ALL DETENTION/BMP FACILITIES SHALL BE CERTIFIED BY A PROFESSIONAL ENGINEER WHO INSPECTED THE STRUCTURE DURING CONSTRUCTION. THE CERTIFICATION SHALL STATE THAT TO THE BEST OF HIS/HER JUDGMENT, KNOWLEDGE, AND BELIEF, THE STRUCTURE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVAL PLANS AND SPECIFICATIONS.



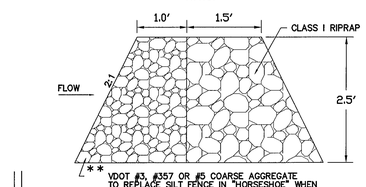
(1 SHT 5) PRESSURE TREATED WOOD DRY DETENTION STRUCTURE

N.T.S.



OPTIONAL STONE COMBINATION

N.T.S.

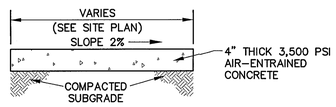


(CIP) SILT FENCE CULVERT INLET PROTECTION

SOURCE: VA. DSWC PLATE. 3.08–1

N.T.S.

D–CIP.dwg

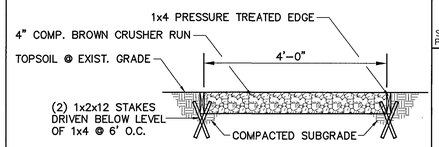


NOTE: HORIZONTAL CRACK CONTROL JOINTS SHALL BE 5' O.C.

TYPICAL SIDEWALK SECTION

N.T.S.

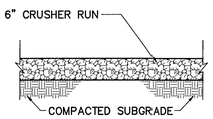
D–SWSEC



SECTION AT GRAVEL PATH

N.T.S.

D–GRAVSW



TYPICAL GRAVEL ROAD SECTION

N.T.S.

No.	DATE	REVISION / COMMENT / NOTE	BY
2	11/29/00	REVISED PER JCC COMMENTS	MAR
1	11/01/00	REVISED PER JCC COMMENTS	MAR

5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253–0040
Fax (757) 220–8994
AES CONSULTING ENGINEERS

DETAILS
UPPER COUNTY PARK

STONEHOUSE DISTRICT — JAMES CITY COUNTY — VIRGINIA

Designed	Drawn
MAR	EAW
Scale	Date
N.T.S.	8/24/00

Project No. 5430–69–1

Drawing No. 5 of 5

11.29.00–10:49 5430691c5.DWG

rmk

SP-104-00

NOV 2000
RECEIVED
PLANNING DEPARTMENT

James City County
Upper County Park

Drainage Calculations

James City County, Virginia

DC004

Prepared by

AES Consulting Engineers
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188

AES Project No. 5430-69-1

July 22, 2000
Rev. Sept 26, 2000

AES CONSULTING ENGINEERS

AES CONSULTING ENGINEERS
5248 Olde Towne Road, Suite 1
Williamsburg, Virginia 23188
(757) 253-0040
Fax: (757) 220-8994

PROJECT JCC UPPER CO. PARK
PROJECT NO. 5430-69-1
SUBJECT DRAINAGE DESIGN
SHEET NO. 1 OF 1
CALCULATED BY MAR DATE 9/26/00

BMP REQUIREMENTS

⇒ PROPOSED SITE IMPERVIOUS AREA % = 9% < 10%

NO BMP IS REQUIRED Future Expansion?

SWMF

- TIMBER STRUCTURE UTILIZED
- CHANNEL PROTECTION CRITERIA
  - ⇒ VOLUME OF 1 YR STORM EVENT = ~~5,475 cf~~
  - ⇒ RELEASE REQUIRED FOR 24 HR (86,400 SEC) DRAWDOWN

$$\frac{5{,}975 \text{ cu ft}}{86{,}400 \text{ sec}} = 0.07 \text{ cfs} = Q$$

⇒ ORIFICE REQUIRED $h = 1.5$ = AVERAGE HEAD

$$A = \frac{Q}{(64.32 \times h/2)^{1/2}(0.6)} = \frac{0.07}{\left(64.32 \times \frac{1.5}{2}\right)^{1/2}(0.6)}$$

$$A = 0.017 \text{ sf}$$

$$d = 2 \times \left(\frac{A}{3.14}\right)^{1/2} = 0.15 \text{ in} < 3 \text{ in}$$

USE 3" ORIFICE

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (cuft)	Return period (yrs)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (cuft)	Hydrograph description
1	Rational	5.4	1	18	5,832	2	—	—	—	2 YR PRE DA-1
2	Rational	7.4	1	18	8,045	10	—	—	—	10 YR PRE DA-1
4	Rational	5.2	1	19	5,975	1	—	—	—	1 YR POST DA-1
5	Rational	6.3	1	19	7,148	2	—	—	—	2 YR POST DA-1
6	Rational	8.7	1	19	9,888	10	—	—	—	10 YR POST DA-1
7	Rational	11.9	1	19	13,618	100	—	—	—	100 YR POST DA-1
9	Reservoir	0.4	1	36	5,968	1	4	92.66	5,549	1 YR ROUTED DA-1
10	Reservoir	1.8	1	34	7,141	2	5	92.77	6,270	2 YR ROUTED DA-1
11	Reservoir	3.4	1	31	9,881	10	6	92.95	7,539	10 YR ROUTED DA-1
12	Reservoir	5.6	1	29	13,610	100	7	93.10	9,120	100 YR ROUTED
15	Rational	2.3	1	21	2,840	2	—	—	—	2 YR PRE DA-2
16	Rational	3.1	1	21	3,949	10	—	—	—	10 YR PRE DA-2
18	Rational	2.5	1	20	3,019	2	—	—	—	2 YR POST DA-2
19	Rational	3.5	1	20	4,189	10	—	—	—	10 YR POST DA-2

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Hydrograph Report

English

Hyd. No. 1

2 YR PRE DA-1

Hydrograph type	= Rational	Peak discharge	= 5.40 cfs
Storm frequency	= 2 yrs	Time interval	= 1 min
Drainage area	= 4.9 ac	Runoff coeff.	= 0.32
Intensity	= 3.44 in	Time of conc. (Tc)	= 18 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 5,832 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	0.60	0.57	0.60
0.05	0.90		
0.07	1.20		
0.08	1.50	...End	
0.10	1.80		
0.12	2.10		
0.13	2.40		
0.15	2.70		
0.17	3.00		
0.18	3.30		
0.20	3.60		
0.22	3.90		
0.23	4.20		
0.25	4.50		
0.27	4.80		
0.28	5.10		
0.30	5.40 <<		
0.32	5.10		
0.33	4.80		
0.35	4.50		
0.37	4.20		
0.38	3.90		
0.40	3.60		
0.42	3.30		
0.43	3.00		
0.45	2.70		
0.47	2.40		
0.48	2.10		
0.50	1.80		
0.52	1.50		
0.53	1.20		
0.55	0.90		

Hydrograph Report

English

Hyd. No. 2

10 YR PRE DA-1

Hydrograph type	= Rational	Peak discharge	= 7.45 cfs
Storm frequency	= 10 yrs	Time interval	= 1 min
Drainage area	= 4.9 ac	Runoff coeff.	= 0.32
Intensity	= 4.75 in	Time of conc. (Tc)	= 18 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 8,045 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	0.83	0.57	0.83
0.05	1.24		
0.07	1.66		
0.08	2.07	*...End*	
0.10	2.48		
0.12	2.90		
0.13	3.31		
0.15	3.72		
0.17	4.14		
0.18	4.55		
0.20	4.97		
0.22	5.38		
0.23	5.79		
0.25	6.21		
0.27	6.62		
0.28	7.04		
0.30	7.45 <<		
0.32	7.04		
0.33	6.62		
0.35	6.21		
0.37	5.79		
0.38	5.38		
0.40	4.97		
0.42	4.55		
0.43	4.14		
0.45	3.72		
0.47	3.31		
0.48	2.90		
0.50	2.48		
0.52	2.07		
0.53	1.66		
0.55	1.24		

Hydrograph Report

English

Hyd. No. 4

1 YR POST DA-1

Hydrograph type	= Rational	Peak discharge	= 5.24 cfs
Storm frequency	= 1 yrs	Time interval	= 1 min
Drainage area	= 5.2 ac	Runoff coeff.	= 0.36
Intensity	= 2.80 in	Time of conc. (Tc)	= 19 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 5,975 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	0.55	0.57	1.10
0.05	0.83	0.58	0.83
0.07	1.10	0.60	0.55
0.08	1.38		
0.10	1.66		
0.12	1.93	*...End*	
0.13	2.21		
0.15	2.48		
0.17	2.76		
0.18	3.03		
0.20	3.31		
0.22	3.59		
0.23	3.86		
0.25	4.14		
0.27	4.41		
0.28	4.69		
0.30	4.97		
0.32	5.24 <<		
0.33	4.97		
0.35	4.69		
0.37	4.41		
0.38	4.14		
0.40	3.86		
0.42	3.59		
0.43	3.31		
0.45	3.03		
0.47	2.76		
0.48	2.48		
0.50	2.21		
0.52	1.93		
0.53	1.66		
0.55	1.38		

Hydrograph Report

English

Hyd. No. 5

2 YR POST DA-1

Hydrograph type	= Rational	Peak discharge	= 6.27 cfs
Storm frequency	= 2 yrs	Time interval	= 1 min
Drainage area	= 5.2 ac	Runoff coeff.	= 0.36
Intensity	= 3.35 in	Time of conc. (Tc)	= 19 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 7,148 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	0.66	0.57	1.32
0.05	0.99	0.58	0.99
0.07	1.32	0.60	0.66
0.08	1.65		
0.10	1.98		
0.12	2.31	*...End*	
0.13	2.64		
0.15	2.97		
0.17	3.30		
0.18	3.63		
0.20	3.96		
0.22	4.29		
0.23	4.62		
0.25	4.95		
0.27	5.28		
0.28	5.61		
0.30	5.94		
0.32	6.27 <<		
0.33	5.94		
0.35	5.61		
0.37	5.28		
0.38	4.95		
0.40	4.62		
0.42	4.29		
0.43	3.96		
0.45	3.63		
0.47	3.30		
0.48	2.97		
0.50	2.64		
0.52	2.31		
0.53	1.98		
0.55	1.65		

Hydrograph Report

English

Hyd. No. 6

10 YR POST DA-1

Hydrograph type	= Rational	Peak discharge	= 8.67 cfs
Storm frequency	= 10 yrs	Time interval	= 1 min
Drainage area	= 5.2 ac	Runoff coeff.	= 0.36
Intensity	= 4.63 in	Time of conc. (Tc)	= 19 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 9,888 cuft

Hydrograph Discharge Table

Time (hrs	Outflow cfs)	Time (hrs	Outflow cfs)
0.03	0.91	0.57	1.83
0.05	1.37	0.58	1.37
0.07	1.83	0.60	0.91
0.08	2.28		
0.10	2.74		
0.12	3.20	*...End*	
0.13	3.65		
0.15	4.11		
0.17	4.57		
0.18	5.02		
0.20	5.48		
0.22	5.93		
0.23	6.39		
0.25	6.85		
0.27	7.30		
0.28	7.76		
0.30	8.22		
0.32	8.67 <<		
0.33	8.22		
0.35	7.76		
0.37	7.30		
0.38	6.85		
0.40	6.39		
0.42	5.93		
0.43	5.48		
0.45	5.02		
0.47	4.57		
0.48	4.11		
0.50	3.65		
0.52	3.20		
0.53	2.74		
0.55	2.28		

Hydrograph Report

English

Hyd. No. 7

100 YR POST DA-1

Hydrograph type	= Rational	Peak discharge	= 11.95 cfs
Storm frequency	= 100 yrs	Time interval	= 1 min
Drainage area	= 5.2 ac	Runoff coeff.	= 0.36
Intensity	= 6.38 in	Time of conc. (Tc)	= 19 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 13,618 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	1.26	0.57	2.51
0.05	1.89	0.58	1.89
0.07	2.51	0.60	1.26
0.08	3.14		
0.10	3.77		
0.12	4.40	*...End*	
0.13	5.03		
0.15	5.66		
0.17	6.29		
0.18	6.92		
0.20	7.54		
0.22	8.17		
0.23	8.80		
0.25	9.43		
0.27	10.06		
0.28	10.69		
0.30	11.32		
0.32	11.95 <<		
0.33	11.32		
0.35	10.69		
0.37	10.06		
0.38	9.43		
0.40	8.80		
0.42	8.17		
0.43	7.54		
0.45	6.92		
0.47	6.29		
0.48	5.66		
0.50	5.03		
0.52	4.40		
0.53	3.77		
0.55	3.14		

Hydrograph Report

English

Hyd. No. 9

1 YR ROUTED DA-1

Hydrograph type = Reservoir
Storm frequency = 1 yrs
Inflow hyd. No. = 4
Max. Elevation = 92.66 ft

Peak discharge = 0.42 cfs
Time interval = 1 min
Reservoir name = POND 1
Max. Storage = 5,549 cuft

Storage Indication method used.

Total Volume = 5,968 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.17	2.76	91.95	0.13	—	—	—	—	—	—	—	0.13
0.25	4.14	92.13	0.17	—	—	—	—	—	—	—	0.17
0.33	4.97	92.32	0.20	—	—	—	—	—	—	—	0.20
0.42	3.59	92.50	0.22	—	—	—	—	—	—	—	0.22
0.50	2.21	92.61	0.23	—	—	—	0.04	—	—	—	0.27
0.58	0.83	92.64	0.24	—	—	—	0.18	—	—	—	0.42
0.67	0.00	92.63	0.24	—	—	—	0.16	—	—	—	0.40
0.75	0.00	92.62	0.24	—	—	—	0.11	—	—	—	0.35
0.83	0.00	92.62	0.24	—	—	—	0.07	—	—	—	0.31
0.92	0.00	92.61	0.23	—	—	—	0.04	—	—	—	0.27
1.00	0.00	92.60	0.23	—	—	—	0.00	—	—	—	0.24
1.08	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.17	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.25	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.33	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23
1.42	0.00	92.55	0.23	—	—	—	—	—	—	—	0.23
1.50	0.00	92.54	0.23	—	—	—	—	—	—	—	0.23
1.58	0.00	92.53	0.23	—	—	—	—	—	—	—	0.23
1.67	0.00	92.52	0.22	—	—	—	—	—	—	—	0.22
1.75	0.00	92.51	0.22	—	—	—	—	—	—	—	0.22
1.83	0.00	92.50	0.22	—	—	—	—	—	—	—	0.22
1.92	0.00	92.49	0.22	—	—	—	—	—	—	—	0.22
2.00	0.00	92.49	0.22	—	—	—	—	—	—	—	0.22
2.08	0.00	92.48	0.22	—	—	—	—	—	—	—	0.22
2.17	0.00	92.47	0.22	—	—	—	—	—	—	—	0.22
2.25	0.00	92.46	0.22	—	—	—	—	—	—	—	0.22
2.33	0.00	92.45	0.21	—	—	—	—	—	—	—	0.21
2.42	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.50	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.58	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.67	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.75	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.83	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
2.92	0.00	92.38	0.21	—	—	—	—	—	—	—	0.21
3.00	0.00	92.38	0.20	—	—	—	—	—	—	—	0.20
3.08	0.00	92.37	0.20	—	—	—	—	—	—	—	0.20

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
3.17	0.00	92.36	0.20	—	—	—	—	—	—	—	0.20
3.25	0.00	92.35	0.20	—	—	—	—	—	—	—	0.20
3.33	0.00	92.34	0.20	—	—	—	—	—	—	—	0.20
3.42	0.00	92.33	0.20	—	—	—	—	—	—	—	0.20
3.50	0.00	92.32	0.20	—	—	—	—	—	—	—	0.20
3.58	0.00	92.32	0.20	—	—	—	—	—	—	—	0.20
3.67	0.00	92.31	0.20	—	—	—	—	—	—	—	0.20
3.75	0.00	92.30	0.19	—	—	—	—	—	—	—	0.19
3.83	0.00	92.29	0.19	—	—	—	—	—	—	—	0.19
3.92	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.00	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.08	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.17	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.25	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.33	0.00	92.24	0.19	—	—	—	—	—	—	—	0.19
4.42	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.50	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.58	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.67	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.75	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.83	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.92	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.00	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.08	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.17	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.25	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.33	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.42	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.50	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.58	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.67	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.75	0.00	92.11	0.17	—	—	—	—	—	—	—	0.17
5.83	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
5.92	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.00	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.08	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.17	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.25	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.33	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.42	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.50	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.58	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.67	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.75	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.83	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.92	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.00	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.08	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.17	0.00	92.00	0.15	—	—	—	—	—	—	—	0.15

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
7.25	0.00	91.98	0.14	—	—	—	—	—	—	—	0.14
7.33	0.00	91.96	0.14	—	—	—	—	—	—	—	0.14
7.42	0.00	91.94	0.13	—	—	—	—	—	—	—	0.13
7.50	0.00	91.92	0.13	—	—	—	—	—	—	—	0.13
7.58	0.00	91.89	0.12	—	—	—	—	—	—	—	0.12
7.67	0.00	91.87	0.11	—	—	—	—	—	—	—	0.11
7.75	0.00	91.86	0.10	—	—	—	—	—	—	—	0.10
7.83	0.00	91.84	0.10	—	—	—	—	—	—	—	0.10
7.92	0.00	91.82	0.10	—	—	—	—	—	—	—	0.10
8.00	0.00	91.81	0.10	—	—	—	—	—	—	—	0.10
8.08	0.00	91.79	0.10	—	—	—	—	—	—	—	0.10
8.17	0.00	91.77	0.09	—	—	—	—	—	—	—	0.09
8.25	0.00	91.76	0.09	—	—	—	—	—	—	—	0.09
8.33	0.00	91.75	0.08	—	—	—	—	—	—	—	0.08
8.42	0.00	91.73	0.08	—	—	—	—	—	—	—	0.08
8.50	0.00	91.72	0.07	—	—	—	—	—	—	—	0.07
8.58	0.00	91.71	0.07	—	—	—	—	—	—	—	0.07
8.67	0.00	91.70	0.06	—	—	—	—	—	—	—	0.06
8.75	0.00	91.69	0.06	—	—	—	—	—	—	—	0.06
8.83	0.00	91.68	0.05	—	—	—	—	—	—	—	0.05
8.92	0.00	91.67	0.05	—	—	—	—	—	—	—	0.05
9.00	0.00	91.66	0.05	—	—	—	—	—	—	—	0.05
9.08	0.00	91.65	0.04	—	—	—	—	—	—	—	0.04

...End

Reservoir Report

Reservoir No. 1 - POND 1

English

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	91.50	00	0	0
0.50	92.00	3,600	900	900
1.50	93.00	10,400	7,000	7,900
2.50	94.00	13,200	11,800	19,700

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise in	= 3.0	0.0	0.0	0.0
Span in	= 3.0	0.0	0.0	0.0
No. Barrels	= 1	0	0	0
Invert El. ft	= 91.50	0.00	0.00	0.00
Length ft	= 0.0	0.0	0.0	0.0
Slope %	= 0.00	0.00	0.00	0.00
N-Value	= .013	.000	.000	.000
Orif. Coeff.	= 0.60	0.00	0.00	0.00
Multi-Stage	= -----	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len ft	= 5.0	0.0	0.0	0.0
Crest El. ft	= 92.60	0.00	0.00	0.00
Weir Coeff.	= 3.00	3.00	0.00	0.00
Eqn. Exp.	= 1.50	1.50	0.00	0.00
Multi-Stage	= No	No	No	No

Tailwater Elevation = 0.00 ft

Stage / Storage / Discharge Table

Note: All outflows have been analyzed under inlet and outlet control.

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	91.50	0.00	---	---	---	0.00	---	---	---	0.00
0.50	900	92.00	0.14	---	---	---	0.00	---	---	---	0.14
1.50	7,900	93.00	0.28	---	---	---	3.79	---	---	---	4.07
2.50	19,700	94.00	0.36	---	---	---	24.85	---	---	---	25.21

Hydrograph Report

English

Hyd. No. 10

2 YR ROUTED DA-1

Hydrograph type = Reservoir
Storm frequency = 2 yrs
Inflow hyd. No. = 5
Max. Elevation = 92.77 ft

Peak discharge = 1.31 cfs
Time interval = 1 min
Reservoir name = POND 1
Max. Storage = 6,270 cuft

Storage Indication method used.

Total Volume = 7,141 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.15	2.97	91.93	0.13	----	----	----	----	----	----	----	0.13
0.17	3.30	92.01	0.15	----	----	----	----	----	----	----	0.15
0.18	3.63	92.04	0.15	----	----	----	----	----	----	----	0.15
0.20	3.96	92.07	0.16	----	----	----	----	----	----	----	0.16
0.22	4.29	92.10	0.16	----	----	----	----	----	----	----	0.16
0.23	4.62	92.14	0.17	----	----	----	----	----	----	----	0.17
0.25	4.95	92.18	0.18	----	----	----	----	----	----	----	0.18
0.27	5.28	92.22	0.18	----	----	----	----	----	----	----	0.18
0.28	5.61	92.27	0.19	----	----	----	----	----	----	----	0.19
0.30	5.94	92.31	0.20	----	----	----	----	----	----	----	0.20
0.32	6.27 <<	92.36	0.20	----	----	----	----	----	----	----	0.20
0.33	5.94	92.41	0.21	----	----	----	----	----	----	----	0.21
0.35	5.61	92.46	0.22	----	----	----	----	----	----	----	0.22
0.37	5.28	92.51	0.22	----	----	----	----	----	----	----	0.22
0.38	4.95	92.55	0.23	----	----	----	----	----	----	----	0.23
0.40	4.62	92.59	0.23	----	----	----	----	----	----	----	0.23
0.42	4.29	92.62	0.24	----	----	----	0.11	----	----	----	0.35
0.43	3.96	92.66	0.24	----	----	----	0.26	----	----	----	0.50
0.45	3.63	92.68	0.24	----	----	----	0.39	----	----	----	0.64
0.47	3.30	92.71	0.25	----	----	----	0.53	----	----	----	0.78
0.48	2.97	92.73	0.25	----	----	----	0.70	----	----	----	0.95
0.50	2.64	92.74	0.25	----	----	----	0.84	----	----	----	1.08
0.52	2.31	92.75	0.25	----	----	----	0.93	----	----	----	1.19
0.53	1.98	92.76	0.25	----	----	----	1.00	----	----	----	1.26
0.55	1.65	92.77	0.25	----	----	----	1.04	----	----	----	1.30
0.57	1.32	92.77 <<	0.25	----	----	----	1.06	----	----	----	1.31 <<
0.58	0.99	92.77	0.25	----	----	----	1.05	----	----	----	1.30
0.60	0.66	92.76	0.25	----	----	----	1.01	----	----	----	1.26
0.62	0.33	92.76	0.25	----	----	----	0.96	----	----	----	1.21
0.63	0.00	92.75	0.25	----	----	----	0.88	----	----	----	1.13
0.65	0.00	92.74	0.25	----	----	----	0.80	----	----	----	1.05
0.67	0.00	92.73	0.25	----	----	----	0.73	----	----	----	0.97
0.68	0.00	92.72	0.25	----	----	----	0.66	----	----	----	0.90
0.70	0.00	92.71	0.25	----	----	----	0.59	----	----	----	0.84
0.72	0.00	92.71	0.25	----	----	----	0.53	----	----	----	0.78
0.73	0.00	92.70	0.25	----	----	----	0.48	----	----	----	0.72

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.75	0.00	92.69	0.24	—	—	—	0.45	—	—	—	0.69
0.77	0.00	92.69	0.24	—	—	—	0.42	—	—	—	0.66
0.78	0.00	92.68	0.24	—	—	—	0.39	—	—	—	0.64
0.80	0.00	92.68	0.24	—	—	—	0.37	—	—	—	0.61
0.82	0.00	92.67	0.24	—	—	—	0.34	—	—	—	0.58
0.83	0.00	92.67	0.24	—	—	—	0.32	—	—	—	0.56
0.85	0.00	92.66	0.24	—	—	—	0.30	—	—	—	0.54
0.87	0.00	92.66	0.24	—	—	—	0.28	—	—	—	0.52
0.88	0.00	92.65	0.24	—	—	—	0.26	—	—	—	0.49
0.90	0.00	92.65	0.24	—	—	—	0.24	—	—	—	0.47
0.92	0.00	92.65	0.24	—	—	—	0.22	—	—	—	0.46
0.93	0.00	92.64	0.24	—	—	—	0.20	—	—	—	0.44
0.95	0.00	92.64	0.24	—	—	—	0.18	—	—	—	0.42
0.97	0.00	92.63	0.24	—	—	—	0.16	—	—	—	0.40
0.98	0.00	92.63	0.24	—	—	—	0.15	—	—	—	0.39
1.00	0.00	92.63	0.24	—	—	—	0.13	—	—	—	0.37
1.02	0.00	92.62	0.24	—	—	—	0.12	—	—	—	0.35
1.03	0.00	92.62	0.24	—	—	—	0.10	—	—	—	0.34
1.05	0.00	92.62	0.24	—	—	—	0.09	—	—	—	0.33
1.07	0.00	92.62	0.24	—	—	—	0.08	—	—	—	0.31
1.08	0.00	92.61	0.23	—	—	—	0.07	—	—	—	0.30
1.10	0.00	92.61	0.23	—	—	—	0.05	—	—	—	0.29
1.12	0.00	92.61	0.23	—	—	—	0.04	—	—	—	0.28
1.13	0.00	92.61	0.23	—	—	—	0.03	—	—	—	0.26
1.15	0.00	92.60	0.23	—	—	—	0.02	—	—	—	0.25
1.17	0.00	92.60	0.23	—	—	—	0.01	—	—	—	0.24
1.18	0.00	92.60	0.23	—	—	—	0.00	—	—	—	0.23
1.20	0.00	92.60	0.23	—	—	—	—	—	—	—	0.23
1.22	0.00	92.60	0.23	—	—	—	—	—	—	—	0.23
1.23	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.25	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.27	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.28	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.30	0.00	92.59	0.23	—	—	—	—	—	—	—	0.23
1.32	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.33	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.35	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.37	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.38	0.00	92.58	0.23	—	—	—	—	—	—	—	0.23
1.40	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.42	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.43	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.45	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.47	0.00	92.57	0.23	—	—	—	—	—	—	—	0.23
1.48	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23
1.50	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23
1.52	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23
1.53	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23
1.55	0.00	92.56	0.23	—	—	—	—	—	—	—	0.23

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
1.57	0.00	92.55	0.23	---	---	---	---	---	---	---	0.23
1.58	0.00	92.55	0.23	---	---	---	---	---	---	---	0.23
1.60	0.00	92.55	0.23	---	---	---	---	---	---	---	0.23
1.62	0.00	92.55	0.23	---	---	---	---	---	---	---	0.23
1.63	0.00	92.55	0.23	---	---	---	---	---	---	---	0.23
1.65	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.67	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.68	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.70	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.72	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.73	0.00	92.54	0.23	---	---	---	---	---	---	---	0.23
1.75	0.00	92.53	0.23	---	---	---	---	---	---	---	0.23
1.77	0.00	92.53	0.22	---	---	---	---	---	---	---	0.22
1.78	0.00	92.53	0.22	---	---	---	---	---	---	---	0.22
1.80	0.00	92.53	0.22	---	---	---	---	---	---	---	0.22
1.82	0.00	92.53	0.22	---	---	---	---	---	---	---	0.22
1.83	0.00	92.52	0.22	---	---	---	---	---	---	---	0.22
1.85	0.00	92.52	0.22	---	---	---	---	---	---	---	0.22
1.87	0.00	92.52	0.22	---	---	---	---	---	---	---	0.22
1.88	0.00	92.52	0.22	---	---	---	---	---	---	---	0.22
1.90	0.00	92.52	0.22	---	---	---	---	---	---	---	0.22
1.92	0.00	92.51	0.22	---	---	---	---	---	---	---	0.22
1.93	0.00	92.51	0.22	---	---	---	---	---	---	---	0.22
1.95	0.00	92.51	0.22	---	---	---	---	---	---	---	0.22
1.97	0.00	92.51	0.22	---	---	---	---	---	---	---	0.22
1.98	0.00	92.51	0.22	---	---	---	---	---	---	---	0.22
2.00	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.02	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.03	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.05	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.07	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.08	0.00	92.50	0.22	---	---	---	---	---	---	---	0.22
2.10	0.00	92.49	0.22	---	---	---	---	---	---	---	0.22
2.12	0.00	92.49	0.22	---	---	---	---	---	---	---	0.22
2.13	0.00	92.49	0.22	---	---	---	---	---	---	---	0.22
2.15	0.00	92.49	0.22	---	---	---	---	---	---	---	0.22
2.17	0.00	92.49	0.22	---	---	---	---	---	---	---	0.22
2.18	0.00	92.48	0.22	---	---	---	---	---	---	---	0.22
2.20	0.00	92.48	0.22	---	---	---	---	---	---	---	0.22
2.22	0.00	92.48	0.22	---	---	---	---	---	---	---	0.22
2.23	0.00	92.48	0.22	---	---	---	---	---	---	---	0.22
2.25	0.00	92.48	0.22	---	---	---	---	---	---	---	0.22
2.27	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.28	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.30	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.32	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.33	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.35	0.00	92.47	0.22	---	---	---	---	---	---	---	0.22
2.37	0.00	92.46	0.22	---	---	---	---	---	---	---	0.22

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
2.38	0.00	92.46	0.22	—	—	—	—	—	—	—	0.22
2.40	0.00	92.46	0.22	—	—	—	—	—	—	—	0.22
2.42	0.00	92.46	0.22	—	—	—	—	—	—	—	0.22
2.43	0.00	92.46	0.22	—	—	—	—	—	—	—	0.22
2.45	0.00	92.45	0.22	—	—	—	—	—	—	—	0.22
2.47	0.00	92.45	0.21	—	—	—	—	—	—	—	0.21
2.48	0.00	92.45	0.21	—	—	—	—	—	—	—	0.21
2.50	0.00	92.45	0.21	—	—	—	—	—	—	—	0.21
2.52	0.00	92.45	0.21	—	—	—	—	—	—	—	0.21
2.53	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.55	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.57	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.58	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.60	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.62	0.00	92.44	0.21	—	—	—	—	—	—	—	0.21
2.63	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.65	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.67	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.68	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.70	0.00	92.43	0.21	—	—	—	—	—	—	—	0.21
2.72	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.73	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.75	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.77	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.78	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.80	0.00	92.42	0.21	—	—	—	—	—	—	—	0.21
2.82	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.83	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.85	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.87	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.88	0.00	92.41	0.21	—	—	—	—	—	—	—	0.21
2.90	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.92	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.93	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.95	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.97	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
2.98	0.00	92.40	0.21	—	—	—	—	—	—	—	0.21
3.00	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.02	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.03	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.05	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.07	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.08	0.00	92.39	0.21	—	—	—	—	—	—	—	0.21
3.10	0.00	92.38	0.21	—	—	—	—	—	—	—	0.21
3.12	0.00	92.38	0.21	—	—	—	—	—	—	—	0.21
3.13	0.00	92.38	0.21	—	—	—	—	—	—	—	0.21
3.15	0.00	92.38	0.21	—	—	—	—	—	—	—	0.21
3.17	0.00	92.38	0.20	—	—	—	—	—	—	—	0.20
3.18	0.00	92.37	0.20	—	—	—	—	—	—	—	0.20

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
3.20	0.00	92.37	0.20	——	——	——	——	——	——	——	0.20
3.22	0.00	92.37	0.20	——	——	——	——	——	——	——	0.20
3.23	0.00	92.37	0.20	——	——	——	——	——	——	——	0.20
3.25	0.00	92.37	0.20	——	——	——	——	——	——	——	0.20
3.27	0.00	92.37	0.20	——	——	——	——	——	——	——	0.20
3.28	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.30	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.32	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.33	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.35	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.37	0.00	92.36	0.20	——	——	——	——	——	——	——	0.20
3.38	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.40	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.42	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.43	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.45	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.47	0.00	92.35	0.20	——	——	——	——	——	——	——	0.20
3.48	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.50	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.52	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.53	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.55	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.57	0.00	92.34	0.20	——	——	——	——	——	——	——	0.20
3.58	0.00	92.33	0.20	——	——	——	——	——	——	——	0.20
3.60	0.00	92.33	0.20	——	——	——	——	——	——	——	0.20
3.62	0.00	92.33	0.20	——	——	——	——	——	——	——	0.20
3.63	0.00	92.33	0.20	——	——	——	——	——	——	——	0.20
3.65	0.00	92.33	0.20	——	——	——	——	——	——	——	0.20
3.67	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.68	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.70	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.72	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.73	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.75	0.00	92.32	0.20	——	——	——	——	——	——	——	0.20
3.77	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.78	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.80	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.82	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.83	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.85	0.00	92.31	0.20	——	——	——	——	——	——	——	0.20
3.87	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.88	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.90	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.92	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.93	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.95	0.00	92.30	0.19	——	——	——	——	——	——	——	0.19
3.97	0.00	92.29	0.19	——	——	——	——	——	——	——	0.19
3.98	0.00	92.29	0.19	——	——	——	——	——	——	——	0.19
4.00	0.00	92.29	0.19	——	——	——	——	——	——	——	0.19

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
4.02	0.00	92.29	0.19	—	—	—	—	—	—	—	0.19
4.03	0.00	92.29	0.19	—	—	—	—	—	—	—	0.19
4.05	0.00	92.29	0.19	—	—	—	—	—	—	—	0.19
4.07	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.08	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.10	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.12	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.13	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.15	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.17	0.00	92.28	0.19	—	—	—	—	—	—	—	0.19
4.18	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.20	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.22	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.23	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.25	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.27	0.00	92.27	0.19	—	—	—	—	—	—	—	0.19
4.28	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.30	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.32	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.33	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.35	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.37	0.00	92.26	0.19	—	—	—	—	—	—	—	0.19
4.38	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.40	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.42	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.43	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.45	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.47	0.00	92.25	0.19	—	—	—	—	—	—	—	0.19
4.48	0.00	92.24	0.19	—	—	—	—	—	—	—	0.19
4.50	0.00	92.24	0.19	—	—	—	—	—	—	—	0.19
4.52	0.00	92.24	0.19	—	—	—	—	—	—	—	0.19
4.53	0.00	92.24	0.19	—	—	—	—	—	—	—	0.19
4.55	0.00	92.24	0.18	—	—	—	—	—	—	—	0.18
4.57	0.00	92.24	0.18	—	—	—	—	—	—	—	0.18
4.58	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.60	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.62	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.63	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.65	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.67	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.68	0.00	92.23	0.18	—	—	—	—	—	—	—	0.18
4.70	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.72	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.73	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.75	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.77	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.78	0.00	92.22	0.18	—	—	—	—	—	—	—	0.18
4.80	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.82	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
4.83	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.85	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.87	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.88	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.90	0.00	92.21	0.18	—	—	—	—	—	—	—	0.18
4.92	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.93	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.95	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.97	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
4.98	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
5.00	0.00	92.20	0.18	—	—	—	—	—	—	—	0.18
5.02	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.03	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.05	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.07	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.08	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.10	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.12	0.00	92.19	0.18	—	—	—	—	—	—	—	0.18
5.13	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.15	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.17	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.18	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.20	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.22	0.00	92.18	0.18	—	—	—	—	—	—	—	0.18
5.23	0.00	92.17	0.18	—	—	—	—	—	—	—	0.18
5.25	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.27	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.28	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.30	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.32	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.33	0.00	92.17	0.17	—	—	—	—	—	—	—	0.17
5.35	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.37	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.38	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.40	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.42	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.43	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.45	0.00	92.16	0.17	—	—	—	—	—	—	—	0.17
5.47	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.48	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.50	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.52	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.53	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.55	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.57	0.00	92.15	0.17	—	—	—	—	—	—	—	0.17
5.58	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.60	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.62	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.63	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
5.65	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.67	0.00	92.14	0.17	—	—	—	—	—	—	—	0.17
5.68	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.70	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.72	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.73	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.75	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.77	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.78	0.00	92.13	0.17	—	—	—	—	—	—	—	0.17
5.80	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.82	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.83	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.85	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.87	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.88	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.90	0.00	92.12	0.17	—	—	—	—	—	—	—	0.17
5.92	0.00	92.11	0.17	—	—	—	—	—	—	—	0.17
5.93	0.00	92.11	0.17	—	—	—	—	—	—	—	0.17
5.95	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
5.97	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
5.98	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
6.00	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
6.02	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
6.03	0.00	92.11	0.16	—	—	—	—	—	—	—	0.16
6.05	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.07	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.08	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.10	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.12	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.13	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.15	0.00	92.10	0.16	—	—	—	—	—	—	—	0.16
6.17	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.18	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.20	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.22	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.23	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.25	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.27	0.00	92.09	0.16	—	—	—	—	—	—	—	0.16
6.28	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.30	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.32	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.33	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.35	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.37	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.38	0.00	92.08	0.16	—	—	—	—	—	—	—	0.16
6.40	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.42	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.43	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.45	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
6.47	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.48	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.50	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.52	0.00	92.07	0.16	—	—	—	—	—	—	—	0.16
6.53	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.55	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.57	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.58	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.60	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.62	0.00	92.06	0.16	—	—	—	—	—	—	—	0.16
6.63	0.00	92.06	0.15	—	—	—	—	—	—	—	0.15
6.65	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.67	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.68	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.70	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.72	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.73	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.75	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.77	0.00	92.05	0.15	—	—	—	—	—	—	—	0.15
6.78	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.80	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.82	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.83	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.85	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.87	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.88	0.00	92.04	0.15	—	—	—	—	—	—	—	0.15
6.90	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.92	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.93	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.95	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.97	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
6.98	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
7.00	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
7.02	0.00	92.03	0.15	—	—	—	—	—	—	—	0.15
7.03	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.05	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.07	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.08	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.10	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.12	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.13	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.15	0.00	92.02	0.15	—	—	—	—	—	—	—	0.15
7.17	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.18	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.20	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.22	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.23	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.25	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15
7.27	0.00	92.01	0.15	—	—	—	—	—	—	—	0.15

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
7.28	0.00	92.01	0.15	——	——	——	——	——	——	——	0.15
7.30	0.00	92.00	0.15	——	——	——	——	——	——	——	0.15
7.32	0.00	92.00	0.15	——	——	——	——	——	——	——	0.15
7.33	0.00	92.00	0.15	——	——	——	——	——	——	——	0.15
7.35	0.00	92.00	0.14	——	——	——	——	——	——	——	0.14
7.37	0.00	92.00	0.14	——	——	——	——	——	——	——	0.14
7.38	0.00	91.99	0.14	——	——	——	——	——	——	——	0.14
7.40	0.00	91.99	0.14	——	——	——	——	——	——	——	0.14
7.42	0.00	91.98	0.14	——	——	——	——	——	——	——	0.14
7.43	0.00	91.98	0.14	——	——	——	——	——	——	——	0.14
7.45	0.00	91.97	0.14	——	——	——	——	——	——	——	0.14
7.47	0.00	91.97	0.14	——	——	——	——	——	——	——	0.14
7.48	0.00	91.97	0.14	——	——	——	——	——	——	——	0.14
7.50	0.00	91.96	0.14	——	——	——	——	——	——	——	0.14
7.52	0.00	91.96	0.14	——	——	——	——	——	——	——	0.14
7.53	0.00	91.95	0.14	——	——	——	——	——	——	——	0.14
7.55	0.00	91.95	0.13	——	——	——	——	——	——	——	0.13
7.57	0.00	91.94	0.13	——	——	——	——	——	——	——	0.13
7.58	0.00	91.94	0.13	——	——	——	——	——	——	——	0.13
7.60	0.00	91.93	0.13	——	——	——	——	——	——	——	0.13

...End

Reservoir Report

Reservoir No. 1 - POND 1

English

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	91.50	00	0	0
0.50	92.00	3,600	900	900
1.50	93.00	10,400	7,000	7,900
2.50	94.00	13,200	11,800	19,700

Culvert / Orifice Structures

		[A]	[B]	[C]	[D]
Rise in	=	3.0	0.0	0.0	0.0
Span in	=	3.0	0.0	0.0	0.0
No. Barrels	=	1	0	0	0
Invert El. ft	=	91.50	0.00	0.00	0.00
Length ft	=	0.0	0.0	0.0	0.0
Slope %	=	0.00	0.00	0.00	0.00
N-Value	=	.013	.000	.000	.000
Orif. Coeff.	=	0.60	0.00	0.00	0.00
Multi-Stage	=	----	No	No	No

Weir Structures

		[A]	[B]	[C]	[D]
Crest Len ft	=	5.0	0.0	0.0	0.0
Crest El. ft	=	92.60	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	0.00	0.00
Eqn. Exp.	=	1.50	1.50	0.00	0.00
Multi-Stage	=	No	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	91.50	0.00	---	---	---	0.00	---	---	---	0.00
0.50	900	92.00	0.14	---	---	---	0.00	---	---	---	0.14
1.50	7,900	93.00	0.28	---	---	---	3.79	---	---	---	4.07
2.50	19,700	94.00	0.36	---	---	---	24.85	---	---	---	25.21

Hydrograph Report

English

Hyd. No. 11

10 YR ROUTED DA-1

Hydrograph type = Reservoir
Storm frequency = 10 yrs
Inflow hyd. No. = 6
Max. Elevation = 92.95 ft

Peak discharge = 3.38 cfs
Time interval = 1 min
Reservoir name = POND 1
Max. Storage = 7,539 cuft

Storage Indication method used.

Total Volume = 9,881 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.33	8.22	92.63	0.24	----	----	----	0.13	----	----	----	0.37
0.35	7.76	92.69	0.24	----	----	----	0.43	----	----	----	0.68
0.37	7.30	92.75	0.25	----	----	----	0.89	----	----	----	1.14
0.38	6.85	92.80	0.26	----	----	----	1.32	----	----	----	1.57
0.40	6.39	92.84	0.26	----	----	----	1.77	----	----	----	2.03
0.42	5.93	92.87	0.26	----	----	----	2.15	----	----	----	2.41
0.43	5.48	92.90	0.27	----	----	----	2.45	----	----	----	2.72
0.45	5.02	92.92	0.27	----	----	----	2.72	----	----	----	2.99
0.47	4.57	92.93	0.27	----	----	----	2.92	----	----	----	3.19
0.48	4.11	92.94	0.27	----	----	----	3.04	----	----	----	3.31
0.50	3.65	92.95	0.27	----	----	----	3.10	----	----	----	3.37
0.52	3.20	92.95 <<	0.27	----	----	----	3.11	----	----	----	3.38 <<
0.53	2.74	92.95	0.27	----	----	----	3.06	----	----	----	3.34
0.55	2.28	92.94	0.27	----	----	----	2.97	----	----	----	3.25
0.57	1.83	92.93	0.27	----	----	----	2.85	----	----	----	3.12
0.58	1.37	92.92	0.27	----	----	----	2.68	----	----	----	2.95
0.60	0.91	92.90	0.27	----	----	----	2.49	----	----	----	2.75
0.62	0.46	92.88	0.27	----	----	----	2.29	----	----	----	2.56
0.63	0.00	92.87	0.26	----	----	----	2.08	----	----	----	2.34
0.65	0.00	92.85	0.26	----	----	----	1.86	----	----	----	2.13
0.67	0.00	92.83	0.26	----	----	----	1.67	----	----	----	1.93
0.68	0.00	92.81	0.26	----	----	----	1.49	----	----	----	1.75
0.70	0.00	92.80	0.26	----	----	----	1.33	----	----	----	1.59
0.72	0.00	92.79	0.25	----	----	----	1.22	----	----	----	1.47
0.73	0.00	92.77	0.25	----	----	----	1.11	----	----	----	1.37
0.75	0.00	92.76	0.25	----	----	----	1.02	----	----	----	1.27
0.77	0.00	92.75	0.25	----	----	----	0.93	----	----	----	1.18
0.78	0.00	92.74	0.25	----	----	----	0.84	----	----	----	1.09
0.80	0.00	92.73	0.25	----	----	----	0.76	----	----	----	1.01
0.82	0.00	92.72	0.25	----	----	----	0.69	----	----	----	0.94
0.83	0.00	92.72	0.25	----	----	----	0.62	----	----	----	0.87
0.85	0.00	92.71	0.25	----	----	----	0.56	----	----	----	0.81
0.87	0.00	92.70	0.25	----	----	----	0.50	----	----	----	0.75
0.88	0.00	92.70	0.24	----	----	----	0.46	----	----	----	0.71
0.90	0.00	92.69	0.24	----	----	----	0.43	----	----	----	0.68
0.92	0.00	92.69	0.24	----	----	----	0.41	----	----	----	0.65

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.93	0.00	92.68	0.24	——	——	——	0.38	——	——	——	0.62
0.95	0.00	92.67	0.24	——	——	——	0.35	——	——	——	0.60
0.97	0.00	92.67	0.24	——	——	——	0.33	——	——	——	0.57
0.98	0.00	92.67	0.24	——	——	——	0.31	——	——	——	0.55
1.00	0.00	92.66	0.24	——	——	——	0.29	——	——	——	0.53
1.02	0.00	92.66	0.24	——	——	——	0.27	——	——	——	0.51
1.03	0.00	92.65	0.24	——	——	——	0.25	——	——	——	0.48
1.05	0.00	92.65	0.24	——	——	——	0.23	——	——	——	0.46
1.07	0.00	92.64	0.24	——	——	——	0.21	——	——	——	0.45
1.08	0.00	92.64	0.24	——	——	——	0.19	——	——	——	0.43
1.10	0.00	92.64	0.24	——	——	——	0.17	——	——	——	0.41
1.12	0.00	92.63	0.24	——	——	——	0.16	——	——	——	0.39
1.13	0.00	92.63	0.24	——	——	——	0.14	——	——	——	0.38
1.15	0.00	92.63	0.24	——	——	——	0.13	——	——	——	0.36
1.17	0.00	92.62	0.24	——	——	——	0.11	——	——	——	0.35

...End

Reservoir Report

English

Reservoir No. 1 - POND 1

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	91.50	00	0	0
0.50	92.00	3,600	900	900
1.50	93.00	10,400	7,000	7,900
2.50	94.00	13,200	11,800	19,700

Culvert / Orifice Structures

		[A]	[B]	[C]	[D]
Rise in	=	3.0	0.0	0.0	0.0
Span in	=	3.0	0.0	0.0	0.0
No. Barrels	=	1	0	0	0
Invert El. ft	=	91.50	0.00	0.00	0.00
Length ft	=	0.0	0.0	0.0	0.0
Slope %	=	0.00	0.00	0.00	0.00
N-Value	=	.013	.000	.000	.000
Orif. Coeff.	=	0.60	0.00	0.00	0.00
Multi-Stage	=	-----	No	No	No

Weir Structures

		[A]	[B]	[C]	[D]
Crest Len ft	=	5.0	0.0	0.0	0.0
Crest El. ft	=	92.60	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	0.00	0.00
Eqn. Exp.	=	1.50	1.50	0.00	0.00
Multi-Stage	=	No	No	No	No

Tailwater Elevation = 0.00 ft

Note: All outflows have been analyzed under inlet and outlet control.

Stage / Storage / Discharge Table

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	91.50	0.00	---	---	---	0.00	---	---	---	0.00
0.50	900	92.00	0.14	---	---	---	0.00	---	---	---	0.14
1.50	7,900	93.00	0.28	---	---	---	3.79	---	---	---	4.07
2.50	19,700	94.00	0.36	---	---	---	24.85	---	---	---	25.21

Hydrograph Report

English

Hyd. No. 12

100 YR ROUTED

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 7
Max. Elevation = 93.10 ft

Peak discharge = 5.65 cfs
Time interval = 1 min
Reservoir name = POND 1
Max. Storage = 9,120 cuft

Storage Indication method used.

Total Volume = 13,610 cuft

Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.30	11.32	92.72	0.25	----	----	----	0.64	----	----	----	0.89
0.32	11.95 <<	92.81	0.26	----	----	----	1.43	----	----	----	1.69
0.33	11.32	92.89	0.27	----	----	----	2.34	----	----	----	2.61
0.35	10.69	92.96	0.27	----	----	----	3.23	----	----	----	3.50
0.37	10.06	93.01	0.28	----	----	----	3.91	----	----	----	4.19
0.38	9.43	93.04	0.28	----	----	----	4.32	----	----	----	4.60
0.40	8.80	93.06	0.28	----	----	----	4.66	----	----	----	4.94
0.42	8.17	93.07	0.28	----	----	----	4.92	----	----	----	5.20
0.43	7.54	93.09	0.29	----	----	----	5.12	----	----	----	5.40
0.45	6.92	93.10	0.29	----	----	----	5.25	----	----	----	5.54
0.47	6.29	93.10	0.29	----	----	----	5.33	----	----	----	5.62
0.48	5.66	93.10 <<	0.29	----	----	----	5.36	----	----	----	5.65 <<
0.50	5.03	93.10	0.29	----	----	----	5.34	----	----	----	5.62
0.52	4.40	93.10	0.29	----	----	----	5.27	----	----	----	5.55
0.53	3.77	93.09	0.29	----	----	----	5.16	----	----	----	5.44
0.55	3.14	93.08	0.29	----	----	----	5.01	----	----	----	5.30
0.57	2.51	93.07	0.28	----	----	----	4.83	----	----	----	5.11
0.58	1.89	93.05	0.28	----	----	----	4.61	----	----	----	4.90
0.60	1.26	93.04	0.28	----	----	----	4.37	----	----	----	4.65
0.62	0.63	93.02	0.28	----	----	----	4.09	----	----	----	4.37
0.63	0.00	93.00	0.28	----	----	----	3.79	----	----	----	4.07
0.65	0.00	92.97	0.27	----	----	----	3.36	----	----	----	3.63
0.67	0.00	92.94	0.27	----	----	----	2.96	----	----	----	3.23
0.68	0.00	92.91	0.27	----	----	----	2.62	----	----	----	2.88
0.70	0.00	92.89	0.27	----	----	----	2.33	----	----	----	2.59
0.72	0.00	92.87	0.26	----	----	----	2.09	----	----	----	2.35
0.73	0.00	92.85	0.26	----	----	----	1.87	----	----	----	2.14
0.75	0.00	92.83	0.26	----	----	----	1.68	----	----	----	1.94
0.77	0.00	92.81	0.26	----	----	----	1.50	----	----	----	1.76
0.78	0.00	92.80	0.26	----	----	----	1.34	----	----	----	1.60
0.80	0.00	92.79	0.25	----	----	----	1.23	----	----	----	1.48
0.82	0.00	92.77	0.25	----	----	----	1.12	----	----	----	1.37
0.83	0.00	92.76	0.25	----	----	----	1.02	----	----	----	1.27
0.85	0.00	92.75	0.25	----	----	----	0.93	----	----	----	1.18
0.87	0.00	92.74	0.25	----	----	----	0.85	----	----	----	1.09
0.88	0.00	92.73	0.25	----	----	----	0.77	----	----	----	1.02

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Hydrograph Discharge Table

Time (hrs)	Inflow cfs	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Outflow cfs
0.90	0.00	92.73	0.25	----	----	----	0.69	----	----	----	0.94
0.92	0.00	92.72	0.25	----	----	----	0.63	----	----	----	0.87
0.93	0.00	92.71	0.25	----	----	----	0.56	----	----	----	0.81
0.95	0.00	92.70	0.25	----	----	----	0.51	----	----	----	0.75
0.97	0.00	92.70	0.24	----	----	----	0.46	----	----	----	0.71
0.98	0.00	92.69	0.24	----	----	----	0.43	----	----	----	0.68
1.00	0.00	92.69	0.24	----	----	----	0.41	----	----	----	0.65
1.02	0.00	92.68	0.24	----	----	----	0.38	----	----	----	0.62
1.03	0.00	92.68	0.24	----	----	----	0.36	----	----	----	0.60
1.05	0.00	92.67	0.24	----	----	----	0.33	----	----	----	0.57

...End

Reservoir Report

Reservoir No. 1 - POND 1

English

Pond Data

Pond storage is based on known contour areas

Stage / Storage Table

Stage ft	Elevation ft	Contour area sqft	Incr. Storage cuft	Total storage cuft
0.00	91.50	00	0	0
0.50	92.00	3,600	900	900
1.50	93.00	10,400	7,000	7,900
2.50	94.00	13,200	11,800	19,700

Culvert / Orifice Structures

		[A]	[B]	[C]	[D]
Rise in	=	3.0	0.0	0.0	0.0
Span in	=	3.0	0.0	0.0	0.0
No. Barrels	=	1	0	0	0
Invert El. ft	=	91.50	0.00	0.00	0.00
Length ft	=	0.0	0.0	0.0	0.0
Slope %	=	0.00	0.00	0.00	0.00
N-Value	=	.013	.000	.000	.000
Orif. Coeff.	=	0.60	0.00	0.00	0.00
Multi-Stage	=	-----	No	No	No

Weir Structures

		[A]	[B]	[C]	[D]
Crest Len ft	=	5.0	0.0	0.0	0.0
Crest El. ft	=	92.60	0.00	0.00	0.00
Weir Coeff.	=	3.00	3.00	0.00	0.00
Eqn. Exp.	=	1.50	1.50	0.00	0.00
Multi-Stage	=	No	No	No	No

Tailwater Elevation = 0.00 ft

Stage / Storage / Discharge Table

Note: All outflows have been analyzed under inlet and outlet control.

Stage ft	Storage cuft	Elevation ft	Clv A cfs	Clv B cfs	Clv C cfs	Clv D cfs	Wr A cfs	Wr B cfs	Wr C cfs	Wr D cfs	Discharge cfs
0.00	0	91.50	0.00	---	---	---	0.00	---	---	---	0.00
0.50	900	92.00	0.14	---	---	---	0.00	---	---	---	0.14
1.50	7,900	93.00	0.28	---	---	---	3.79	---	---	---	4.07
2.50	19,700	94.00	0.36	---	---	---	24.85	---	---	---	25.21

Hydrograph Report

English

Hyd. No. 15

2 YR PRE DA-2

Hydrograph type	= Rational	Peak discharge	= 2.25 cfs
Storm frequency	= 2 yrs	Time interval	= 1 min
Drainage area	= 2.7 ac	Runoff coeff.	= 0.26
Intensity	= 3.18 in	Time of conc. (Tc)	= 21 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 2,840 cuft

Hydrograph Discharge Table

Time (hrs	Outflow cfs)	Time (hrs	Outflow cfs)
0.05	0.32	0.58	0.75
0.07	0.43	0.60	0.64
0.08	0.54	0.62	0.54
0.10	0.64	0.63	0.43
0.12	0.75	0.65	0.32
0.13	0.86		
0.15	0.97		
0.17	1.07	...*End*	
0.18	1.18		
0.20	1.29		
0.22	1.40		
0.23	1.50		
0.25	1.61		
0.27	1.72		
0.28	1.82		
0.30	1.93		
0.32	2.04		
0.33	2.15		
0.35	2.25 <<		
0.37	2.15		
0.38	2.04		
0.40	1.93		
0.42	1.82		
0.43	1.72		
0.45	1.61		
0.47	1.50		
0.48	1.40		
0.50	1.29		
0.52	1.18		
0.53	1.07		
0.55	0.97		
0.57	0.86		

Hydrograph Report

English

Hyd. No. 16

10 YR PRE DA-2

Hydrograph type	= Rational	Peak discharge	= 3.13 cfs
Storm frequency	= 10 yrs	Time interval	= 1 min
Drainage area	= 2.7 ac	Runoff coeff.	= 0.26
Intensity	= 4.42 in	Time of conc. (Tc)	= 21 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 3,949 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.05	0.45	0.58	1.04
0.07	0.60	0.60	0.90
0.08	0.75	0.62	0.75
0.10	0.90	0.63	0.60
0.12	1.04	0.65	0.45
0.13	1.19		
0.15	1.34		
0.17	1.49	...*End*	
0.18	1.64		
0.20	1.79		
0.22	1.94		
0.23	2.09		
0.25	2.24		
0.27	2.39		
0.28	2.54		
0.30	2.69		
0.32	2.84		
0.33	2.99		
0.35	3.13 <<		
0.37	2.99		
0.38	2.84		
0.40	2.69		
0.42	2.54		
0.43	2.39		
0.45	2.24		
0.47	2.09		
0.48	1.94		
0.50	1.79		
0.52	1.64		
0.53	1.49		
0.55	1.34		
0.57	1.19		

Hydrograph Report

English

Hyd. No. 18

2 YR POST DA-2

Hydrograph type	= Rational	Peak discharge	= 2.52 cfs
Storm frequency	= 2 yrs	Time interval	= 1 min
Drainage area	= 2.5 ac	Runoff coeff.	= 0.31
Intensity	= 3.26 in	Time of conc. (Tc)	= 20 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 3,019 cuft

Hydrograph Discharge Table

Time (hrs	-- Outflow cfs)	Time (hrs	-- Outflow cfs)
0.03	0.25	0.57	0.75
0.05	0.38	0.58	0.63
0.07	0.50	0.60	0.50
0.08	0.63	0.62	0.38
0.10	0.75		
0.12	0.88		
0.13	1.01	*...End*	
0.15	1.13		
0.17	1.26		
0.18	1.38		
0.20	1.51		
0.22	1.64		
0.23	1.76		
0.25	1.89		
0.27	2.01		
0.28	2.14		
0.30	2.26		
0.32	2.39		
0.33	2.52 <<		
0.35	2.39		
0.37	2.26		
0.38	2.14		
0.40	2.01		
0.42	1.89		
0.43	1.76		
0.45	1.64		
0.47	1.51		
0.48	1.38		
0.50	1.26		
0.52	1.13		
0.53	1.01		
0.55	0.88		

Hydrograph Report

English

Hyd. No. 19

10 YR POST DA-2

Hydrograph type	= Rational	Peak discharge	= 3.49 cfs
Storm frequency	= 10 yrs	Time interval	= 1 min
Drainage area	= 2.5 ac	Runoff coeff.	= 0.31
Intensity	= 4.52 in	Time of conc. (Tc)	= 20 min
I-D-F Curve	= JCChydrographs.IDF	Reced. limb factor	= 1

Total Volume = 4,189 cuft

Hydrograph Discharge Table

Time (hrs	Outflow cfs)	Time (hrs	Outflow cfs)
0.03	0.35	0.57	1.05
0.05	0.52	0.58	0.87
0.07	0.70	0.60	0.70
0.08	0.87	0.62	0.52
0.10	1.05	0.63	0.35
0.12	1.22		
0.13	1.40		
0.15	1.57	...*End*	
0.17	1.75		
0.18	1.92		
0.20	2.09		
0.22	2.27		
0.23	2.44		
0.25	2.62		
0.27	2.79		
0.28	2.97		
0.30	3.14		
0.32	3.32		
0.33	3.49 <<		
0.35	3.32		
0.37	3.14		
0.38	2.97		
0.40	2.79		
0.42	2.62		
0.43	2.44		
0.45	2.27		
0.47	2.09		
0.48	1.92		
0.50	1.75		
0.52	1.57		
0.53	1.40		
0.55	1.22		

James City County Environmental Division
Stormwater Management / BMP Inspection Report
Timber Crib Walls

Submit by Email | Print Form

County BMP ID Code: DC004

Name of Facility: James City County Upper County Park | BMP No: DC004 | Date: 02/21/2008

Location: 180 Leisure Rd.

Name of Owner: James City County

Name of Inspectors: David K. Greshamer/Spotswood A. Johnson

Type of Facility: Timber Crib Wall

Weather Conditions: Cold

Type: ☐ Final Inspection ☒ County BMP Inspection Program ☐ Owner Inspection

If an inspection item is not applicable, mark NA, otherwise mark the appropriate column.

O.K - The item checked is in adequate condition and the maintenance program is currently satisfactory. No action required.

Routine - The item checked requires attention, but does not present an immediate threat to the function/integrity of the BMP.

Urgent - The item checked requires immediate attention to keep the BMP operational and to prevent damage to the facility.

Provide an explanation and details in the comment column, if routine or urgent are marked.

Facility Item	O.K.	Routine	Urgent	Comments
Wall Conditions:				
Piles	X			
Walers/Joists/Wood	X			
Joints	X			
Caps	X			
Base of Wall/Toe	X			
Vegetation along Wall		X		
Other				
Interior Landscaping/ Planted Areas:	☐ None	☐ Constructed Wetland/ Shallow Marsh	☒ Naturally Established Vegetation	
Vegetated Condition		X		Vegtation is cut too short
Trash & Debris	X			
Floating Material	X			
Erosion	X			
Sediment		X		
Dead Plant	x			
Aesthetics	X			
Other				
Notes:				

JCC_Upper County Park Improvements

Facility Item	O.K.	Routine	Urgent	Comments
Water Pools:	☐ **Permanent Pool (Retention Basin)**	☐ **Shallow Marsh (Detention Basin)**	☒ **None, Dry (Detention Basin)**	
Shoreline Erosion	N/A			
Algae	N/A			
Trash & Debris	X			
Sediment	X			
Aesthetics	X			
Others				
Inflows (Describe Types/Locations)				
Condition of Structure	X			
Erosion	X			
Trash and Debris	X			
Sediment	X			
Outlet Protection	X			
Other				
Principal Flow Control Structure - Riser, Intake, etc. (Describe Type)				
Condition of Structure	N/A			
Corrosion	N/A			
Trash and Debris	N/A			
Sediment	N/A			
Vegetation	N/A			
Other				
Principal Outlet Structure - Barrel, Conduit, etc.				
Condition of Structure	X			
Settlement	X			
Trash & Debris	X			
Erosion/Sediment	X			
Outlet Protection	x			
Other				
Emergency Spillway (Overflow)				
Top of Wall	N/A			
Weirs	N/A			
Outlet	N/A			
Trash & Debris	N/A			
Other				
Notes:				

Facility Item	O.K.	Routine	Urgent	Comments
Nuisance Type Conditions:				
Mosquito Breeding	X			
Animal Burrows	X			
Graffiti	X			
Other				
Surrounding Perimeter Conditions:				
Land Uses	X			
Vegetation	X			
Trash & Debris	X			
Aesthetics	X			
Access/Maintenance Road or Path	X			
Other				

Remarks

overall Environmental Division Internal Rating: 4

Signature David Greshamer

Date 02/2102008

Title Inspector II

Date Record Created:

Created By:

WS_BMPNO: DC004

Print Record

PRINTED ON
Wednesday, March 10, 201
3:27:29 PM

WATERSHED	DC
BMP ID NO	004
PLAN NO	SP-104-00
TAX PARCEL	(11-2)(1-1)
PIN NO	1120100001
CONSTRUCTION DATE	
PROJECT NAME	JCC-Upper County Park Improvements
FACILITY LOCATION	180 Leisure Road
CITY-STATE	Toano, Va. 23168
CURRENT OWNER	James City County
OWNER ADDRESS	P.O. Box 8784
OWNER ADDRESS 2	
CITY-STATE-ZIP CODE	Williamsburg, Va 23187
OWNER PHONE	
MAINT AGREEMENT	No
EMERG ACTION PLAN	No

MAINTENANCE PLAN	No
SITE AREA acre	25
LAND USE	County Park
old BMP TYP	Timber Wall
JCC BMP CODE	F1 Timber Walls
POINT VALUE	4
SVC DRAIN AREA acres	5.2
SERVICE AREA DESCRI	Park and open space area
IMPERV AREA acres	2.26
RECV STREAM	UT of Diascund Creek
EXT DET-WQ-CTRL	No
WTR QUAL VOL acre-ft	0
CHAN PROT CTRL	Yes
CHAN PROT VOL acre-ft	0.137
SW/FLOOD CONTROL	Yes
GEOTECH REPORT	No

CTRL STRUC DESC	Timber Wall
CTRL STRUC SIZE inches	48
OTLT BARRL DESC	PVC Pipe
OTLT BARRL SIZE inch	3
EMERG SPILLWAY	No
DESIGN HW ELEV	93.10
PERM POOL ELEV	na
2-YR OUTFLOW cfs	1.30
10-YR OUTFLOW cfs	3.40
REC DRAWING	No
CONSTR CERTIF	No

LAST INSP DATE 8/11/2004 Inspected by:

INTERNAL RATING 4

MISC/COMMENTS

Parking & sports field improvements.

Get Last BMP No

Return to Menu

Additional Comments:

RESPONSE COMMENTS
10/3/00
MAR

ENVIRONMENTAL DIVISION REVIEW COMMENTS
UPPER COUNTY PARK IMPROVEMENTS
PLAN NO. SP-104-00
September 13, 2000 MOW / DCC

SEP 2000 RECEIVED PLANNING DEPARTMENT

— 1. A Land Disturbing Permit is required for this project.

SHEET 3 ✓2. As-built drawings must be provided for the detention basin on completion. Also, a note shall be provided on the plan stating that upon completion, the construction of the facility will be certified by a professional engineer who inspected the structure during construction.

SHEET 3 ✓3. Provide and label the limits of clearing/construction on the plan.

SHEET 3 ✓4. Provide silt fence protection around the proposed shelter located to west side of the site off the existing cul-de-sac.

SHEET 3 ✓5. Match existing elevations where the concrete walks tie in.

SHEET 4 ✓6. Provide a seeding schedule. Explain which type of seeding is to occur on open field #2.

SHEET 2 ✓7. Either regrade to provide a 20 foot clear area around the existing tree north of open field #2 or remove.

SHEET 2 ✓8. Label the existing vegetation north of the basketball courts to be removed.

SHEET 3 ✓9. Extend the silt fence from the basketball courts to encompass the sand volleyball court. The entire area will likely be disturbed.

SHEET 3 ✓10. Revise grading around basketball court on the east side so that the drainage swale that will be created is not as steep. Add a swale south of the basketball courts to prevent drainage from going across them.

SHEET 3 ✓11. Provide silt fence east of the timber detention structure.

SHEET 3 ✓12. Provide project narrative, include sequencing of each area (when started, completion time, stabilization).

SHEET 3 ✓13. Provide for construction staging and topsoil stockpile area on site. The note outlining this is not adequate.

SHEET 3 ✓14. Does the site balance cut and fill? If additional fill material is required, provide a narrative on where this material is coming from and how the borrow site will be controlled with erosion and sediment control measures.

SHEET 3 ✓15. Delineate exactly where the roadside drainage ditch regrading is to start and stop.

SHEETS 3 & 5 ✓16. Provide culvert inlet protect and detail.

-REDESIGNED FOR CHANNEL PROTECTION - THE BMP SHALL BE PROVIDED WHEN ADDITIONAL DEVELOPMENT OCCURS. 17. The detention basin needs to be redesigned to include channel protection and possibly water quality benefits. The statement in the JCC BMP Guidelines in Appendix B that states the channel protection requirement should only apply to sites which result in an orifice greater than 3 inches should not be interpreted to totally eliminate the requirement especially in a case such as this where no water quality provided and other impervious areas are not controlled. Further, the issue of waterquality needs to be discussed. Even though there is currently only 9% impervious cover proposed, ultimate buildout conditions need to be considered to ensure that water quality can be provided if needed. Therefore, redesign the pond so that a 3 inch orifice is provided for at least the channel protection volume. Then route the 10 and 100-year storms.

SHEET 5 (SEE NOTE #2 ON TIMBER STRUCTURE DETAIL) ✓18. Provide riprap protection on both sides of the timber detention structure. See previous designs of timber structures done by AES at Governor's Land.